HANDBOOK 30

Single Page

Double Page

RITTAL®

RITTAL BUILDS STRONG

Strong partnerships are the basis for a strong fortitude of expertise and experience.
At Rittal, continuous communication with our global partners has enabled us to become one of the world's leading providers of technology packaging solutions.
And we turn this universal experience into innovative solutions for our local customers – solutions that set industry standards as well as meet customer requirements and expectations.
Our Handbook 30 product guide helps to highlight the broad spectrum of our product achievements.

Rittal's Corporate Philosophy is expressed in ten cornerstone statements that drive our daily thoughts and actions.

RITTAL CORPORATE PHILOSOPHY
Our customers are our partners and they determine our success.

- By fulfilling their needs and solving their problems we provide for and secure our future.
- Our products must offer unique benefits and advantages for our customers. Quality, innovative technology, depth of product line and availability are of utmost importance.

PARTNERSHIPS –
LOCALLY AND GLOBALLY

INNOVATIVE PRODUCTS
TECHNOLOGICAL EXPERTISE
VERSATILITY
VALUE-ADDED SERVICES

RITTAL®

A comprehensive range of enclosure packaging solutions provides unlimited possibilities for you.

Standardized products offered off-the-shelf with immediate delivery

With over 10,000 product solutions readily available worldwide, Rittal always has the ideal solution for your impending installation. Choose from a range of programs and services that are tailored to your exact requirements. From off-the-shelf, standardized solutions to modified and customized products, Rittal can work with you to determine your specific application solution. Just check out the plethora of products to choose from.

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Rittal's international success story began back in early 1961 in Rittershausen, Germany, with the simple idea of mass-producing standardized enclosures for immediate delivery.

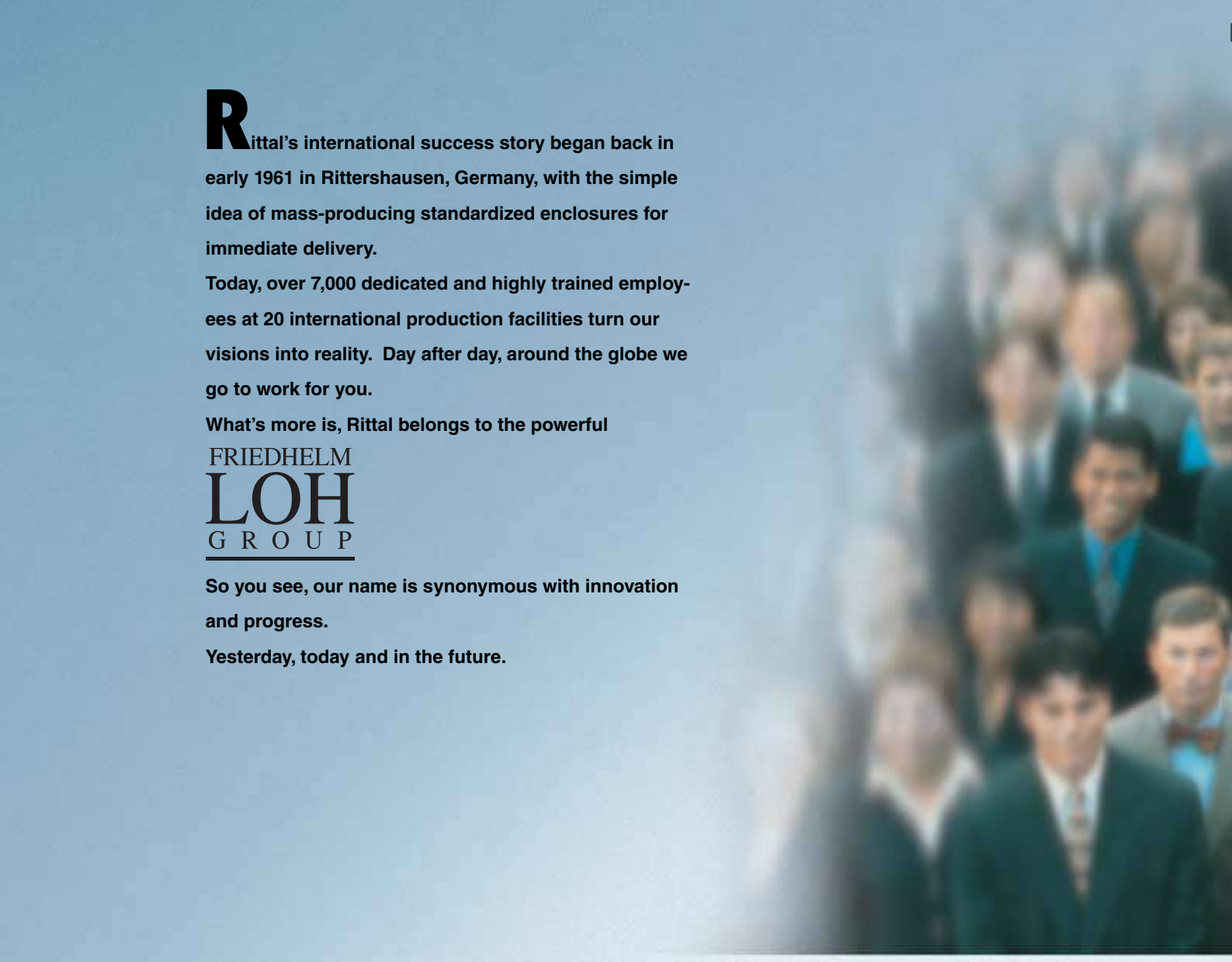
Today, over 7,000 dedicated and highly trained employees at 20 international production facilities turn our visions into reality. Day after day, around the globe we go to work for you.

What's more is, Rittal belongs to the powerful

FRIEDHELM LOH GROUP

So you see, our name is synonymous with innovation and progress.

Yesterday, today and in the future.



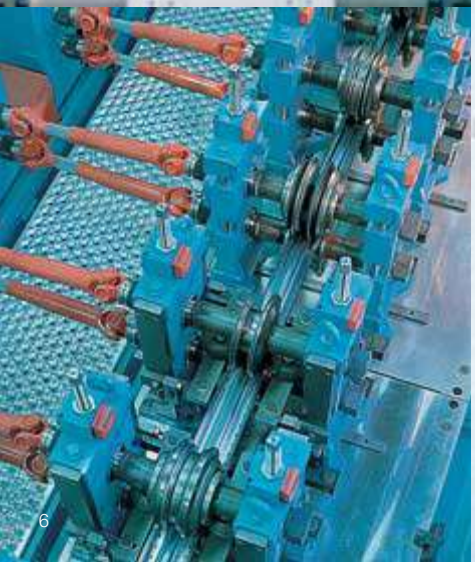
THE ROOTS OF

OUR FUTURE

Rittal 1961:
The company establishes itself in a former weaving mill in Rittershausen, Germany.

For information on Rittal global production sites, see pages 1072 – 1077.

RITTAL CORPORATE PHILOSOPHY
We all work together toward a common goal – that is the prime asset of our company.



Rittal is known worldwide as a trendsetter in modern technology packaging. But we let the facts speak for themselves:

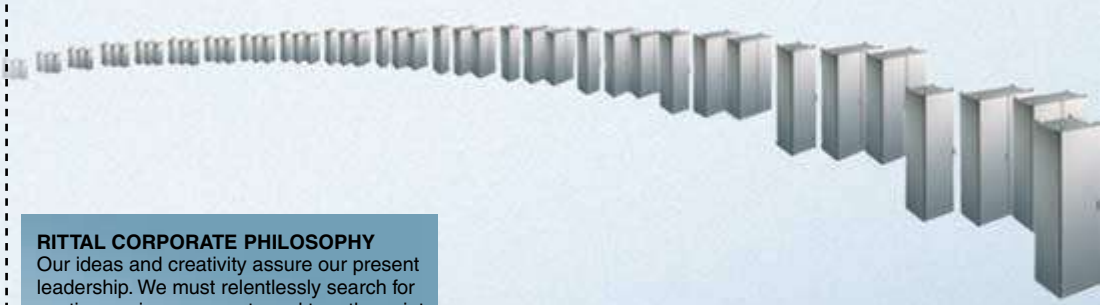
- Rittal holds approximately 2,000 patents worldwide
- Rittal maintains over 300 registered designs.

…and we continue to develop new ideas daily.

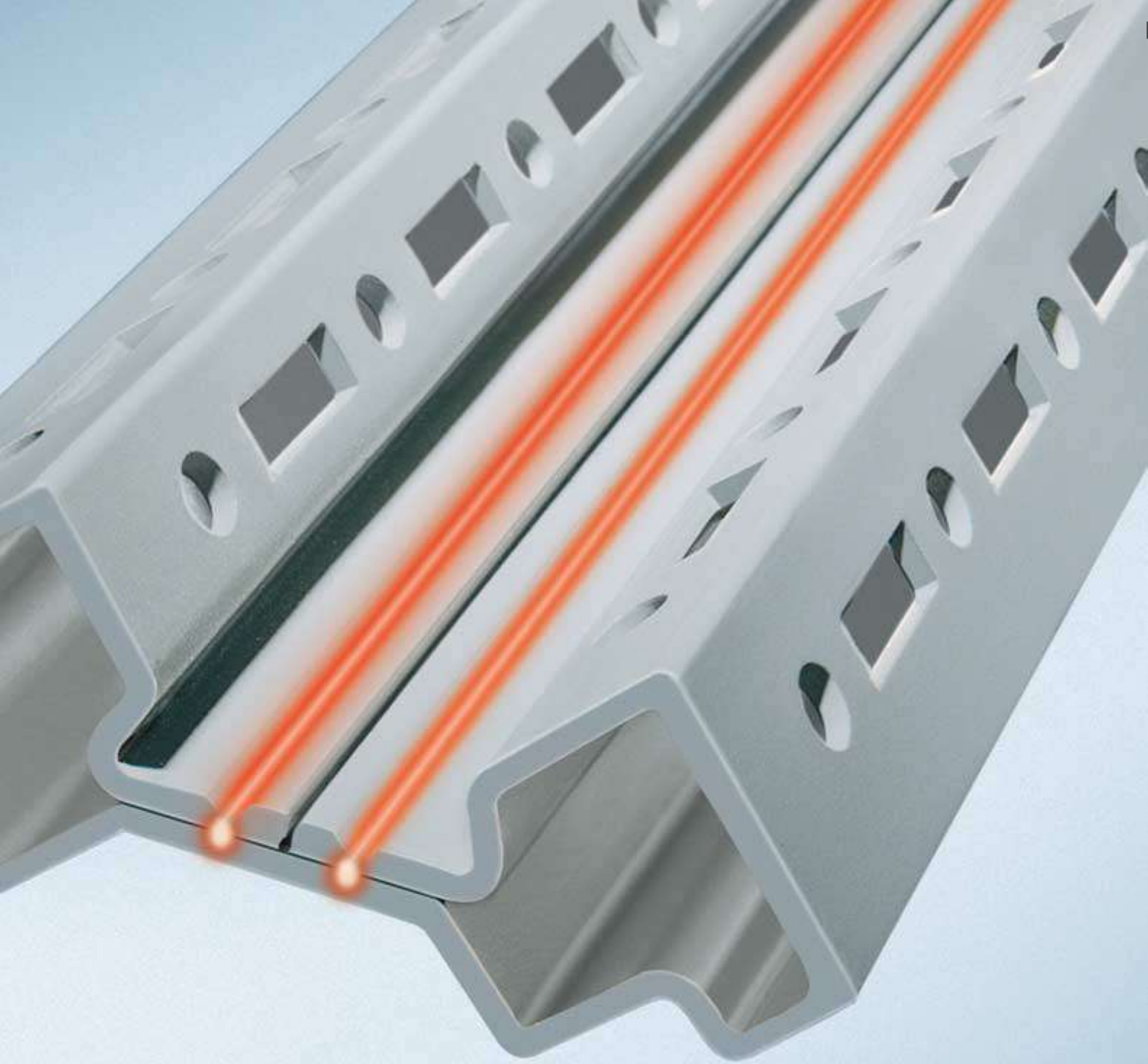
Take for instance our unique TS 8 enclosure concept. The ingenious profile frame of the TS 8 creates a multitude of system platforms. And this is just one of our industry-setting inventions. We drive ourselves to relentlessly produce revolutionary designs – designs that result from a combination of expertise, innovative development, high-tech production and comprehensive quality management.

Innovative strength in true Rittal style.

PIONEERS OF



RITTAL CORPORATE PHILOSOPHY
Our ideas and creativity assure our present leadership. We must relentlessly search for continuous improvements and turn those into solid achievements.



RELENTLESS
REVOLUTIONARY DESIGNS

Modern switchgear and control components play a crucial role in factory automation settings. This technology is highly complex and must in turn satisfy universal industrial requirements. Rittal provides intelligent housing solutions for factory automation installations:

- **Complete enclosure and housing systems, as well as control consoles, in all shapes and sizes – for electric, electronic, hydraulic and pneumatic applications.**
- **Diverse, ergonomic command panel solutions for the interface between operator and machine.**
- **Highly efficient climate control components: filter fan units, heat exchangers, air conditioners, and chillers all help to protect sensitive technology.**
- **Smart solutions for low-voltage power distribution up to 3200 A – the complete Rittal TS 8 Maxi-PLS modular system creates a new dimension in power distribution solutions.**

Rittal brings the industry protection and perfection for smart automation technology.

INTELLIGENT INTELLIGENTLY

RITTAL CORPORATE PHILOSOPHY
We must be decisively better and faster than the competition. To maintain this lead we have to prove it to our customers each and every day.

TECHNOLOGY PACKAGED

DESIGNING A COMPLEX WORLD

Just as the Information Technology (IT) world has exploded with growth, so has the need for innovative, application-specific solutions. Rittal offers just the right diversity of products for the IT arena – from components and packaging to integration services:

- Advanced electronic subrack packaging and MPS systems, tailored to individual customer requirements with backplanes, front panels, cooling and more.
- Tough outdoor solutions for wireless, wireline and DSL deployments – complete with climate control, monitoring and power supply options.
- Small office/home office solutions for professional networking settings.
- Industry-setting ISP/ASP racks and server cabinets for global data centers.
- Attractive interactive terminal systems for point-of-information and point-of-sale applications.

Continuous communication advances demand infinite innovations.

RITTAL CORPORATE PHILOSOPHY
The qualification and motivation of our team members is the key to success. We encourage and support their continued education and training. Together we share in our accomplishments.

COMMUNICATION

PERFECT PLATFORMS PROV

One design for virtually all applications – the Rittal TS 8 platform concept fulfills the vision. Based on the revolutionary profile design, the TS 8 Top Enclosure System provides an innovative, cost-effective and universal housing solution. Design your TS 8 for individual freestanding enclosures or for complex bayed enclosure suites with multiple installation levels – for factory automation, information technology or electronic packaging applications.

RITTAL CORPORATE PHILOSOPHY
We focus our efforts to produce superior products on time, market and sell them professionally, and deliver them via a reliable distribution system.

IDE FLEXIBLE SOLUTIONS

Extensive experience and earnest reliability are the cornerstones of Rittal's value-added services. It all starts with continuous two-way communication with our worldwide customers – communication that has resulted in a plethora of services. Like advanced electronic data exchange for immediate global availability of information.
Or e-business capabilities for instant access and knowledge of Rittal products. Services such as these enable Rittal to meet and exceed customer expectations even faster with optimum quality.

RITTAL CORPORATE PHILOSOPHY
We acknowledge our responsibility toward the community we live in and the environment we operate in and pledge to support and improve both.

VALUE-ADDED SERVICE FOR A

COMPETITIVE EDGE

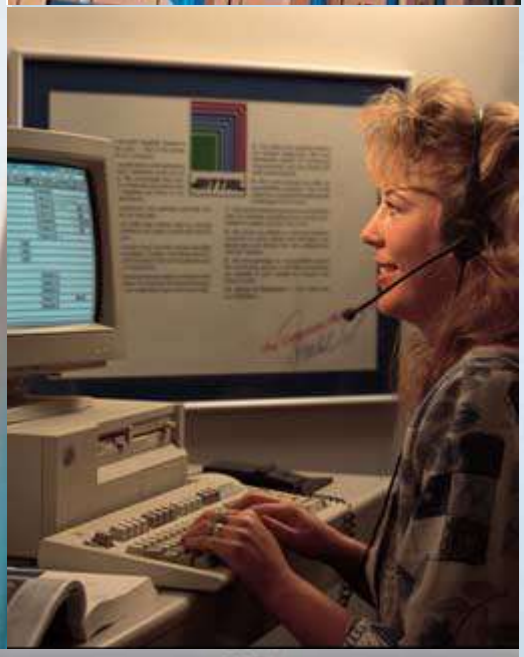
GLOBAL PROXIMITY

A global presence creates local proximity.

As a global player, Rittal combines its international network capabilities with market-specific, personalized customer care. You see, our 40 subsidiaries and over 70 agencies across the globe are at our customer's service each and every day to provide non-stop product, design and application assistance.

Exactly what you would expect from a global leader like Rittal.

RITTAL CORPORATE PHILOSOPHY
We must execute our daily responsibilities perfectly. This is the basis for successfully mastering the challenges of the future.

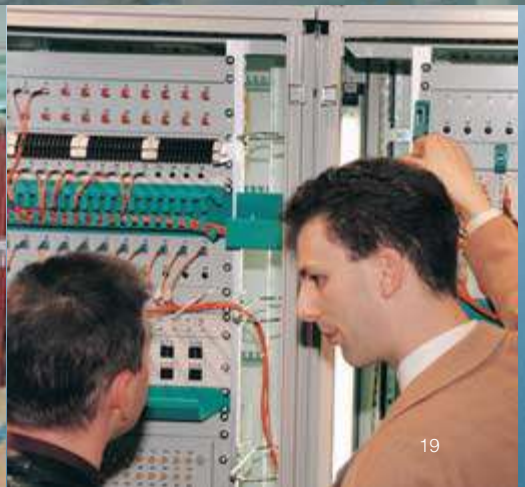


Every decision we make, every action we take is driven by our customers. Our North American service team includes our Springfield, Ohio, USA; Mississauga, Canada and Naucalpan, Mexico headquarters – for complete, personalized service. In addition, our team of regional facilities, in addition to our nationwide network of distributors, provides total access to Rittal representatives. What's more is, our presence at tradeshows and technical seminars, as well as our traveling Mobile Design Centers, provides a platform for constant communication.

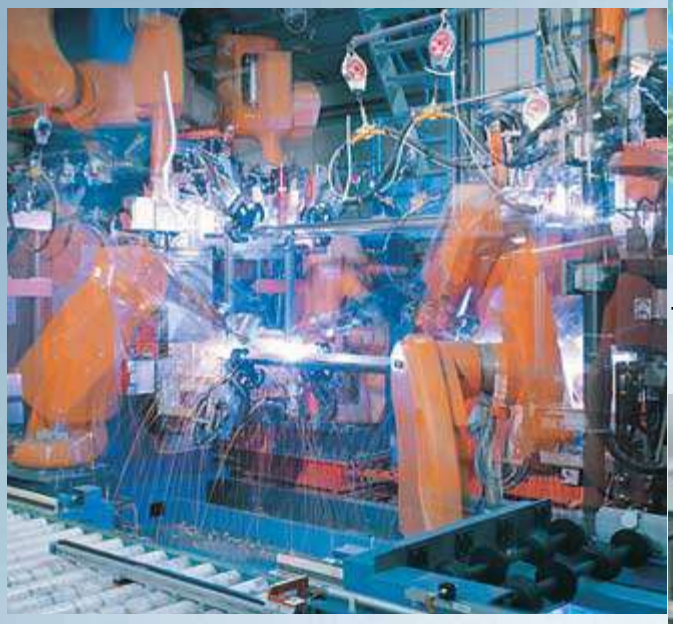
TOTAL CUSTOMER DEDI

Mobile
Design Center
Driven To Perfection
Rittal
RITTAL
CORP

CATION



GLOBAL LEADERSHIP



RITTAL CORPORATE PHILOSOPHY
We want to establish long-term partnerships with our vendors, providing they remain competitive in quality, service and price.

INNOVATIVE PRODUCTS

Rittal's continuous innovations are driven by advances in technology and exceed customer expectations.

TECHNOLOGICAL EXPERTISE

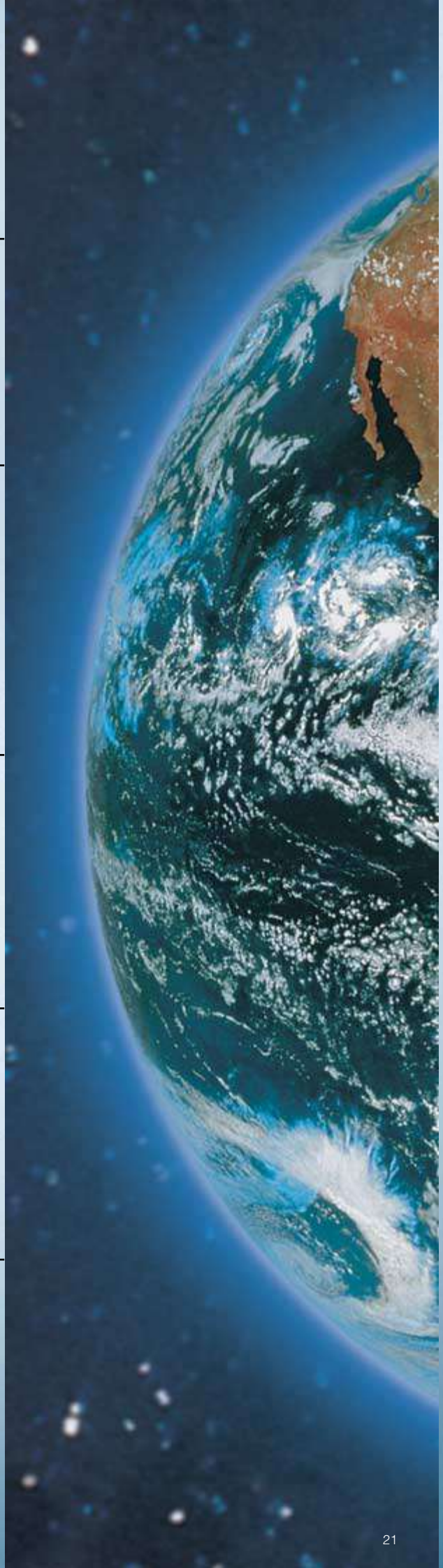
Rittal is involved at the cutting edge of changes within the factory automation, electronic and information technology industries.

VERSATILITY

A large range of product choices, over 10,000 selections, provides application-specific solutions for virtually any installation requirement.

VALUE-ADDED SERVICES

A product package is not complete without additional services – services like product customization, e-business and instant information.



Infinite possibilities

The new diversity of our industrial enclosure range is sure to attract an enthusiastic response. New sizes, new materials, new design solutions and new functions ensure a perfect, costeffective solution to suit every application.

All in all, compatibility with other areas of the Rittal program ensures outstanding solutions from a single source.

TS 8 – simply Ri-volutionary

The TS 8 Top enclosure system is the platform for any application. It has reached new dimensions in modular enclosure configurations. More effective space utilization and more versatile, faster interior installation are now a reality.

RITTAL INDUSTRIAL ENCLOSURES

Contents
Rittal Industrial Enclosure Systems

Striking out in new directions
The new PC enclosure provides an elegant design solution for industrial applications.

Always a solution
The modern, ergonomic Rittal Optipanel is precisely tailored to the dimensions of the operator panel and equipment requirements.

Customized to your requirements
The Command Panel housing with door is available in either a sheet steel version or a stainless steel version for special hygiene requirements.
A comprehensive range of accessories (e.g. system windows, signal pillars) rounds out the program.

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PC/ES/PS large industrial enclosures 290 – 299

■ **EMC shielded enclosures** **300 – 311**

■ **Purge/pressurization systems** **312/313**

■ Small enclosures

PK polycarbonate junction boxes

25 dimensions
2.5 x 2.5 x 2.24″/65 x 65 x 57 mm
to
10 x 14 x 6.5″/254 x 361 x 165 mm

2 models

Solid lid,
screwed-on,
fully fiberglass-reinforced
Pages 34 – 37

Transparent lid,
enclosure:
fiberglass-reinforced
Pages 34 – 37

Accessories:

Mounting panel,
see page 38.

Support rail,
see page 38.

GA cast aluminum enclosures

18 dimensions
1.77 x 1.97 x 1.18″/45 x 50 x 30 mm
to
9.06 x 12.99 x 7.09″/230 x 330 x 180 mm

Design

Solid lid,
screwed-on
Pages 42/43

Accessories:

Mounting panel,
see page 46.

Support rail,
see page 46.

Ex protection
Rittal has developed the Ex enclosure range specifically for use in explosion hazard areas. Information on our range, which meets the latest guidelines and standards, is available on request.

The stainless steel model of the electronic wallmount enclosures is particularly suitable in areas where hygiene and corrosion protection are a top priority.
See pages 284/285.

KL junction boxes	EB instrument enclosures	BG field bus enclosures
22 dimensions 6 x 6 x 3″/150 x 150 x 80 mm to 16 x 32 x 4.75″/400 x 800 x 120 mm	**21 dimensions** 6 x 6 x 3″/150 x 150 x 80 mm to 32 x 12 x 7″/800 x 300 x 155 mm	**13 dimensions** 12 x 8 x 3″/300 x 200 x 80 mm to 20 x 16 x 6.25″/500 x 400 x 160 mm
4 models	**2 models** including mounting panel	**3 models** including support rail or mounting panel

Sheet steel,
solid lid,
screwed-on
Pages 50 – 53

Sheet steel with
gland plate
Pages 54/55

Stainless steel,
no gland plate
Pagess 268/269

EMC shielded,
no gland plate
Pages 302/303

Accessories:

Mounting panel,
see page 965.

Support rail,
see page 983.

Sheet steel,
no gland plate,
door hinged with
cam lock
Pages 58/59

EMC shielded,
no gland plate
Pages 302/303

Viewing door,
hinged with screw fastener,
enclosure with gland panel
Pages 62 – 65

Viewing door,
hinged with cam,
enclosure with holes for
screwed cable glands
Pages 62 – 65

Stainless steel,
door hinged with screw fastener,
no gland plate
Pages 270/271

Compact enclosures

AE/AK compact enclosures

36 dimensions
12 x 8 x 4.72″/300 x 200 x 120 mm
to
60 x 36 x 16″/1500 x 900 x 400 mm

6 models
mounting panel included

AE sheet steel with gland plate(s), one/two door
Pages 68 – 81

AE sheet steel with viewing door and gland plate
Pages 74/75

AE sheet steel with display panel and gland plate
Pages 74/75

AE stainless steel, no gland plate
Pages 280/281

AE EMC shielded, no gland plate
Pages 302/303

AK sheet steel with gland plates
Pages 84/85

KS fiberglass enclosures

10 dimensions
12 x 8 x 6″/300 x 200 x 150 mm
to
40 x 40 x 12″/1000 x 1000 x 300 mm

2 models
mounting panel included

Solid door
Pages 88 – 91

Door with viewing window
Pages 88 – 91

Large freestanding enclosures

ES 5000 freestanding enclosures

14 dimensions
63 x 24 x 20″/1600 x 600 x 500 mm
to
79 x 71 x 20″/2000 x 1800 x 500 mm

3 models
mounting panel included

Sheet steel, painted
Pages 94 – 97

Stainless steel
Pages 292/293

EMC shielded
Pages 304/305

Freestanding enclosures – TS 8* – PS 4000 (see pages 134 – 139)

38 dimensions
55 x 24 x 20″/1400 x 600 x 500 mm
to
87 x 47 x 24″/2200 x 1200 x 600 mm or
79 x 47 x 32″/2000 x 1200 x 800 mm

10 models

Sheet steel, painted
Pages 106 – 123

Electronic
Pages 124/125

For modular front configuration
Pages 126/127

For flange mount disconnect
Pages 128/129

Corner enclosures
Page 917

EMC shielded
Pages 304/305

Stainless steel
Pages 294/295

Climate controlled enclosures
Pages 454 – 459

Low voltage power distribution
Pages 668 – 673

Network enclosures
Pages 702 – 707

* For new configurations, we recommend the less expensive, multi-functional TS 8 system, with many improved details.

■ PC enclosure and housing systems

PC enclosure and housing systems

7 models

PC housing
sheet steel, painted,
with viewing window
Pages 142/143

PC enclosure system based on TS 8
sheet steel, painted,
with viewing window,
removable roof and sidewalls
Pages 148/149

PC enclosure systems based on ES
sheet steel, painted, with viewing
window or mounting compartment
Pages 144 – 147

PC enclosure system stainless steel, based on ES
with viewing window and drawer or
keyboard support
Pages 290/291

PC enclosure system based on PS
sheet steel, painted,
with viewing window,
roof and side panels
Pages 150/151

Rittal system accessories:
overview on pages 876/877.

Console systems

AP console systems

Multiple configuration options
from 32 modules:
- pedestals
- center desk units
- consoles
- cover trim panels

may be combined in a number of variations.

Sheet steel, painted
Pages 156 – 163

Combine with
Command Panel system
Page 156

AP freestanding consoles

4 dimensions
38 x 24 x 16″/960 x 600 x 400 mm
to
38 x 47 x 19″/960 x 1200 x 480 mm

2 models

Sheet steel, painted
Pages 164/165

Stainless steel
Pages 286/287

AP universal consoles

Dimensions
51 x 24 x 20″/1300 x 600 x 500 mm

4 models

Sheet steel, painted,
with tall or short door
and space for desk section
or drawer
Pages 166/167

Stainless steel,
with tall or short door
and space for desk section
or drawer
Pages 288/289

■ Enclosures for the interface between man and machine, HMI solutions

Command Panel systems

■ **VIP 6000:**

Dimensions
9 depths, some hinged –
width and height to order

Models:
3 front design variations
6 color options

Aluminum enclosure
Pages 172 – 189

■ **Optipanel:**

Dimensions
3 depths
width and height to order

Aluminum enclosure
Pages 196 – 207

Command Panel systems

■ **Based on AE with VIP frame:**

3 dimensions
15 x 24 x 8.25″/380 x 600 x 210 mm
to
30 x 24 x 14″/760 x 600 x 350 mm

Sheet steel, painted
Pages 230/231

■ **Based on AE with handle strips:**

5 dimensions
8 x 12 x 6″/200 x 300 x 155 mm
to
15 x 24 x 8.27″/380 x 600 x 210 mm

Sheet steel, painted
Pages 226/227

■ **Stainless steel:**

3 dimensions
10 x 13 x 6.30″/240 x 320 x 160 mm
to
13 x 16 x 6.30″/320 x 400 x 160 mm

Pages 272/273

Operator door housings

■ **Based on AE made from sheet steel:**

5 dimensions
8 x 12 x 7″/200 x 300 x 180 mm
to
16 x 16 x 7″/400 x 400 x 180 mm

Pages 224/225

■ **Based on AE made from stainless steel:**

5 dimensions
7 x 12 x 6″/200 x 300 x 150 mm
to
16 x 24 x 6″/400 x 600 x 150 mm

Pages 274/275

Stand systems

■ **Pedestals:**

Fixed or height adjustable, stationary or mobile

Pages 236 – 241

■ **Pillars:**

The solid stand for support arm systems.

Check with your Rittal representative.

Support arm systems

■ **Made from aluminum profile medium (L):**

Pages 244 – 255

■ **Made from aluminum profile large (XL):**

Pages 256 – 263

■ **Stainless steel:**

Pages 276 – 279

Perfect and complete, at an excellent price

Rittal has offered its customers a broad line of terminal boxes in various sizes. With or without gland panel, primed, painted in steel or in stainless steel, as a non-metallic enclosure or as a terminal box for hazardous areas – Rittal has the right enclosure solution for your needs.

This broad range product line has been expanded with our PK series of instrument, junction and terminal boxes.
These heavy-duty, fiberglass-reinforced polycarbonate enclosures can be used for any application where electric and electronic components require protection against dust and water. PK units are completely insulated and corrosion proof.

Environmental protection in practice
Concern for the environment:
- Plastic enclosures and screws that are 100% recyclable.
- No metal nuts required for component installation.
- Recyclable paper and cardboard packaging materials are used for enclosures and accessories.

Rittal's new PK series of small fiberglass reinforced polycarbonate enclosures stands out through its practical sizes, carefully designed construction, high quality and optimum cost/performance ratio.

Quality and safety is ensured!
- Fiberglass reinforced polycarbonate assures excellent isolation characteristics and provides high resistance to chemical and mechanical forces.
- The foamed-on polyurethane seal is long lasting and temperature resistant up to 176 °F/80 °C.
- NEMA 4X (IP 66 per EN 60 529/10.91) rating.

Approvals:
Bureau Veritas
UL/cUL-E86711*
* Enclosures with transparent cover only.

PK polycarbonate enclosures					
Height inches/mm	Width inches/mm	Depth inches/mm	**Part No. PK enclosures with solid cover**	**Part No. PK enclosures with transparent cover**	Pages
2.56/ 65	2.56/ 65	2.24/ 57	**9500.000**	**9500.100**	34/35
2.56/ 65	2.56/ 65	3.19/ 81	**9501.000**	**9501.100**	
2.56/ 65	3.70/ 94	2.24/ 57	**9502.000**	**9502.100**	
2.56/ 65	3.70/ 94	3.19/ 81	**9503.000**	**9503.100**	
3.70/ 94	3.70/ 94	2.24/ 57	**9504.000**	**9504.100**	
3.70/ 94	3.70/ 94	3.19/ 81	**9505.000**	**9505.100**	
4.33/110	4.33/110	2.60/ 66	**9506.000**	**9506.100**	
4.33/110	4.33/110	3.54/ 90	**9507.000**	**9507.100**	
3.70/ 94	5.12/130	2.24/ 57	**9508.000**	**9508.100**	
3.70/ 94	5.12/130	3.19/ 81	**9509.000**	**9509.100**	
5.12/130	5.12/130	2.95/ 75	**9510.000**	**9510.100**	
5.12/130	5.12/130	3.90/ 99	**9511.000**	**9511.100**	
3.70/ 94	7.09/180	2.24/ 57	**9512.000**	**9512.100**	
3.70/ 94	7.09/180	3.19/ 81	**9513.000**	**9513.100**	
4.33/110	7.09/180	3.54/ 90	**9514.000**	**9514.100**	36/37
4.33/110	7.09/180	4.34/111	**9515.000**	**9515.100**	
4.33/110	7.09/180	6.50/165	**9516.000**	**9516.100**	
7.09/180	7.17/182	3.54/ 90	**9517.000**	**9517.100**	
7.09/180	7.17/182	4.34/111	**9518.000**	**9518.100**	
7.09/180	7.17/182	6.50/165	**9519.000**	**9519.100**	
7.09/180	10 /254	3.54/ 90	**9520.000**	**9520.100**	
7.09/180	10 /254	4.34/111	**9521.000**	**9521.100**	
7.09/180	10 /254	6.50/165	**9522.000**	**9522.100**	
10 /254	14.21/361	4.34/111	**9523.000**	**9523.100**	
10 /254	14.21/361	6.50/165	**9524.000**	**9524.100**	

Material properties

Product description	**Enclosures/covers of fiberglass-reinforced polycarbonate**	**Transparent polycarbonate covers**	**Polyurethane gaskets**
Specific gravity per DIN 53 457	1.30	1.20	0.25
Impact resistance DIN 53 453	no fractures	no fractures	–
Toxic characteristics	halogen-free	halogen-free	halogen-free
Color	light grey/RAL 7035	smoke tint	dark grey
Temperature resistance			
– short term (hours)	266 °F/130 °C	260 °F/130 °C	230 °F/110 °C
– long term (months)	239 °F/120 °C	239 °F/120 °C	176 °F/ 80 °C
Minimum temperature	–31 °F/–35 °C	–31 °F/–35 °C	–31 °F/–35 °C
Flammability ratings			
per UL 94	V-1	V-2	–
per VDE 0471	1760 °F/960 °C	1562 °F/850 °C	1202 °F/650 °C
Chemical resistance			
Water	resistant	resistant	resistant
Alcohol	resistant	limited resistance	limited resistance
Gasoline	resistant	limited resistance	limited resistance
Diesel fuel	limited resistance	limited resistance	limited resistance
Benzene	not resistant	not resistant	limited resistance
Mineral oil	resistant	resistant	resistant
Animal/vegetable oil	resistant	resistant	resistant
Weak alkali	not resistant	not resistant	limited resistance
Strong alkali	not resistant	not resistant	limited resistance
Weak acid	resistant	resistant	limited resistance

PK Accessories
With a large selection of practical accessories, Rittal's PK Series offers professional solutions, especially for dense wiring or installation in tight places.
See pages 38/39.

Dielectric strength 25 – 35 kV/mm, DIN/VDE 0303.
All materials are halogen-free.
Protection class II per VDE 0660/IEC 439.
Dielectric coefficient number 7 ≙ 6 Joule.

PK POLYCARBONATE JUNCTION BOXES

1 Transparent or grey covers in several heights.

2 Optional snap-on turn-lock fasteners for easy opening and closing.

3 Screwdriver guide.

4 Wire/lead seals can be installed through cover screws.

5 Molded installation holes in bottom of housing for flexible component mounting.

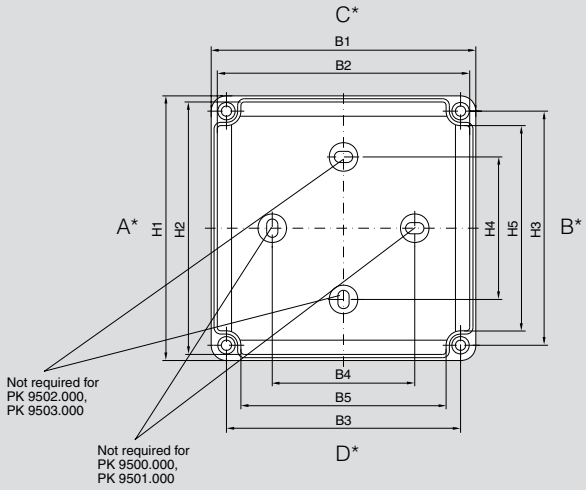
6 Three mounting options
a) mounting brackets (accessory)
b) screws through inside of housing or
c) screws through cover/housing.

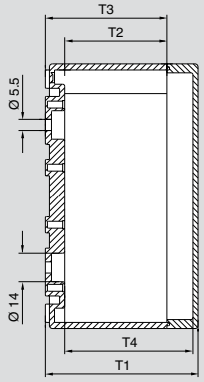
7 Tongue and groove sealing with seamless foamed-in-place polyurethane gasket ensures NEMA 4X/IP 66 per EN 60 529/10.91 protection rating.

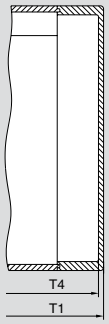
8 Smooth side walls for mounting flexibility.

PK 9500.000 / PK 9502.000
PK 9504.000 / PK 9506.000
PK 9508.000 / PK 9510.000
PK 9512.000

PK 9501.000 / PK 9503.000
PK 9505.000 / PK 9507.000
PK 9509.000 / PK 9511.000
PK 9513.000







H = Height dimensions:
H1 = Overall height
H2 = Height available for mounting components
H3 = Center/center mounting screws outside gasket
H4 = Center/center mounting screws inside enclosure
H5 = Nominal height

B = Width dimensions:
B1 = Overall width
B2 = Width available for mounting components
B3 = Center/center mounting screws outside gasket
B4 = Center/center mounting screws inside enclosure
B5 = Nominal width

T = Depth dimensions:
T1 = Overall depth
T2 = Width available for mounting components on side
T3 = Depth of enclosure
T4 = Nominal depth

Dimensions in millimeters (mm) unless otherwise indicated.

H1 Height in inches/mm		2.56/65				3.70/94		4.33/110		3.70/94		5.12/130		3.70/ 94	
B1 Width in inches/mm		2.56/65		3.70/94		3.70/94		4.33/110		5.12/130				7.09/180	
T1 Depth in inches/mm		2.24/57	3.19/81	2.24/57	3.19/81	2.24/57	3.19/81	2.60/66	3.54/90	2.24/57	3.19/81	2.95/75	3.90/99	2.24/57	3.19/81
Part No. PK		**9500.**	**9501.**	**9502.**	**9503.**	**9504.**	**9505.**	**9506.**	**9507.**	**9508.**	**9509.**	**9510.**	**9511.**	**9512.**	**9513.**
Solid cover		**.000**		**.000**		**.000**		**.000**		**.000**		**.000**		**.000**	
Transparent cover		**.100**		**.100**		**.100**		**.100**		**.100**		**.100**		**.100**	
PU		12	12	8	8	6	6	6	6	4	4	4	4	2	2
H2		59	59	59	59	88	88	104	104	88	88	124	124	88	88
H3		50	50	50	50	79	79	95	95	79	79	115	115	79	79
H4		25	25	–	–	50	50	65	65	50	50	70	70	50	50
H5		36	36	36	36	64	64	80	80	64	64	101	101	64	64
B2		59	59	88	88	88	88	104	104	124	124	124	124	174	174
B3		50	50	79	79	79	79	95	95	115	115	115	115	165	165
B4		–	–	50	50	50	50	65	65	90	90	70	70	120	120
B5		36	36	64	64	64	64	80	80	101	101	101	101	150	150
T2		33	33	33	33	33	33	42	42	33	33	51	51	33	33
T3		41	41	41	41	41	41	50	50	41	41	59	59	41	41
T4		45	69	45	69	45	69	53	77	45	69	63	87	45	69
* Maximum number of NPT/PG strain relief connectors per sidewall	Sidewall	AB/CD	AB/CD	AB	CD	AB	CD	AB/CD	AB/CD	AB/CD	AB/CD	AB	CD	AB	CD	AB/CD	AB/CD	AB	CD	AB	CD
	7	1	1	1	3	1	3	3	3	8	8	3	5	3	5	10	10	3	7	3	7
	9	1	1	1	2	1	2	2	2	3	3	2	4	2	4	8	8	2	6	2	6
	11	1	1	1	2	1	2	2	2	3	3	2	4	2	4	8	8	2	5	2	5
	13.5	1	1	1	2	1	2	2	2	2	2	2	3	2	3	3	3	2	5	2	5
	16	1	1	1	2	1	2	2	2	2	2	2	3	2	3	3	3	2	4	2	4
	21	–	–	–	–	–	–	–	–	2	2	–	–	–	–	2	2	–	–	–	–
	29	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	2	–	–	–	–
	36	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Accessories for installation inside the enclosure

Mounting panel PK		9540.000	9541.000	9542.000	9543.000	9544.000	9545.000	9546.000
PU		12	12	12	12	12	10	10
Mounting rail PK (PU 12)								
TS 15	mounting in width	9560.000	9561.000	9561.000	9562.000	9563.000	9563.000	–
	mounting in height	–	9560.000	9561.000	9562.000	9561.000	9563.000	9561.000
TS 35/7.5	mounting in width	–	–	9564.000	9564.000	9565.000	9565.000	9566.000
	mounting in height	–	–	9564.000	9564.000	9564.000	9565.000	9564.000

PK POLYCARBONATE JUNCTION BOXES

Height: 2.56 – 5.12″/65 – 130 mm, width: 2.56 – 7.09″/65 – 180 mm

Material and configuration:
Enclosure:
grey fiberglass-reinforced polycarbonate
Solid cover: (version .000):
grey fiberglass-reinforced polycarbonate
Transparent cover (version .100):
transparent polycarbonate
4 cover screws: polyamide
4 isolation plugs: polyethylene

Sealing:
Groove and lip with seamless, foamed-on polyurethane gasket.

Color:
RAL 7035 light grey

Approvals:
Bureau Veritas,
UL upon request-solid cover
UL/cUL-File /E86711*
* Enclosure with transparent cover only.

Ratings:
NEMA 4X
IP 66 per EN 60 529/10.91.

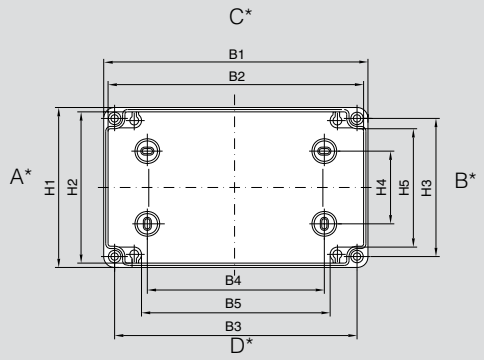
Additional accessories:
see pages 38/39.

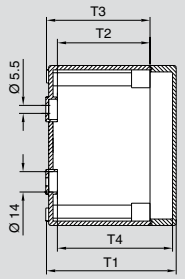
Mounting panel
for sturdy and flexible mounting options.
Details on page 38.

Installation rails
for mounting terminal blocks and components.
Details on page 38.

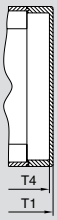
Hinges
connect covers to enclosures.

Details on page 39.

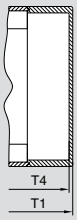




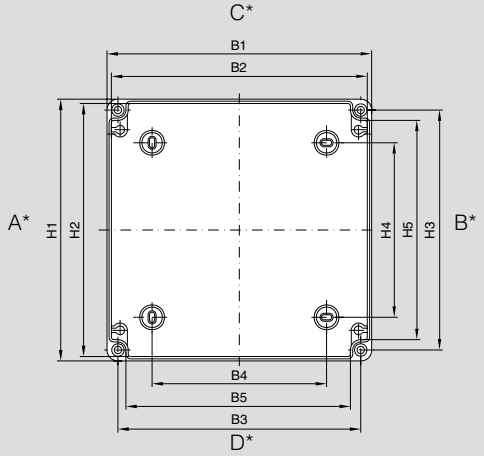
PK 9514.000

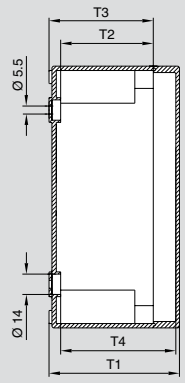


PK 9515.000
PK 9523.000

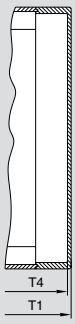


PK 9516.000*
PK 9524.000*

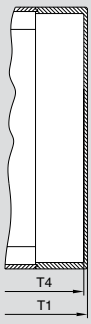




PK 9517.000
PK 9520.000



PK 9518.000
PK 9521.000



PK 9519.000*
PK 9522.000*

* Corners of cover are beveled.

H = Height dimensions:
H1 = Overall height
H2 = Height available for mounting components
H3 = Center/center mounting screws (outside gasket)
H4 = Center/center mounting screws (inside enclosure)
H5 = Nominal height

B = Width dimensions:
B1 = Overall width
B2 = Width available for mounting components
B3 = Center/center mounting screws (outside gasket)
B4 = Center/center mounting screws (inside enclosure)
B5 = Nominal width

T = Depth dimensions:
T1 = Overall depth
T2 = Depth available for mounting components
T3 = Depth of enclosure
T4 = Nominal depth

H1 Height in inches/mm		4.33/110		4.33/110		4.33/110		7.09/180		7.09/180		7.09/180		7.09/180		7.09/180		7.09/180		10 /254		10 /254	
B1 Width in inches/mm		7.09/180		7.09/180		7.09/180		7.17/182		7.17/182		7.17/182		10 /254		10 /254		10 /254		14.17/360		14.17/360	
T1 Depth in inches/mm		3.54/ 90		4.37/111		6.50/165		3.54/ 90		4.37/111		6.50/165		3.54/90		4.37/111		6.50/165		4.37/111		6.50/165	
Part No. PK		**9514.**		**9515.**		**9516.**		**9517.**		**9518.**		**9519.**		**9520.**		**9521.**		**9522.**		**9523.**		**9524.**	
Solid cover		**.000**						**.000**						**.000**						**.000**			
Transparent cover		**.100**						**.100**						**.100**						**.100**			
PU		2		2		2		1		1		1		1		1		1		1		1	
H2		103		103		103		173		173		173		173		173		173		248		248	
H3		95		95		95		165		165		165		165		165		165		239		239	
H4		50		50		50		120		120		120		120		120		120		190		190	
H5		80		80		80		128		128		128		128		128		128		224		224	
B2		173		173		173		175		175		175		247		247		247		355		355	
B3		165		165		165		167		167		167		239		239		239		346		346	
B4		120		120		120		120		120		120		190		190		190		240		240	
B5		128		128		128		152		152		152		224		224		224		309		309	
T2		63		63		63		63		63		63		63		63		63		63		63	
T3		71		71		71		71		71		71		71		71		71		71		71	
T4		75		97		150		75		97		150		75		97		150		97		150	
* Maximum number of NPT/PG strain relief connections per sidewall	Sidewall	AB	CD	AB	CD	AB	CD	AB	CD	AB	CD	AB	CD	AB	CD	AB	CD	AB	CD	AB	CD	AB	CD
	7	12	18	12	18	12	18	18	21	18	21	18	21	18	33	18	33	18	33	33	42	33	42
	9	6	10	6	10	6	10	10	12	10	12	10	12	10	20	10	20	10	20	20	24	20	24
	11	6	10	6	10	6	10	10	12	10	12	10	12	10	18	10	18	10	18	18	24	18	24
	13.5	6	8	6	8	6	8	8	10	8	10	8	10	8	16	8	16	8	16	16	20	16	20
	16	4	8	4	8	4	8	8	10	8	10	8	10	8	14	8	14	8	14	14	16	14	16
	21	2	3	2	3	2	3	3	4	3	4	3	4	3	6	3	6	3	6	6	8	6	8
	29	1	2	1	2	1	2	2	3	2	3	2	3	2	4	2	4	2	4	4	6	4	6
	36	1	2	1	2	1	2	2	2	2	2	2	2	2	3	2	3	2	3	3	4	3	4

Accessories for installation inside the enclosure

Mounting panel PK	9547.000	9548.000	9549.000	9550.000
PU	10	10	8	4
Mounting rail PK (PU 12)				
mounting in width	9566.000	9566.000	9567.000	9568.000
mounting in height	9564.000	9566.000	9566.000	9567.000

PK POLYCARBONATE JUNCTION BOXES

Height: 4.33 – 10.00″/110 – 254 mm, width: 7.09 – 14.17″/180 – 360 mm

Material and configuration:
Enclosure:
grey fiberglass-reinforced polycarbonate
Solid cover: (version .000):
grey fiberglass-reinforced polycarbonate
Transparent cover (version .100):
transparent polycarbonate
4 cover screws: polyamide
4 enclosure plugs: polyethylene

Sealing:
Groove and lip with seamless, foamed-on polyurethane gasket.

Color:
RAL 7035 light grey

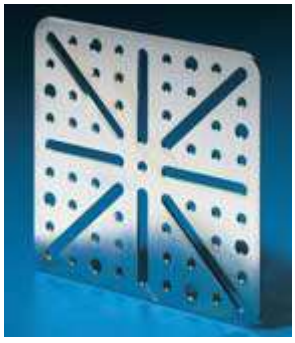
Approvals:
UL upon request-solid cover
Bureau Veritas
UL/cUL-File E86711
* Enclosure with transparent cover only.

Ratings:
NEMA 4X
IP 66 per EN 60 529/10.91.

Additional accessories:
see pages 38/39.

Mounting brackets
for sturdy and accessible mounting.
Details on page 39.

Twist-lock fasteners
for fast and easy closing of covers.
Details on page 38.



Mounting panel
for universal installation options.
Details on page 978.

Mounting panel

provides a stable, secure, and flexible mounting surface for components inside the enclosure.

Design:
2.5 mm melamine-phenol coated paper-based laminate; RAL 7035 light grey.

Configuration:
Mounting panel with self-tapping installation screws (and spacers*).

Fits following PK enclosures	Height inches/mm	Width inches/mm	PU	Part No. PK
PK 9500.000 / PK 9501.000	1.77/ 45	1.77/ 45	12	**9540.000***
PK 9502.000 / PK 9503.000	1.77/ 45	2.91/ 74	12	**9541.000***
PK 9504.000 / PK 9505.000	2.91/ 74	2.91/ 74	12	**9542.000***
PK 9506.000 / PK 9507.000	3.54/ 90	3.54/ 90	12	**9543.000***
PK 9508.000 / PK 9509.000	2.91/ 74	4.33/110	12	**9544.000***
PK 9510.000 / PK 9511.000	4.33/110	4.33/110	10	**9545.000***
PK 9512.000 / PK 9513.000	2.91/ 74	6.30/160	10	**9546.000***
PK 9514.000 / PK 9515.000 / PK 9516.000	3.54/ 90	5.90/150	10	**9547.000***
PK 9517.000 / PK 9518.000 / PK 9519.000	5.90/150	5.90/150	10	**9548.000***
PK 9520.000 / PK 9521.000 / PK 9522.000	5.90/150	8.66/220	8	**9549.000***
PK 9523.000 / PK 9524.000	8.66/220	13.03/331	4	**9550.000***

Twist-lock fastener

Simply snap into cover screw for easy installation.

Design:
Material: polyamide

	PU	Part No. PK
Fits all PK enclosures	1 pack	**9582.000**

Configuration:
1 pack = 100 pieces

Installation rails

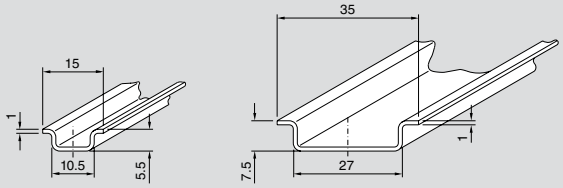
Two different types of installation rails provide high flexibility for the mounting of terminal blocks and control components.

Material:
Manufactured per EN 50 022 (TS 35/7.5) or EN 50 045 (TS 15); galvanized surface

Configuration:
Installation rails with two self-tapping installation screws.

Rail	Maximum number of terminals with the following conductor cross sections			Rail length mm	PU	Part No. PK
	14 AWG 2.5 mm²	12 AWG 4 mm²	8 AWG 10 mm²			
TS 15	5	5	4	49.5	12	**9560.000**
	11	11	8	80	12	**9561.000**
	14	14	10	92	12	**9562.000**
	18	18	13	111	12	**9563.000**
TS 35/7.5	12	9	5	81	12	**9564.000**
	17	13	8	106	12	**9565.000**
	24	20	11	144	12	**9566.000**
	38	32	19	216	12	**9567.000**
	61	50	30	336	12	**9568.000**

The calculation for the maximum number of terminals assumes two end retainers and a cover each.

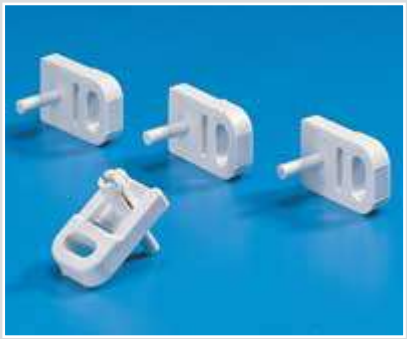


Hinges

can be used to connect covers to enclosures. A drilling template is included to make installation easy.

Configuration:
1 kit = 2 hinges,
4 installation screws,
3 polyethylene cover caps,
1 drilling template.

For enclosures	Material	PU	Part No. PK
PK 9500.000 – PK 9513.000	Polycarbonate	10 sets	**9580.000**
PK 9514.000 – PK 9524.000	Polystyrene	10 sets	**9581.000**



Mounting brackets

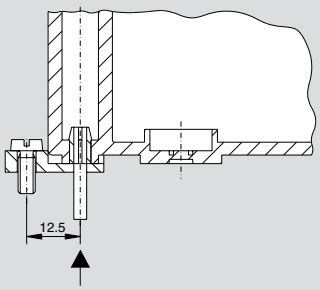
Four brackets permit easy mounting to any flat surface.

Material:
Grey polyamide

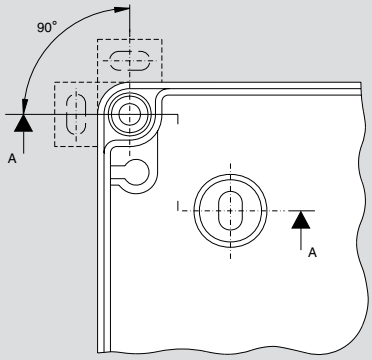
Configuration:
1 PU = 40 pieces

	PU	Part No. PK
For all enclosures	1 pack	**9583.000**

Mounting screw sits in the bracket and is always accessible.

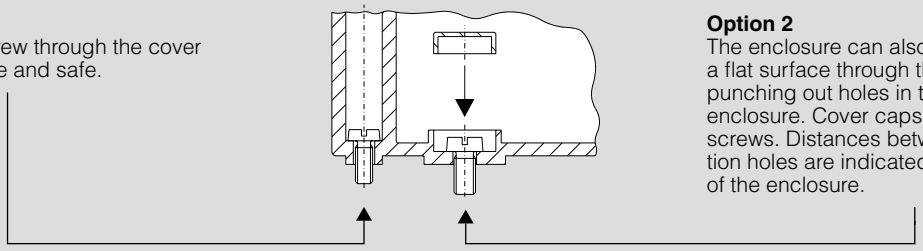


Mounting bracket can be mounted to the side or on the top.



An enclosure can also be mounted directly, without a mounting bracket:

Option 1
Mounting with a screw through the cover screw hole is simple and safe.



Option 2
The enclosure can also be attached to a flat surface through the inside by punching out holes in the bottom of the enclosure. Cover caps conceal the screws. Distances between the installation holes are indicated on the backside of the enclosure.

Extremely rugged

With the introduction of cast aluminum enclosures, Rittal rounds out its line of compact enclosures and offers an alternative and extremely sturdy solution that will stand up in even the most severe environments. Decades of experience and expertise of the world's largest enclosure manufacturer ensure the competence of the design of this new enclosure line.

Cutouts
Rittal's new cast aluminum enclosure line offers a variety of size and cutout options. Just send us your specifications and we'll design your special enclosure line.

Special colors
Rittal's new cast aluminum enclosure line also features an unlimited choice of colors, even matching your company color scheme – just specify the RAL color you want.

GA cast aluminum enclosures							
H (inches)	W (inches)	D (inches)	H (mm)	W (mm)	D (mm)	**Part No. GA**	Pages
1.77	1.97	1.18	45	50	30	**9100.210**	42/43
2.52	2.28	1.42	64	58	36	**9101.210**	
2.52	3.86	1.42	64	98	36	**9102.210**	
2.52	5.91	1.42	64	150	36	**9103.210**	
3.15	2.95	2.24	80	75	57	**9104.210**	
3.15	4.92	2.24	80	125	57	**9105.210**	
3.15	6.89	2.24	80	175	57	**9106.210**	
3.15	9.84	2.24	80	250	57	**9107.210**	
4.72	4.80	3.15	120	122	80	**9108.210**	
4.72	8.66	3.54	120	220	90	**9110.210**	
4.80	14.17	3.15	122	360	80	**9111.210**	
6.30	6.30	3.55	160	160	90	**9112.210**	
6.30	10.24	3.55	160	260	90	**9113.210**	
6.30	14.17	3.55	160	360	90	**9114.210**	
9.06	7.87	4.33	230	200	110	**9116.210**	
9.06	11.02	4.33	230	280	110	**9117.210**	
9.06	12.99	4.33	230	330	110	**9118.210**	
9.06	12.99	7.09	230	330	180	**9119.210**	

Printing
To round out our complete service, we will not only handle the production and painting of your enclosure, but also apply any desired lettering.

■ Cast aluminum rounds out Rittal's material options!

Polycarbonate

Plastic and durable
transparent or grey covers in several heights.
25 sizes from:
2.56 x 2.56 x 2.24″/
65 x 65 x 57 mm to
10 x 14.21 x 6.50″/
254 x 361 x 165 mm.

Sheet steel

Versatile and universal
with or without gland panel, hinged or screw-on cover, for installation rails or mounting panel.
24 sizes from:
5.91 x 5.91 x 3.15″/
150 x 150 x 80 mm to
31.50 x 15.75 x 4.72″/
800 x 400 x 120 mm.

Stainless steel

Polished for hygiene and high corrosion resistance
with the full benefit of an extensive accessory program.
11 sizes in T 304 and
6 sizes in T 316 stainless steel.

Sheet steel with aluminum zinc surface

Shielded for EMC
Standard sizes – also available with special screw-on covers.

1 Grounding connections on enclosure and cover.

4 Cover with four integrated rust-proof cover screws. Can be replaced with screws that accept wire/lead seals.

2 Prepared for additional drilling and tapping.

5 Rugged surface due to powder paint finish – silver grey (RAL 7001).

7 Round embedded neoprene gasket is gas and oil resistant.

9 Walls are thick enough to allow drilling and tapping of holes.

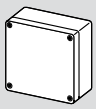
3 Tapped holes for fastening rails or mounting panels.

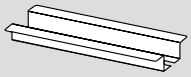
6 Infinite mounting options on the outside for cast aluminum hinges.

8 Variety of mounting options: through screw channel outside the gasketing or with wallmount brackets.

10 Drilling locations for wall mounting holes are indicated on rear wall.

Cast aluminum enclosures – Overview





Dimensions inches/mm			Enclosure **Part No. GA**	PU	Mounting panel **Part No. GA**	PU	Installation rails		Wall brackets PU 2 **Part No. GA**	Wire/lead seal screws PU 6 **Part No. GA**	Outside hinge PU 2 **Part No. GA**
							TS 15 PU 10 **Part No. GA**	TS 35 PU 5 **Part No. GA**			
H	W	D									
1.77/ 45	1.97/ 50	1.18/ 30	**9100.210**	6	–	–	–	–	–	–	–
2.52/ 64	2.28/ 58	1.42/ 36	**9101.210**	5	–	–	–	–	–	–	–
2.52/ 64	3.86/ 98	1.42/ 36	**9102.210**	3	–	–	–	–	–	–	–
2.52/ 64	5.91/150	1.42/ 36	**9103.210**	2	–	–	–	–	–	–	–
3.15/ 80	2.95/ 75	2.28/ 57	**9104.210**	1	–	–	–	–	–	**9122.424**	–
3.15/ 80	4.92/125	2.28/ 57	**9105.210**	1	**9105.700**	10	**9105.150**	–	–	**9122.424**	**9123.100**
3.15/ 80	6.89/175	2.28/ 57	**9106.210**	1	**9106.700**	10	**9106.150**	–	–	**9122.424**	**9123.100**
3.15/ 80	9.84/250	2.28/ 57	**9107.210**	1	**9107.700**	5	**9107.150**	–	–	**9122.424**	**9123.100**
4.72/120	4.80/122	3.15/ 80	**9108.210**	1	**9108.700**	2	–	**9108.350**	**9121.122**	**9122.630**	**9123.000**
4.72/120	8.66/220	3.54/ 90	**9110.210**	1	**9110.700**	2	–	**9110.350**	**9121.122**	**9122.645**	**9123.000**
4.80/122	14.17/360	3.15/ 80	**9111.210**	1	**9111.700**	2	–	**9111.350**	**9121.122**	**9122.630**	**9123.000**
6.30/160	6.30/160	3.54/ 90	**9112.210**	1	**9112.700**	2	–	**9112.350**	**9121.160**	**9122.630**	**9123.000**
6.30/160	10.24/260	3.54/ 90	**9113.210**	1	**9113.700**	2	–	**9113.350**	**9121.160**	**9122.630**	**9123.000**
6.30/160	14.17/360	3.54/ 90	**9114.210**	1	**9114.700**	1	–	**9111.350**	**9121.160**	**9122.630**	**9123.000**
9.06/230	7.87/200	4.33/110	**9116.210**	1	**9116.700**	1	–	**9116.350**	**9121.230**	**9122.630**	**9123.000**
9.06/230	11.02/280	4.33/110	**9117.210**	1	**9117.700**	1	–	**9117.350**	**9121.230**	**9122.630**	**9123.000**
9.06/230	12.99/330	4.33/110	**9118.210**	1	**9118.700**	1	–	**9118.350**	**9121.230**	**9122.630**	**9123.000**
9.06/230	12.99/330	7.09/180	**9119.210**	1	**9118.700**	1	–	**9118.350**	**9121.230**	**9122.630**	**9123.000**

Drawings on pages 44/45.
Accessories on pages 46/47.

Material characteristics

Temperature resistance

Short term (hours)	– 50 to + 284 °F – 50 to + 140 °C
Long term (months)	– 40 to + 248 °F – 40 to + 120 °C

Chemical resistance

Alcohol	good
Gasoline	good
Diesel fuel	good
Mineral oil	good
Acids and weak caustic solutions	good

Weather resistance:
good

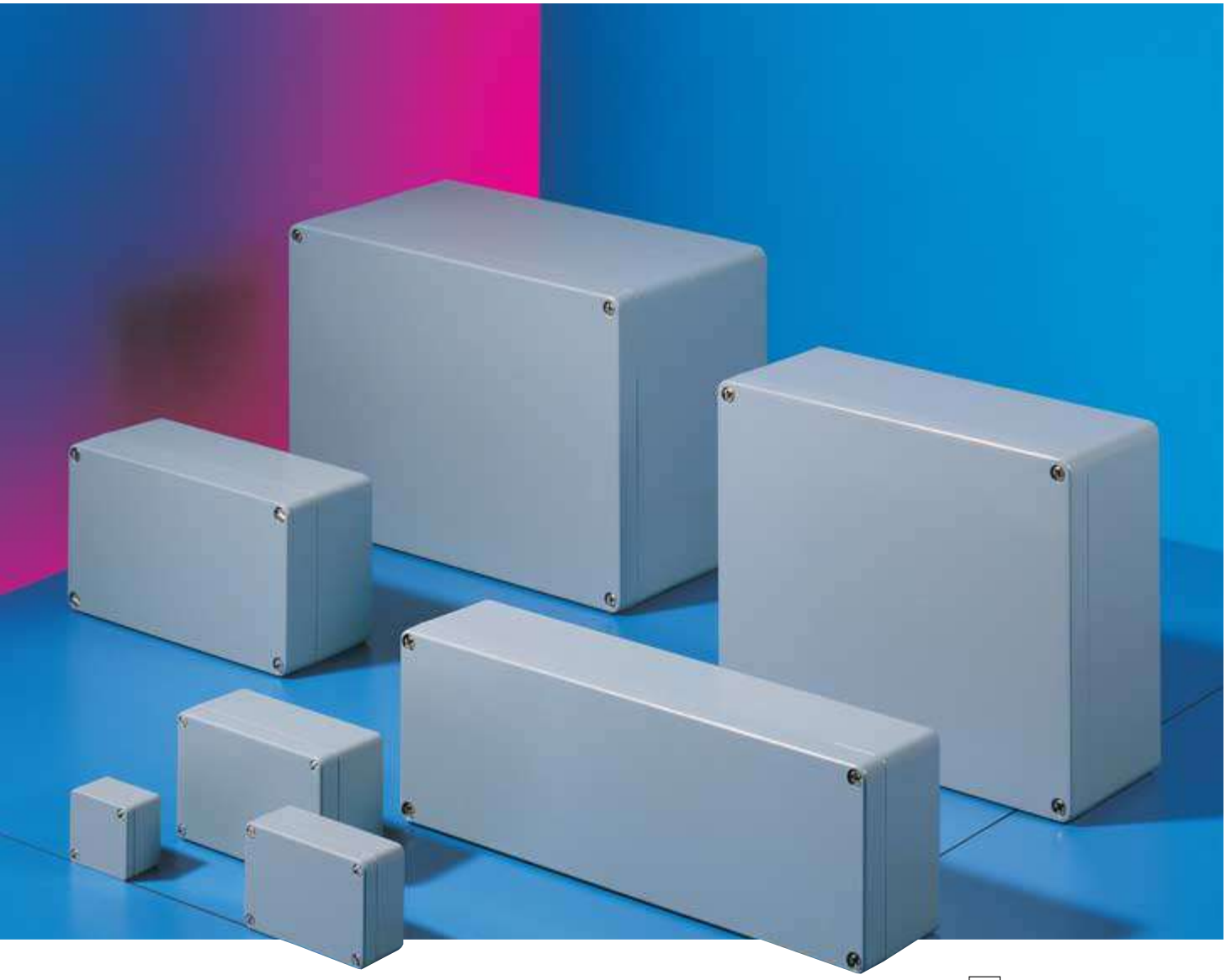
Impact resistance:
excellent

Salt water resistant models on special request.

Standard "custom" solutions for enclosures and covers

- drill holes
- tapping
- milling
- lettering
- engraving
- color selection in RAL colors; other finishes on special request.

GA SERIES CAST ALUMINUM ENCLOSURES



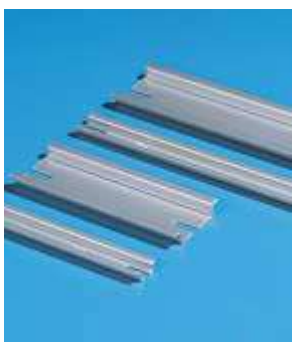
Additional accessories:
see pages 46/47.

Material:
Enclosure and cover:
cast aluminum
Cover gasket: neoprene

Finish:
Powder paint,
RAL 7001 silver grey

Ratings:
NEMA 4X
IP 66 per EN 60 529/10.91.

Configuration:
- Cast aluminum enclosure and cover with neoprene gasket
- 2 or 4 integrated cover screws
- 2 screws to fasten installation rails
- 1 grounding screw

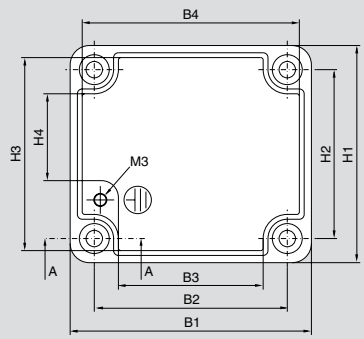


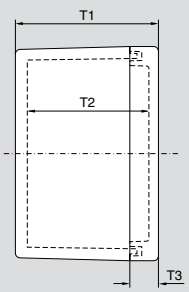
Installation rails
for terminal blocks.

Details on page 46.

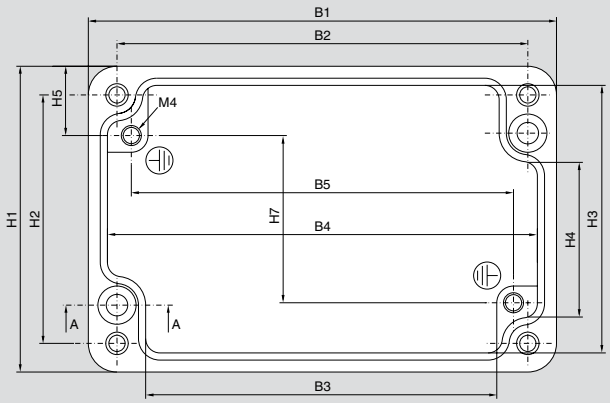
Cover screws accept wire/lead seals to protect against unauthorized entry.
Details on page 47.

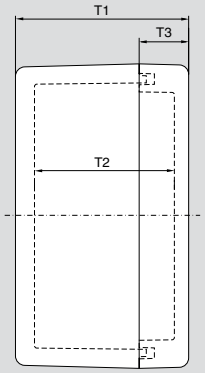
Version A



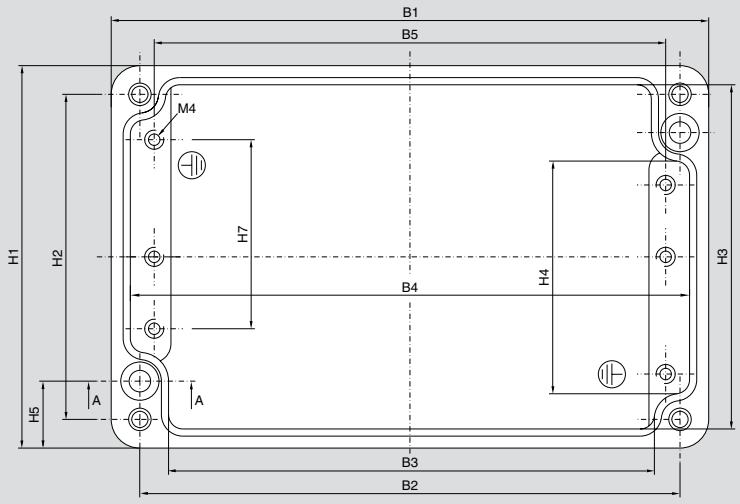


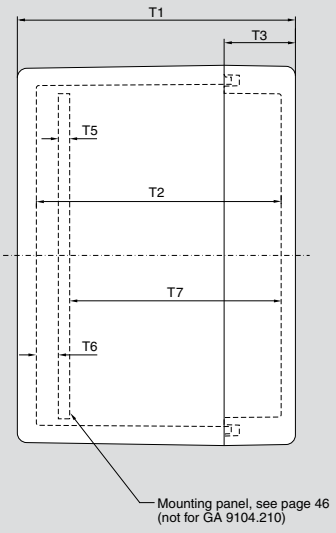
Version B



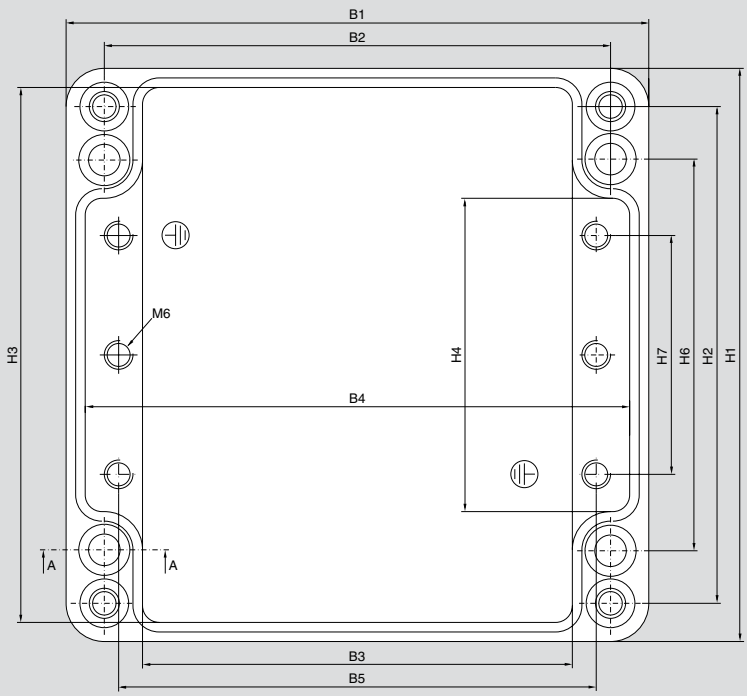


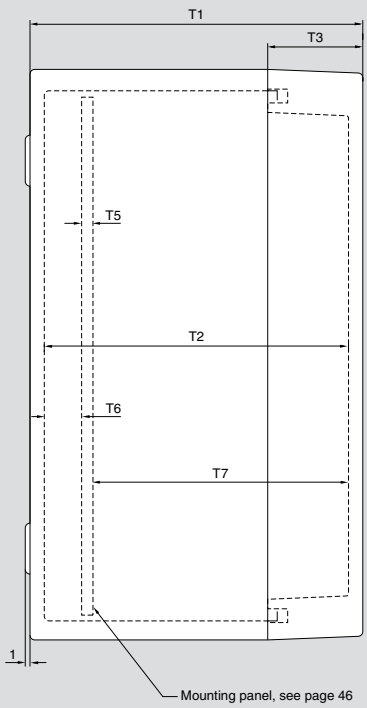
Version C



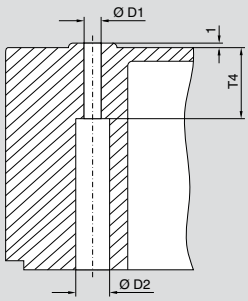


Version D





Section A – A



Dimensions in millimeters (mm) unless otherwise indicated

		Height dimensions (mm)							Width dimensions (mm)					Depth dimensions (mm)							Diameters	
Part No. GA	Version	H1	H2	H3	H4	H5	H6	H7	B1	B2	B3	B4	B5	T1	T2	T3	T4	T5	T6	T7	D1	D2
9100.210	A	45	35	40	18	–	–	–	50	40	30	45	–	30	25	6	5.5	–	–	–	4.2	7.5
9101.210	B	64	52	56	32	14	–	35	58	46	34	50	40	36	29	10	9	–	–	–	4.5	8
9102.210	B	64	52	56	32	14	–	35	98	86	75	90	80	36	29	10	8	–	–	–	4.5	8
9103.210	B	64	52	56	32	14	–	35	150	138	126	142	132	36	29	10	9	–	–	–	4.5	8
9104.210	C	80	68	72	48	14	–	39	75	63	52	67	57	57	50	15	11.5	–	–	–	4.5	9
9105.210	C	80	68	72	48	14	–	39	125	113	99	117	106	57	50	15	10	1.5	7	41.5	4.5	8.5
9106.210	C	80	68	72	48	14	–	39	175	163	152	167	156	57	50	15	10.5	1.5	6	42.5	4.5	9
9107.210	C	80	68	72	48	14	–	39	250	238	226	242	231	57	50	15	10	1.5	6	42.5	4.5	8
9108.210	D	120	104	111	64	–	82	52	122	106	90	113	95	80	72	20	14.5	1.5	9	61.5	6.5	10.8
9110.210	D	120	104	111	64	–	82	52	220	204	183	211	193	90	82	30	15	1.5	9	69.5	6.8	11
9111.210	D	120	104	111	64	–	82	52	360	344	326	349	333	80	72	20	19.5	2	9	61	7	10.8
9112.210	D	160	140	151	90	–	110	76	160	140	120	151	130	90	82	20	20.5	2	9	71	6.2	12.5
9113.210	D	160	140	151	90	–	110	76	260	240	220	251	230	90	82	20	18	2	9	71	6.3	14
9114.210	D	160	140	151	84	–	110	74	360	340	316	351	330	90	82	20	19	2	9	71	7.1	14
9116.210	D	230	210	221	160	–	180	144	200	180	160	191	170	110	102	20	19	2	9	91	7.3	14
9117.210	D	230	210	221	160	–	180	144	280	260	240	271	250	110	102	20	24	2	9	91	6.2	14.2
9118.210	D	230	210	221	160	–	180	144	330	310	290	321	300	110	102	20	24.5	2	9	91	6.2	14.2
9119.210	D	230	210	221	160	–	180	144	330	310	290	321	300	180	172	20	14	2	10	160	7.5	12.5

Mounting panel

for optimum component mounting.

Material:
Sheet steel, galvanized,
with mounting holes.

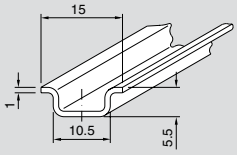
Outside dimensions in inches/mm		For enclosure	PU	**Part No. GA**
Height	Width			
2.72/ 69	4.49/114	GA 9105.210	10	**9105.700**
2.72/ 69	6.46/164	GA 9106.210	10	**9106.700**
2.72/ 69	9.41/239	GA 9107.210	5	**9107.700**
4.21/107	4.29/109	GA 9108.210	2	**9108.700**
4.21/107	8.15/207	GA 9110.210	2	**9110.700**
4.21/107	13.66/347	GA 9111.210	2	**9111.700**
5.59/142	5.69/144	GA 9112.210	2	**9112.700**
5.59/142	9.65/245	GA 9113.210	2	**9113.700**
5.59/142	13.62/346	GA 9114.210	1	**9114.700**
8.43/214	7.20/183	GA 9116.210	1	**9116.700**
8.43/214	10.39/264	GA 9117.210	1	**9117.700**
8.43/214	12.36/314	GA 9118.210, GA 9119.210	1	**9118.700**

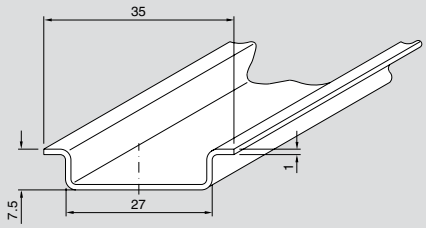
Installation rails

accept terminal blocks and
other components.

Material:
Sheet steel, galvanized
with mounting holes.

Rails	Max. number of terminals with the following conductor cross sections			Rail length available for components mm	For enclosure width mm	PU	**Part No. GA**
	14 AWG 2.5 mm²	12 AWG 4 mm²	8 AWG 10 mm²				
TS 15 per EN 50 045	15	15	12	95	125	10	**9105.150**
	27	22	19	145	175	10	**9106.150**
	42	35	29	220	250	10	**9107.150**
TS 35/ 7.5 per EN 50 022	12	12	9	80	122	5	**9108.350**
	18	18	14	115	160	5	**9112.350**
	25	25	18	155	200	5	**9116.350**
	29	29	21	180	220	5	**9110.350**
	34	34	26	215	260	5	**9113.350**
	37	37	28	230	280	5	**9117.350**
	46	46	35	290	330	5	**9118.350**
	51	51	39	320	360	5	**9111.350**





Wallmount bracket

for external mounting to surfaces; installs directly to rear of enclosure – no need to remove lid.

Material:
Sheet steel, galvanized

For enclosure	PU	Part No. GA
GA 9108.210, GA 9110.210, GA 9111.210	2	**9121.122**
GA 9112.210, GA 9113.210, GA 9114.210	2	**9121.160**
GA 9116.210, GA 9117.210, GA 9118.210, GA 9119.210	2	**9121.230**

Hinge (exterior)

to fasten cover to enclosure body. Includes drilling template.

Material:
Cast aluminum

Color:
Silver grey (RAL 7001)

For enclosure	PU	Part No. GA
GA 9105.210, GA 9106.210, GA 9107.210	2 + 8 screws	**9123.100**
GA 9108.210, GA 9110.210, GA 9111.210, GA 9112.210, GA 9113.210, GA 9114.210, GA 9116.210, GA 9117.210, GA 9118.210, GA 9119.210	2 + 8 screws	**9123.000**

Cover screws for wire/lead seal

prevent unauthorized access. For enclosure H x W x D from 3.15 x 2.95 x 2.24″/80 x 75 x 57 mm. Each cover requires two screws.

Material:
Stainless steel

For enclosure	PU	Part No. GA
GA 9104.210, GA 9105.210, GA 9106.210, GA 9107.210	6	**9122.424**
GA 9108.210, GA 9111.210, GA 9112.210, GA 9113.210, GA 9114.210, GA 9116.210, GA 9117.210, GA 9118.210, GA 9119.210	6	**9122.630**
GA 9110.210	6	**9122.645**

The KL junction box series

Rittal's KL junction box series has more than 44 different junction boxes developed through close interaction with customers' needs. Rittal always has a solution, with or without flange, in stainless steel, in EMC versions or simply painted. Flat extruded mounting rails on both sides offer a multitude of installation options and space.

Spotwelded, with drilled or even threaded holes, they make the installation of C-rails, T-slot rails or mounting panels a simple task. The highly elastic PU gasket guarantees a perfect seal with a NEMA 4/IP 66 rating per EN 60529/10.91 for closed enclosures.

KL Series junction boxes have the following approvals:

- UL
- CSA
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

Part No. KL Series junction boxes in sheet steel						Part No. KL junction boxes in stainless steel Type 304	
H x W dimensions		without gland panel			with gland panel	with gland panel	
inches	mm	D = 3″/80 mm	D = 5″/120 mm	D = 6″/150 mm	D = 5″/120 mm	D = 3″/80 mm	D = 5″/120 mm
6 x 6	150 x 150	**1514.210**	**1500.210**	–	–	**1521.010**	–
6 x 8	150 x 200	**1528.210**	**1529.210**	–	–	–	–
6 x 12	150 x 300	**1515.210**	**1501.210**	–	**1530.210**	**1522.010**	–
6 x 16	150 x 400	–	**1589.210**	–	–	–	–
8 x 6	200 x 150	–	–	–	–	–	–
8 x 8	200 x 200	**1516.210**	**1502.210**	–	–	**1523.010**	–
8 x 12	200 x 300	**1517.210**	**1503.210**	–	**1531.210**	**1524.010**	–
8 x 16	200 x 400	**1518.210**	**1504.210**	–	**1532.210**	–	**1525.010**
8 x 20	200 x 500	–	**1505.210**	–	**1533.210**	–	–
8 x 24	200 x 600	**1519.210**	**1506.210**	–	**1534.210**	–	–
8 x 32	200 x 800	–	**1527.210**	–	**1542.210**	–	–
10 x 8	250 X 200	–	–	**1597.200**	–	–	–
12 x 10	300 x 250	–	–	**1597.210**	–	–	–
12 x 12	300 x 300	–	**1507.210**	–	**1535.210**	–	**1526.010**
12 x 16	300 x 400	–	**1508.210**	–	**1536.210**	–	–
12 x 20	300 x 500	–	**1509.210**	–	**1537.210**	–	–
12 x 24	300 x 600	–	**1510.210**	–	**1538.210**	–	–
14 x 12	350 x 300	–	–	**1597.220**	–	–	–
16 x 14	400 x 350	–	–	**1597.230**	–	–	–
16 x 16	400 x 400	–	**1511.210**	–	**1539.210**	–	–
16 x 24	400 x 600	–	**1512.210**	–	**1540.210**	–	–
16 x 32	400 x 800	–	**1513.210**	–	**1541.210**	–	–
Pages		50/51	52/53	50/51	54/55	268/269	

For alternative materials:

Plastic:
- PK see pages 32/33
- KS see pages 86/87

Cast aluminum:
- GA see pages 40/41

Stainless steel KL junction boxes, see pages 268/269.

KL Series junction boxes, EMC shielded				
H inches/mm	W inches/mm	D inches/mm	**Part No. KL**	Pages
12/300	12/300	4.75/120	**1507.710**	302/303

EMC shielded KL junction boxes, see pages 302/303.

■ Accessories

Quick-release fastener
saves time during inspection and maintenance. Fits into holes in cover and enclosure bracket. No drilling required.

PU	**Part No. KL**
12	**1593.000**

US Patent No. 4.550.852
German Patent No. P 34 78 561

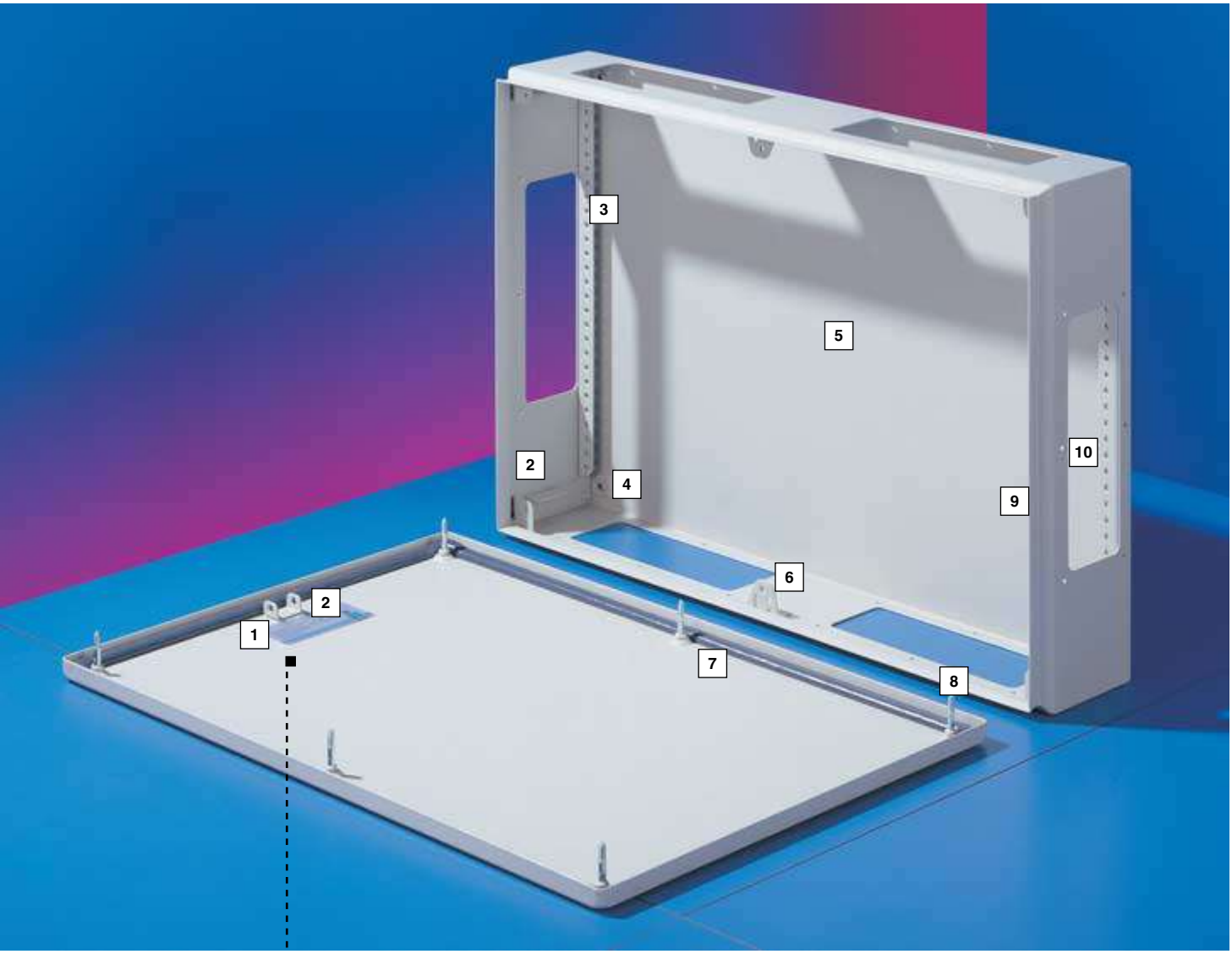
Cover hinge
is simply screwed onto the perimeter channel and door edge (drilling required).

PU	**Part No. KL**
6	**1592.000**

German Patent No. P 33 40 491

Cover retainer
can easily be installed (no drilling required) and makes it possible to open cover even when junction boxes are installed directly above each other.

PU	**Part No. KL**
3 pairs	**1591.000**



1 Easy and simple provision for lid support cable.

2 Grounding connectors on cover and enclosure.

3 Flush installation rails on each side have installation holes (some threaded) that facilitate mounting of C-rails, U-rails and mounting panels. (1597.xxx have limberg nuts instead of installation rails).

4 Holes in the rear wall make it possible to wallmount a junction box directly or with brackets (not for stainless steel models).

5 E-coat and powder paint combination – even on edges and in corners – offer ultimate surface protection.

6 Universal installation points for cover screws KL 1593.000 quick-release fasteners and KL 1591.000 cover retainer. No drilling required – no change in protection rating.

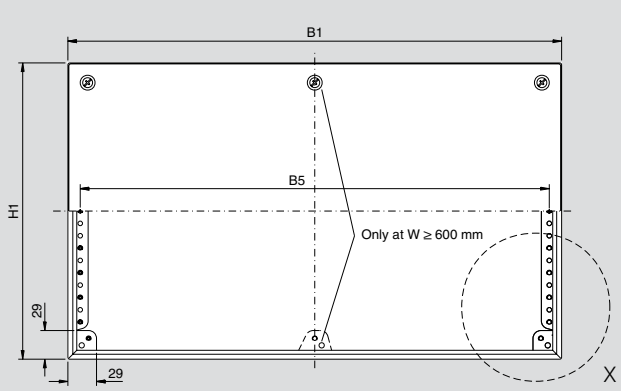
7 Foamed-on gasket ensures a tight seal. NEMA 4/IP 66* for standard junction boxes; NEMA 12/IP 55* for boxes with gland panels.

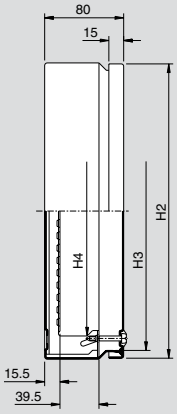
* Per EN 60 529/10.91.

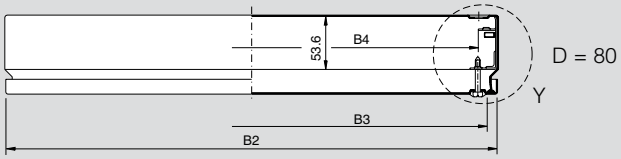
8 The plastic retainer bushings ensure that cover screws cannot be lost and provide guidance for screw drivers.

9 Multiple-fold, rain channel type perimeter provides additional stability and prevents dirt and water from entering when the box is opened.

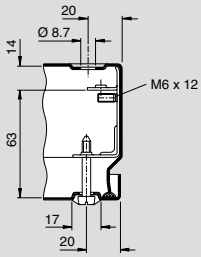
10 Same size openings and installation holes make it easy to interconnect boxes.



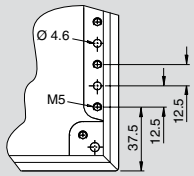




Detail Y
D = 80



Detail X



KL Series junction boxes without gland panel – 6″/150 mm deep

Height (H1) inches/mm	PU	10/250	12/300	14/350	16/400	Page
Width (B1) inches/mm		8/200	10/250	12/300	14/350	
Depth inches/mm		6/150	6/150	6/150	6/150	
Part No. KL	1	**1597.200***	**1597.210***	**1597.220***	**1597.230***	
B2		198	248	298	348	
B3		182	232	282	332	
H2		248	298	348	398	
H3		232	282	332	382	
Weight lbs/kg		7.0/3.2	10.0/4.5	8.0/3.6	14.0/6.4	
Accessories						
Mounting panel KL	1	1597.460	1597.470	1597.480	1597.490	723

* Have limberg nuts instead of installation rails.

KL Series junction boxes without gland panel – 3″/80 mm deep

Height (H1) inches/mm	PU	6/150	6/150	6/150	8/200	8/200	8/200	8/200	Page
Width (B1) inches/mm		6/150	8/200	12/300	8/200	12/300	16/400	24/600	
Depth inches/mm		3/ 80	3/ 80	3/ 80	3/ 80	3/ 80	3/ 80	3/ 80	
Part No. KL	1	**1514.210**	**1528.210**	**1515.210**	**1516.210**	**1517.210**	**1518.210**	**1519.210**	
H2		148	148	148	198	198	198	198	
H3		132	132	132	182	182	182	182	
H4		100	100	100	150	150	150	150	
B2		148	198	298	198	298	398	598	
B3		132	182	282	182	282	382	582	
B4		109	159	259	159	259	359	559	
B5		125	175	275	175	275	375	575	
Weight lbs/kg		3.1/1.4	3.5/1.6	4.6/2.1	4.2/1.9	5.7/2.6	7.3/3.3	9.3/4.2	
Accessories									
Mounting panel KL	1	1560.700	1575.700	1561.700	1562.700	1563.700	1564.700	1566.700	965
TS 35/7.5 rails SZ	10	2314.000	2315.000	2316.000	2315.000	2316.000	2317.000	–	983
TS 35/15 rails SZ	10	–	–	–	–	–	–	2319.000	983

For accessories, see Index (pages 1078 – 1088) or section following page 965.

Use suffix .310 for enclosures with E-coat finish only.

KL SERIES JUNCTION BOXES

Without gland panel, depth: 3″ & 6″/80 & 150 mm

Accessories:
see pages 876/877
or keyword index.

Configuration:
Housing, cover with foamed-on gasket, cover screws including special plastic bushings.

Material:
Housing:
18 ga/1.25 mm sheet steel
(KL 1528.210: 17 ga/1.38 mm)
Cover:
18 ga/1.25 mm sheet steel

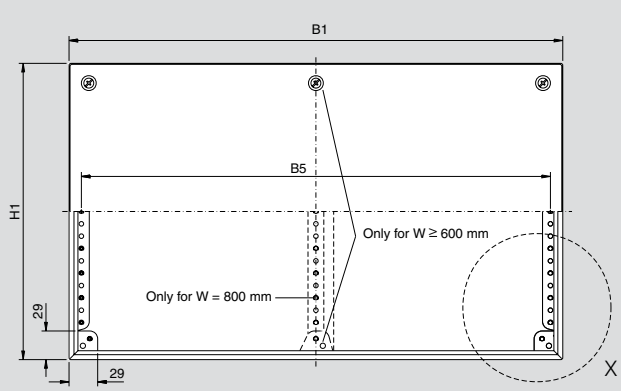
Finish:
Housing and cover:
E-coat and powder painted,
RAL 7032 pebble grey

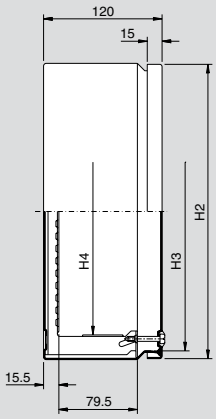
Ratings/approvals:
NEMA 4/
UL approved E 76082
IP 66 per EN 60529/10.91
CSA LR 59132

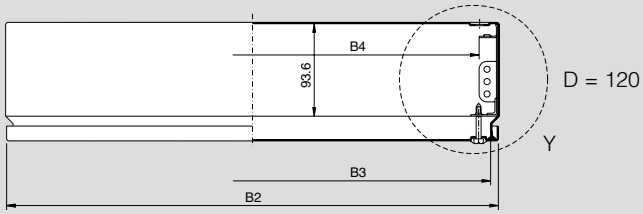
Wallmount bracket
for secure mounting on flat surfaces.
Details on page 962.

Mounting panel
for easy component installation.
Details on page 965.

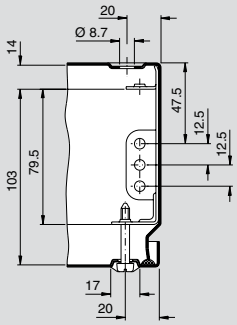
Mounting rails
accept terminal blocks and other components.
Details on page 983.



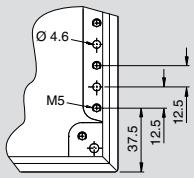




Detail Y
D = 120



Detail X



KL Series junction boxes, width 6 – 16″/150 – 400 mm, without gland panel

Height (H1) inches/mm	PU	6/150	6/150	6/150	6/150	8/200	8/200	8/200	12/300	12/300	16/400
Width (B1) inches/mm		6/150	8/200	12/300	16/400	8/200	12/300	16/400	12/300	16/400	16/400
Depth inches/mm		5/120	5/120	5/120	5/120	5/120	5/120	5/120	5/120	5/120	5/120
Part No. KL	1	**1500.210**	**1529.210**	**1501.210**	**1589.210**	**1502.210**	**1503.210**	**1504.210**	**1507.210**	**1508.210**	**1511.210**
Mounting panel, page 965	1	1560.700	1575.700	1561.700	1576.700	1562.700	1563.700	1564.700	1567.700	1568.700	1571.700
H2 = Height of cover (mm)		148	148	148	148	198	198	198	298	298	398
H3 = Enclosure clearance		132	132	132	132	182	182	182	282	282	382
H4 = Clearance btw. profiles		100	100	100	100	150	150	150	250	250	350
B2 = Width of cover (mm)		148	198	298	398	198	298	398	298	398	398
B3 = Enclosure clearance		132	182	282	382	182	282	382	282	382	382
B4 = Clearance btw. profiles		109	159	259	359	159	259	359	259	359	359
B5 = Center distance (mm)		125	175	275	375	175	275	375	275	375	375
Weight lbs/kg		3.5/1.6	4.0/1.8	5.7/2.6	7.0/3.2	5.1/2.3	6.6/3.0	7.9/3.6	8.8/4.0	10.6/4.8	13.7/6.2

KL Series junction boxes, width 20 – 32″/500 – 800 mm, without gland panel

Height (H1) inches/mm	PU	8/200	8/200	8/200	12/300	12/300	16/400	16/400
Width (B1) inches/mm		20/500	24/600	32/800	20/500	24/600	24/600	32/800
Depth inches/mm		5/120	5/120	5/120	5/120	5/120	5/120	5/120
Part No. KL	1	**1505.210**	**1506.210**	**1527.210**	**1509.210**	**1510.210**	**1512.210**	**1513.210**
Mounting panel, page 965	1	1565.700	1566.700	1574.700	1569.700	1570.700	1572.700	1573.700
H2 = Height of cover (mm)		198	198	198	298	298	398	398
H3 = Enclosure clearance		182	182	182	282	282	382	382
H4 = Clearance btw. profiles		150	150	150	250	250	350	350
B2 = Width of cover (mm)		498	598	798	498	598	598	798
B3 = Enclosure clearance		482	582	782	482	582	582	782
B4 = Clearance btw. profiles		459	559	759	459	559	559	759
B5 = Center distance (mm)		475	575	775	475	575	575	775
Weight lbs/kg		9.7/4.4	13.4/6.1	15.0/6.8	12.6/5.7	15.0/6.8	18.5/8.4	24.2/11.0

For accessories, see index (pages 1078 to 1088) or section following page 965.

Use suffix .310 for enclosures with E-coat finish in RAL 7044 only, suffix .510 for RAL 7032 textured paint. Lead times upon request.

KL SERIES JUNCTION BOXES

Without gland panel, depth: 5″/120 mm

Accessories:
see pages 876/877
or the keyword index.

Configuration:
Enclosure, cover with foamed-on gasket, cover screws including special plastic bushings.

Material:
Enclosure:
17 ga/1.38 mm sheet steel
Cover:
18 ga/1.25 mm sheet steel

Finish:
Enclosure and cover:
E-coat and powder painted,
RAL 7032 pebble grey

Ratings/approvals:
NEMA 4
UL approved E 76082
IP 66 per EN 60529/10.91
CSA LR 59132

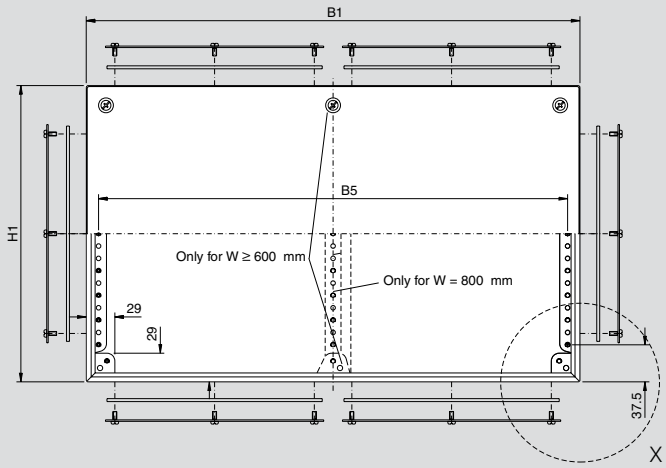
Mounting bracket
for custom installation of rails.

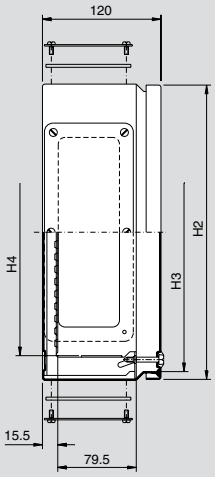
Details on page 983.

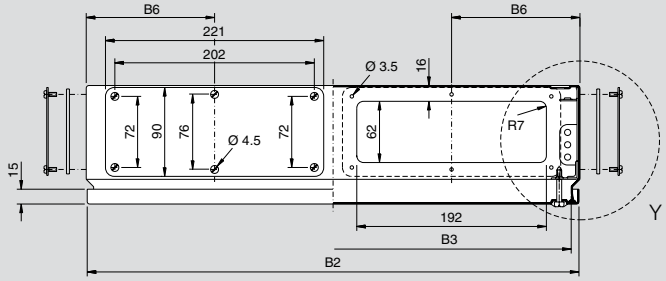
Mounting clips can be used to fasten cable ducts and other parts to rails.

Details on page 983.

Enclosure coupling CP 6525.100 for swivel mounting KL junction boxes to pendant arms.
Details on page 251.







Configuration:
Enclosure, cover with foamed-on gasket, cover screws including special plastic bushings, sheet steel gland panels with gaskets and installation hardware.

Detail drawings X and Y
see pages 52/53.

KL Series junction boxes, width 12 – 16″/300 – 400 mm, with gland panel

Height (H1) in inches/mm	PU	6 /150	8 /200	12 /300	8 /200	12 /300	16 /400
Width (B1) in inches/mm		12 /300	12 /300	12 /300	16 /400	16 /400	16 /400
Depth in inches/mm		4.75/120	4.75/120	4.75/120	4.75/120	4.75/120	4.75/120
Part No. KL	1	**1530.210**	**1531.210**	**1535.210**	**1532.210**	**1536.210**	**1539.210**
Mounting panels, see page 965	1	1561.700	1563.700	1564.700	1567.700	1568.700	1571.700
B2 = Width of cover (mm)		298	298	298	398	398	398
B3 = Width clearance of enclosure (mm)		282	282	282	382	382	382
B5 = Center-to-center distance of profile rails installation holes (mm)		275	275	275	375	375	375
B6 = Distance of outside encl. edge to center of gland panel (mm)		150	150	150	200	200	200
H2 = Height of cover (mm)		148	198	298	198	298	398
H3 = Height clearance, enclosure (mm)		132	182	282	182	282	382
H4 = Height clearance between profile rails (mm)		100	150	250	150	250	350
Gland panel/W (top + bottom) (count)		1 + 1	1 + 1	1 + 1	1 + 1	1 + 1	1 + 1
Gland panel/H (left + right) (count)		–	–	1 + 1	–	1 + 1	1 + 1
Weight (lbs/kg)		5.9/2.7	7.3/3.3	9.9/4.5	8.8/4.0	12.2/5.2	14.8/6.7

KL Series junction boxes, width 20, 24 and 32″/500, 600, and 800 mm, with gland panel

Height (H1) in inches/mm	PU	8 /200	12 /300	8 /200	12 /300	16 /400	8 /200	16 /400
Width (B1) in inches/mm		20 /500	20 /500	24 /600	24 /600	24 /600	32 /800	32 /800
Depth in inches/mm		4.75/120	4.75/120	4.75/120	4.75/120	4.75/120	4.75/120	4.75/120
Part No. KL	1	**1533.210**	**1537.210**	**1534.210**	**1538.210**	**1540.210**	**1542.210**	**1541.210**
Mounting panel, see page 965	1	1565.700	1566.700	1574.700	1569.700	1570.700	1574.700	1573.700
B2 = Width of cover (mm)		498	498	598	598	598	798	798
B3 = Width clearance of enclosure (mm)		482	482	582	582	582	782	782
B5 = Center-to-center distance of profile rails installation holes (mm)		475	475	575	575	575	775	775
B6 = Distance of outside encl. edge to center of gland panel (mm)		130	130	150	150	150	150	150
H2 = Height of cover (mm)		198	298	198	298	398	198	398
H3 = Height clearance, enclosure (mm)		182	282	182	282	382	182	382
H4 = Height clearance between profile rails (mm)		150	250	150	250	350	150	350
Gland panel/W (top + bottom) (count)		2 + 2	2 + 2	2 + 2	2 + 2	2 + 2	3 + 3	3 + 3
Gland panel/H (left + right) (count)		–	1 + 1	–	1 + 1	1 + 1	–	1 + 1
Weight (lbs/kg)		10.8/4.9	11.5/5.2	13.0/5.9	17.0/7.7	19.8/9.0	15.9/7.2	26.4/12.0

Use suffix .310 for enclosures with E-coat finish in RAL 7044 only. Suffix .510 to order enclosures with textured finish. Lead times on request.

KL SERIES JUNCTION BOXES

With gland panel

Accessories:

see pages 876/877
or keyword index.

Material:
Enclosure:
17 ga/1.38 mm sheet steel;
18 ga/1.25 mm for KL 1530.210 through KL 1534.210 and KL 1542.210
Cover:
18 ga/1.25 mm sheet steel

Finish:
Enclosure and cover:
E-coat and powder painted, RAL 7032 pebble grey

Ratings/approvals:
NEMA 12
UL approved E 76082
IP 55 per EN 60 529/10.91
CSA LR 59132

Plastic gland panel
with knockouts for NPT and PG connectors.
Details on page 896.

Cover hinges
are easy to install and prevent loss of covers.
Details on page 48.

Metal gland panels
with cutout for 16- or 24-pole rack connector.
Details on page 896.

Rittal EB Series instrument enclosures

Optimum protection and packaging of wiring and circuits in a compact space. These "JIC" type boxes combine many of the advantages of Rittal's AE and KL Series enclosures at an economical cost. Features include 180° hinges, double-bit insert locks, integrated door grounding bracket, and a mounting panel. The edges of these sturdy sheet steel boxes are roll-formed into a protective gutter which prevents water and dirt from entering when the door is opened.

The standard locking system may be exchanged for any of our current lock inserts.

A foamed-on gasket combined with the knife-edge perimeter safely protects the built-in components and ensures NEMA 4/ IP 66 to EN 60 529/10.91 protection . . . without clamps.

Rittal EB instrument enclosures have the following approvals:

- UL
- CSA
- TÜV
- Germanischer Lloyd
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Norske Veritas
- Bureau Veritas
- VDE

Rittal EB Series instrument enclosures							Pages
Height	Width	Depth	Height	Width	Depth	Part No. EB	
inches			mm				
6	6	3	150	150	80	**1551.600**	
6	6	5	150	150	120	**1553.600**	
8	6	5	200	150	120	**1751.600**	
8	8	3	200	200	80	**1546.600**	
8	8	5	200	200	120	**1549.600**	
10	8	7	250	200	155	**1752.600**	
12	6	3	300	150	80	**1545.600**	
12	6	5	300	150	120	**1548.600**	
12	8	3	300	200	80	**1552.600**	
12	8	5	300	200	120	**1554.600**	
12	10	7	300	250	155	**1753.600**	58/59
12	12	5	300	300	120	**1555.600**	
14	12	7	350	300	155	**1754.600**	
16	8	3	400	200	80	**1547.600**	
16	8	5	400	200	120	**1550.600**	
16	12	5	400	300	120	**1556.600**	
16	12	7	400	300	155	**1577.600**	
16	14	7	400	350	155	**1755.600**	
20	8	5	500	200	120	**1557.600**	
24	12	7	600	300	155	**1578.600**	
32	12	7	800	300	155	**1579.600**	

Material options:

Plastic:
- PK see pages 32/33
- KS see pages 86/87

Cast aluminum:
- GA see pages 40/41

Rittal EMC shielded EB instrument enclosures. Details on pages 302/303.

■ Standard equipment:

Special lock system
includes standard double-bit insert that can be exchanged for different type lock inserts. It is fully integrated into the electric security circuit.
Details on pages 940 – 943.

180° hinge
is standard in the EB series to provide easy access to installed components.

Mounting panel
Standard on all models; it can be easily removed for installation and direct grounding of instrumentation.

EB SERIES INSTRUMENT ENCLOSURES

1 Multiple-fold gutter type edge provides extra stability and protects against dirt and water when enclosure is opened.

3 Grounding points on enclosure and door.

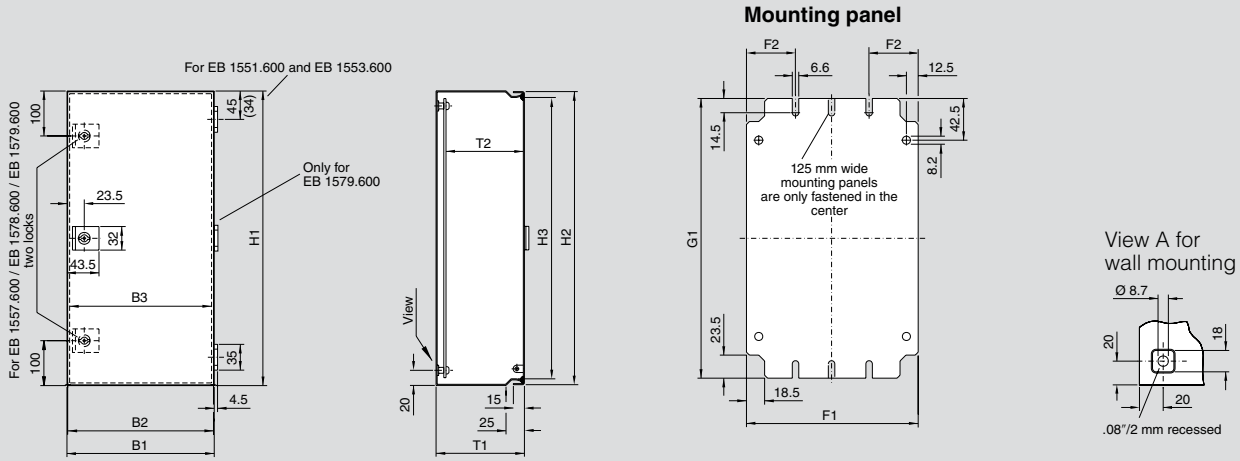
5 Enclosure body and door are E-coat primed and powder painted – pebble grey (RAL 7032), textured.

7 Double-bit lock system for easy opening.

2 14 ga or 12 ga, galvanized sheet steel mounting panel is standard.

4 Sturdy sheet steel enclosure with hinged door that opens 180°.

6 Flexible, seamless, foamed-on gasket ensures tight seal and high protection rating:
NEMA 4/IP 66
per EN 60 529/10.91.



Rittal EB Series instrument enclosures: depth 3″/80 mm

Height (H1) in inches/mm	6/150	12/300	8/200	12/300	16/400
Width (B1) in inches/mm	6/150	6/150	8/200	8/200	8/200
Depth (T1) in inches/mm	3/ 80	3/ 80	3/ 80	3/ 80	3/ 80
Part No. EB	**1551.600**	**1545.600**	**1546.600**	**1552.600**	**1547.600**
H2 = Height of door (mm)	148	298	198	298	398
H3 = Available height (mm)	132	282	182	282	382
B2 = Width of door (mm)	148	148	198	198	198
B3 = Available width (mm)	132	132	182	182	182
T2 = Avail. install. depth (mm)	65	65	65	65	65
Weight (lbs/kg)	3.7/1.7	5.7/2.6	5.3/2.4	7.1/3.2	9.7/4.4
Mounting panel dimensions (mm)					
F1 = Width (mm)	125	125	175	175	175
F2 = Outer edge to center of mounting holes (mm)	62.5	62.5	62.5	50	50
G1 = Height (mm)	135	285	185	285	385
Thickness in ga/mm	14/2	14/2	14/2	14/2	12/2.5

Rittal EB Series instrument enclosures: depth 5″/120 mm

Height (H1) in inches/mm	6/150	12/300	8/200	12/300	16/400	12/300	16/400	20/500	8/200
Width (B1) in inches/mm	6/150	6/150	8/200	8/200	8/200	12/300	12/300	8/200	6/150
Depth (T1) in inches/mm	5/120	5/120	5/120	5/120	5/120	5/120	5/120	5/120	5/120
Part No. EB	**1553.600**	**1548.600**	**1549.600**	**1554.600**	**1550.600**	**1555.600**	**1556.600**	**1557.600**	**1751.600**
H2 = Height of door (mm)	148	298	198	298	398	298	398	498	198
H3 = Available height (mm)	132	282	182	282	382	282	382	482	182
B2 = Width of door (mm)	148	148	198	198	198	298	298	198	148
B3 = Available width (mm)	132	132	182	182	182	282	282	182	132
T2 = Avail. install. depth (mm)	105	105	105	105	105	105	105	105	105
Weight (lbs/kg)	4.4/2.0	6.6/3.0	6.2/2.8	7.9/3.6	11.0/5.0	11.0/5.0	14.1/6.4	13.7/6.2	5.3/2.4
Mounting panel dimensions (mm)									
F1 = Width (mm)	125	125	175	175	175	275	275	175	125
F2 = Outer edge to center of mounting holes (mm)	62.5	62.5	50	50	50	50	50	50	65
G1 = Height (mm)	135	285	185	285	385	285	385	485	135
Thickness in ga/mm	14/2	14/2	14/2	14/2	12/2.5	14/2	12/ 2.5	12/2.5	14.2

Rittal EB Series instrument enclosures: depth 7″/155 mm

Height (H1) in inches/mm	16/400	24/600	32/800	10/250	12/300	14/350	16/400
Width (B1) in inches/mm	12/300	12/300	12/300	8/200	10/250	12/300	14/350
Depth (T1) in inches/mm	7/155	7/155	7/155	7/155	7/155	7/155	7/155
Part No. EB	**1577.600**	**1578.600**	**1579.600**	**1752.600**	**1753.600**	**1754.600**	**1755.600**
H2 = Height of door (mm)	398	598	798	248	298	348	398
H3 = Available height (mm)	382	582	782	232	282	332	382
B2 = Width of door (mm)	298	298	298	198	248	298	348
B3 = Available width (mm)	282	282	282	182	232	282	332
T2 = Avail. install. depth (mm)	140	140	140	140	140	140	140
Weight (lbs/kg)	15.7/7.1	24.2/11.0	29.2/13.2	7.9/3.6	11.0/5.0	12.8/5.8	13.9/6.2
Mounting panel dimensions (mm)							
F1 = Width (mm)	275	275	275	175	225	275	325
F2 = Outer edge to center of mounting holes (mm)	50	50	50	50	50	50	50
G1 = Height (mm)	385	585	785	235	285	335	385
Thickness in ga/mm	14/2	14/2	14/2	14/2	14/2	14/2	14/2

Use suffix .800 for ordering primed enclosures in RAL 7044, RAL 7035 textured with suffix .500. Lead times upon request.
Note: 15XX.600 series come with installation rails: 17XX.600 series come with limberg nuts.

EB SERIES INSTRUMENT ENCLOSURES

Accessories:
see pages 876/877
or keyword index.

Material:
Sheet steel
Enclosure: 18 ga/1.25 mm;
(17 ga/1.38 mm for
EB 1555.600 – EB 1556.600,
EB 1577.600 to EB 1579.600)
Door: 18 ga/1.25 mm
(16 ga/1.5 mm for
EB 1751.600 – EB 1755.600)
Mounting panel: see table to the left

Finish:
Enclosure and door:
E-coat and powder painted,
RAL 7032 pebble grey
Mounting panel: zinc-coated

Ratings/approvals:
NEMA 4
UL approved E 76083
IP 66 per EN 60529/10.91
CSA LR 59132

Configuration:
- Enclosure body
- Door with 180° hinge, hinged on right
- Lock with double-bit insert
- Mounting panel

Lock systems:
Standard double-bit lock insert can be replaced with:
- Type A lock inserts, see page 942
- Type B security inserts, see page 943
- Type B plastic handles, see page 940
- Type B T-handles, see page 941

Mounting coupling CP 6525.600 for mounting EB boxes (120 and 155 mm deep) onto pendant arm.
Details on page 250.

Clips for mounting rails for fastening cable ducts, etc. to mounting rails.
Details on page 983.

BG Series field bus enclosures

Growing use of industrial bus systems and small controls has created the need for special enclosures.
These enclosures accommodate the bus systems hardware of several manufacturers.

- KL series junction boxes
  see pages 48 – 55
- EB series instrument enclosures
  see pages 56 – 59
- AE series compact enclosures
  see pages 66 – 81.

All can be manufactured from sheet steel or stainless steel. See pages 280 – 281 to accommodate the components of modern BUS technology and Ethernet technology.

Rittal field bus enclosures provide for secure mounting of densely packaged field bus applications on machinery and installations. Field bus components can also be mounted in:

- PK series polycarbonate junction boxes
  see pages 32 – 37
- GA series aluminum cast iron boxes
  see pages 40 – 43.

Rittal makes the greatest efforts to provide the appropriate compact enclosure for all current models. Please let us know if we don't have an enclosure to fit your needs. We will find a solution for you.

Please contact your Rittal representative for special models made to your custom requirements.

BG Series field bus enclosures have the following approvals:

- TÜV
- Lloyds Register of Shipping
- VDE

Material:
Sheet steel
Enclosure: 1.25/1.38 mm
depending on model
Door: 1.25 mm
Window: polycarbonate, 4 mm

Finish:
Enclosure and door:
E-coated and powder painted
RAL 7032 textured

Ratings:
IP 65 per EN 60 529/10.91
IP 55 per EN 60 529/10.91
for BG 1558.210 and BG 1559.210

Stainless steel BG field bus enclosures,
see pages 270/271.

■ Accessories

EMC cable cord grip

Details on page 894.

Wallmount bracket

Details on page 962.

Clip for mounting rail
for installing units that cannot be screwed on.
Details on page 983.

BG SERIES FIELD BUS ENCLOSURES

1 Door may be bottom or side hinged. 180° hinges can be removed from inside the enclosure.

2 Viewing window made of polycarbonate with milled edges, installed flush with the metal.

3 A labyrinth between enclosure body and door protects the foamed-on highly elastic gasket. It ensures a perfect seal and can be painted.

4 Base with cutouts for PG or metric connections, or gland panel for universal installations.

5 The rear wall has cutouts and knockouts so that the enclosure may be mounted directly or with wall mounting brackets KL 1580.000 (see page 962).

6 Grounding bolts or straps in door or enclosure – (BG 1558.210 / BG 1559.210 are grounded inside enclosure at the profile).

7 Installation rail TS 35/7.5 screw mounted.

8 Installation rail is adjustable in the 1/2″/12.5 mm increments.

9 Galvanized mounting panel for installation combinations.

10 The E-coat primer and a powder paint finish RAL 7032 pebble grey ensure optimum surface treatment and corrosion protection.

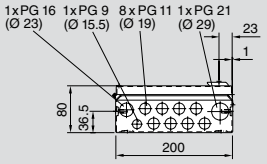
BG field bus enclosures

- Door hinged on left.
- 1 turnbuckle lock with double-bit insert can be replaced with Type A insert (see page 942) or Type B plastic handles (see page 940).
- Viewing window, polycarbonate, 4 mm.
- 2 (1) installation rail(s) TS 35/7.5 (for BG 1586.210).
- Holes for PG or metric connections in the bottom panel.

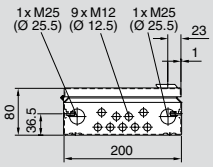
Dimensions in inches/mm			PG version						Metric version			
			Number of PG holes					Part No. BG	Number of metric holes			Part No. BG
H	W	D	9	11	13.5	16	21		M12	M20	M25	
12/300	8/200	3/80	1	8	–	1	1	**1583.210**	9	–	2	**1583.220**
	12/300		1	14	–	1	1	**1584.210**	15	–	2	**1584.220**
	16/400		1	18	–	1	2	**1585.210**	19	–	3	**1585.220**
	20/500		3	–	24	–	–	**1586.210**	3	24	–	**1586.220**

Order version RAL 7035 ending in .510 or .520. Lead times upon request.

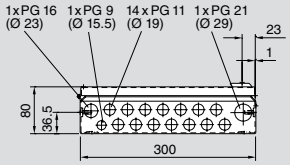
BG 1583.210



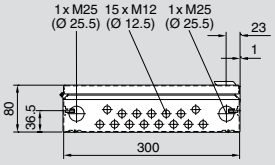
BG 1583.220



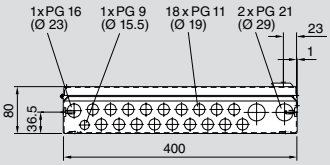
BG 1584.210



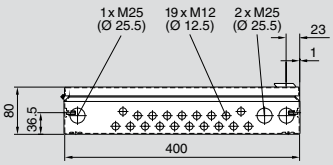
BG 1584.220



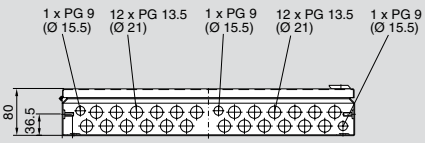
BG 1585.210



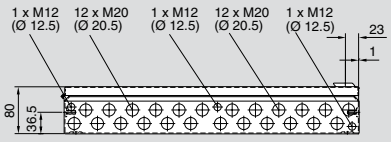
BG 1585.220

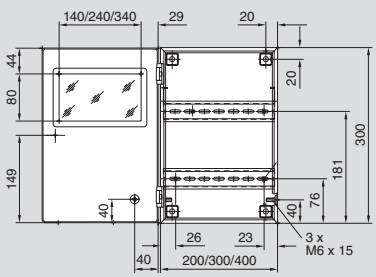


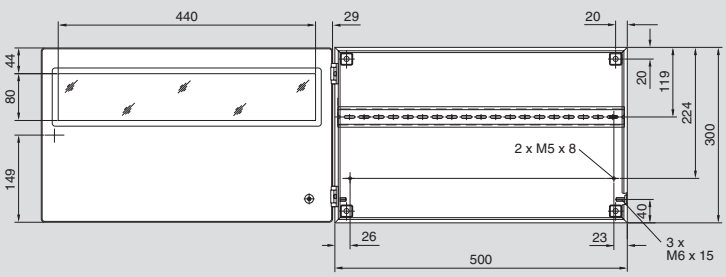
BG 1586.210



BG 1586.220





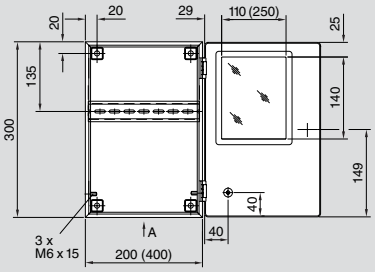


BG field bus enclosures

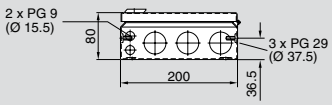
- Door hinged on right.
- 1 turnbuckle lock with double-bit insert that can be replaced with Type A inserts (see page 942) or plastic handles (see page 940).
- Viewing window polycarbonate, 4 mm.
- 1 installation rail TS 35/7.5.
- Holes for PG or metric connections in the bottom panel.

Dimensions inches/mm			PG version					Metric version				
			Number of PG holes				Part No.	Number of metric holes				Part No.
H	W	D	9	13.5	29	36		M12	M20	M32	M50	
12/300	8/200	3/ 80	2	–	3	–	**1604.210**	2	–	3	–	**1604.220**
		5/120	2	–	5	–	**1605.210**	2	–	5	–	**1605.220**
	16/400		–	2	9	1	**1606.210**	–	2	9	1	**1606.220**

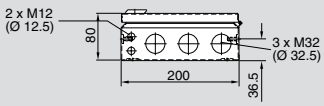
Order version in RAL 7035 ending in .510 or .520. Lead times upon request.



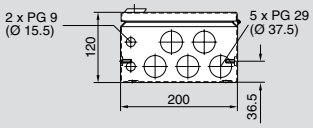
BG 1604.210



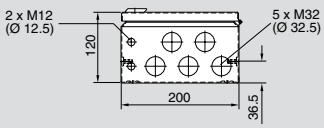
BG 1604.220



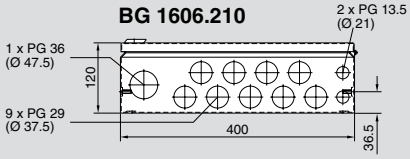
BG 1605.210



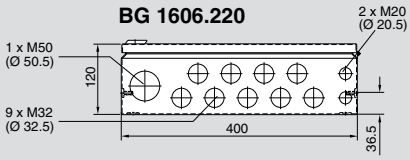
BG 1605.220



BG 1606.210



BG 1606.220

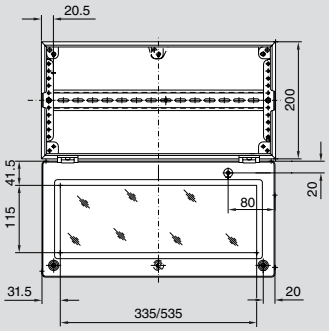


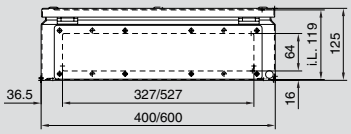
BG field bus enclosures

- Door is bottom hinged.
- 2 (3) screwdriver type quick-release locks for (for BG 1559.210).
- 1 installation rail TS 35/7.5.
- Viewing window, polycarbonate, 4 mm.
- 1 gland panel at bottom, holes for PG or metric connectors in gland panel (or upon request, directly in the enclosure body).

H	W	D	Part No. BG
inches/mm			
8/200	16/400	5/125	**1558.210**
	24/600		**1559.210**

Order RAL 7035 version with ending .510.





i.L. = available space

BG field bus enclosures

- Doors are bottom hinged.
- 2 (1) turnbuckle locks with double-bit insert (BG 1577.600), exchangeable for lock inserts Type A, see page 942 or plastic handle Type B, see page 940.
- 1 galvanized mounting panel.

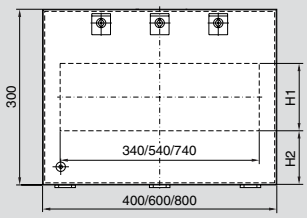
H inches/ mm	W inches/ mm	D inches/ mm	Turning lock	Part No. EB
12/300	16/400	6/155	1	**1577.600**
	24/600		2	**1578.600**
	32/800		2	**1579.600**

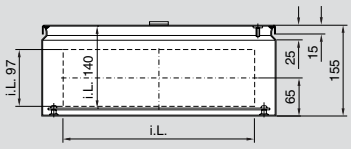
Order RAL 7035 version with Part No. ending in .500. Lead times upon request.

Modification options for field bus enclosures:
Viewing window and gland panel see table.

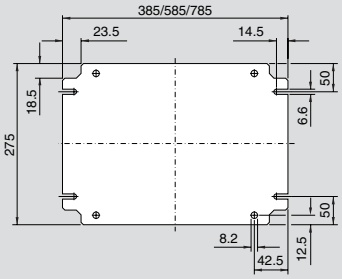
Height of viewing window (in inches/mm) H1	H2	Cutout for gland panel** bottom (clearance in mm)	Part No. BG Basic	Extension
		327 x 97	**1577.**	
		527 x 97	**1578.**	
		2 327 x 97	**1579.**	
4.5/115	3.6/92	–		**.620***
7.5/190	1.7/42	–		**.630***
4.5/115	3.6/92	●		**.650***
7.5/190	1.7/42	●		**.660***
6.1/155	3.6/92	–		**.400***

** Gland plates overlap by .6"/14 mm around perimeter of cutout.





i.L. = available space

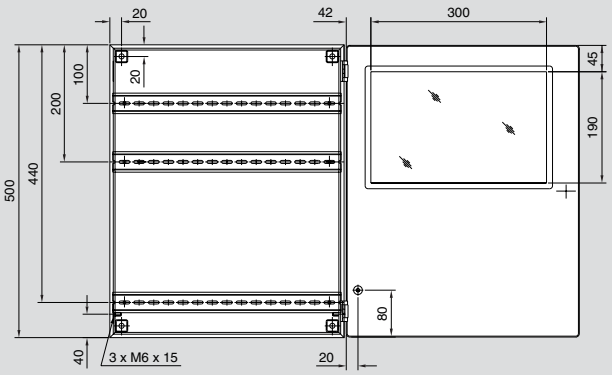


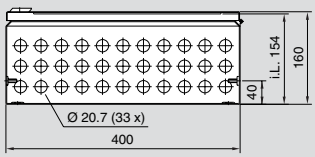
BG field bus enclosures

- Door right hinged.
- 1 turning lock with 3 mm double-bit insert, interchangeable for lock inserts, Type A, see page 942 and plastic handle, Type B, see page 940.
- Viewing window, polycarbonate, 4 mm.
- 3 installation rails TS 35/7.5.
- Holes for PG or metric connectors in the bottom panel.

Dimensions in inches/mm H	W	D	Number of holes for PG 13.5 or M20	Part No. BG
20/500	16/400	6.25/160	33	**1611.210**

Order RAL 7035 version with Part No. ending in .510. Lead times upon request.





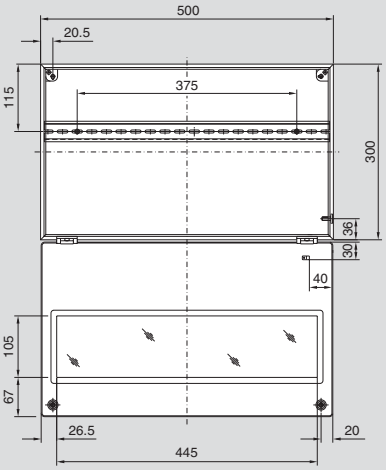
i.L. = available space

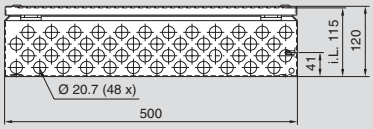
BG field bus enclosures

- Door bottom hinged.
- 2 screwdriver type quick-release locks.
- 1 installation rail TS 35/7.5.
- Viewing window, polycarbonate, 4 mm.
- Holes for PG or metric connections in the bottom panel.

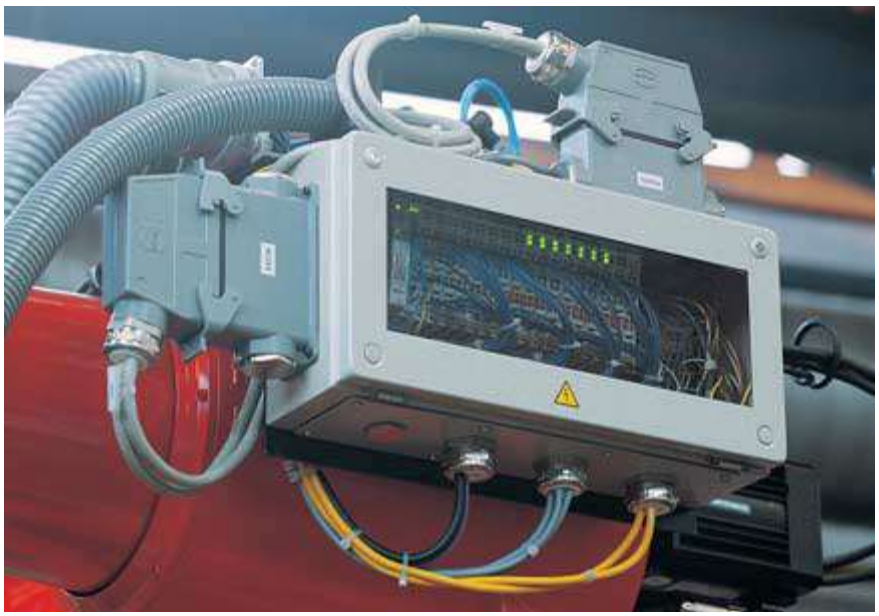
Dimensions inches/mm			Number of holes for PG 13.5 or M20	**Part No. BG**
H	W	D		
12/300	20/500	4.7/120	48	**1609.210**

Order RAL 7035 version with Part No. ending in .510. Lead times upon request.





i.L. = available space



Other dimensions, holes, viewing windows or manufacturer and user specific version by special request.

Also ideal for other components like, LED- or text displays. The viewing window keeps them perfectly visible.

The original – proven over a million times

Since its introduction more than 30 years ago, Rittal's unequaled AE Series of compact enclosures has been continually improved. Because of large, highly automated production runs, they offer unsurpassed value. They also stand out through their unmatched design and carry most key international approvals and certifications.

More than 100 different models are available to satisfy any possible customer requirements: painted or stainless steel; one door or two door; standard, with plug walls, or FMDC design; standard or EMC shielded; and with a viewing door or control panel.

AE Series compact enclosures – sheet steel

Approximate outside dimensions H″ x W″ x D″	NEMA rating	Part No. AE	Pages
12 x 8 x 5	1, 12, 13	**1032.600**	68/69
12 x 8 x 6	1, 12, 13	**1035.600**	68/69
12 x 12 x 8	1, 3R, 4, 12, 13	**1033.600**	68/69
12 x 15 x 6	1, 3R, 4, 12, 13	**1030.600**	68/69
12 x 15 x 8	1, 3R, 4, 12, 13	**1031.600**	68/69
15 x 15 x 8	1, 3R, 4, 12, 13	**1380.600**	68/69
15 x 24 x 8	1, 3R, 4, 12, 13	**1039.600**	68/69
15 x 24 x 14	1, 3R, 4, 12, 13	**1339.600**	68/69
16 x 12 x 8	1, 3R, 4, 12, 13	**1034.600**	68/69
20 x 16 x 8	1, 3R, 4, 12, 13	**1045.600**	70/71
20 x 20 x 8	1, 3R, 4, 12, 13	**1050.600**	70/71
20 x 20 x 12	1, 3R, 4, 12, 13	**1350.600**	70/71
24 x 15 x 12	1, 3R, 4, 12, 13	**1038.600**	70/71
24 x 15 x 14	1, 3R, 4, 12, 13	**1338.600**	70/71
24 x 24 x 8	1, 3R, 4, 12, 13	**1060.600**	70/71
24 x 24 x 14	1, 3R, 4, 12, 13	**1360.600**	70/71
27 x 20 x 10	1, 3R, 4, 12, 13	**1057.600**	70/71
30 x 24 x 8	1, 3R, 4, 12, 13	**1076.600**	70/71
30 x 24 x 14	1, 3R, 4, 12, 13	**1376.600**	70/71
30 x 30 x 8	1, 3R, 4, 12, 13	**1077.600**	72/73
30 x 30 x 12	1, 3R, 4, 12, 13	**1073.600**	72/73
30 x 40 x 8	1, 12, 13	**1100.600**	78/79
30 x 40 x 12	1, 12, 13	**1130.600**	78/79
32 x 24 x 10	1, 3R, 4, 12, 13	**1058.600**	70/71
36 x 30 x 12	1, 3R, 12, 13	**1097.500**	72/73
36 x 60 x 12	–	**1097.880**	78/79
40 x 24 x 10	1, 3R, 4, 12, 13	**1090.600**	70/71
40 x 32 x 12	1, 3R, 4, 12, 13	**1180.600**	72/73
40 x 40 x 12	1, 12, 13	**1110.600**	78/79
47 x 24 x 12	1, 3R, 4, 12, 13	**1260.600**	76/77
47 x 32 x 12	1, 3R, 4, 12, 13	**1280.600**	76/77
47 x 36 x 12	1, 3R, 4, 12, 13	**1097.670**	76/77
47 x 40 x 12	1, 12, 13	**1213.600**	80/81
55 x 40 x 12	1, 12, 13	**1114.600**	80/81
60 x 36 x 12	1, 3R, 4, 12, 13	**1097.720**	76/77
60 x 36 x 16	–	**1097.730**	76/77

Approximate outside dimensions H″ x W″ x D″	Part No. AE S/S Type 304	Rating S/S Type 304	Part No. AE S/S Type 316	Rating S/S Type 316
16 x 12 x 8	**1097.000**	1, 12, 4, 4X	**1097.100**	4X
20 x 20 x 12	**1097.020**		**1097.120**	
24 x 24 x 8	–		**1097.160**	
28 x 20 x 10	**1097.030**	1, 12, 4, 4X	**1097.130**	
30 x 24 x 8			**1097.170**	
30 x 30 x 12			**1097.180**	
30 x 36 x 12	**1097.050**	1, 12		
36 x 60 x 12	**1097.060**		**1097.160**	
40 x 24 x 10	**1097.010**	1, 12, 4, 4X	**1097.110**	
40 x 32 x 12			**1097.190**	
48 x 40 x 12			**1097.150**	12
60 x 36 x 12	**1097.040**	1, 12	**1097.140**	

AE Series compact enclosures with viewing door or control panel

Approximate outside dimensions H″ x W″ x D″	Part No. AE with viewing door	Part No. AE with control panel	Pages
12 x 15 x 6	–	**1030.680***	74/75
12 x 15 x 8	–	**1031.680***	
15 x 15 x 8	–	**1380.680***	
15 x 24 x 8	**1039.650***	**1039.680***	
15 x 24 x 14	**1339.650***	**1339.680***	
20 x 20 x 8	**1050.650***	**1050.680***	
20 x 20 x 12	**1350.650***	**1350.680***	
24 x 15 x 8	–	**1038.680***	
24 x 15 x 14	–	**1338.680***	
24 x 24 x 8	**1060.650***	**1060.680***	
24 x 24 x 14	**1360.650***	**1360.680***	
30 x 24 x 8	**1076.650***	–	
30 x 24 x 14	**1376.650***	–	

* Lead times upon request

AE Series compact enclosures in Type 304 stainless steel

Approximate outside dimensions: H″ x W″ x D″	NEMA rating	Part No. AE	Pages
12 x 8 x 6	4X	**1002.600**	280/281
12 x 15 x 6	4X	**1004.600**	
15 x 12 x 8	4X	**1005.600**	
15 x 15 x 8	4X	**1006.600**	
15 x 24 x 8	4X	**1009.600**	
20 x 20 x 8	4X	**1007.600**	
24 x 15 x 8	4X	**1008.600**	
24 x 24 x 8	4X	**1010.600**	
30 x 24 x 8	4X	**1012.600**	
30 x 30 x 12	4X	**1014.600**	
40 x 32 x 12	4X	**1016.600**	
40 x 40 x 12	12	**1018.600**	
47 x 32 x 12	4X	**1017.600**	
47 x 40 x 12	12	**1019.600**	

AE Series compact enclosures have the following approvals (except models with viewing door):

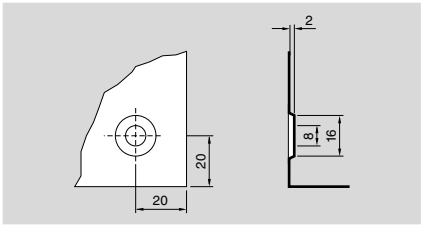
- UL
- CSA
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

Material options:

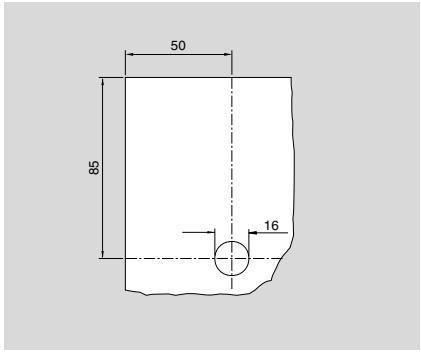
Plastic:
- PK see pages 32/33
- KS see pages 86/87

Cast aluminum:
- GA see pages 40/41

US Patent No. 4 951 980
German Patent No. 38 12 972
German Design No. 1MR 371
IR-Reg. Design No. DM/011 876
valid for BE, CH, ES, FR, IT, LU, NL
European Patent No. 0 349 713
valid for FR, GB, IT



Wall mounting
The rear walls have been pre-punched to accommodate wall mounting (Does not apply to AE stainless steel and EMC Series – this series uses integrated blind nuts).



Transportation eyebolts
All AE models higher than 39″/1000 mm have pre-drilled holes in the roof that accept transportation eyebolts (except stainless steel and EMC shielded models).
Details on page 957.

Stainless steel AE series compact enclosures. Details on pages 280/281.

EMC shielded AE Series compact enclosures. Details on pages 302/303.

AE SERIES COMPACT ENCLOSURES

Grounding points on housing, door and mounting panel.

Door hinging can be reversed from left to right on all single door models except AE 1032.600 and AE 1035.600.

Pre-punched holes for mounting brackets in the rear wall eliminate the need for extra drilling.

1 Vertical mounting rails with installation holes are spotwelded on 2 sides of each door to facilitate easy mounting of cables, cable ducts and covers (AE 1032.600 and AE 1035.600 have only one rail).

2 The foamed-on gasket assures a tight seal.

3 Standard 130° hinge can be replaced with 180° hinge SZ 2449.000.

4 Larger enclosure aperture makes it possible to install larger mounting panels than in other enclosures of comparable outside dimensions.

5 Multiple-fold housing edge increases stability and prevents entry of dirt and water when door is opened.

6 Mounting panel depth can be easily adjusted on threaded studs.

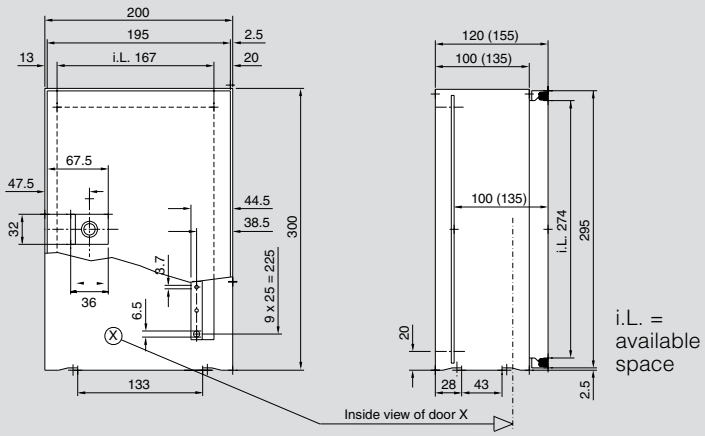
7 Sheet steel cable gland panels are sealed against the housing and can be replaced with plastic gland panels.

8 Housing is formed from one steel sheet.

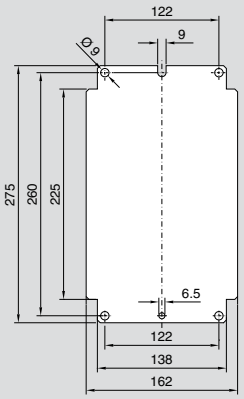
9 Standard surface treatment includes E-coat primer and powder paint, RAL 7032 pebble grey.

10 Double-bit inserts for turnbuckle or rod-type locks can be easily replaced with standard lock inserts.

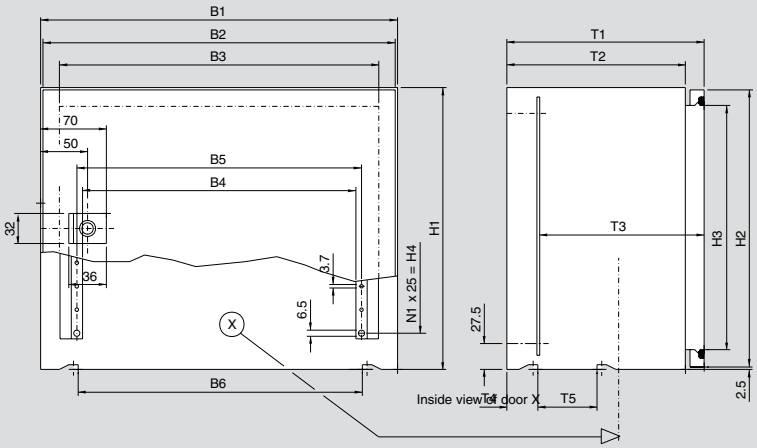
AE 1032.600 / AE 1035.600



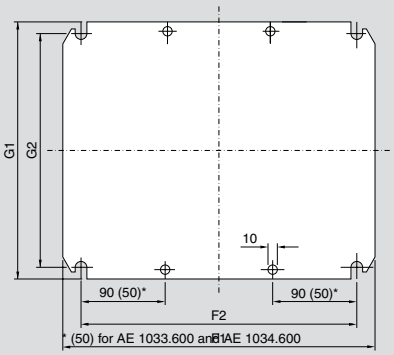
Mounting panels
AE 1032.600 / AE 1035.600



AE 1030.600 / AE 1031.600 / AE 1033.600 / AE 1034.600 /
AE 1380.600 / AE 1039.600 / AE 1339.600



Mounting panels
AE 1030.600 / AE 1031.600 /
AE 1033.600 / AE 1034.600 /
AE 1380.600 / AE 1039.600 /
AE 1339.600



Part No.	H2	H3	H4	B2	B3	B4	B5	B6	N1	T2	T3	T4	T5	F1	F2	G1	G2
AE 1033.600	295	260	225	295	260	211	223	233	9	190	168 – 184	33	45	254	215	275	250
AE 1034.600	395	360	325	295	260	211	223	233	13	190	168 – 184	33	45	254	215	375	350
AE 1030.600	295	260	225	375	340	291	303	303	9	132	113 – 129	33	63	334	295	275	250
AE 1031.600	295	260	225	375	340	291	303	303	9	190	168 – 184	33	63	334	295	275	250
AE 1380.600	375	340	275	375	340	291	303	303	11	190	168 – 184	33	63	334	295	355	330
AE 1039.600	375	340	275	595	560	511	523	500	11	190	168 – 184	38	113	549	510	355	330
AE 1339.600	375	340	275	595	560	511	523	500	11	330	308 – 324	38	113	549	510	355	330

Configuration:

- One-piece enclosure body
- 1 door, hinged on right
  – hinging can be reversed to left (except on AE 1032.600 / AE 1035.600)
- Turnbuckle lock
- Foamed-on gasket
- Cable entry panel (bottom)
- Mounting panel
- Wall mounting holes
- Door mounting rails

H1 Height inches/mm	PU	11.81/300	11.81/300	11.81/300	11.81/300	11.81/300	14.96/380	14.96/380	14.96/380	15.75/400	Page
B1 Width inches/mm		7.87/200	7.87/200	11.81/300	14.96/380	14.96/380	14.96/380	23.62/600	23.62/600	11.81/300	
T1 Depth inches/mm		4.72/120	6.10/155	8.27/210	6.10/155	8.27/210	8.27/210	8.27/210	13.78/350	8.27/210	
Part No. AE	1	**1032.600**	**1035.600**	**1033.600**	**1030.600**	**1031.600**	**1380.600**	**1039.600**	**1339.600**	**1034.600**	
NEMA rating		1, 12, 13	1, 3R, 4, 12, 13								
Mounting panel thickness ga/mm		14/2.0					12/2.5			14/2.0	
Weight lbs/kg		8.8/4.0	9.9/4.5	15.4/7.0	18.5/8.4	19.2/8.7	25.3/11.5	37.4/17.0	48.5/22.0	19.4/8.8	

Accessories

Self-tapping screws SZ	1 pack (300)	2487.000									734
Viewing door T = 1.34″/34 mm	1	–	–	–	–	–	–	2730.000	2730.000	–	691
Viewing door T = 2.36″/60 mm	1	–	–	–	–	–	–	2760.000	2760.000	–	691
Control panel FT	1	2740.000**	2740.000**	–	2741.000	2741.000	2742.000	2744.000	2744.000	–	692
Steel rain canopy SZ	1	–	–	–	–	2501.200	2501.200	2502.200	2511.200	–	714
Stainless steel rain canopy SZ	1	–	2470.000	2361.000	2471.000	2472.000	2472.000	2473.000	–	2361.000	714
Plastic gland panel SZ	10	2560.000	2560.000	–	2561.000	2561.000	2561.000	2563.000*	2563.000*	–	673

Lock systems
Standard lock has double-bit insert that can be replaced with 27 mm – Type A lock inserts (see page 942).
Type B security inserts, plastic handles and T-handles can be found on pages 940 – 943.

*PU = 5 **Can only be mounted on rear wall. Additional accessories: see system accessories following page 876 or Index (pages 1078 – 1088).

Use Part No. suffix .800 for enclosures with E-coat finish only.

AE SERIES COMPACT ENCLOSURES

Height: 12 – 16″/300 – 400 mm; width: 8 – 24″/200 – 600 mm

Accessories:
see pages 876/877
or keyword index.

Material:
Sheet steel
Housing: 16 ga/1.5 mm
Door: 14 ga/2.0 mm;
(except 16 ga/1.5 mm for
AE 1032.600 and AE 1035.600)

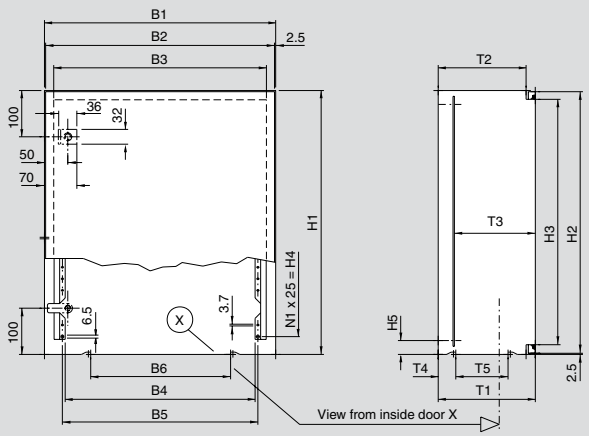
Finish:
Housing and door:
E-coat and powder painted;
RAL 7032 pebble grey
Mounting panel: galvanized

Ratings:
NEMA: see table
UL approved # 76083
CSA file # 59132
IP 66 per EN 60529/10.91.

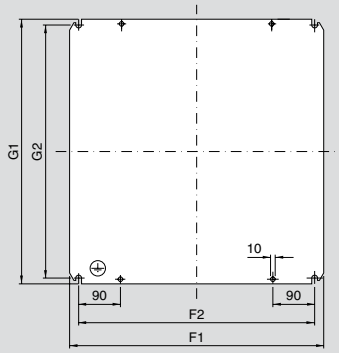
Protective lock cover
keeps dirt away; also accepts wire/lead seal.
Details on page 945.

Pole mounting kit
for easy, sturdy fastening to poles and structural frames.
Details on page 962.

Rain canopy
protects against direct water entry.
Details on page 954.



Mounting panel



Part No.	H2	H3	H4	H5	B2	B3	B4	B5	B6	T2	T3	T4	T5	N1	F1	F2	G1	G2
AE 1038.600	595	560	525	30	375	340	291	303	303	190	168 – 184	33	63	21	334	295	570	545
AE 1338.600	595	560	525	30	375	340	291	303	303	330	308 – 324	84	113	21	334	295	570	545
AE 1045.600	495	460	425	30	395	360	311	323	303	190	168 – 184	38	113	17	354	315	475	450
AE 1050.600	495	460	425	30	495	460	411	423	303	190	168 – 184	38	113	17	449	410	470	445
AE 1350.600	495	460	425	30	495	460	411	423	303	280	258 – 274	38	113	17	449	410	470	445
AE 1057.600	695	660	625	30	495	460	411	423	303	230	208 – 224	38	113	25	449	410	670	645
AE 1060.600	595	560	525	30	595	560	511	523	500	190	168 – 184	38	113	21	549	510	570	545
AE 1360.600	595	560	525	30	595	560	511	523	500	330	308 – 324	38	113	21	549	510	570	545
AE 1076.600	755	720	675	30	595	560	511	523	500	190	168 – 184	38	113	27	549	510	730	705
AE 1376.600	755	720	675	30	595	560	511	523	500	330	308 – 324	38	113	27	549	510	730	705
AE 1058.600	795	760	725	30	595	560	511	523	500	230	208 – 224	38	113	29	549	510	770	745
AE 1090.600	995	960	925	35	595	560	511	523	500	230	208 – 224	38	113	37	539	500	955	930

Configuration:

- One piece enclosure body
  1 door, hinged on right – hinging can be reversed to left
- 2 turnbuckle locks
- Foamed-on gasket
- Cable entry panel (bottom)
- Mounting panel
- Wall mounting holes
- Door mounting holes

H1 Height inches/mm	PU	24/600	24/600	20/500	20/500	20/500	28/700	24/600	24/600	30/760	30/760	32/800	39/100	Page
B1 Width inches/mm		15/380	15/380	16/400	20/500	20/500	20/500	24/600	24/600	24/600	24/600	24/600	24/600	
T1 Depth inches/mm		8.25/210	14/350	8.25/210	8.25/210	14/300	10/250	8.25/210	14/350	8.25/210	14/350	10/250	10/250	
Part No. AE	1	**1038.600**	**1338.600**	**1045.600**	**1050.600**	**1350.600**	**1057.600**	**1060.600**	**1360.600**	**1076.600**	**1376.600**	**1058.600**	**1090.600**	
Mount. panel thickness ga/mm		12/2.5	12/2.5	14/2.0	12/2.5	12/2.5	11/3.0	12/2.5	12/2.5	11/2.5	11/3.0	11/3.0	11/3.0	
Weight lbs/kg		34.4/15.6	42.7/19.4	28.7/13.0	37.1/16.8	43.2/19.6	68.8/31.2	50.7/22.8	62.6/28.4	70.7/32.1	79.4/36.0	75.4/34.2	111.3/50.5	

Accessories

Self-tapping screws SZ	1 pack (300)	2487.000												969
Viewing door FT T = 1.34″/34 mm	1	–	–	–	2733.000	2733.000	–	2731.000	2731.000	2732.000	2732.000	–	–	922
Viewing door FT T = 2.36″/60 mm	1	–	–	–	2763.000	2763.000	–	2761.000	2761.000	2762.000	2762.000	–	–	922
Console FT	1	2743.000	2743.000	–	2745.000	2745.000	–	2746.000	2746.000	–	–	–	–	922
Plastic cable entry gland panel SZ	5	2561.000*	2562.000	2562.000	2562.000	2562.000	2562.000	2563.000	2563.000	2563.000	2563.000	2563.000	2563.000	896
Steel rain canopy SZ	1	2501.200	–	–	–	–	–	2502.200	2511.200	2502.200	2511.200	–	–	954

Lock systems
Standard lock has double-bit insert that can be replaced with 27 mm – Type A lock inserts (see page 942).
Type B security inserts, plastic handles and T-handles can be found on pages 940 – 943.

* PU = 10 pieces

*** Order primed enclosures RAL 7044 with suffix .800, RAL 7035 textured with suffix .500.**

AE SERIES COMPACT ENCLOSURES

Height: 20 – 39″/500 – 1000 mm; width: 15 – 24″/380 – 600 mm

Accessories:
see pages 876/877
or keyword index.

Material:
Sheet steel
Housing: 16 ga/1.5 mm;
1.38 mm for AE 1045.600,
AE 1038.600, AE 1050.600,
AE 1060.600, AE 1076.600
Door: 14 ga/2.0 mm;
1.5 mm for AE 1045.600,
1.75 mm for AE 1038.600,
AE 1338.600, AE 1050.600,
AE 1350.600, AE 1060.600,
AE 1360.600.

Finish:
Housing and door:
E-coated RAL 7044, exterior powder coat
RAL 7032 pebble grey, textured
Mounting panel: galvanized

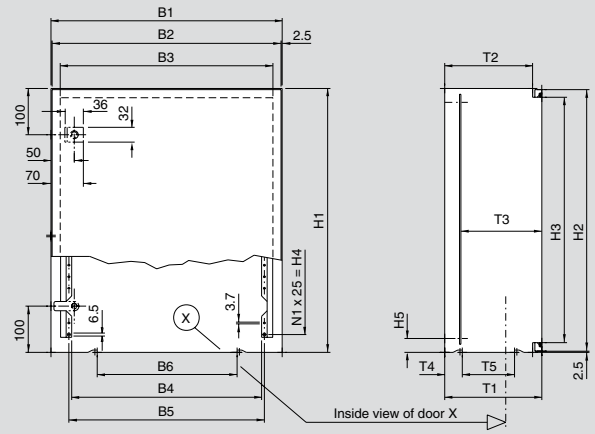
Ratings per EN 60 529/10.91:
NEMA 4/IP 66
IP 56 for AE 1076.600,
AE 1376.600, AE 1057.600,
AE 1058.600, AE 1090.600,
rated NEMA 4

Wall mounting angle
can be used for heavily loaded enclosures.
Details on page 963.

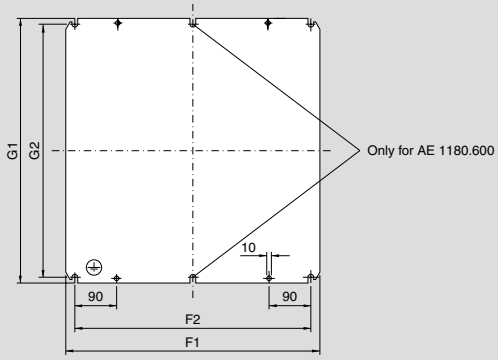
Wall mounting bracket
for easy mounting on the wall.

Details on page 962.

Wall mounting bracket
allows cable routing behind the enclosure.
Details on page 962.



Mounting panel



Dimensions in millimeters (mm) unless otherwise indicated

Part No.	H2	H3	H4	H5	B2	B3	B4	B5	B6	T2	T3	T4	T5	N1	F1	F2	G1	G2
AE 1077.600	755	720	675	30	755	720	671	683	500	190	168 – 184	38	113	27	704	665	730	705
AE 1073.600	755	720	675	30	755	720	671	683	500	280	258 – 274	38	113	27	704	665	730	705
AE 1180.600	995	960	925	35	795	760	711	723	500	280	258 – 274	70	113	37	739	700	955	930
AE 1097.500	895	860	750	30	755	720	671	683	500	280	258 – 274	38	113	30	704	655	870	845

Configuration:

- One piece enclosure body
  1 door, right hinged – hinging can be reversed to left
- 2 turnbuckle locks
- Foamed-on gasket
- Cable entry panel (bottom)
- Mounting panel
- Wall mounting holes
- Door mounting rails

H1 Height	inches/mm	PU	30/760	30/760	36/900	40/1000	Page
B1 Width	inches/mm		30/760	30/760	30/760	32/ 800	
T1 Depth	inches/mm		8/210	12/300	12/300	12/ 300	
Part No. AE		1	**1077.600**	**1073.600**	**1097.500**	**1180.600**	
Mounting panel thickness	ga/mm		11/3				
Weight	lbs/kg		88.1/40.0	98.0/44.5	110.0/50	125.6/57.0	

Accessories

Self-tapping screws	1 pack (300)	2487.000				969
Stainless steel rain canopy SZ	1	–	–	–	–	954
Plastic cable gland plate SZ	5	–	–	–	–	896
Swing frame SZ	1	2034.200				
Steel rain canopy SZ	1	–	–	–	–	954

Lock systems
Standard lock has double-bit insert that can be replaced with 27 mm – Type A lock inserts (see page 700).
Type B security inserts, plastic handles and T-handles can be found on pages 699 – 701.

Additional accessories: see system accessories following page 942 or Index (pages 940 – 943).

Use Part No. suffix .800 for enclosures with E-coat finish only.

AE SERIES COMPACT ENCLOSURES

Height: 30 – 39″/760 – 1000 mm; width: 30 – 32″/760 – 800 mm

Accessories:
see pages 876/877
or keyword index.

Material:
Sheet steel
Housing: 16 ga/1.5 mm
Door: 14 ga/2.0 mm

Finish:
Housing and door:
E-coated RAL 7044, exterior powder painted RAL 7032 pebble grey, textured
Mounting panel: galvanized

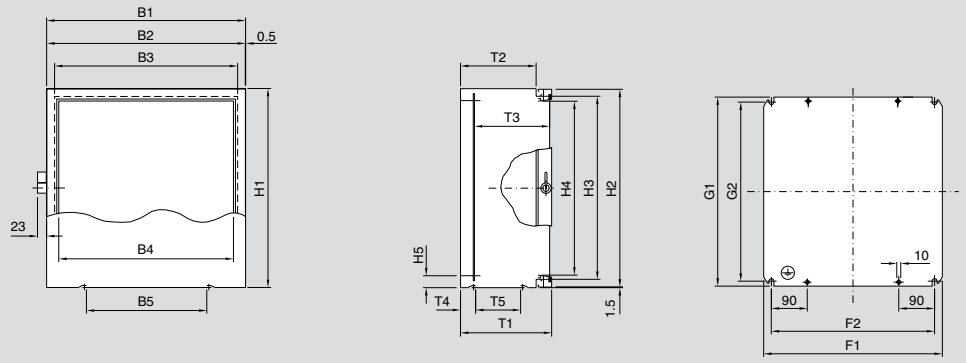
Ratings:
NEMA 4
IP 56 per EN 60 529/10.91.

Padlock hasp
can be retrofitted on all AE/EB compact enclosures with Type A lock.
Details see page 945.

Universal mounting bracket
facilitates easy mounting of accessories (i.e. cable duct holder).
Details see page 996.

Door bars for AE
can be screwed directly to vertical frame posts of AE doors.
Details see page 950.

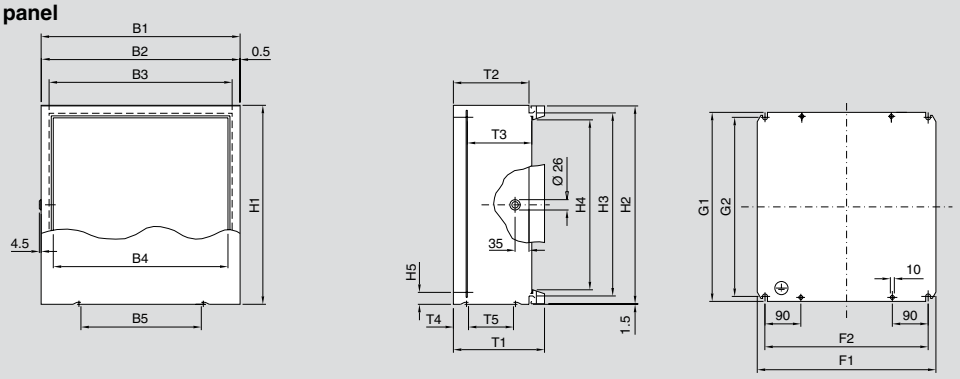
AE with viewing door



Dimensions in millimeters (mm) unless otherwise indicated

	Height dimensions				Width dimensions				Depth dimensions				Mounting panel			
Part No.	H2	H3	H4	H5	B2	B3	B4	B5	T2	T3	T4	T5	F1	F2	G1	G2
AE 1050.650	497	460	437	30.0	499	460	439	303	190	182 – 199	38	113	449	410	470	445
AE 1350.650	497	460	437	30.0	499	460	439	303	280	272 – 289	38	113	449	410	470	445
AE 1039.650	377	340	317	27.5	599	560	539	500	190	182 – 199	38	113	549	510	355	330
AE 1339.650	377	340	317	27.5	599	560	539	500	330	322 – 339	38	113	549	510	355	330
AE 1060.650	597	560	537	30.0	599	560	539	500	190	182 – 199	38	113	549	510	570	545
AE 1360.650	597	560	537	30.0	599	560	539	500	330	322 – 339	38	113	549	510	570	545
AE 1076.650	757	720	697	30.0	599	560	539	500	190	182 – 199	38	113	549	510	730	705
AE 1376.650	757	720	697	30.0	599	560	539	500	330	322 – 339	38	113	549	510	730	705

AE with control panel



Dimensions in millimeters (mm) unless otherwise indicated

	Height dimensions				Width dimensions				Depth dimensions				Mounting panel			
Part No.	H2	H3	H4	H5	B2	B3	B4	B5	T2	T3	T4	T5	F1	F2	G1	G2
AE 1030.680	297	260	237	27.5	379	340	309	303	135	99 – 116	33	63	334	295	275	250
AE 1031.680	297	260	237	27.5	379	340	309	303	190	154 – 171	33	63	334	295	275	250
AE 1380.680	377	340	317	27.5	379	340	309	303	190	154 – 171	33	63	334	295	355	330
AE 1038.680	597	560	537	30.0	379	340	309	303	190	154 – 171	33	63	334	295	570	545
AE 1338.680	597	560	537	30.0	379	340	309	303	330	294 – 311	84	113	334	295	570	545
AE 1050.680	497	460	437	30.0	499	460	429	303	190	154 – 171	38	113	449	410	470	445
AE 1350.680	497	460	437	30.0	499	460	429	303	280	244 – 261	38	113	449	410	470	445
AE 1039.680	377	340	317	27.5	599	560	529	500	190	154 – 171	38	113	549	510	355	330
AE 1339.680	377	340	317	27.5	599	560	529	500	330	294 – 311	38	113	549	510	355	330
AE 1060.680	597	560	537	30.0	599	560	529	500	190	154 – 171	38	113	549	510	570	545
AE 1360.680	597	560	537	30.0	599	560	529	500	330	294 – 311	38	113	549	510	570	545

Height (H1) in inches/mm	PU	12 /300	12 /300	15 /380	24 /600	24 /600	20 /500	20 /500	15 /380
Width (B1) in inches/mm		15 /380	15 /380	15 /380	15 /380	15 /380	20 /500	20 /500	24 /600
Depth (T1) in inches/mm		7.0/174	9.0/229	9.0/229	9.0/229	14.5/369	9.0/229	12.5/319	9.0/229
Part No. AE with viewing door	1	**–**	**–**	**–**	**–**	**–**	**1050.650**	**1350.650**	**1039.650**
Part No. AE with control panel	1	**1030.680**	**1031.680**	**1380.680**	**1038.680**	**1338.680**	**1050.680**	**1350.680**	**1039.680**
Mounting panel thickness in ga/mm		14/2.0	14/2.0	14/2.0	12/2.5	12/2.5	12/2.5	12/2.5	12/2.5

Height (H1) in inches/mm	PU	15 /380	24 /600	24 /600	30 /760	30 /760
Width (B1) in inches/mm		24 /600	24 /600	24 /600	24 /600	24 /600
Depth (T1) in inches/mm		14.5/369	9.0/229	14.5/369	9.0/229	14.5/369
Part No. AE with viewing door	1	**1339.650**	**1060.650**	**1360.650**	**1076.650**	**1376.650**
Part No. AE with control panel	1	**1339.680**	**1060.680**	**1360.680**	**–**	**–**
Mounting panel thickness in ga/mm		12/2.5	12/2.5	12/2.5	11/3.0	11/3.0

Lock systems
Control panel: standard double-bit insert, can be exchanged for 27 mm. Type A insert see page 700
or plastic thumb-turn handle, Type C, see page 940.

AE SERIES COMPACT ENCLOSURES

With viewing door or control panel

Accessories:
see pages 876/877
or keyword index.

Configuration
AE with control panel:
One-piece enclosure body
1 bottom cable entry panel
Double-bit turning lock in left sidewall
Mounting panel, galvanized
Control panel in aluminum frame, hinges to right

Configuration
AE with viewing door:
One piece enclosure body
1 bottom cable entry panel
Mounting panel, galvanized
Viewing door with aluminum frame, acrylic window pane and hinges.
Plastic handle with 3524 E insert

Material:
Housing: sheet steel
Control panel and frame: aluminum
Viewing door: aluminum frame/acrylic window

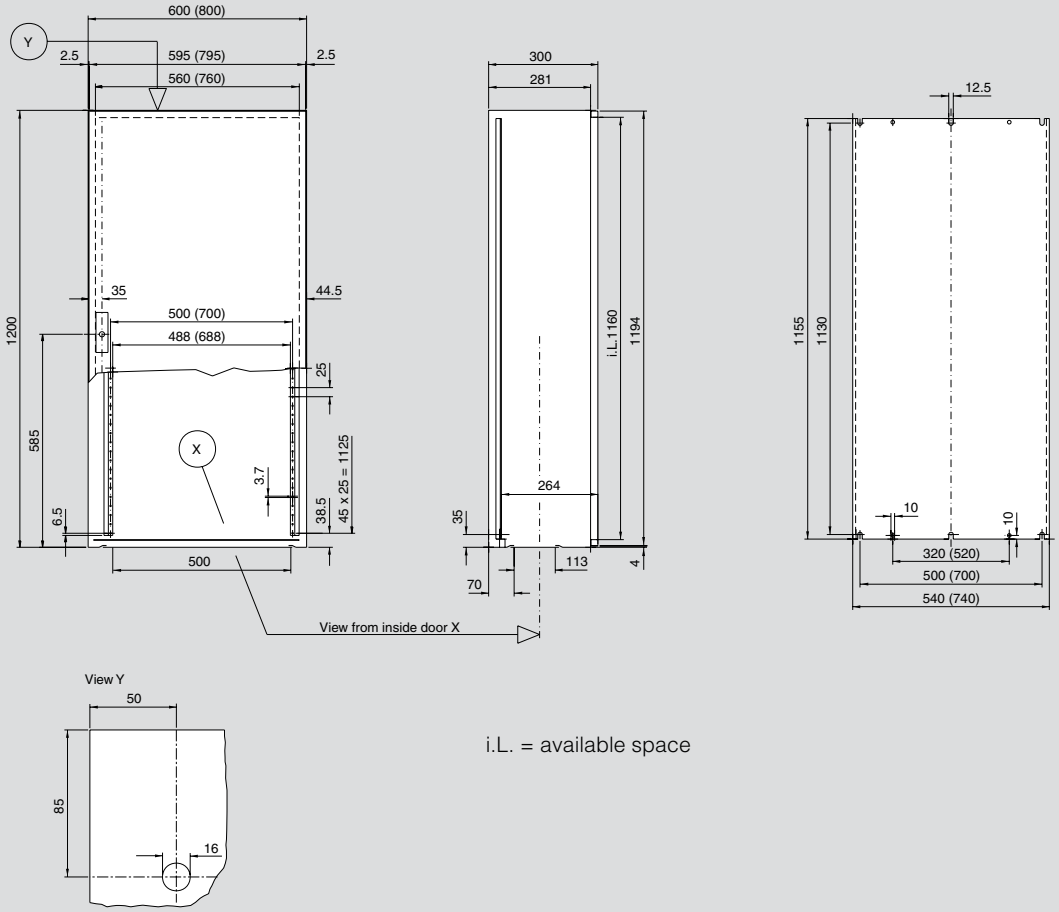
Finish:
Housing:
E-coat power painted, RAL 7044 silk grey, exterior RAL 7032 pebble grey, textured
Aluminum parts: natural anodized
Mounting panel: galvanized

Ratings:
NEMA 12
IP 54 per EN 60 529/10.91

Universal bracket
for easy mounting of various accessories.
Details on page 996.

Operator enclosure based on AE with VIP frame
Details on pages 230/231.

AE 1260.600 / AE 1280.600



i.L. = available space

Configuration:
- One-piece enclosure body
- 1 door hinged on right, with 3-point locking system can be reversed to left hinged (will accept Ergoform-S handle)
- Foamed-on gasket
- 1 cable entry panel at bottom
- Mounting panel: galvanized

Note:
16″/400 mm deep AK enclosures
see pages 84/85.

Height in inches/mm	PU	47/1200	47/1200	47/1200	60/1500	60/1500	Page
Width in inches/mm		24/ 600	32/ 800	36/ 900	36/ 900	36/ 900	
Depth in inches/mm		12/ 300	12/ 300	12/ 300	12/ 300	16/ 400	
Part No. AE	1	**1260.600**	**1280.600**	**1097.670**	**1097.720**	**1097.730**	
Weight in lbs/kg		121.1/55.0	154.2/70.0	165.0/75.0	213.4/97.0	220.0/100.0	

Accessories

Self-tapping screws SZ		1 pack (300)	2487.000					969
Plinth SO inches/mm	H = 4/100	1	2816.200	2818.200	–	–	–	884
	H = 8/200	1	2826.200	2828.200	–	–	–	884
Stainless steel rain canopy SZ		1	–	2475.000	–	–	–	954
Plastic cable gland panel SZ		5	2563.000					896
Transportation eyebolts SZ		4	2509.000					957

Lock system
Standard double-bit insert may be exchanged for 27 mm lock inserts, Version A, see page 942 and for the Ergoform-S handle locking system, see page 939.

Order RAL 7044 primed enclosures with the suffix .800, RAL 7035 textured powder paint with the suffix .500. Lead times upon request.

AE SERIES COMPACT ENCLOSURES

Height: 47 – 60″/1200 – 1500 mm; width: 24 – 36″/600 – 900 mm

Accessories:
see pages 876/877
or keyword index.

Material:
Sheet steel
Housing: 16 ga/1.5 mm
Door: 14 ga/2.0 mm
Mounting panel: 11 ga/3.0 mm

Finish:
Housing and door:
E-coated RAL 7044 silk grey,
exterior powder painted
RAL 7032 pebble grey, textured
Mounting panel: galvanized

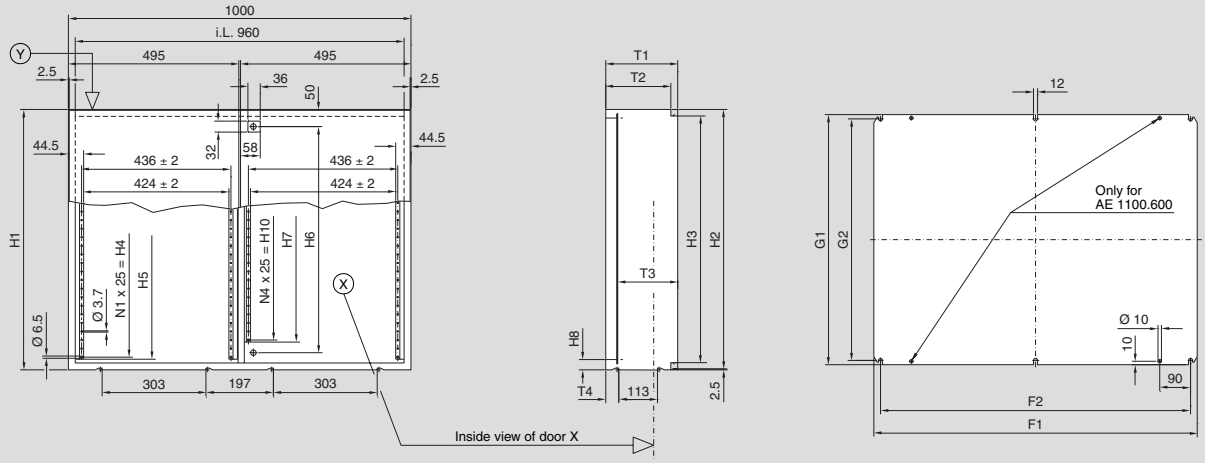
Ratings:
NEMA 12
IP 56 per EN 60529/10.91

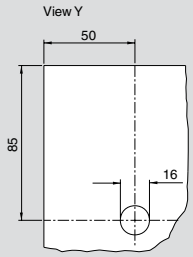
Ergoform-S lock system
with many interchangeable lock inserts is easily installed.
Details on page 939.

Transportation eyebolts
for safe and easy transportation of loaded enclosures.
Details on page 957.

Plinths and bases
facilitate cable entry when enclosure sits on floor.
Details on page 884.

AE 1100.600 / AE 1130.600 / AE 1110.600





i.L. = available space

Part No.	H2	H3	H4	H5	H6	H7	H8	H10	N1	N4	T2	T3	T4	F1	F2	G1	G2
AE 1100.600	755	720	675	698	660	598	30	575	27	23	190	168 – 184	38	944	905	730	705
AE 1130.600	755	720	675	698	660	598	30	575	27	23	280	258 – 274	70	944	905	730	705
AE 1110.600	995	960	925	938	900	838	35	825	37	33	280	258 – 274	70	939	900	955	930

Configuration:
- One piece enclosure body
- 2 doors with 2 turnbuckle locks
- foamed-on gasket
- 2 cable entry panels at bottom
- Galvanized mounting panel

Height (H1) in inches/mm	PU	30/ 760	30/ 760	36/ 900	39/1000	Page
Width in inches/mm		39/1000	39/1000	59/1500	39/1000	
Depth (T1) in inches/mm		8/ 210	12/ 300	12/ 300	12/ 300	
Part No. AE	1	**1100.600**	**1130.600**	**1097.880**	**1110.600**	
Weight in lbs/kg		114.6/52.0	123.5/56.0	213.8/97.0	156.5/71.0	

Accessories

Self-tapping screws SZ		1 pack (300)	2487.000				969
Plinth SO inches/mm	H = 4/100	1	–	–	–	2801.200	884
	H = 8/200	1	–	–	–	2802.200	884
Stainless steel rain canopy SZ		1	–	2363.000	–	2363.000	954
Plastic cable gland panel SZ		5	2562.000	2562.000	2562.000	2562.000	896

Lock systems
Standard double-bit insert can be exchanged for 27 mm Type A lock inserts (page 942).

Use suffix .800 for enclosures E-coated in RAL 7044 only.

AE SERIES COMPACT ENCLOSURES

Height: 30 – 39″/760 – 1000 mm; width: 39 – 60″/1000 – 1500 mm

Accessories:

see pages 876/877
or keyword index.

Material:
Sheet steel:
Housing: 16 ga/1.5 mm
Door: 14 ga/2.0 mm
Mounting panel: 11 ga/3.0 mm

Finish:
Housing and door:
E-coat primer RAL 7044 silk grey,
exterior powder painted
RAL 7032 pebble grey, textured
Mounting panel: galvanized

Ratings:
NEMA 12
IP 55 per EN 60529/10.91

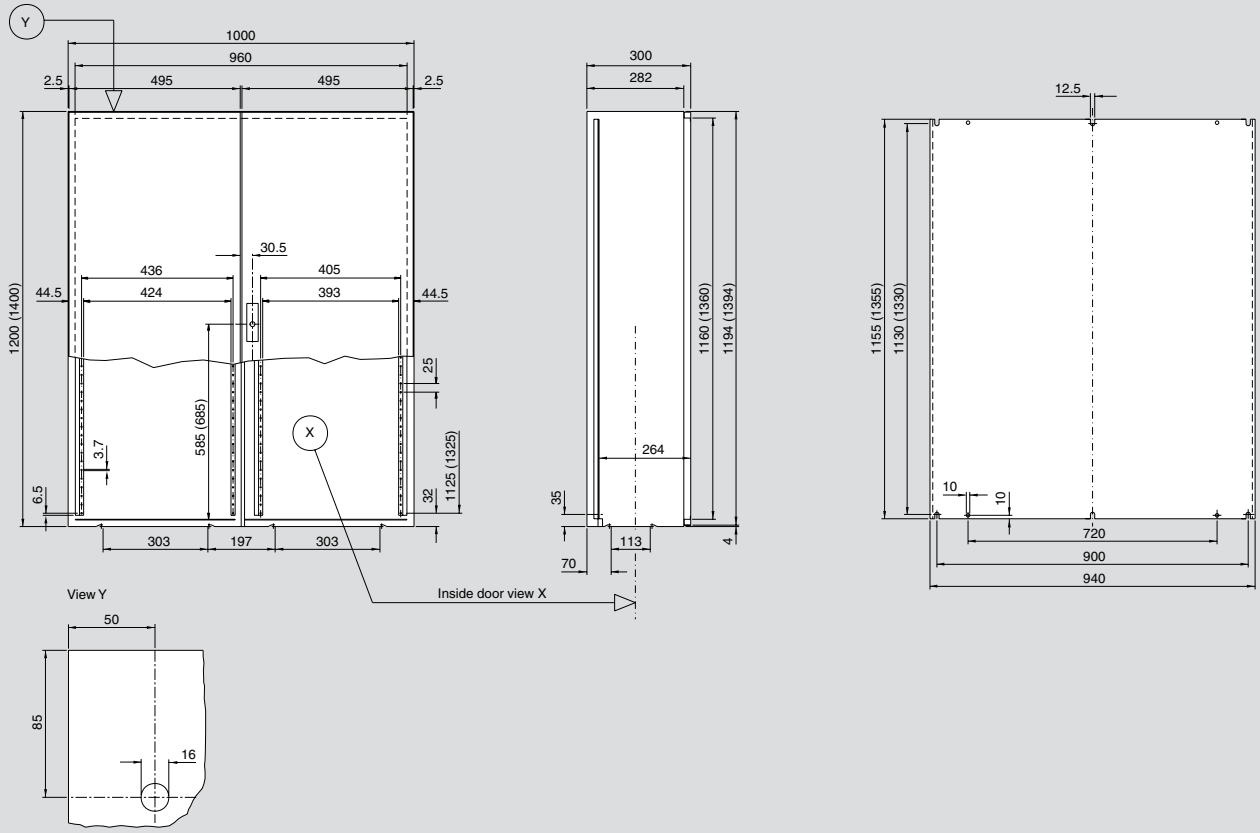
System mounting block
for mounting cable ties, cross rails, etc.
Details on page 996.

Door stay
holds door open.

Details on page 953.

180° hinge
for a wider door opening angle.
Details on page 949.

AE 1213.600 / AE 1114.600



Configuration:
- One piece enclosure body
- 2 doors with 3-point lock system, (will accept Ergoform-S handles), foamed-on gasket
- 2 cable entry panels at bottom
- Galvanized mounting panel

Note:
16″/400 mm deep AK enclosures.
Details on pages 84/85.

Height in inches/mm	PU	47/1200	55/1400	Page
Width in inches/mm		40/1000	40/1000	
Depth in inches/mm		12/ 300	12/ 300	
Part No. AE	1	**1213.600**	**1114.600**	
Weight in lbs/kg		187.3/85.0	213.8/97.0	

Accessories

Self-tapping screws SZ		1 pack (300)	2487.000	969
Plinth SO in inches/mm	H = 4/100	1	2801.200	884
	H = 8/200	1	2802.200	884
Stainless steel rain canopy SZ		1	2363.000	954
Plastic cable gland panel SZ		5	2562.000	896
Transportation eyebolts SZ		4	2509.000	957

Lock systems
Standard double-bit insert can be exchanged for 27 mm Type A lock inserts (page 942) and Ergoform-S handles (page 939).

Use Part No. suffix .800 for enclosures with RAL 7044 E-coat finish only.

AE SERIES COMPACT ENCLOSURES

Height: 47 – 55″/1200 – 1400 mm; width: 39″/1000 mm

Accessories:
see pages 876/877
or keyword index.

Material:
Sheet steel
Housing: 16 ga/1.5 mm
Door: 14 ga/2.0 mm
Mounting panel: 11 ga/3.0 mm

Finish:
Housing and door:
E-coat RAL 7044 silk grey, exterior powder painted RAL 7032 pebble grey, textured
Mounting panel: galvanized

Ratings:
NEMA 12
IP 55 per EN 60 529/10.91

Panel heaters
help avoid condensation build-up in enclosures.
Details on pages 562/563.

Filter fans
remove heated air.

Details on pages 540 – 551.

Heat exchangers
remove heat in harsh environments.
Details on pages 520 – 539.

AK Series compact enclosures
cover the midrange of enclosure sizes. They are designed for the smaller control units and have proven themselves ideal for all kinds of space requirements.

All AK enclosures have the following approvals:
- UL
- CSA
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

H inches/mm	W inches/mm	D inches/mm	**Part No. AK**	Pages
48/1200	24/ 600	16/400	**1646.600**	84/85
48/1200	32/ 800	16/400	**1648.600**	
48/1200	40/1000	16/400	**1650.600**	
48/1200	48/1200	16/400	**1652.600**	
55/1400	40/1000	16/400	**1647.600**	

Sealed, two-part bottom panels can be easily removed and replaced with foam rubber cable entry gasketing (see page 893).

The standard double-bit insert can easily be exchanged for all standard Type A, 27 mm lock inserts and the Ergoform-S handle system.

Holes are provided in the roof panel for attachment of eyebolts.

Sturdy, space-saving hinges with secured hinge pins open 130° and can easily be exchanged for optional 180° hinges (see page 949).

Because the standard base is 1.3″/33 mm high, an extra cable base is not needed for most applications.

The 31″ and 47″ (800 and 1200 mm) wide enclosures can be combined with the AP series console system.

AK SERIES COMPACT ENCLOSURES

1 Doors feature vertical installation rails with holes for fast and easy mounting of cable ducts, stiffeners and covers.

2 E-coat primer and powder paint offer dependable surface protection, even in corners and on all edges. RAL 7032 pebble grey, textured.

3 Door hinging on single-door models can be changed from right to left by simply reversing the hinges from one side to the other. The doors on two-door models can also be exchanged.

4 An overhanging lip on the roll-formed enclosure edge offers extra stability and prevents dirt and water from entering when the door is open.

5 Grounding studs on all housings, all doors and mounting panels.

6 Mounting panels can be easily installed on studs on the rear wall.

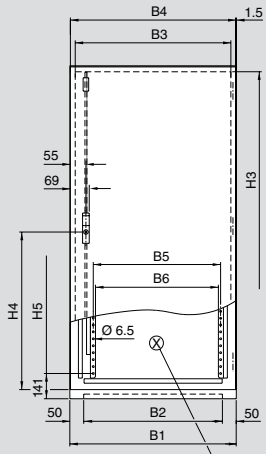
7 Sealed, two-part galvanized bottom panels can be easily removed and replaced with SZ 2573.000 foam rubber cable gasketing.

8 Foamed-on gasket on inside of door ensures NEMA 12/IP 55 protection rating per EN 60 529/10.91.

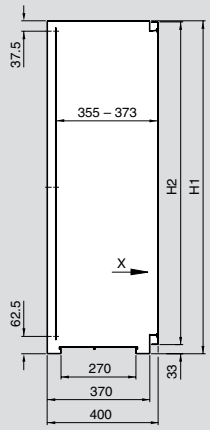
9 Easy operating rod type lock system has a double-bit insert per DIN 43 668 that can be replaced with all standard lock inserts and the Ergoform-S handle system.

10 Sturdy, space-saving hinges do not protrude into the enclosure and can be exchanged for 180° hinges SZ 2579.000.

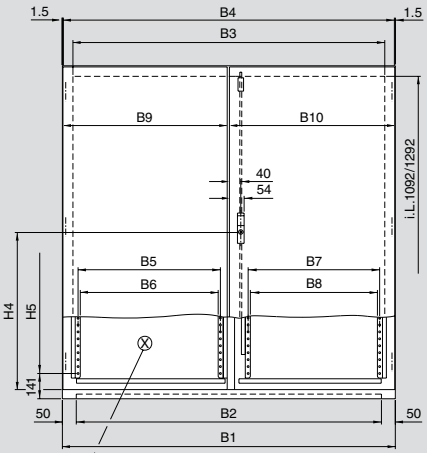
AK 1646.600 / AK 1648.600

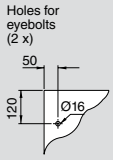


AK 1646.600 / AK 1647.600, AK 1648.600 / AK 1650.600, AK 1652.600



AK 1647.600 / AK 1650.600 / AK 1652.600

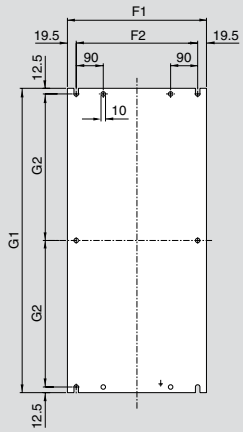




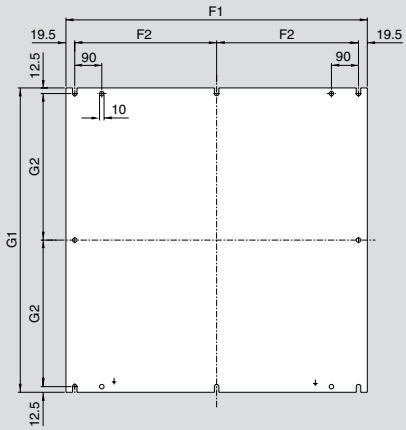
i.L. = available space

Inside view of door

Mounting panels AK 1646.600 / AK 1648.600



Mounting panels AK 1647.600 / AK 1650.600 / AK 1652.600



Part No.	H1	H2	H3	H4	H5	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	F1	F2	G1	G2
AK 1646.600	1200	1166	1092	568	38 x 25 = 950	600	500	524	597	459	443	–	–	–	–	514	475	1125	550
AK 1648.600	1200	1166	1092	568	38 x 25 = 950	800	700	724	797	659	643	–	–	–	–	714	675	1125	550
AK 1652.600	1200	1166	1092	568	38 x 25 = 950	1200	1100	1124	1197	513	497	477	461	595	597	1114	1075	1125	550
AK 1650.600	1200	1166	1092	568	38 x 25 = 950	1000	900	924	997	413	397	377	361	495	497	914	437.5	1125	550
AK 1647.600	1400	1366	1292	668	46 x 25 = 1150	1000	900	924	997	413	397	377	361	495	497	914	437.5	1325	650

Configuration:

- One piece housing
- Door – right hand hinged, reversible
- AK 1652.600, AK 1650.600, AK 1647.600: locking main door to the right
- Foamed-on door gasketing
- Provisions for eyebolts
- Two-part bottom panel, mounting panel

Height (H1) in inches/mm		PU	48/1200	48/1200	48/1200	48/1200	52/1400	Page
Width (B1) in inches/mm			24/ 600	32/ 800	40/1000	48/1200	40/1000	
Depth in inches/mm			16/ 400	16/ 400	16/ 400	16/ 400	16/ 400	
Part No. AK		1	**1646.600**	**1648.600**	**1650.600**	**1652.600**	**1647.600**	
Doors			1	1	2	2	2	
Weight in lbs/kg			132/60.0	165/75.0	195/88.5	238/108.0	228/103.5	
Accessories for installation on outside of enclosure								
Plinths SO in inches/mm	H = 4/100	1	2911.200	2901.200	2891.200	2921.200	2891.200	884
	H = 8/200	1	2912.200	2902.200	2892.200	2922.200	2892.200	884
	H = 12/300	1	1656.200	1658.200	–	1662.200	–	889
Mobile base/plinth SO		1	2979.200	2983.200	–	–	–	889
Transportation eyebolts SZ		4	2509.000	2509.000	2509.000	2509.000	2509.000	957
Accessories for installation inside the enclosure								
Cable collecting rails		3	2036.200	2038.200	1805.200	2037.200	1805.200	898
Swing frame SR		1	2322.200	2323.200	–	–	–	
Installation kit for swing frame SR		1	1985.200	1986.200	–	–	–	

Lock systems
Standard double-bit lock insert can be replaced with Type A 27 mm lock inserts, see page 942 and Ergoform-S handle system, see page 939.

Use suffix .800 when ordering enclosures with E-coat primer finish only.

AK SERIES COMPACT ENCLOSURES

Accessories:
see pages 876/877
or keyword index.

Material:
Sheet steel
Housing: 16 ga/1.5 mm
Door(s): 14 ga/2.0 mm
Mounting panel: 11 ga/3.0 mm

Finish:
Housing and door(s):
E-coat primed
RAL 7044 silk grey,
exterior powder painted
RAL 7032 pebble grey, textured
Mounting panel: galvanized

Ratings:
NEMA 12
IP 55 per EN 60 529/10.91

System access window – for prevention of unauthorized access and to protect NEMA rating.
Details on page 928.

Connector element
with 10 A breaker to feed in system lights.
Details on page 999.

Signal lights
for system monitoring.

Details on page 1000.

KS Series fiberglass enclosures

Fully insulated per VDE 0100, par. 6.2.
Made of fiberglass-reinforced unsaturated polyester – self-extinguishing per ASTM D 635 and UL 94-V0.
Temperature resistant between – 22 °F and 212 °F/– 30 °C and 100 °C.
Light grey pigment, similar to RAL 7032 per DIN 43 656; can be painted.

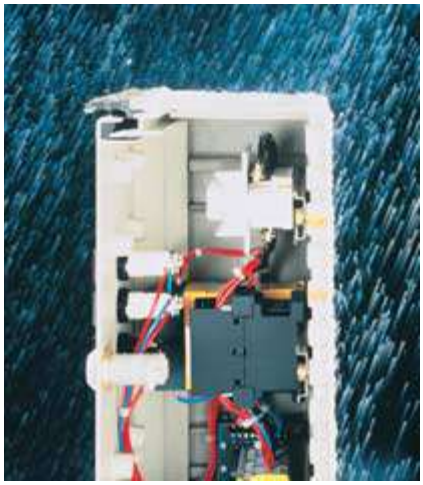
Standard features include:
M8 x 15 threaded brass inserts in rear wall for mounting direct on wall or installation of wall mounting brackets.
C-rails molded in sidewalls allow infinite depth adjustment of KS 1481.000 or KS 1491.000 mounting panels, which makes it possible to create several mounting surfaces.
Double seal on top and bottom edges of doors of all enclosures through integrated rain molding of hard PVC with co-extruded PVC sealing lip.

US Patent No. 4 665 654
German Patent No. 34 40 899
European Patent No. 0 180 825
valid for BE, FR
Japanese Patent No. 1 659 174

KS Series fiberglass enclosures have the following approvals:
- UL (without viewing window)
- CSA (without viewing window)
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

KS Series fiberglass enclosures					
Height in inches/mm	Width in inches/mm	Depth in inches/mm	**Part No. KS without viewing window**	**Part No. KS with viewing window**	Pages
12/ 300	8/ 200	6/150	**1423.600**	**–**	88/89
14/ 350	10/ 250	6/150	**1432.600**	**–**	
16/ 400	12/ 300	8/200	**1434.600**	**–**	
16/ 400	16/ 400	8/200	**1444.600**	**1448.600**	
20/ 500	20/ 500	12/300	**1453.600**	**1454.600**	
24/ 600	16/ 400	8/200	**1446.600**	**1449.600**	
24/ 600	24/ 600	8/200	**1466.600**	**1467.600**	
32/ 800	24/ 600	12/300	**1468.600**	**1469.600**	90/91
40/1000	32/ 800	12/300	**1480.600**	**1479.600**	
40/1000	40/1000	12/300	**1400.600**	**–**	

Rittal's fully insulated, fiberglass enclosures are appropriate for outdoors and harsh industrial environments, where extra protection is needed.
Built-in mounting features include threaded brass inserts and C-rails.



1 C-rails molded in sidewalls allow infinite depth adjustment of KS 1481.000 and KS 1491.000 mounting panels which make it possible to create several mounting surfaces.

2 Mounting panels can easily be installed on threaded studs that can be screwed into brass M8 x 12.5 inserts.

3 Molded, conical centering points in the rear wall make it easy to drill holes when the enclosure is directly screwed onto a wall.

4 Fully insulated housing of fiberglass-reinforced, unsaturated polyester.

5 Galvanized mounting panels of 14 ga/11 ga (2 to 3 mm) galvanized sheet steel.

6 Waterproof door lock with 3 mm, double-bit lock insert (DIN 43 668) of fiberglass-reinforced polyamide can be replaced with type E lock inserts, see page 942.

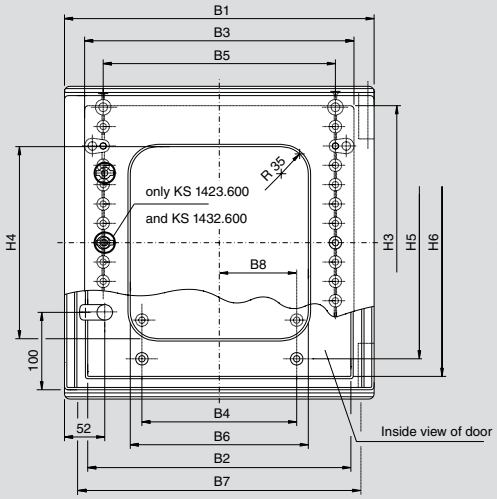
7 Double seal on top and bottom edges of doors of all enclosures through integrated rain molding of hard PVC with co-extruded PVC sealing lip.

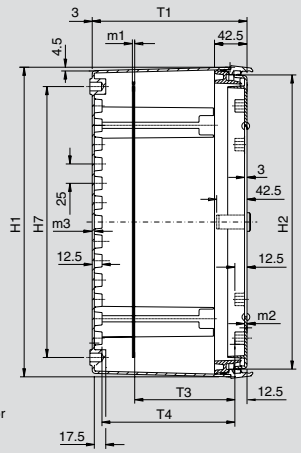
8 Seamless foamed-on, polyurethane gasket in molded door edge channel.

9 Molded fixing nuts on the door and at 25 mm intervals on the inside and rear wall facilitate mounting of cable ducts and rails, or can be used for direct screw attachment when threaded inserts are used.

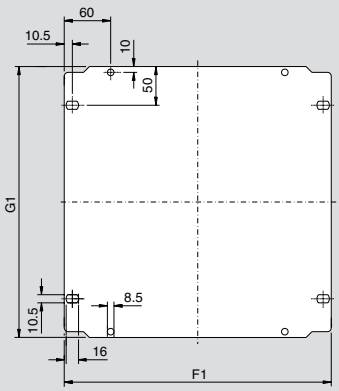
10 Enclosures with rod locking system (see pages 90 – 91) with additional reinforcement.

11 KS 1400.600 with removable center rail built-in.





Mounting panel



KS 1423.600 and KS 1432.600 with only one turnbuckle in the center

B7 = Width spacing of wall mounting holes
H7 = Height spacing of wall mounting holes

Part No.	Height dimensions							Width dimensions								Depth dimensions							
	H1	H2	H3	H4*	H5	H6	H7	B1	B2	B3	B4	B5	B6*	B7	B8	T1	T3	T4	m1	m2	m3	F1	G1
KS 1423.600	300	280	256	–	200	245	250	200	140	150	–	100	–	150	25	150	80 – 110/117	119	2.0	3.0	3.0	145	250
KS 1432.600	350	330	306	–	250	295	300	250	190	200	75	150	–	200	50	150	80 – 110/117	119	2.0	3.0	3.0	195	300
KS 1434.600	400	380	355	–	300	345	350	300	240	249	100	200	–	250	50	200	80 – 160/167	169	2.0	3.0	3.0	245	350
KS 1444.600 / KS 1448.600	400	380	354	250	300	345	350	400	340	348	200	300	230	350	100	200	80 – 159/166	168.5	2.5	3.2	3.2	345	350
KS 1446.600 / KS 1449.600	600	580	554	450	500	545	550	400	340	348	200	300	230	350	100	200	80 – 158/165	168	2.5	3.5	3.5	345	550
KS 1466.600 / KS 1467.600	600	580	554	450	500	545	550	600	540	548	400	500	430	550	200	200	80 – 158/165	168	2.5	3.5	3.5	545	550
KS 1453.600 / KS 1454.600	500	480	454	350	400	445	450	500	440	434	300	400	330	450	150	300	80 – 258/265	268	2.5	3.5	3.5	417	450

* Only for enclosures with viewing window.

Configuration:
One-piece housing
Reversible door hinging
(by turning enclosure 180°)
Mounting panel
Seamless, foamed-on door gasket
Double seal on top and bottom edges of door (integrated rain molding)
Molded C-Rails in sidewalls for infinite depth adjustment of mounting panel

	PU	without viewing window							with viewing window				Page
H1 Height in inches/mm		12/300	14/350	16/400	16/400	24/600	20/500	24/600	16/400	24/600	20/500	24/600	
B1 Width in inches/mm		8/200	10/250	12/300	16/400	16/400	20/500	24/600	16/400	16/400	20/500	24/600	
T1 Depth in inches/mm		6/150	6/150	8/200	8/200	8/200	12/300	8/200	8/200	8/200	12/300	8/200	
Part No. KS	1	**1423.600**	**1432.600**	**1434.600**	**1444.600**	**1446.600**	**1453.600**	**1466.600**	**1448.600**	**1449.600**	**1454.600**	**1467.600**	
Doors		1	1	1	1	1	1	1	1	1	1	1	
Weight in lbs/kg		8.1/3.7	10.1/4.6	13.2/6.0	14.3/6.5	25.3/11.5	28.4/12.9	35.0/15.9	14.3/6.5	25.3/11.5	28.412.9	35.0/15.9	

Accessories

Mounting panel depth adjustment bracket KS	4	1481.000		1491.000	1481.000	1481.000	1491.000	1481.000	725
Self-tapping screws SZ	1 pack (300)	2487.000				2487.000			734

Lock systems
Standard double-bit lock insert can be replaced with Type E lock inserts, see page 942 and KS 1484.000 plastic handle, see page 940.

See index (pages 1078 – 1088) for additional accessories.

KS SERIES FIBERGLASS ENCLOSURES

Height: 12 – 24″/300 – 600 mm; width: 8 – 24″/200 – 600 mm

Material:
Enclosure and door:
fiberglass reinforced,
unsaturated polyester GFK
Mounting Panel:
KS 1423.600 – KS 1434.600:
14 ga/2.0 mm sheet steel
KS 1444.600 – KS 1467.600:
12 ga/2.5 mm sheet steel
Viewing window:
(if so equipped)
3 mm, impact resistant, acrylic
with seamless rubber gasket

Finish:
Enclosure and door:
not treated – pebble grey
plastic pigment, similar to
RAL 7032
Mounting panel: galvanized

Ratings:
KS without viewing window:
NEMA 4X
IP 66 per EN 60 529/10.91
UL E 76083
CSA LR 59132
KS with viewing window:
NEMA 12
IP 56 per EN 60 529/10.91

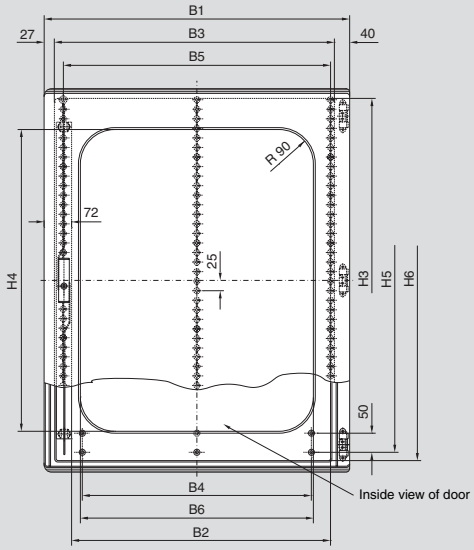
Accessories:
see pages 876/877
or keyword index.

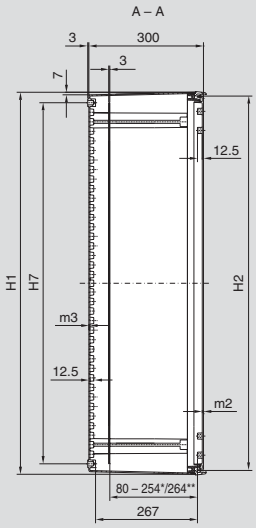
Wall mounting bracket
makes wall mounting fast and easy.
Details on page 962.

Mounting clip
for quick and easy fastening of cable ducts, etc.
Details on page 983.

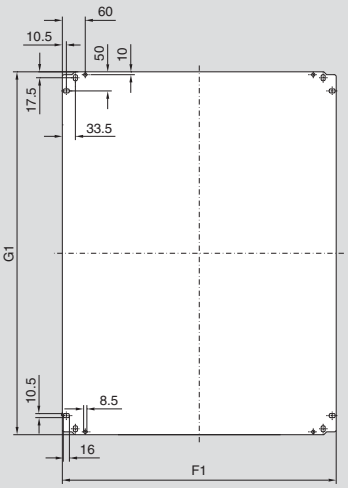
M6 threaded inserts
facilitate mounting of rails, cable ducts, etc.
Details on page 996.

KS 1469.600 / KS 1479.600
KS 1468.600 / KS 1480.600 without viewing window

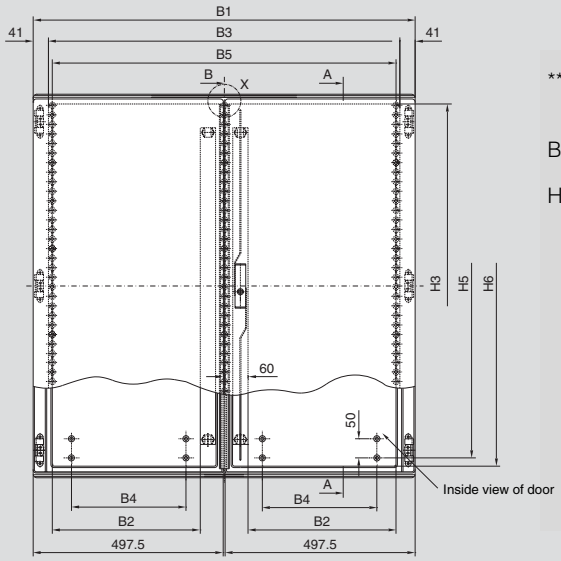




Mounting panel



KS 1400.600

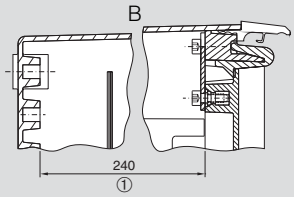


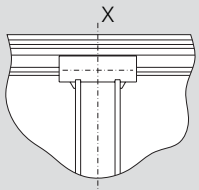
* infinite mounting panel depth adjustment KS 1491.000, see page 965
** threaded studs screwed directly onto inserts

B7 = Width spacing of wall mounting holes
H7 = Height spacing of wall mounting holes

Detail B and X screwed in center rail KS 1400.000

① Distance of fixing nuts from center rail





Dimensions in millimeters (mm) unless otherwise indicated

Part No.	Height dimensions							Width dimensions									Mount. panel	
	H1	H2	H3	H4*	H5	H6	H7	B1	B2	B3	B4	B5	B6	B7	m2	m3	G1	F1
KS 1468.600 / KS 1469.600	800	780	753	590	700	740	750	600	485	533	400	500	410	550	3.7	3.7	750	517
KS 1479.600 / KS 1480.600	1000	980	953	790	900	940	950	800	685	733	600	700	610	750	3.7	4.0	950	717
KS 1400.600	1000	980	952	–	900	940	950	1000	387	918	300	900	–	950	3.5	4.0	950	917

* Only for enclosures with viewing windows.

Configuration:
- One-piece housing
- Reversible door hinging (by turning enclosure 180° – 1-door models only)
- Mounting panel
- Seamless, foamed-on door gasket Double seal on top and bottom edges of door (integrated rain molding)
- Molded C-Rails in sidewalls for infinite depth adjustment of mounting panel

Dimensions in millimeters (mm) unless otherwise indicated

	PU	without viewing window			with viewing window		Page
H1 Height in inches/mm		32/800	40/1000	40/1000	32/800	40/1000	
B1 Width in inches/mm		24/600	32/ 800	40/1000	24/600	32/ 800	
T1 Depth in inches/mm		12/300	12/ 300	12/ 300	12/300	12/ 300	
Part No. KS	1	**1468.600**	**1480.600**	**1400.600**	**1469.600**	**1479.600**	
Doors		1	1	2	1	1	
Weight in lbs/kg		53.5/24.3	85.8/39.0	105.6/48.0	53.5/24.3	85.8/39.0	

Accessories

Mounting panel depth adjustment bracket KS	4	1491.000	1491.000	725
Self-tapping screws SZ	1 pack (300)	2487.000	2487.000	734

Lock systems
Standard double-bit lock insert can be replaced with Type E lock inserts, see page 942 and KS 1490.000 Ergoform-S handle, see page 939.

See index (pages 1078 – 1088) for additional accessories.

KS SERIES FIBERGLASS ENCLOSURES

Height: 32 – 39″/800 – 1000 mm; width: 24 – 39″/600 – 1000 mm

Material:
Enclosure and door:
fiberglass reinforced,
unsaturated polyester GFK
Mounting panel:
11 ga/3 mm sheet steel
Viewing window:
(if so equipped)
3 mm, impact resistant, acrylic
with seamless rubber gasket

Finish:
Enclosure and door:
not treated – pebble grey
plastic pigment, similar to
RAL 7032
Mounting panel: galvanized

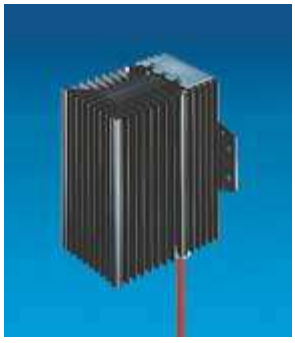
Ratings:
1 door without viewing window:
NEMA 4X/UL E 76083
CSA LR 59132
2 door without viewing windows
and all with viewing window:
NEMA 12

Ratings per EN 60 529/10.91:
IP 66 for KS 1468.600
IP 56 for
KS 1400.600, KS 1469.600,
KS 1479.600, KS 1480.600

Accessories:
see pages 876/877
or keyword index.

KS lock system
can be used instead of
standard double-bit insert.
Details on page 939.

Pole mounting kit
for round and rectangular
poles.
Details on page 962.



Panel heaters
prevent condensation.

Details on pages 562/563.

The ES 5000 Exclusive Enclosure System is a free-standing enclosure system with a multitude of uses

Compact for electronics applications, ideal for machine controls, and perfect for large mounting surfaces for climate control – the ES 5000 meets all these challenges. It is flexible for anyone and cost efficient for everyone. Also offered in a stainless steel version when corrosion protection and hygiene are especially important.

The program is fully compatible with the system accessories of the PS enclosure system.

The self-supporting "framework" of the ES 5000 is formed on special machines in a seamless 10-fold pattern. The unibody rollformed construction guarantees a great degree of torsion resistance, high load capacity and great static force distribution during crane lifts and transportation.
All 12 edges of the ES interior have two rows of system holes built-in. This facilitates the easy installation of all Rittal system components and accessories without tracing, drilling or threading.

US Patent No. 4 899 900
German Patent No. 37 31 547
South African Patent No. 88/6904
Australian Patent No. 604 155
European Patent No. 0 308 715
affecting AT, BE, CH, DE, ES, FR, GB, IT, NL, SE
Canadian Patent No. 1 315 380
Brazilian Patent No. PI 8804798

ES 5000 Exclusive System enclosures carry the following approvals:

- UL
- CSA
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

ES 5000 freestanding enclosures				
Height inches/mm	Width inches/mm	Depth inches/mm	**Part No. ES**	Pages
63/1600	24/ 600	20/500	**5665.600**	94/95
63/1600	32/ 800	20/500	**5865.600**	94/95
63/1600	32/ 800	14/350	**5928.600**	94/95
63/1600	47/1200	14/350	**5922.600**	96/97
63/1600	47/1200	20/500	**5265.600**	96/97
71/1800	32/ 800	16/400	**5884.600**	94/95
71/1800	39/1000	16/400	**5084.600**	94/95
71/1800	39/1000	16/400	**5080.600**	94/95
71/1800	47/1200	16/400	**5284.600**	96/97
71/1800	63/1600	16/400	**5784.600**	96/97
79/2000	32/ 800	20/500	**5805.600**	94/95
79/2000	39/1000	20/500	**5005.600**	94/95
79/2000	47/1200	20/500	**5205.600**	96/97
79/2000	71/1800	20/500	**5905.600**	96/97

Stainless steel ES 5000 freestanding enclosures				
Height inches/mm	Width inches/mm	Depth inches/mm	**Part No. ES**	Pages
63/1600	24/ 600	16/400	**5450.600**	292/293
71/1800	24/ 600	20/500	**5451.600**	292/293
71/1800	32/ 800	20/500	**5452.600**	292/293
71/1800	39/1000	16/400	**5454.600**	292/293
79/2000	32/ 800	24/600	**5453.600**	292/293
79/2000	47/1200	20/500	**5455.600**	292/293

Stainless steel ES 5000 freestanding enclosures, see pages 292/293.

EMC shielded ES 5000 freestanding enclosures, see pages 304/305.

Technical details, see pages 98 – 101.

ES 5000 flange mount disconnect enclosures																
Enclosure													Mounting panel			
Nominal outside dimensions H″ x W″ x D″	NEMA	**Part No.**	Number of doors	Exact outside dimensions						Weight			Dimensions			
				inches			mm						inches		mm	
				H	W	D	H	W	D	lbs	kg		H	W	H	W
63 x 32 x 20	1, 12, 13	**5965.600**	1	62.99	31.50	19.69	1600	800	500	253	115		58.90	27.52	1496	699
63 x 47 x 14	1, 12, 13	**5912.600**	1	62.99	47.24	13.78	1600	1200	350	352	160		58.90	43.27	1496	1099
71 x 32 x 16	1, 12, 13	**5984.600**	1	70.87	31.50	15.75	1800	800	400	273	124		66.77	27.52	1696	699
71 x 40 x 16	1, 12, 13	**5980.600**	1	70.87	39.37	15.75	1800	1000	400	323	147		66.77	35.39	1696	899
71 x 47 x 16	1, 12, 13	**5982.600**	1	70.87	47.24	15.75	1800	1200	400	407	185		66.77	43.27	1696	1099
79 x 63 x 20	1, 12, 13	**5906.600**	1	78.74	47.24	19.69	2000	1200	500	433	197		74.65	43.27	1896	1099

ES 5000 FREESTANDING ENCLOSURES

1 Foamed-in place gasketing, paintable and heat resistant to 356 °F/180 °C.

2 Sturdy, assembled rectangular frame with 1″/25 mm system hole pattern ideal for the installation of cable ducts, consoles, cable trees, print pockets, etc.

3 Ground clearance of doors is approximately 1″/25 mm.

4 Hidden 130°-hinges. Disassembly is simple by just pulling the two part hinge pin.

5 Main, lockable door is on the right. The hinging can easily be changed on single door units.

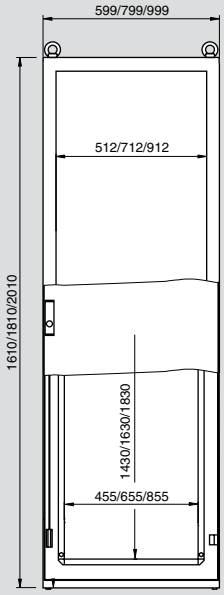
6 Rear wall is screwed-on and may easily be exchanged for a door on all models except ES 5784.600 and ES 5905.600.

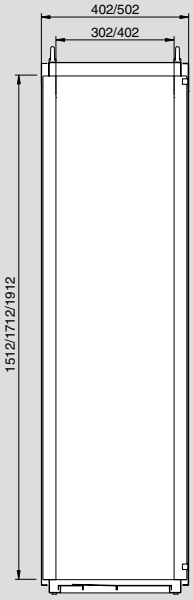
7 Galvanized mounting panel with C-fold along sides, may be moved along the 1″/25 mm system hole pattern.

8 Three part cable entry plates. Slide and may be switched for easy cable entry access or modifications.

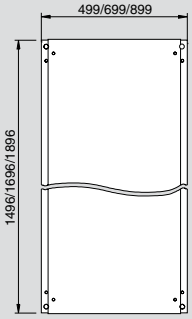
9 Protective earth grounding connecting points on door, body and removable flat parts.

Optimum corrosion protection with E-coat in RAL 7044. Exterior is powder painted in RAL 7032 textured, unless requested otherwise.





Mounting panel



Configuration	**Material** Sheet steel	**Finish**
Unibody enclosure, closed on top and sides	15 ga/1.8 mm	E-coat primed RAL 7044, exterior powder painted RAL 7032 textured
Door, right hinged, changeable to left (except ES 5080.600)	14 ga/2.0 mm	
Rear wall removable	16 ga/1.5 mm	
Mounting panel	11 ga/3.0 mm	galvanized
Cable entry plates, 3-part	16 ga/1.5 mm	galvanized
4 transportation eyebolts, not installed (ES 5080.600, ES 5084.600: 4 transportation eyebolts, installed)		
Protection ratings NEMA 12/IP 56 per EN 60 529/10.91, NEMA 12/IP 55 per EN 60 529/10.91 per ES 5080.600		

Detail drawings:
see pages 98 – 101.

Height in inches/mm	PU	63/1600	63/1600	63/1600	71/1800	71/1800	71/1800	79/2000	79/2000	Page
Width in inches/mm		24/ 600	32/ 800	32/ 800	32/ 800	39/1000	39/1000	32/ 800	39/1000	
Depth in inches/mm		20/ 500	20/ 500	14/ 350	16/ 400	16/ 400	16/ 400	20/ 500	20/ 500	
Part No. ES	1	**5665.600**	**5865.600**	**5928.600**	**5884.600**	**5084.600**	**5080.600**	**5805.600**	**5005.600**	
Doors		1	1	1	1	1	2	1	1	
Weight (lbs/kg)		226/102.5	274/124.5	227/103	276/125	324/147.0	326/148.0	334/151.5	396/180	
Accessories for exterior installation										
Plinth SO height 4/100 in inches/mm	1	2807.200	2829.200	2990.200	2823.200	2909.200	2909.200	2829.200	2914.200	884
Plinth SO height 8/200 in inches/mm	1	2808.200	2830.200	2991.200	2824.200	2910.200	2910.200	2830.200	2915.200	884
Plinth, on wheels SO	1	2980.200	2984.200	–	2983.200	–	–	2984.200	–	889
Viewing doors	1	4503.000	4507.000	4507.000	4508.000	–	–	4509.000	–	920
Accessories for interior installation										
Cable entry panels [1]	1 set	4320.700	4321.700	4321.700	4321.700	4323.700	4323.700	4321.700	4323.700	892
System support rails	2	4361.000	4362.000	4362.000	4362.000	4347.000	4347.000	4362.000	4347.000	899
Cable collecting rails	2	4191.000	4192.000	4192.000	4192.000	4336.000	4336.000	4192.000	4336.000	898
Door mounting rails	20	4596.000	4598.000	4598.000	4598.000	4599.000	4309.000	4598.000	4599.000	975
Print pocket, stainless steel	1	4116.000	4118.000	4118.000	4118.000	4124.000	4115.000	4118.000	4124.000	952
Console	1	4638.600	4638.800	4638.800	4638.600	–	–	4638.800	–	951

[1] Cable entry grommets, see accessories on page 892.

Locking systems
Standard lock has double-bit insert which can be exchanged for 27 mm – Type A lock inserts (see page 942), and for Ergoform-S handle, see page 939.

Use suffix .800 for E-coat finish RAL 7044 only; Suffix .500 for textured paint in RAL 7035. Lead times by request.

ES 5000 FREESTANDING ENCLOSURES

Width: 24 – 39″/600 – 1000 mm

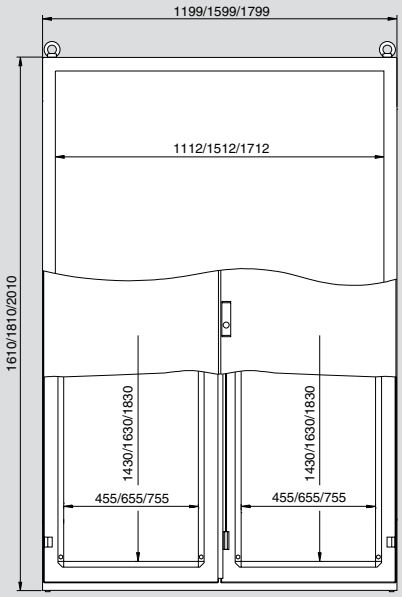
Accessories:

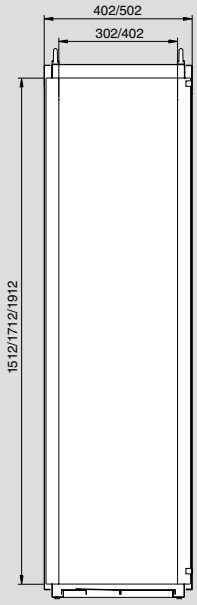
see pages 876/877
or keyword index.

Cable entry grommets
with cable entry panels for cables and plugs.
Details on page 892.

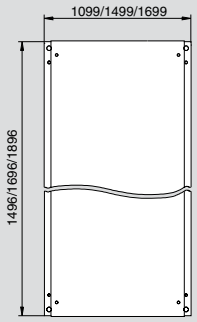
EMC cable entry grommets
the economical alternative to threaded cable connectors.
Details on page 894.

System window to protect from unauthorized access and to preserve the protection rating.
Details on page 928.





Mounting panel



Configuration	**Material** Sheet steel	**Finish**
Unibody enclosure, closed on top and sides	15 ga/1.8 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Double door, main door to the right	14 ga/2.0 mm	
Rear wall (ES 5784.600, ES 5905.600 2-part) removable	16 ga/1.5 mm	
Mounting panel	11 ga/3.0 mm	galvanized
Cable entry panels, 3-part	16 ga/1.5 mm	galvanized
4 transportation eyebolts, installed		
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91		

Detail drawings:
see pages 98 – 101.

Height (inches/mm)		PU	63/1600	63/1600	71/1800	71/1800	79/2000	79/2000	Page
Width (inches/mm)			47/1200	47/1200	47/1200	63/1600	47/1200	71/1800	
Depth (inches/mm)			20/ 500	14/ 350	16/ 400	16/ 400	20/ 500	20/ 500	
Part No. ES		1	**5265.600**	**5922.600**	**5284.600**	**5784.600**	**5205.600**	**5905.600**	
Doors			2	2	2	2	2	2	
Weight (lbs/kg)			385.8/175	352.0/160	396.8/180	489.4/222	462.9/210	661.4/300	
Accessories for exterior installation									
Plinth SO height in inches/mm	4/100	1	2839.200	2994.200	2836.200	2905.200	2839.200	2903.200	884
	8/200	1	2840.200	2995.200	2837.200	2906.200	2840.200	2904.200	884
Accessories for interior installation									
Cable entry panels[1)]		1 set	4325.700	4325.700	4325.700	–	4325.700	–	892
System rails		2	4363.000	4363.000	4363.000	–	4363.000	–	899
Cable collecting rails		2	4196.000	4196.000	4196.000	4338.000	4196.000	4339.000	898
Door mounting rails		20	4596.000	4596.000	4596.000	4598.000	4596.000	4579.000	975
Print pocket, sheet steel		1	4116.000	4116.000	4116.000	4118.000	4116.000	4123.000	952
Console		1	4638.600	4638.600	4638.600	4638.800	4638.600	–	951
Cross rails for mounting panels		2	4333.120	4333.120	4333.120	4333.160	4333.120	4333.180	966

[1)] Cable entry grommets, see accessories on page 892.

Locking systems
Standard lock has double-bit insert which can be exchanged for 27 mm – Type A lock inserts (see page 942), and for Ergoform-S handle, see page 939.

Use suffix .800 for E-coat finish RAL 7044 only; Suffix .500 for textured paint in RAL 7035. Lead times upon request.

ES 5000 FREESTANDING ENCLOSURES

Width: 47 – 71″/1200 – 1800 mm

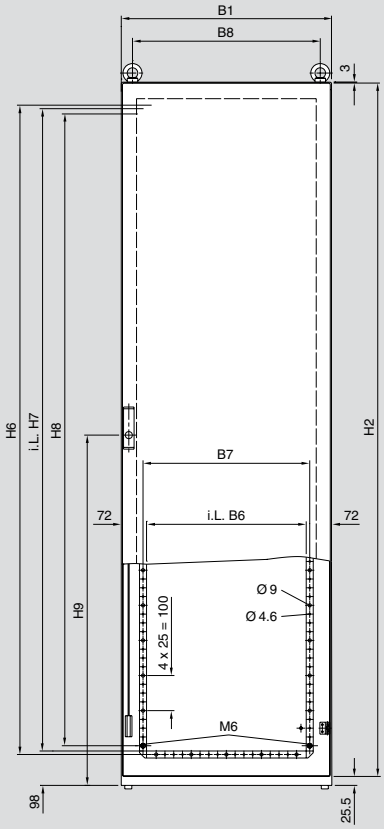
Accessories:

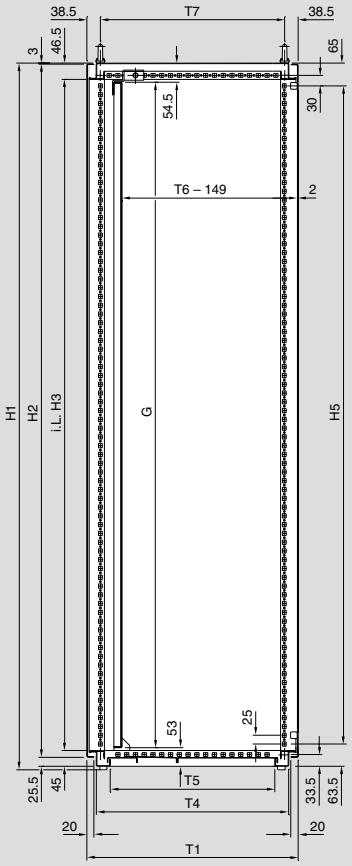
see pages 876/877
or keyword index.

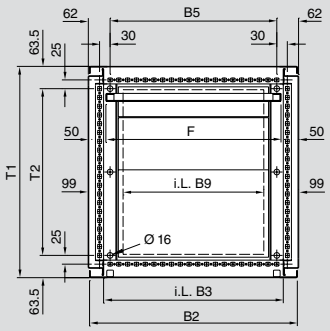
Console
for programming equipment etc., folds down quickly for maintenance needs.
Details on page 951.

Cable hose/holder
makes secure cable management possible.
Details on page 953.

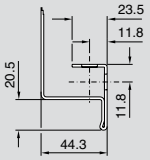
Cross bars for mounting panels
for the installation or stabilization of heavy components.
Details on page 966.



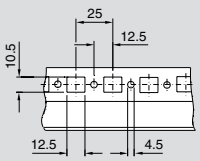




Profile cross section



1″/25 mm system hole pattern

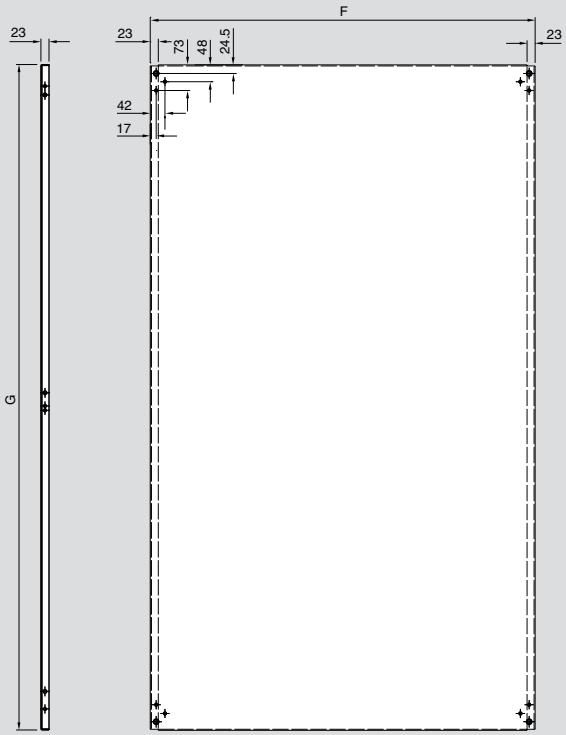


i.L. = available space

ES 5000 FREESTANDING ENCLOSURES

Single door, painted and stainless steel

Mounting panel



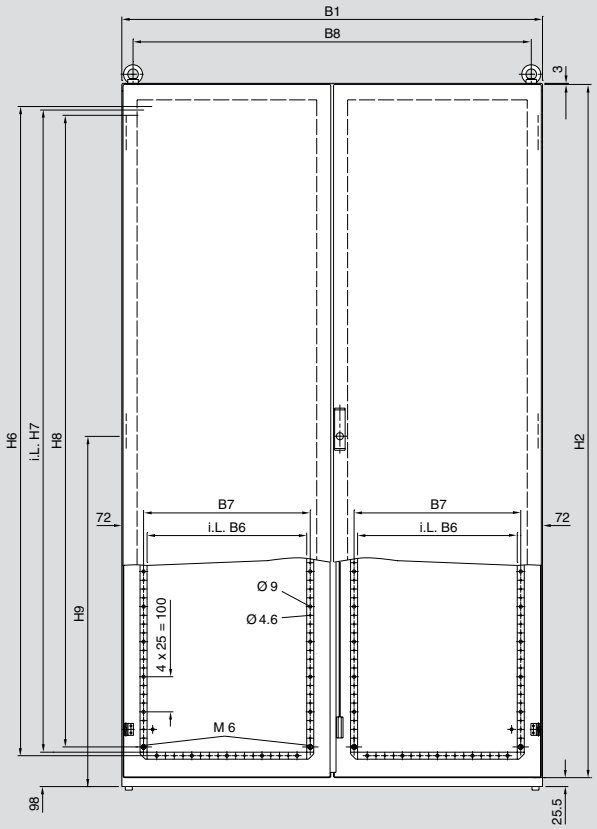
Enclosure
H1 = Total height of the enclosure
H2 = Height of rear wall and door
H3 = Clearance between frame members
H5 = Span of system hole pattern
H6 = Center-to-center hole distance on the door stiffeners
H7 = Clearance between the door stiffeners
H8 = Distance between the stiffener screws
H9 = Distance between floor to lock center

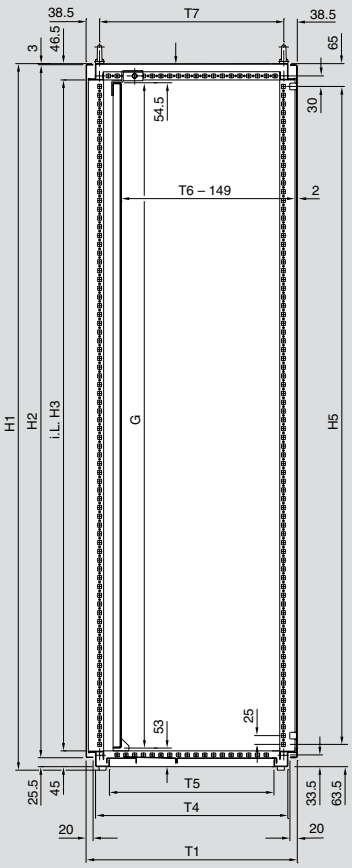
B1 = Total width of enclosure
B2 = Width of door
B3 = Clearance between frame members
B5 = Span of system hole pattern/ hole distance between floor panel and plinth fasteners
B6 = Clearance between door stiffeners
B7 = Door stiffener hole pattern distance, center-to-center
B8 = Distance between eyebolts
B9 = Base frame opening

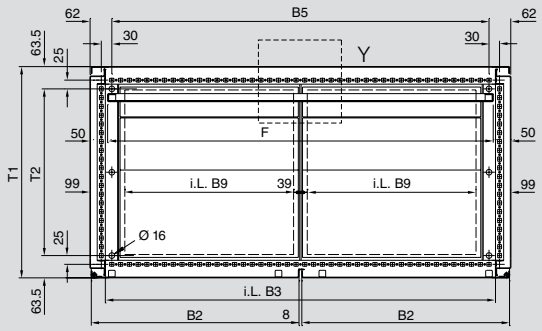
T1 = Total depth
T2 = Span of system hole pattern/ hole distance between floor panel and plinth fasteners
T4 = Depth of base frame
T5 = Clearance in floor opening
T6 = Possible installation depth (mounting panel installation) adjustable along the 1″/25 mm system hole pattern up to 5.87″/149 mm
T7 = Eyebolts, center-to-center

Mounting panel
F = Total width
G = Total height

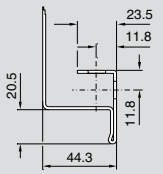
Enclosures		Height dimensions in mm								Width dimensions in mm								Depth dimensions in mm						Mounting panel	
Stainless steel	Painted	H1	H2	H3	H5	H6	H7	H8	H9	B1	B2	B3	B5	B6	B7	B8	B9	T1	T2	T4	T5	T6	T7	F	G
ES 5450.600		1610	1575	1512	1475	1450	1430	1400	798	599	592	512	475	455	475	535	401	402	275	349	269	349	325	499	1496
	ES 5665.600	1610	1575	1512	1475	1450	1430	1400	798	599	592	512	475	455	475	535	401	502	375	449	369	449	425	499	1496
	ES 5928.600	1610	1575	1512	1475	1450	1430	1400	798	799	792	712	675	655	675	735	601	352	225	299	219	299	275	699	1446
	ES 5865.600	1610	1575	1512	1475	1450	1430	1400	798	799	792	712	675	655	675	735	601	502	375	449	369	449	425	699	1496
ES 5451.600		1810	1775	1712	1675	1650	1630	1600	898	599	592	512	475	455	475	535	401	502	375	449	369	449	425	499	1696
	ES 5884.600	1810	1775	1712	1675	1650	1630	1600	898	799	792	712	675	655	675	735	601	402	275	349	269	349	325	699	1696
ES 5452.600		1810	1775	1712	1675	1650	1630	1600	898	799	792	712	675	655	675	735	601	502	375	449	369	449	425	699	1696
ES 5454.600	**ES 5084.600**	1810	1775	1712	1675	1650	1630	1600	898	999	992	912	875	855	875	935	801	402	275	349	269	349	325	899	1696
	ES 5005.600	2010	1975	1912	1875	1850	1830	1800	998	999	992	912	875	855	875	935	801	502	375	449	369	449	425	899	1896
	ES 5805.600	2010	1975	1912	1875	1850	1830	1800	998	799	792	712	675	655	675	735	601	502	375	449	369	449	425	699	1896
ES 5453.600		2010	1975	1912	1875	1850	1830	1800	998	799	792	712	675	655	675	735	601	602	475	549	469	549	525	699	1896



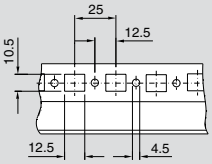




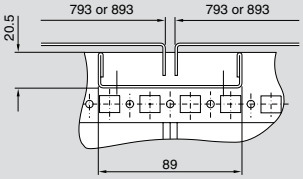
Profile cross section



1″/25 mm system hole pattern



Detail Y
(only for ES 5784.600
and ES 5905.600)

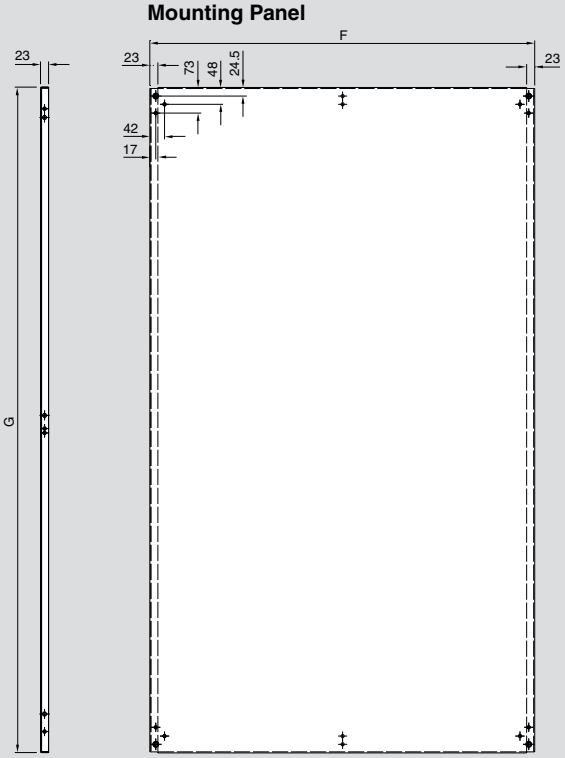


i.L. = available space

ES 5000 FREESTANDING ENCLOSURES

Double door, painted and stainless steel

Mounting Panel



Enclosure
H1 = Total height of the enclosure
H2 = Height of rear wall and door
H3 = Clearance between frame members
H5 = Span of system hole pattern
H6 = Center-to-center hole distance on the door stiffeners
H7 = Clearance between the door stiffeners
H8 = Distance between the stiffener screws
H9 = Distance between floor to lock center

B1 = Total width of enclosure
B2 = Width of door
B3 = Clearance between frame members
B5 = Span of system hole pattern/ hole distance between floor panel and plinth fasteners
B6 = Clearance between door stiffeners
B7 = Door stiffener hole pattern distance, center-to-center
B8 = Distance between eyebolts
B9 = Base frame opening

T1 = Total depth
T2 = Span of system hole pattern/ hole distance between floor panel and plinth fasteners
T4 = Depth of base frame
T5 = Clearance in floor opening
T6 = Possible installation depth (mounting panel installation) adjustable along the 1″/25 mm system hole pattern up to 5.87″/149 mm
T7 = Eyebolts, center-to-center

Mounting panel
F = Total width
G = Total height

Enclosures		Height dimensions in mm								Width dimensions in mm								Depth dimensions in mm						Mounting panel	
Stainless steel	Painted	H1	H2	H3	H5	H6	H7	H8	H9	B1	B2	B3	B5	B6	B7	B8	B9	T1	T2	T4	T5	T6	T7	F	G
	ES 5922.600	1610	1575	1512	1475	1450	1430	1400	798	1199	1192	1112	1075	455	475	1135	481	352	225	299	219	299	275	1099	1996
	ES 5265.600	1610	1575	1512	1475	1450	1430	1400	798	1199	592	1112	1075	455	475	1135	481	502	375	449	369	449	425	1099	1496
	ES 5284.600	1810	1775	1712	1675	1650	1630	1600	898	1199	592	1112	1075	455	475	1135	481	402	275	349	269	349	325	1099	1696
	ES 5784.600	1810	1775	1712	1675	1650	1630	1600	898	1599	792	1512	1475	655	675	1535	681	402	275	349	269	349	325	1499	1696
	ES 5080.600	1810	1775	1712	1675	1650	1630	1600	898	999	492	912	875	355	375	935	801	402	275	349	269	349	325	899	1696
ES 5455.600	**ES 5205.600**	2010	1975	1912	1875	1850	1830	1800	998	1199	592	1112	1075	455	475	1135	481	502	375	449	369	449	425	1099	1896
	ES 5905.600	2010	1975	1912	1875	1850	1830	1800	998	1799	892	1712	1675	755	775	1735	781	502	375	449	369	449	425	1699	1896

Patents

US Patent No. 6,123,400
US Design Patent No. 427,454
German Patent No. 196 47 814
German Reg. Utility Model No. 296 23 551
German Reg. Design No. M 98 01 476
IR-Reg. Design No. DM/045 093 affecting BE, CH, FR, IT, NL, HU, LU
Indian Design Sample No. 177 130
Malaysian Design Sample No. 2 076 296
Austrian Design Sample No. 32343
Singapore Design Sample No. 2 076 296
South African Patent No. 97/10362
Tschec. Design Sample No. 28323
UK-Reg. Design No. 2 076 296
Singapore Patent No. 99 02278-2
New Zealand Patent No. 334 564
Chinese Design Sample No. ZL 983 04154
Slowacian Design Sample No. 98 500 78
Slowacian Patent No. 97 200 73
Norwegian Design Sample No. 75 311
Taiwan Design Sample No. 68818

Rittal TS 8
EMC shielded
enclosures,
see pages 304/305.

Approvals

The TS 8 enclosures pictured on pages 106 – 123 have the following approvals:

- UL
- CSA
- TÜV
- Russian Maritime Register of Shipping
- TÜV Mark
- Lloyds Register of Shipping
- Bureau Veritas
- VDE
- Germanischer Lloyd

Rittal's TS 8 Top Enclosure System is the first enclosure system to be certified by the German TÜV Product-Service per EN 50 298.

Top Enclosure System:

The system for virtually any application

The TS 8 Top Enclosure System meets your special requirements perfectly and economically.
Each enclosure can be customized to your special requirements.

■ Advantages

1 Foamed-in-place polyurethane gasketing. Paintable and heat resistant to 356 °F/180 °C.

2 Grounding points on all important parts. Grounding studs with contact base are paint free and corrosion resistant.

3 Sturdy, rectangular frame with 1″/25 mm system hole pattern for the installation of channels, consoles, cable harnesses, print pockets, etc.

4 Door clearance, approximately 1″/25 mm.

5 Mounting panel, galvanized, C-fold on the sides, depth adjustable along the 1″/25 mm system hole pattern.

6 Galvanized multi-panel cable entry plates and accessory modules maximize the cable entry possibilities.
The cable entry installation may be turned by 90° on a square base.

7 Closed profile frame members with 1″/25 mm system hole pattern, for standardized inside installation.
Vertical frame members for two mounting levels with four rows of slots and drilled holes for hanging or screwing in components.
Horizontal frame members with a row of PS holes and a row of TS holes corresponding to the hole pattern of the vertical frame members.

8 The roof panel is fixed with detachable eyebolts. Frame has foamed-in channel to guide contaminants away from gasket.

9 Our locks operate smoothly outside the enclosure interior, via lock rods, a four-point locking system and a double-bit insert. This applies to our single and double door enclosures. The locking system may be easily exchanged for any of our lock inserts or Comfort Handles.

10 TS .71 x 1.50″/18 x 38 mm installation rails assist in the installation, of the mounting panel. After installation, they may be used for component installation levels for the vertical or horizontal profiles.

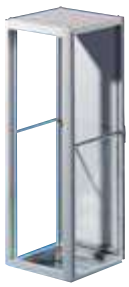
11 Covered 130° hinges. Pulling the split pins makes disassembling the door easy.

12 Maximum corrosion protection through E-coating in RAL 7044.
The exterior is powder painted in RAL 7032, textured, unless specified otherwise.

13 Main door is right hinged and may be easily reversed with single door configurations.

14 The adjacent door is securely locked from the center via rods and an additional swing lever at the top and bottom.

15 Rear wall fixed at 8 points with enclosures up to 32″/800 mm wide. 10 points for enclosures 39″/1000 mm wide or wider. It may be exchanged for door(s).



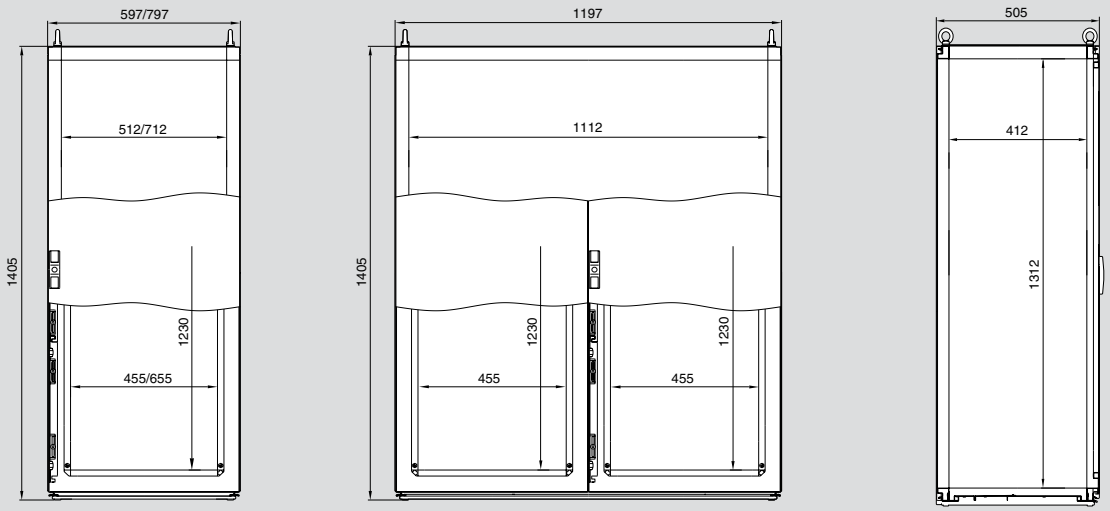
All enclosures with identical height and depth dimensions may be bayed together.	TS 8 enclosures, single door		TS 8 enclosures, double door		TS 8 electronic enclosures	
Height x Depth (inches/mm)	**Width inches/mm**	**Part No.**	**Width inches/mm**	**Part No.**	**Width inches/mm**	**Part No.**
55 x 20/1400 x 500	24/600 32/800	**8645.600** **8845.600**	47/1200	**8245.600**		
63 x 24/1600 x 600					24/600	**8410.510**
63 x 32/1600 x 800					24/600	**8418.510**
71 x 16/1800 x 400	24/ 600 32/ 800 39/1000	**8684.600** **8884.600** **8084.600**	39/1000 47/1200	**8080.600** **8284.600**		
71 x 20/1800 x 500	16/400 24/600 32/800	**8485.610** **8685.600** **8885.600**	32/ 800 47/1200	**8880.600** **8285.600**		
71 x 24/1800 x 600	16/400 24/600 32/800	**8486.610** **8686.600** **8886.600**	32/ 800 47/1200	**8881.600** **8286.600**		
79 x 16/2000 x 400	24/600 32/800	**8604.600** **8804.600**	47/1200	**8204.600**		
79 x 20/2000 x 500	16/400 24/600 32/800	**8405.610** **8605.600** **8805.600**	39/1000 47/1200	**8005.600** **8205.600**		
79 x 24/2000 x 600	16/400 24/600 32/800	**8406.610** **8606.600** **8806.600**	39/1000 47/1200	**8006.600** **8206.600**	24/600	**8430.510**
79 x 32/2000 x 800	24/600 32/800	**8608.600** **8808.600**	47/1200	**8208.600**	24/600	**8438.510**
87 x 24/2200 x 600	16/400 24/600 32/800	**8426.600** **8626.600** **8826.600**	47/1200	**8226.600**		
	Pages 106 – 123		**Pages 106 – 123**		**Pages 124/125**	

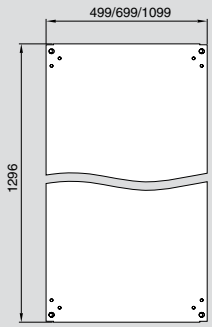
Note:
TS 8 EMC shielded enclosures, see pages 304/305.

TS 8 FREESTANDING ENCLOSURES

Overview

TS 8 for modular front configuration		TS 8 for flange mount disconnect		TS 8 corner enclosures		TS 8 climate controlled enclosures, single door		TS 8 climate controlled enclosures, double	
Width inches/mm	**Part No.**	**Width inches/mm**	**Part No.**	**Width inches/mm**	**Part No.**	**Width inches/mm**	**Part No.**	**Width inches/mm**	**Part No.**
		Inquire about our new 39″/1000 mm wide FMD enclosures.							
		32/800	**8984.600**	16/400 20/500 24/600	**8484.400** **8584.400** **8684.400**				
		32/800	**8985.600**	20/500 24/600	**8585.400** **8685.400**				
				24/600	**8686.400**	24/600 (230 V) 24/600 (400 V) 32/800 (230 V) 32/800 (400 V)	**8687.100**[1)] **8687.840**[1)] **8887.150**[1)] **8887.140**[1)]	47/1200 (230 V) R 47/1200 (230 V) L 47/1200 (400 V) L	**8287.170**[1)] **8807.180**[1)] **8807.260**[1)]
				16/400 20/500 24/600 32/800	**8404.400** **8504.400** **8604.400** **8804.400**				
		32/ 800 39/1000	**8905.600** **8995.600**	20/500 24/600 32/800	**8505.400** **8605.400** **8805.400**				
24/600 32/800	**8606.612** **8806.612**	32/ 800 39/1000	**8906.600** **8996.600**	24/600 32/800	**8606.400** **8806.400**	24/600 (230 V) 24/600 (400 V) 32/800 (230 V) 32/800 (400 V)	**8607.100**[1)] **8607.840**[1)] **8807.100**[1)] **8807.140**[1)]	47/1200 (230 V) R 47/1200 (230 V) L 47/1200 (400 V) L	**8207.170**[1)] **8207.180**[1)] **8807.250**[1)]
								[1)] Actual depth 28″/700 mm, bayable with TS enclosures with 24″/600 mm depth. R = air conditioning door right L = air conditioning door left	
Pages 126/127		**Pages 128/129**		**Page 917**		**Pages 454 – 457**		**Pages 458/459**	





Mounting panel

Configuration	Material Sheet steel	Finish
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Door(s)	14 ga/2.0 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Roof	16 ga/1.5 mm	
Rear wall	16 ga/1.5 mm	
Mounting panel	11 ga/3.0 mm	galvanized
Cable entry panels, 3-part	16 ga/1.5 mm	galvanized
Protection ratings NEMA 12/IP 55 per EN 60 529/10.91		

Detail drawings:
see pages 130 – 133.

Height in inches/mm		PU	55/1400	55/1400	55/1400	Page
Width in inches/mm			24/ 600	32/ 800	47/1200	
Depth in inches/mm			20/ 500	20/ 500	20/ 500	
Part No. TS		1	**8645.600**	**8845.600**	**8245.600**	
Doors			1	1	2	
Weight (lbs/kg)			190/86.0	237/107.5	360.5/163.5	
Base/plinth						
Components (inches/mm) front and rear, TS	H = 4/100	1 set	8601.600	8601.800	8601.200	880
	H = 8/200	1 set	8602.600	8602.800	8602.200	880
Side trim panels, TS (inches/mm)	H = 4/100	1 set	8601.050	8601.050	8601.050	880
	H = 8/200	1 set	8602.050	8602.050	8602.050	880
Cable chamber, TS	H = 8/200	1	8600.650	8600.850	8600.250	888
Side panels for cable chamber, TS		2	8600.010	8600.010	8600.010	905
Accessories						
Cable collecting rails		2	4191.000	4192.000	4196.000	898
Cable entry panels [1], TS		2	8800.060	8800.080	8800.120 [2]	892
System support rails		2	4361.000	4362.000	4363.000	899
Mounting bars for doors		20	4596.000	4598.000	4596.000	950
Print pocket, sheet steel		1	4116.000	4118.000	4116.000	952

Locking systems
Standard lock has double-bit insert which can be exchanged for other inserts and comfort handle, see pages 936 – 938.

[1] Cable entry grommets, see page 892.

[2] PU = 4 pieces, since the bottom panels at a 47″/1200 mm are divided again.

Use suffix .800 for E-coat finish RAL 7044 only; Suffix .500 for textured paint in RAL 7035. Lead times upon request.

TS 8 FREESTANDING ENCLOSURES

Height: 55″/1400 mm, depth: 20″/500 mm

Walls	PU	Part No.	Page
Sidewalls	2	**TS 8145.200**	902
Divider walls	1	**TS 8609.450**	906
Divider walls with component panels	1	**TS 8609.180**	907

Accessories:

see pages 876/877 or keyword index.

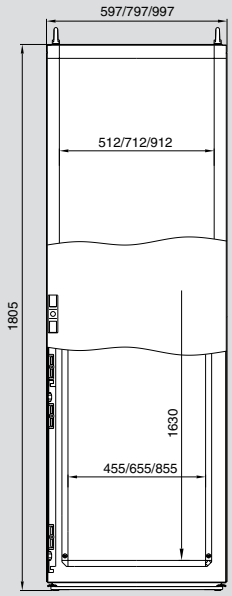
Ask about our NEW 1400 mm H FMD enclosures available in Spring of 2002

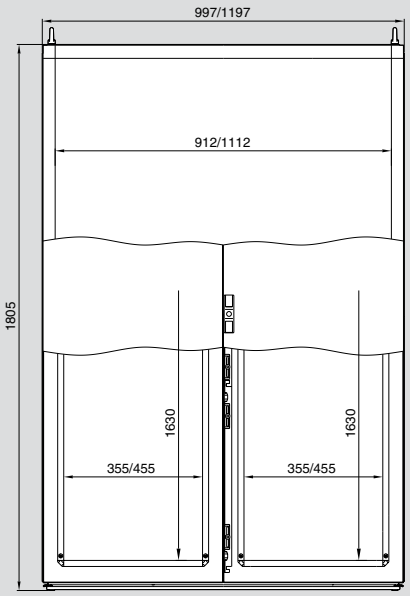
All double door TS 8 enclosures – even more secure!
The adjacent door is securely locked from the center via lock rods and swing lever at top and bottom.

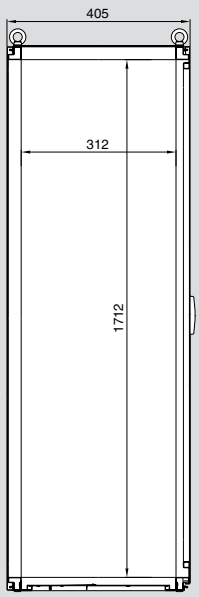
Signal pillar
for equipment monitoring.
Details on page 1000.

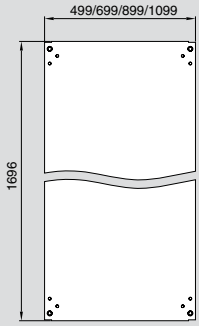
Comfort handle for lock inserts for the installation of lock inserts, safety and pushbutton inserts.
Details on page 936.

Enclosure light
System light with fluorescent tube is designed for quick and easy installation.
Details on page 999.









Mounting panel

Configuration	Material Sheet steel	Finish
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Door(s)	14 ga/2.0 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Roof	16 ga/1.5 mm	
Rear wall	16 ga/1.5 mm	
Mounting panel	11 ga/3.0 mm	galvanized
Cable entry panels, 3-part	16 ga/1.5 mm	galvanized
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91		

Detail drawings:
see pages 130 – 133.

Height (inches/mm)		PU	71/1800	71/1800	71/1800	71/1800	71/1800	Page
Width (inches/mm)			24/ 600	32/ 800	39/1000	39/1000	47/1200	
Depth (inches/mm)			16/ 400	16/ 400	16/ 400	16/ 400	16/ 400	
Part No. TS		1	**8684.600**	**8884.600**	**8084.600**	**8080.600**	**8284.600**	
Doors			1	1	1	2	2	
Weight (lbs/kg)			201.3/91.3	250.2/113.5	300.7/136.4	308.7/140.0	376.1/170.6	
Base/plinth								
Components (inches/mm) front and rear, TS	H = 4/100	1 set	8601.600	8601.800	8601.000	8601.000	8601.200	880
	H = 8/200	1 set	8602.600	8602.800	8602.000	8602.000	8602.200	880
Side trim panels, TS (inches/mm)	H = 4/100	1 set	8601.040	8601.040	8601.040	8601.040	8601.040	880
	H = 8/200	1 set	8602.040	8602.040	8602.040	8602.040	8602.040	880
Accessories								
Cable collecting rails		2	4191.000	4192.000	4336.000	4336.000	4196.000	898
Cable entry panels [1], TS		2	8800.060	8800.080	8800.100 [2]	8800.100 [2]	8800.120 [2]	892
System support rails		2	4361.000	4362.000	4347.000	4347.000	4363.000	899
Mounting bars for doors		20	4596.000	4598.000	4599.000	4309.000	4596.000	950
Print pockets, sheet steel		1	4116.000	4118.000	4124.000	4115.000	4116.000	952

Locking systems
Standard lock has double-bit insert which can be exchanged for other inserts and comfort handle, see pages 936 – 938.

[1] Cable entry grommets, see page 892.

[2] PU = 4 pieces, at a width of 39 – 47″/1000 – 1200 mm the cable entry plates are already 2 piece, split across the width.

Use suffix .800 for E-coat finish RAL 7044 only; Suffix .500 or .510 for textured paint in RAL 7035. Lead times upon request.

TS 8 FREESTANDING ENCLOSURES

Height: 71″/1800 mm, depth: 16″/400 mm

Walls	PU	Part No.	Page
Sidewalls	2	**TS 8184.200**	902
Divider walls	1	**TS 8609.840**	906

Accessories:

see pages 876/877
or keyword index.

Add-on enclosures:

Corner enclosures,
see page 917.

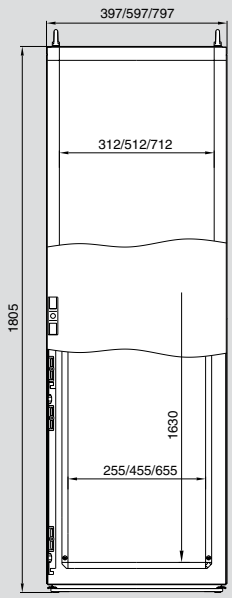
Alternative option:

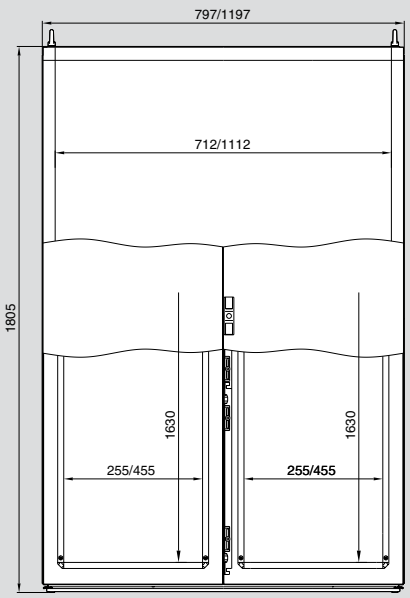
Special air conditioning door instead of door or rear wall,
see pages 460 – 463.

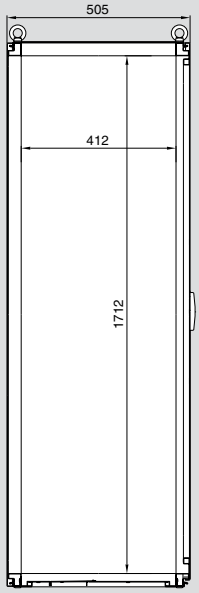
Mounting plate
for any inside installations.
Details on page 978.

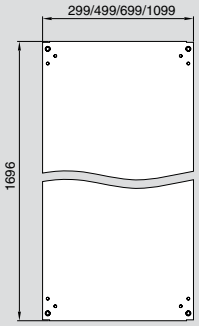
Fixing bolt
for stabilizing the cable collecting rail in the base/plinth.
Details on page 887.

Captive/clip nut
for installation from the front, available in M6 and M8.
Details on page 982.









Mounting panel

Configuration	**Material** Sheet steel	**Finish**
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Door(s)	14 ga/2.0 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Roof	16 ga/1.5 mm	
Rear wall	16 ga/1.5 mm	
Mounting panel	11 ga/3.0 mm	galvanized
Cable entry panels, 3-part	16 ga/1.5 mm	galvanized
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91 (except for TS 8485.610)		

Detail drawings:
see pages 130 – 133.

Height (inches/mm)		PU	71/1800	71/1800	71/1800	71/1800	71/1800	Page
Width (inches/mm)			16/ 400	24/ 600	32/ 800	32/ 800	47/1200	
Depth (inches/mm)			20/ 500	20/ 500	20/ 500	20/ 500	20/ 500	
Part No. TS		1	**8485.610** [3]	**8685.600**	**8885.600**	**8880.600**	**8285.600**	
Door(s)			1	1	1	2	2	
Weight (lbs/kg)			108.5/49.2	206.8/93.8	255.3/115.8	270.1/122.5	382.1/173.3	
Base/plinth								
Components (inches/mm) front and rear, TS	H = 4/100	1 set	8601.400	8601.600	8601.800	8601.800	8601.200	880
	H = 8/200	1 set	8602.400	8602.600	8602.800	8602.800	8602.200	880
Side trim panels, TS (inches/mm)	H = 4/100	1 set	8601.050	8601.050	8601.050	8601.050	8601.050	880
	H = 8/200	1 set	8602.050	8602.050	8602.050	8602.050	8602.050	880
Cable chamber, TS	H = 8/200	1	8600.450	8600.650	8600.850	8600.850	8600.250	888
Side panels for cable chambers, TS		2	8600.010	8600.010	8600.010	8600.010	8600.010	905
Accessories								
Cable collecting rails		2	4193.000	4191.000	4192.000	4192.000	4196.000	898
Cable entry panels [1], TS		2	–	8800.060	8800.080	8800.080	8800.120 [2]	892
System support rails		2	–	4361.000	4362.000	4362.000	4363.000	899
Mounting bars for doors		20	–	4596.000	4598.000	4594.000	4596.000	950
Print pockets, sheet steel		1	–	4116.000	4118.000	4114.000	4116.000	952

Locking systems
Standard lock has double-bit insert which can be exchanged for other inserts and comfort handle, see pages 936 – 938.

! [1] Cable entry grommets, see page 892.

[2] PU = 4 pieces, at a width of 47″/1200 mm the cable entry plates are already 2 piece, split across the width.

[3] Without door frame, mounting panel or cable entry plates.

Use suffix .800 or .810 for E-coat finish RAL 7044 only; Suffix .500 or .510 for textured paint in RAL 7035. Lead times upon request.

TS 8 FREESTANDING ENCLOSURES

Height: 710″/1800 mm, depth: 20″/500 mm

Walls	PU	Part No.	Page
Sidewalls	2	**TS 8185.200**	902
Divider walls	1	**TS 8609.850**	906
Divider walls for component panels	1	**TS 8609.100**	907

Accessories:

see pages 876/877 or keyword index.

Add-on enclosures:

Corner enclosures, see page 917.

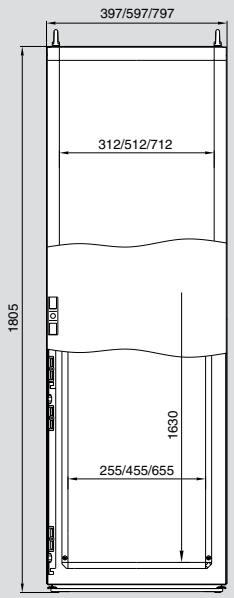
Alternative option:

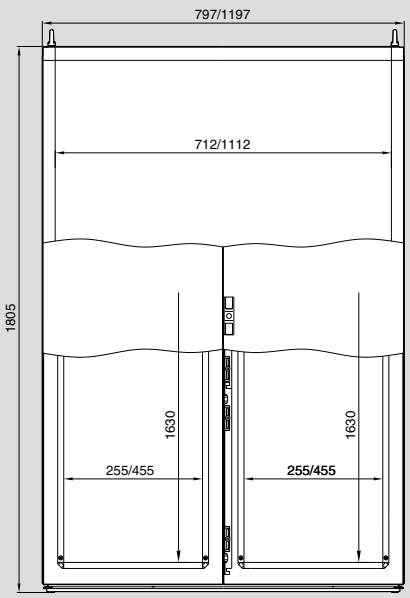
Special air conditioning door instead of door or rear wall, see pages 460 – 463.

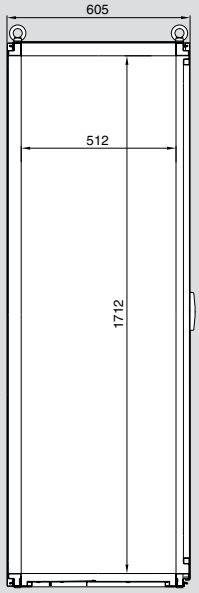
Cable chamber
an alternate base/plinth design and assembly.
Details on page 888.

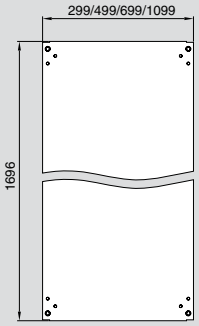
180° hinge
may be easily retrofitted.
Details on page 948.

Divider wall and component panels
for plug-in cable entry.
Details on pages 907/908.









Mounting panel

Configuration	Material Sheet steel	Finish
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Door(s)	14 ga/2.0 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Roof	16 ga/1.5 mm	
Rear wall	16 ga/1.5 mm	
Mounting panel	11 ga/3.0 mm	galvanized
Cable entry panels, 3-part	16 ga/1.5 mm	galvanized
2 mounting rails (PS 4696.000, see page 975) installed in enclosure depth		
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91		

Detail drawings:
see pages 130 – 133.

NEW!

a) Also available in a NEMA 4 version
Part No. 9968549
b) Also available in a NEMA 4 version
Part No. 9968548

Note:
NEMA 4 versions include sidewalls.

Height (inches/mm)		PU	71/1800	71/1800	71/1800	71/1800	71/1800	Page
Width (inches/mm)			16/ 400	24/ 600	32/ 800	32/ 800	47/1200	
Depth (inches/mm)			24/ 600	24/ 600	24/ 600	24/ 600	24/ 600	
Part No. TS		1	**8486.610** [3]	**8686.600** [a]	**8886.600** [b]	**8881.600**	**8286.600**	
Door(s)			1	1	1	2	2	
Weight (lbs/kg)			113.9/51.7	213.4/96.8	265.2/120.3	277.3/125.8	396.6/179.9	
Base/plinth								
Components (inches/mm) front and rear, TS	H = 4/100	1 set	8601.400	8601.600	8601.800	8601.800	8601.200	880
	H = 8/200	1 set	8602.400	8602.600	8602.800	8602.800	8602.200	880
Side trim panels, TS (inches/mm)	H = 4/100	1 set	8601.060	8601.060	8601.060	8601.060	8601.060	880
	H = 8/200	1 set	8602.060	8602.060	8602.060	8602.060	8602.060	880
Cable chamber, TS	H = 8/200	1	8600.460	8600.660	8600.860	8600.860	8600.260	888
Side panels for cable chamber, TS		2	8600.020	8600.020	8600.020	8600.020	8600.020	905
Accessories								
Cable collecting rails		2	4193.000	4191.000	4192.000	4192.000	4196.000	898
Cable entry panels [1], TS		2	–	8800.060	8800.080	8800.080	8800.120 [2]	892
System support rails		2	–	4361.000	4362.000	4362.000	4363.000	899
Mounting bars for door		20	–	4596.000	4598.000	4594.000	4596.000	950
Print pocket, sheet steel		1	–	4116.000	4118.000	4114.000	4116.000	952

Locking systems
Standard lock has double-bit insert which can be exchanged for other inserts and comfort handle, see pages 936 – 938.

! [1] Cable entry grommets, see page 892.

[2] PU = 4 pieces, at a width of 47″/1200 mm the cable entry plates are already 2 piece, split across the width.

[3] Without door stiffeners, mounting panel and cable entry plates.

Use suffix .800 or 810 for E-coat finish RAL 7044 only; Suffix .500 or .510 for textured paint in RAL 7035. Lead times upon request.

TS 8 FREESTANDING ENCLOSURES

Height: 71″/1800 mm, depth: 24″/600 mm

Walls	PU	Part No.	Page
Sidewalls	2	**TS 8186.200**	902
Divider walls	1	**TS 8609.860**	906
Divider walls for component panels	1	**TS 8609.110**	907
Air conditioning sidewalls	1	**SK 3331.XXX**	464
Sidewalls with air/water heat exchangers	1	**SK 3316.180**	532
TS8 internal fan panel	1	**SK 3347.180**	552

Accessories:

see pages 876/877 or keyword index.

Add-on enclosures:

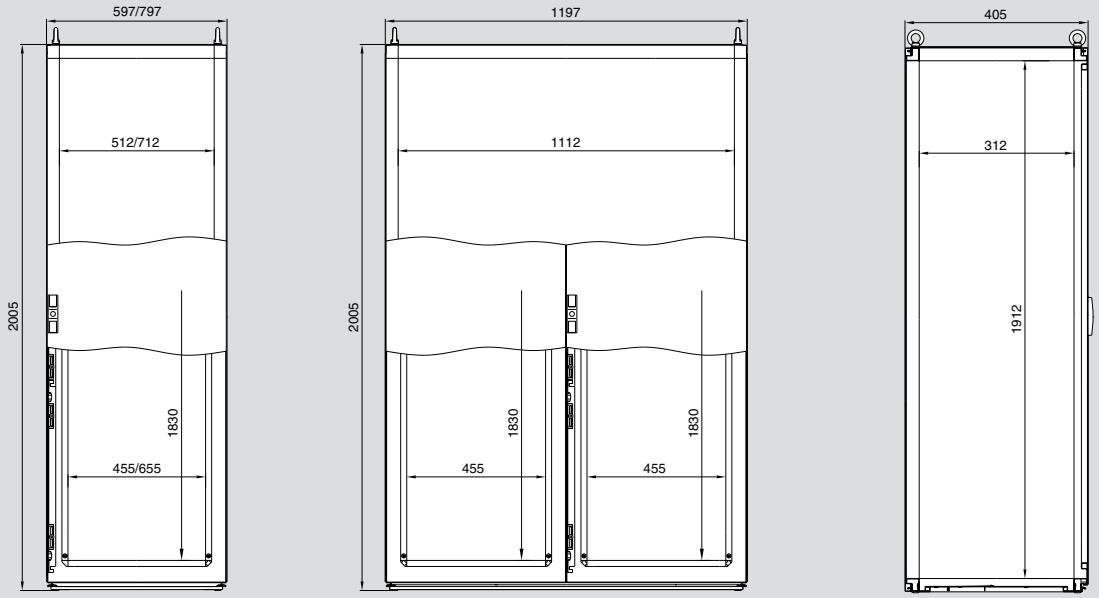
Corner enclosures, see page 917.

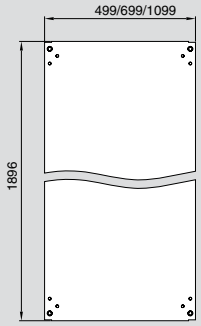
KTS climate controlled enclosures, single/double door, see pages 454 – 459.

Cable channel
mounts directly to the vertical frame member.
Details on page 64.

Width divider
for narrow components in wide enclosures.
Details on page 897.

Sealing strip for bayed configurations
will keep the connection moisture and dust free.
Details on page 916.





Mounting panel

Configuration	Material Sheet steel	Finish
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Door(s)	14 ga/2.0 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Roof	16 ga/1.5 mm	
Rear wall	16 ga/1.5 mm	
Mounting panel	11 ga/3.0 mm	galvanized
Cable entry panels, 3-part	16 ga/1.5 mm	galvanized
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91		

Detail drawings:
see pages 130 – 133.

Height (inches/mm)		PU	79/2000	79/2000	79/2000	Page
Width (inches/mm)			24/ 600	32/ 800	47/1200	
Depth (inches/mm)			16/ 400	16/ 400	16/ 400	
Part No. TS		1	**8604.600**	**8804.600**	**8204.600**	
Doors			1	1	2	
Weight (lbs/kg)			218.3/99.0	273.4/124.0	406.8/184.5	
Base/plinth						
Components (inches/mm) front and rear, TS	H = 4/100	1 set	8601.600	8601.800	8601.200	880
	H = 8/200	1 set	8602.600	8602.800	8602.200	880
Side trim panels, TS (inches/mm)	H = 4/100	1 set	8601.040	8601.040	8601.040	880
	H = 8/200	1 set	8602.040	8602.040	8602.040	880
Accessories						
Cable collecting rails		2	4191.000	4192.000	4196.000	898
Cable entry plates [1], TS		2	8800.060	8800.080	8800.120 [2]	892
System support rails		2	4361.000	4362.000	4363.000	899
Mounting bars for doors		20	4596.000	4598.000	4596.000	950
Print pockets, sheet steel		1	4116.000	4118.000	4116.000	952

Locking systems
Standard lock has double-bit insert which can be exchanged for other inserts and comfort handle, see pages 936 – 938.

[1] Cable entry grommets, see page 892.

[2] PU = 4 pieces, at a width of 47″/1200 mm the cable entry plates are already 2 piece, split across the width.

Use suffix .800 for E-coat finish RAL 7044 only; Suffix .500 for textured paint in RAL 7035. Lead times upon request.

TS 8 FREESTANDING ENCLOSURES

Height: 79″/2000 mm, depth: 16″/400 mm

Walls	PU	Part No.	Page
Sidewalls	2	**TS 8104.200**	902
Divider walls	1	**TS 8609.040**	906
Air conditioning sidewalls	1	**SK 3331.XXX**	464
Sidewall with air/water heat exchangers	1	**SK 3316.200**	532

Accessories:

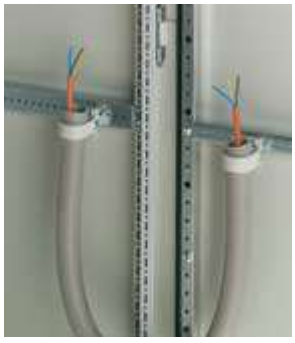
see pages 876/877 or keyword index.

Add-on enclosures:

Corner enclosures, see page 917.

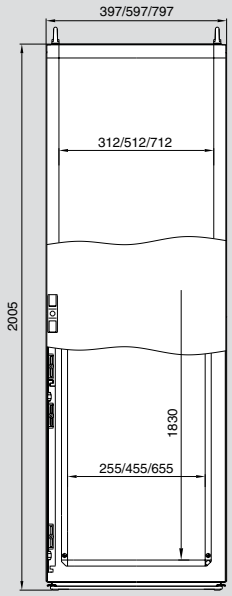
KTS climate controlled enclosures, single/double door, see pages 454 – 459.

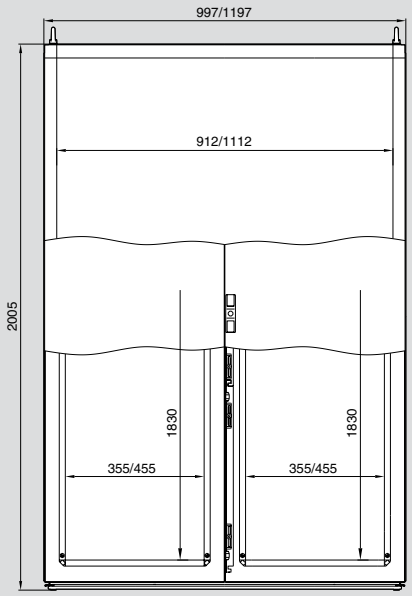
Cable channel installs into the vertical members of two bayed frames. Details on page 964.

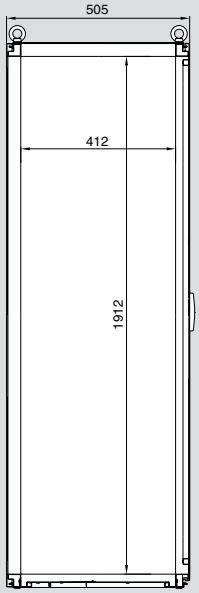


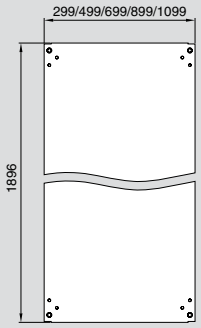
Cable duct and holder for secure cable routing from door to enclosure. Details on page 953.

System window to prevent unauthorized access and preserve protection rating. Details on page 928.









Mounting panel

Configuration	**Material** Sheet steel	**Finish**
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Door(s)	14 ga/2.0 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Roof	16 ga/1.5 mm	
Rear wall	16 ga/1.5 mm	
Mounting panel	11 ga/3.0 mm	galvanized
Cable entry panels, 3-part	16 ga/1.5 mm	galvanized
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91 (except for TS 8405.610)		

Detail drawings:
see pages 130 – 133.

Height (inches/mm)		PU	79/2000	79/2000	79/2000	79/2000	79/2000	Page
Width (inches/mm)			16/ 400	24/ 600	32/ 800	39/1000	47/1200	
Depth (inches/mm)			20/ 500	20/ 500	20/ 500	20/ 500	20/ 500	
Part No. TS		1	**8405.610** [3]	**8605.600**	**8805.600**	**8005.600**	**8205.600**	
Doors			1	1	1	2	2	
Weight (lbs/kg)			133.8/60.7	223.3/101.3	278.4/126.3	346.4/157.1	420.2/190.6	
Base/plinth								
Components (inches/mm) front and rear, TS	H = 4/100	1 set	8601.400	8601.600	8601.800	8601.000	8601.200	880
	H = 8/200	1 set	8602.400	8602.600	8602.800	8602.000	8602.200	880
Side trim panels, TS (inches/mm)	H = 4/100	1 set	8601.050	8601.050	8601.050	8601.050	8601.050	880
	H = 8/200	1 set	8602.050	8602.050	8602.050	8602.050	8602.050	880
Cable chamber	H = 8/200	1	8600.450	8600.650	8600.850	8600.050	8600.250	888
Side panels for cable chamber, TS		2	8600.010	8600.010	8600.010	8600.010	8600.010	905
Accessories								
Cable collecting rails		2	4193.000	4191.000	4192.000	4336.000	4196.000	898
Cable entry plates [1], TS		2	–	8800.060	8800.080	8800.100 [2]	8800.120 [2]	892
System support rails		2	–	4361.000	4362.000	4347.000	4363.000	899
Mounting bars for doors		20	–	4596.000	4598.000	4309.000	4596.000	950
Print pockets, sheet steel		1	–	4116.000	4118.000	4115.000	4116.000	952

Locking systems
Standard lock has double-bit insert which can be exchanged for other inserts and comfort handle, see pages 936 – 938.

[!] [1] Cable entry grommets, see page 892.

[2] PU = 4 pieces, at a width of 39 – 47″/1000 – 1200 mm the cable entry plates are already 2 piece, split across the width.

[3] Without door stiffeners, mounting panel and cable entry plates.

Use suffix .800 or .810 for E-coat finish RAL 7044 only; Suffix .500 or .510 for textured paint in RAL 7035. Lead times upon request.

TS 8 FREESTANDING ENCLOSURES

Height: 79″/2000 mm, depth: 20″/500 mm

Walls	PU	Part No.	Page
Sidewalls	2	**TS 8105.200**	902
Divider walls	1	**TS 8609.050**	906
Divider walls for component panels	1	**TS 8609.120**	907

Accessories:

see pages 876/877 or keyword index.

Add-on enclosures:

Corner enclosures, see page 917.

KTS climate controlled enclosures, single/double door, see pages 454 – 459.

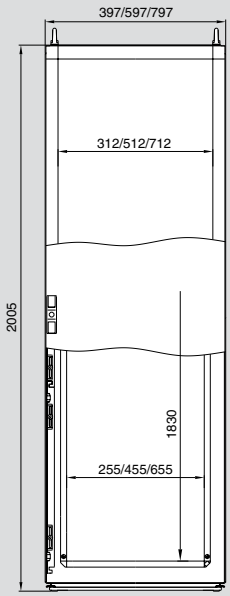
Alternative option:

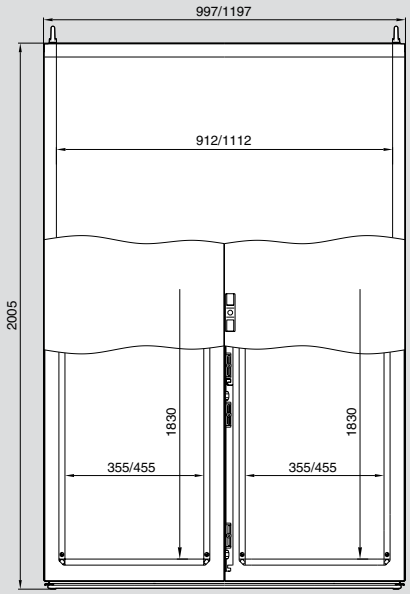
Special air conditioning door instead of door or rear wall, see pages 460 – 463.

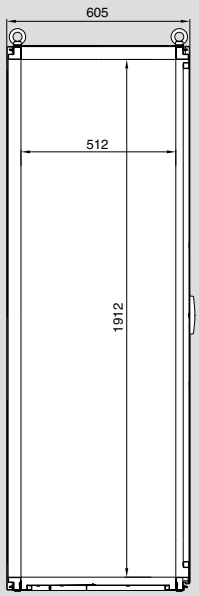
Keyboard drawer
with lock, for input keyboard.
Details on page 934.

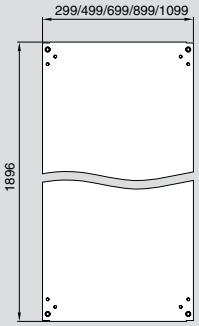
Cable entry plates
may be equipped with a variety of cable entry grommets.
Details on page 892.

Cross rail
for mounting panel reinforcement.
Details on page 966.









Mounting panel

Configuration	Material Sheet steel	Finish
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Door(s)	14 ga/2.0 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Roof	16 ga/1.5 mm	
Rear wall	16 ga/1.5 mm	
Mounting panel	11 ga/3.0 mm	galvanized
Cable entry panels, 3-part	16 ga/1.5 mm	galvanized
2 mounting rails (PS 4696.000, see page 975) installed in enclosure depth		
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91 (except TS 8 8406.610)		

Detail drawings:
see pages 130 – 133.

NEW!

a) Also available in a NEMA 4 version
Part No. 9968547
b) Also available in a NEMA 4 version
Part No. 9968546

Note:
NEMA 4 versions include sidewalls.

Height (inches/mm)		PU	79/2000	79/2000	79/2000	79/2000	79/2000	Page
Width (inches/mm)			16/ 400	24/ 600	32/ 800	39/1000	47/1200	
Depth (inches/mm)			24/ 600	24/ 600	24/ 600	24/ 600	24/ 600	
Part No. TS		1	**8406.610** 3)	**8606.600** a)	**8806.600** b)	**8006.600**	**8206.600**	
Doors			1	1	1	2	2	
Weight (lbs/kg)			122.8/55.7	229.3/104.0	287.7/130.5	355.4/161.2	429.0/194.6	
Base/plinth								
Components (inches/mm) front and rear, TS	H = 4/100	1 set	8601.400	8601.600	8601.800	8601.000	8601.200	880
	H = 8/200	1 set	8602.400	8602.600	8602.800	8602.000	8602.200	880
Side trim panels, TS (inches/mm)	H = 4/100	1 set	8601.060	8601.060	8601.060	8601.060	8601.060	880
	H = 8/200	1 set	8602.060	8602.060	8602.060	8602.060	8602.060	880
Cable chamber	H = 8/200	1	8600.460	8600.660	8600.860	8600.060	8600.260	888
Side panels for cable chamber, TS		2	8600.020	8600.020	8600.020	8600.020	8600.020	905
Accessories								
Cable collecting rails		2	4193.000	4191.000	4192.000	4336.000	4196.000	898
Cable entry plates 1), TS		2	–	8800.060	8800.080	8800.100 2)	8800.120 2)	892
System support rails		2	–	4361.000	4362.000	4347.000	4363.000	899
Mounting bars for doors		20	–	4596.000	4598.000	4309.000	4596.000	950
Print pocket, sheet steel		1	–	4116.000	4118.000	4115.000	4116.000	952

Locking systems
Standard lock has double-bit insert which can be exchanged for other inserts and comfort handle, see pages 936 – 938.

1) Cable entry grommets, see page 892.

2) PU = 4 pieces, at a width of 39 – 47″/1000 – 1200 mm the cable entry plates are already 2 piece, split across the width.

3) Without door stiffeners, mounting panel or cable entry plates.

Use suffix .800 or .810 for E-coat finish RAL 7044 only; Suffix .500 or .510 for textured paint in RAL 7035. Lead times upon request.

TS 8 FREESTANDING ENCLOSURES

Height: 79″/2000 mm, depth: 24″/600 mm

Walls	PU	Part No.	Page
Sidewalls	2	**TS 8106.200**	902
Divider walls	1	**TS 8609.060**	906
Divider walls for component panels	1	**TS 8609.130**	907
Air conditioning sidewalls	1	**SK 3331.XXX**	464
Sidewall with air/water heat exchanger	1	**SK 3316.200**	532
TS 8 internal fan panel	1	**SK 3347.200**	552

Accessories:

see pages 876/877 or keyword index.

Add-on enclosures:

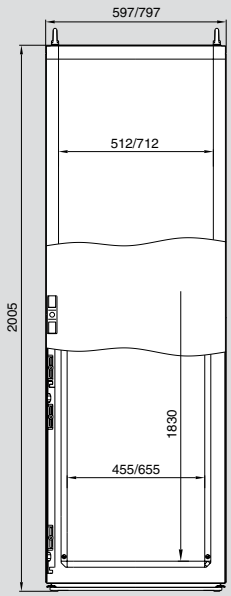
Corner enclosures, see page 917.

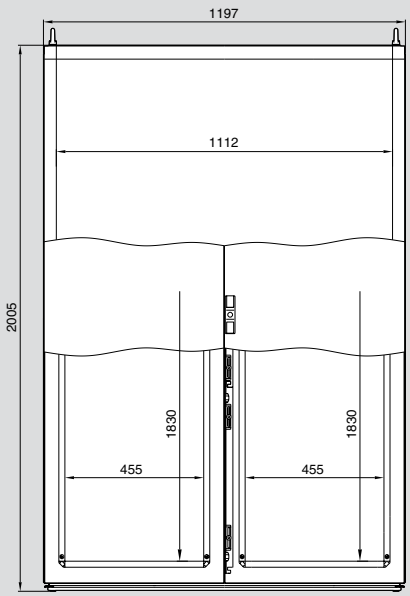
KTS climate controlled enclosures, single/double door, see pages 454 – 459.

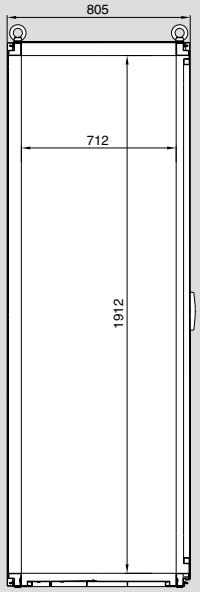
EMC cable entry grommet
the economical alternative to a threaded connector.
Details on page 894.

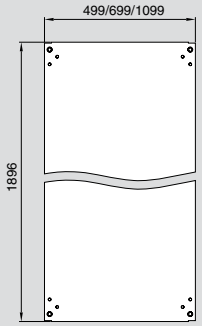
System mounting bars
with M12 T-head bolt.
Details on page 899.

TS system chassis 23 x 73 mm
with all-around system holes for clip/captive nuts.
Details on page 974.









Mounting panel

Configuration	**Material** Sheet steel	**Finish**
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Door(s)	14 ga/2.0 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Roof	16 ga/1.5 mm	
Rear wall	16 ga/1.5 mm	
Mounting panel	11 ga/3.0 mm	galvanized
Cable entry panels, 3-part	16 ga/1.5 mm	galvanized
2 mounting rails (PS 4696.000, see page 975) installed in enclosure depth		
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91		

Detail drawings:
see pages 130 – 133.

Height (inches/mm)		PU	79/2000	79/2000	79/2000	Page
Width (inches/mm)			24/ 600	32/ 800	47/1200	
Depth (inches/mm)			32/ 800	32/ 800	32/ 800	
Part No. TS		1	**8608.600**	**8808.600**	**8208.600**	
Doors			1	1	2	
Weight (lbs/kg)			245.4/111.3	302.0/137.0	447.5/203.0	
Base/plinth						
Components (inches/mm) front and rear, TS	H = 4/100	1 set	8601.600	8601.800	8601.200	880
	H = 8/200	1 set	8602.600	8602.800	8602.200	880
Side trim panels, TS (inches/mm)	H = 4/100	1 set	8601.080	8601.080	8601.080	880
	H = 8/200	1 set	8602.080	8602.080	8602.080	880
Accessories						
Cable collecting rails		2	4191.000	4192.000	4196.000	898
Cable entry panels [1], TS		2	8800.060	8800.080	8800.120 [2]	892
System support rails		2	4361.000	4362.000	4363.000	899
Mounting bars for doors		20	4596.000	4598.000	4596.000	950
Print pocket, sheet steel		1	4116.000	4118.000	4116.000	952

Locking systems
Standard lock has double-bit insert which can be exchanged for other inserts and comfort handle, see pages 936 – 938.

[1] Cable entry grommets, see page 892.

[2] PU = 4 pieces, at a width of 47″/1200 mm the cable entry plates are already 2 piece, split across the width.

Use suffix .800 for E-coat finish RAL 7044 only; Suffix .500 for textured paint in RAL 7035. Lead times upon request.

TS 8 FREESTANDING ENCLOSURES

Height: 79″/2000 mm, depth: 32″/800 mm

Walls	PU	Part No.	Page
Sidewalls	2	**TS 8108.200**	902
Divider walls	1	**TS 8609.080**	906
TS 8 internal fan panel	1	**SK 3348.200**	552

Accessories:

see pages 876/877
or keyword index.

Add-on enclosures:

Corner enclosures,
see page 917.

KTS climate controlled enclosures, single/double door,
see pages 454 – 459.

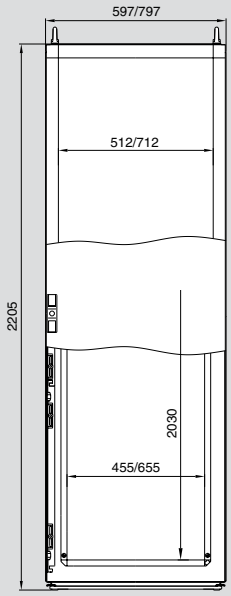
Alternative option:

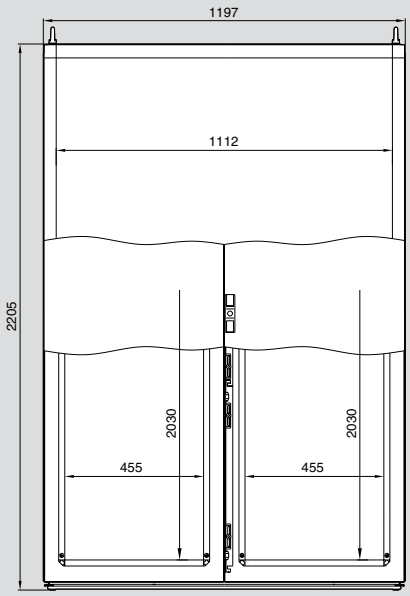
Special air conditioning door, instead of a door or rear wall,
see pages 460 – 463.

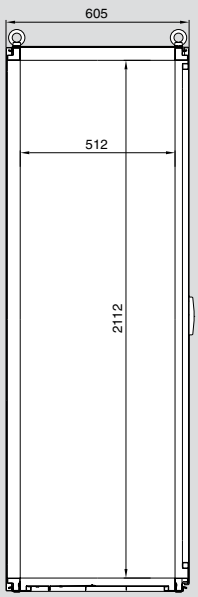
Sidewall hinges,
easy to install, for all-around access.
Details on page 948.

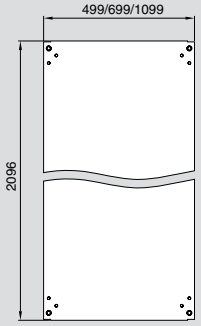
Partial mounting panels
may be installed horizontally or vertically, in the width or depth of the enclosure.
Details on page 968.

Floor clamp
may be fastened in any position.
Details on page 899.









Mounting panel

Configuration	**Material** Sheet steel	**Finish**
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Door(s)	14 ga/2.0 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Roof	16 ga/1.5 mm	
Rear wall	16 ga/1.5 mm	
Mounting panel	11 ga/3.0 mm	galvanized
Cable entry panels, 3-part	16 ga/1.5 mm	galvanized
2 mounting rails (PS 4696.000, see page 975) installed in enclosure depth		
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91		

Detail drawings:
see pages 130 – 133.

Height (inches/mm)		PU	87/2200	87/2200	87/2200	87/2200	Page
Width (inches/mm)			16/ 400	24/ 600	32/ 800	47/1200	
Depth (inches/mm)			24/ 600	24/ 600	24/ 600	24/ 600	
Part No. TS		1	**8426.600**	**8626.600**	**8826.600**	**8226.600**	
Doors			1	1	1	2	
Weight (lbs/kg)			217.0/99.0	249.3/113.1	307.1/139.3	458.6/208.0	
Base/plinth							
Components (inches/mm) front and rear, TS	H = 4/100	1 set	8601.400	8601.600	8601.800	8601.200	880
	H = 8/200	1 set	8602.400	8602.600	8602.800	8602.200	880
Side trim panels, TS (inches/mm)	H = 4/100	1 set	8601.060	8601.060	8601.060	8601.060	880
	H = 8/200	1 set	8602.060	8602.060	8602.060	8602.060	880
Cable chamber, TS	H = 8/200	1	8600.460	8600.660	8600.860	8600.260	888
Side panels for cable chamber, TS		1 set	8600.020	8600.020	8600.020	8600.020	905
Accessories							
Cable collecting rails		2	4193.000	4191.000	4192.000	4196.000	898
Cable entry plates [1], TS		2	–	8800.060	8800.080	8800.120 [2]	892
System support rails		2	–	4361.000	4362.000	4363.000	899
Mounting bars for doors		20	4594.000	4596.000	4598.000	4596.000	950
Print pocket, sheet steel		1	4114.000	4116.000	4118.000	4116.000	952

Locking systems
Standard lock has double-bit insert which can be exchanged for other inserts and comfort handle, see pages 936 – 938.

[1] Cable entry grommets, see page 892.

[2] PU = 4 pieces, at a width of 47″/1200 mm the cable entry plates are already 2 piece, split across the width.

Use suffix .800 for E-coat finish RAL 7044 only; Suffix .500 for textured paint in RAL 7035. Lead times upon request.

TS 8 FREESTANDING ENCLOSURES

Height: 87″/2200 mm, depth: 24″/600 mm

Walls	PU	Part No.	Page
Sidewalls	2	**TS 8126.200**	902
Divider walls	1	**TS 8609.260**	906

Accessories:

see pages 876/877
or keyword index.

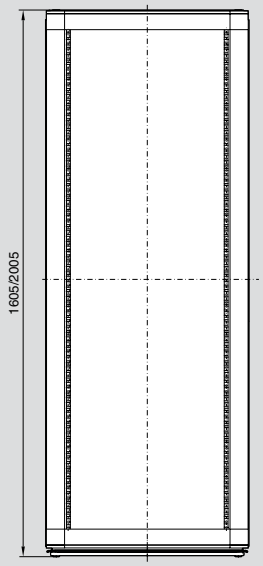
Add-on enclosures:

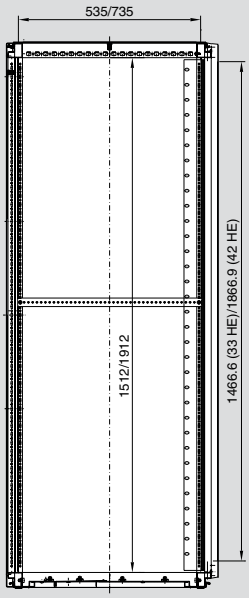
Corner enclosures,
see page 917.

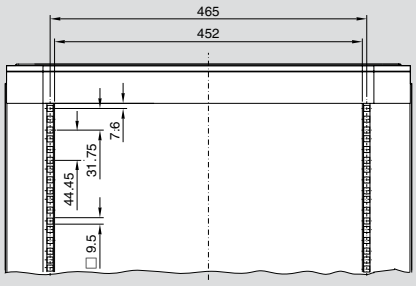
Console
folds down, comes in handy for laptops or documents.
Details on page 951.

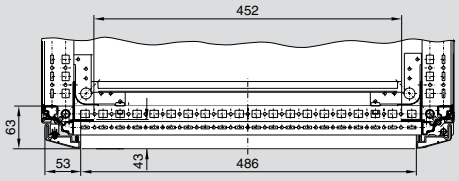
Central ground
for connecting ground straps or flat bundle grounds.
Details on page 1012.

Mounting panel retainer
for stabilizing deep or heavy components.
Details on page 967.









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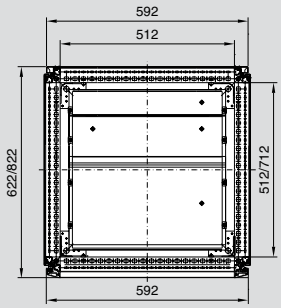


Height (inches/mm)		PU	63/1600	63/1600	79/2000	79/2000	Page
Width (inches/mm)			24/ 600	24/ 600	24/ 600	24/ 600	
Depth (inches/mm)			24/ 600	32/ 800	24/ 600	32/ 800	
Part No. TS		1	**8410.510**	**8418.510**	**8430.510**	**8438.510**	
Doors			1	1	1	1	
Base/plinth							
Components (inches/mm) front and rear, TS	H = 4/100	1 set	8601.600	8601.600	8601.600	8601.600	880
	H = 8/200	1 set	8602.600	8602.600	8602.600	8602.600	880
Side trim panels, TS (inches/mm)	H = 4/100	1 set	8601.060	8601.080	8601.060	8601.080	880
	H = 8/200	1 set	8602.060	8602.080	8602.060	8602.080	880
Accessories							
Sidewalls, TS		2	8166.235	8168.235	8106.235	8108.235	902
Cable collecting rails		2	4191.000	4191.000	4191.000	4191.000	898
Cable entry plates [1], TS		2	8800.060	8800.060	8800.060	8800.060	892
Adapter profile, 19″/482.6 mm, rear, TS		2	8613.360	8613.360	8613.300	8613.300	1028
Bezel, TS		2	8613.200	8613.200	8613.210	8613.210	1028

Locking systems
Standard lock has double-bit insert which can be exchanged for other inserts and comfort handle, see pages 936 – 938.

[1] Cable entry grommets, see page 892.

Use suffix .810 for E-coat finish RAL 7044 only. Lead times upon request.

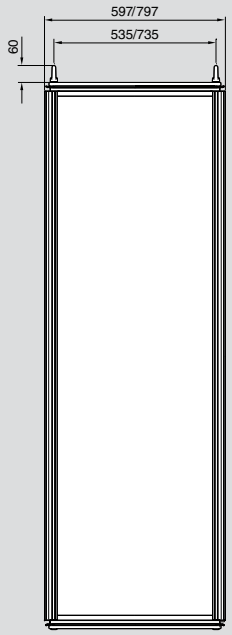
c UL us LISTED

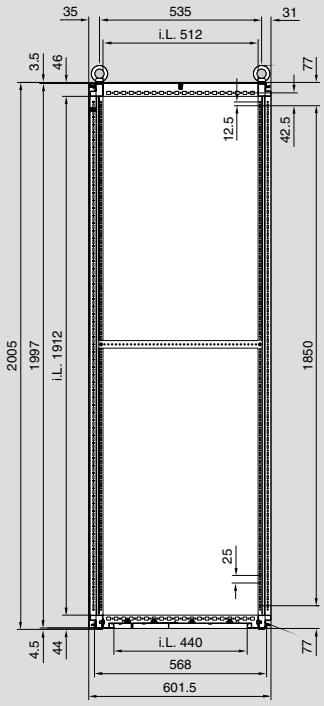
Accessories:
see pages 876/877
or keyword index.

Configuration	Material	Finish
Enclosure frame	sheet steel 16 ga/1.5 mm	E-coated RAL 7044
Front frame (right hinged, 130° opening, secured with a spring loaded catch on the left side)	aluminum extrusion with zinc die-cast corner pieces	powder painted RAL 7035
Rear door (right hinged, reversible to left hinged)	sheet steel, 14 ga/2.0 mm	
Roof (removable)	sheet steel 16 ga/1.5 mm	
2 adapter rails, 19″/482.6 mm installed	aluminum	conductive, corrosion resistant coating
Cable entry plates, 3-part	sheet steel 16 ga/1.5 mm	galvanized
2 mounting rails installed in enclosure depth (PS 4696.000 at 24″/600 mm, PS 4697.000 at 32″/800 mm, see page 975).		

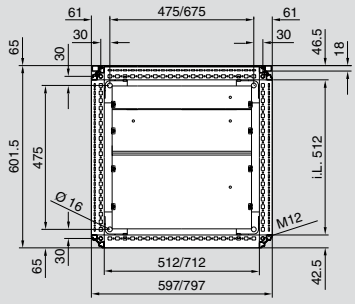
Adapter bracket
for the installation of sub-racks or telescopic rails.
Details on page 1026.

M6 cage nut
for fastening components.
Details on page 1032.



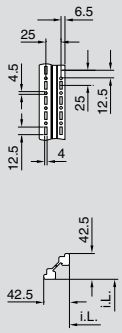


i.L. = available space

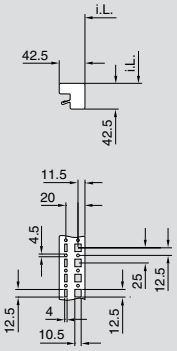


Profile cross section

Vertical



Horizontal



Configuration	**Material** Sheet steel	**Finish**
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Roof	16 ga/1.5 mm	E-coated RAL 7044, exterior powder painted
Rear wall	16 ga/1.5 mm	
Cable entry panels, 3-part	16 ga/1.5 mm	galvanized
2 mounting rails (PS 4696.000, see page 975) installed on the outer level of the enclosure depth		

Height in inches/mm		PU	79/2000	79/2000	Page
Width in inches/mm			24/ 600	32/ 800	
Depth in inches/mm			24/ 600	24/ 600	
Part No. TS		1	**8606.612**	**8806.612**	
Weight (lbs/kg)			115.7/52.5	138.9/63.0	
Base/plinth					
Components (inches/mm) front and rear, TS	H = 4/100	1 set	8601.600	8601.800	880
	H = 8/200	1 set	8602.600	8602.800	880
Side trim panels, TS (inches/mm)	H = 4/100	1 set	8601.060	8601.060	880
	H = 8/200	1 set	8602.060	8602.060	880
Cable chamber, TS	H = 8/200	1	8600.660	8600.860	888
Side panels for cable chamber, TS		2	8600.020	8600.020	905
Accessories					
Roof module, TS		1	8801.730	8801.740	955
Side panel for roof module, TS		2	8801.770	8801.770	905
Partial doors, TS		1	with and without viewing windows		925
Trim panels, TS		2	8801.610	8801.810	924
Mullion, TS		5	8801.630	8801.830	924
Viewing door [1], TS		1	8610.600	8610.800	918

[!] [1] Frame lock components (TS 8800.040) are necessary for installation, see page 918.

Use suffix .812 for E-coat finish RAL 7044 only; Suffix .512 for textured paint in RAL 7035. Lead times upon request.

TS 8 FREESTANDING ENCLOSURES

For modular front configuration

Walls	PU	Part No.	Page
Sidewalls	2	**TS 8106.212**	926
Divider walls	1	**TS 8609.060**	906
Divider walls for component panels	1	**TS 8609.130**	907

Accessories:

see pages 876/877 or keyword index.

Add-on enclosures:

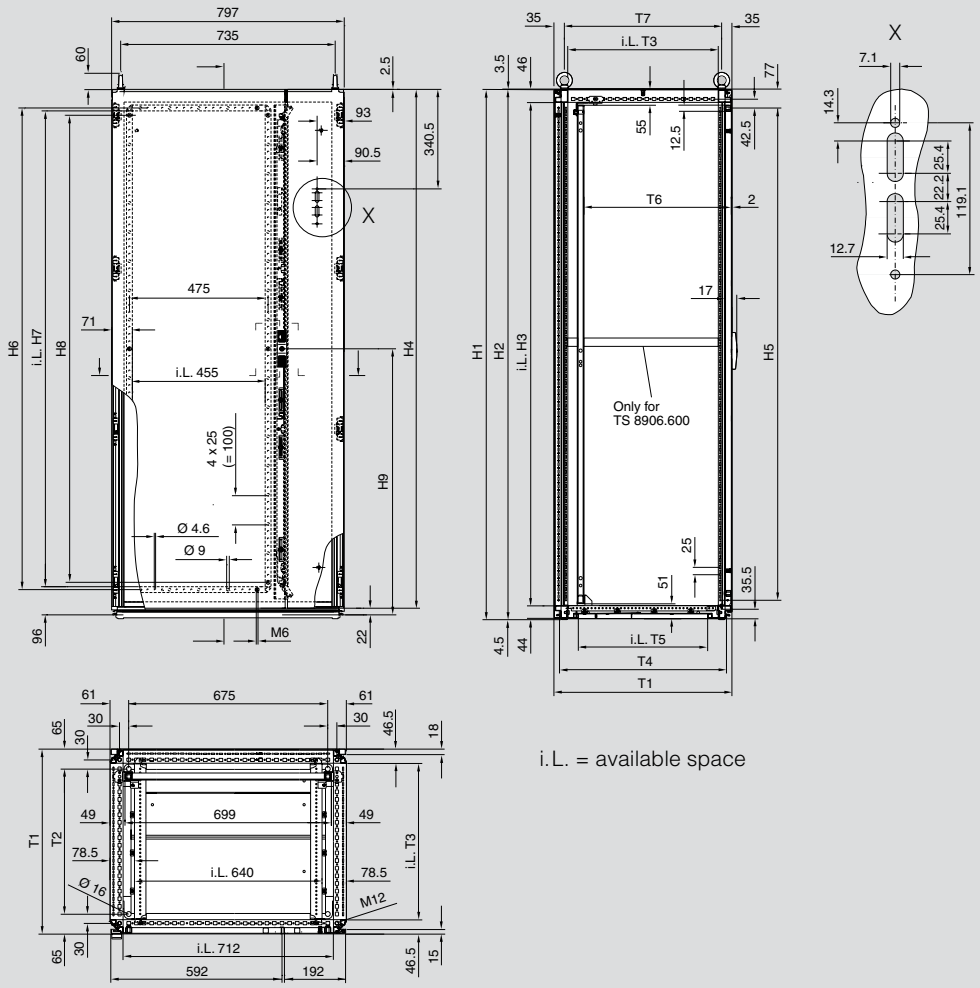
Corner enclosures, see page 917.

KTS climate controlled enclosures, single/double door, see pages 454 – 459.

Partial doors and trim panels
Details on pages 924/925.

Mullions
for partial door installation.
Details on page 924.

Partial mounting panels
for modular inside installation.
Details on page 968.



i.L. = available space

Enclosure

H1 = Total height
H2 = Height of rear wall
H3 = Clearance between vertical frame members
H4 = Height of door and trim panel
H5 = Span of system holes
H6 = Center-to-center distance of system holes in door stiffeners
H7 = Clearance between door stiffeners
H8 = Distance between door stiffener screws
H9 = Distance between floor and lock center

T1 = Total depth
T2 = Span of system holes/ distance between cable base mounting holes
T3 = Clearance between vertical frame members
T4 = Depth of base frame
T5 = Base frame opening
T6 = Possible installation depth (mounting panel installation)
T7 = Eyebolts center-to-center

Additional parts needed:

Locking systems for TS 8 baying combinations, see page 947.

Note:

TS 8 8611.310 hardware kit included in configuration of enclosure.

Ask about our NEW 1400 mm H FMD enclosures available in Spring of 2002

The cutouts in the right flange door fit the following disconnect applications: Allen Bradley 1494 V-H11, Square D 9422 A1, ITE Siemens Max-Flex Series/F HOH, General Electric TDA Type 1 and 2; and Cutler Hammer.

	Height dimensions in mm									Depth dimensions in mm						
Part No. TS	H1	H2	H3	H4	H5	H6	H7	H8	H9	T1	T2	T3	T4	T5	T6	T7
8984.600	1805	1797	1712	1778	1650	1650	1630	1600	911	405	275	312	368	240	130 – 355	335
8985.600	1805	1797	1712	1778	1650	1650	1630	1600	911	505	375	412	468	340	130 – 455	435
8905.600	2005	1997	1912	1978	1850	1850	1830	1800	1011	505	375	412	468	340	130 – 455	435
8906.600	2005	1997	1912	1978	1850	1850	1830	1800	1011	605	475	512	568	440	130 – 555	535
8995.600	2005	1997	1912	1978	1850	1850	1830	1800	1011	505	375	412	468	340	130 – 455	435
8996.600	2005	1997	1912	1978	1850	1850	1830	1800	1011	605	475	512	568	440	130 – 555	535

Height in inches/mm		PU	71/1800	71/1800	79/2000	79/2000	79/2000	79/2000	Page
Width in inches/mm			32/ 800	32/ 800	32/ 800	32/ 800	40/1000	40/1000	
Depth in inches/mm			16/ 400	20/ 500	20/ 500	24/ 600	20/ 500	24/ 600	
Part No. TS		1	**8984.600**	**8985.600**	**8905.600**	**8906.600**	**8995.600**	**8996.600**	
Weight (lbs/kg)			250.2/113.5	255.3/115.8	279.1/126.3	287.7/130.5	346.0/157.1	383.0/174.1	
Doors			2	2	2	2	2	2	
Base/plinth									
Components (inches/mm) front and rear, TS	H = 4/100	1 set	8601.800	8601.800	8601.800	8601.800	8601.000	8601.000	880
	H = 8/200	1 set	8602.800	8602.800	8602.800	8602.800	8602.000	8602.000	880
Side trim panels, TS (inches/mm)	H = 4/100	1 set	8601.040	8601.050	8601.050	8601.060	8601.050	8601.060	880
	H = 8/200	1 set	8602.040	8602.050	8602.050	8602.060	8602.050	8602.060	880
Cable chamber, TS	H = 8/200	1	–	8600.850	8600.850	8600.860	8600.050	8600.060	888
Side panels for cable chamber, TS		2	–	8600.010	8600.010	8600.020	8600.010	8600.020	905
Accessories									
Sidewalls, TS		2	8184.200	8185.200	8105.200	8106.200	8105.200	8106.200	902

Locking system
Standard lock has double-bit insert which can be exchanged for other inserts and comfort handle, see pages 936 – 938.

Use suffix .800 for E-coat finish RAL 7044 only; Suffix .500 for textured paint in RAL 7035. Lead times upon request.

TS 8 FREESTANDING ENCLOSURES

For flange mount disconnects

c UL us LISTED

Accessories:

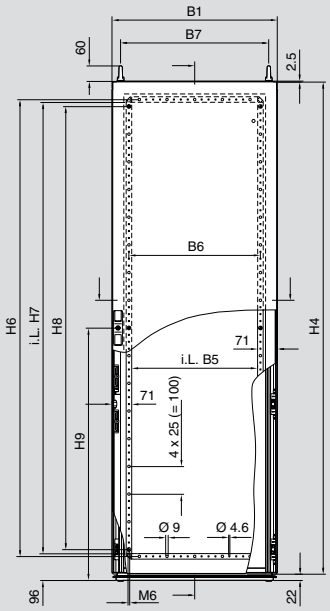
see pages 876/877 or keyword index.

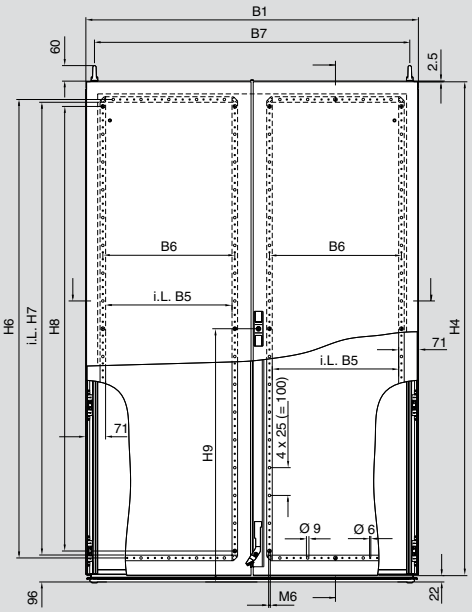
* TS 8 8611.310 hardware kit included in configuration of enclosure.

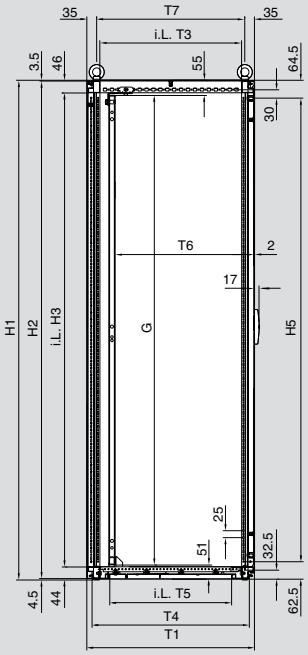
Configuration	Material Sheet steel	Finish
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Door (left hinged)	14 ga/2.0 mm	E-coated RAL 7044, exterior powder coated RAL 7032 textured
Flange trim panel (right hinged, with a turn lever on top and bottom. Cutout for disconnect operation)	14 ga/2.0 mm	
Roof	16 ga/1.5 mm	
Rear wall	16 ga/1.5 mm	
Mounting panel	11 ga/3.0 mm	galvanized
Cable entry panels, 3-part	16 ga/1.5 mm	galvanized
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91		
2 mounting rails (PS 4696.000, see page 975) installed in the enclosure depth (for TS 8906.600)		

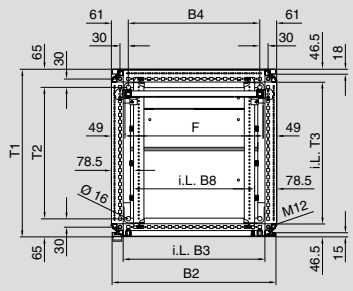
Flange mount disconnect to expand the door locking mechanisms…

…operated via lock rods. Details on page 947.

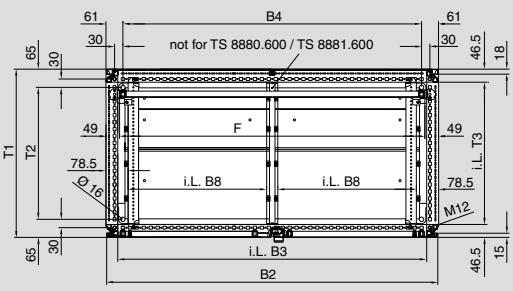








Base/plinth mount: B4 x T2

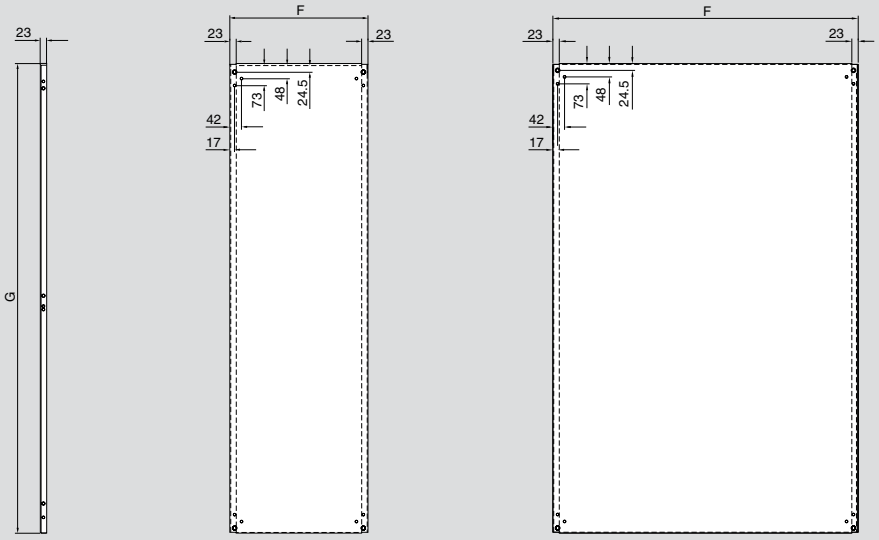


Base/plinth mount: B4 x T2

i.L. = available space

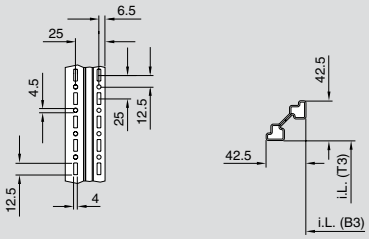
Double door enclosures. See details above.

Enclo-sures	Height dimensions in mm									Width dimensions in mm								Depth dimensions in mm							Mounting panel	
Part No.	H1	H2	H3	H4	H5	H6	H7	H8	H9	B1	B2	B3	B4	B5	B6	B7	B8	T1	T2	T3	T4	T5	T6	T7	F	G
8245.600	1405	1397	1312	1377.5	1275	1250	1230	1200	711	1197	1192	1112	1075	455	475	1135	500	505	375	412	468	340	130 – 455	435	1099	1296
8080.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	997	992	912	875	355	375	935	400	405	275	312	368	240	130 – 355	335	899	1696
8284.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	1197	1192	1112	1075	455	475	1135	500	405	275	312	368	240	130 – 355	335	1099	1696
8880.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	797	792	712	675	255	275	735	640	505	375	412	468	340	130 – 455	435	699	1696
8285.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	1197	1192	1112	1075	455	475	1135	500	505	375	412	468	340	130 – 455	435	1099	1696
8881.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	797	792	712	675	255	275	735	640	605	475	512	568	440	130 – 555	535	699	1696
8286.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	1197	1192	1112	1075	455	475	1135	500	605	475	512	568	440	130 – 555	535	1099	1696
8204.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	1197	1192	1112	1075	455	475	1135	500	405	275	312	368	240	130 – 355	335	1099	1896
8005.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	997	992	912	875	355	375	935	400	505	375	412	468	340	130 – 455	435	899	1896
8205.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	1197	1192	1112	1075	455	475	1135	500	505	375	412	468	340	130 – 455	435	1099	1896
8006.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	997	992	912	875	355	375	935	400	605	475	512	568	440	130 – 555	535	899	1896
8206.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	1197	1192	1112	1075	455	475	1135	500	605	475	512	568	440	130 – 555	535	1099	1896
8208.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	1197	1192	1112	1075	455	475	1135	500	805	675	712	768	640	130 – 755	735	1099	1896
8226.600	2205	2197	2112	2177.5	2075	2050	2030	2000	1111	1197	1192	1112	1075	455	475	1135	500	605	475	512	568	440	130 – 555	535	1099	2096

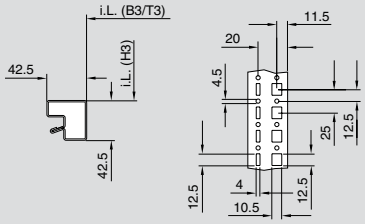


Profile cross section

Vertical



Horizontal



Note:
The total width (B1) will increase by .35″/9 mm when sidewalls are installed. .12″/3 mm need to be considered for gasketing when baying enclosures together.

Enclosure
H1 = Total height
H2 = Height of the rear wall
H3 = Clearance between vertical frame members
H4 = Height of door
H5 = Span of system holes
H6 = Center-to-center distance of system holes in door stiffeners
H7 = Clearance between door stiffeners
H8 = Distance between door stiffener screws
H9 = Distance from floor to lock center

B1 = Total width
B2 = Width of door
B3 = Clearance between vertical frame members
B4 = Span of system holes/distance between cable base mounting holes
B5 = Clearance between door stiffeners
B6 = Center-to-center distance of system holes in door stiffeners
B7 = Distance between eyebolts
B8 = Base frame opening

T1 = Total depth
T2 = Span of system holes/distance between cable base mounting holes
T3 = Clearance between vertical frame members
T4 = Depth of base frame
T5 = Base frame opening
T6 = Possible installation depth (mounting panel installation) adjustable along the 1″/25 mm depth system hole pattern
T7 = Eyebolts, center-to-center

Mounting panel
F = Total width
G = Total height

Single door enclosures. Details see page 130.

Enclosures	Height dimensions in mm									Width dimensions in mm								Depth dimensions in mm							Mounting panel	
Part No.	H1	H2	H3	H4	H5	H6	H7	H8	H9	B1	B2	B3	B4	B5	B6	B7	B8	T1	T2	T3	T4	T5	T6	T7	F	G
8645.600	1405	1397	1312	1377.5	1275	1250	1230	1200	711	597	592	512	475	455	475	535	440	505	375	412	468	340	130 – 455	435	499	1296
8845.600	1405	1397	1312	1377.5	1275	1250	1230	1200	711	797	792	712	675	655	675	735	640	505	375	412	468	340	130 – 455	435	499	1296
8684.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	597	592	512	475	455	475	535	440	405	275	312	368	240	130 – 355	335	499	1696
8884.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	797	792	712	675	655	675	735	640	405	275	312	368	240	130 – 355	335	699	1696
8084.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	997	992	912	875	855	875	935	840	405	275	312	368	240	130 – 355	335	899	1696
8485.610	1805	1797	1712	1777.5	1675	1650	1630	1600	911	397	392	312	275	255	275	335	240	505	375	412	468	340	130 – 455	435	–	–
8685.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	597	592	512	475	455	475	535	440	505	375	412	468	340	130 – 455	435	499	1696
8885.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	797	792	712	675	655	675	735	640	505	375	412	468	340	130 – 455	435	699	1696
8486.610	1805	1797	1712	1777.5	1675	1650	1630	1600	911	397	392	312	275	255	275	335	240	605	475	512	568	440	130 – 555	535	–	–
8686.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	597	592	512	475	455	475	535	440	605	475	512	568	440	130 – 555	535	499	1696
8886.600	1805	1797	1712	1777.5	1675	1650	1630	1600	911	797	792	712	675	655	675	735	640	605	475	512	568	440	130 – 555	535	699	1696
8604.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	597	592	512	475	455	475	535	440	405	275	312	368	240	130 – 355	335	499	1896
8804.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	797	792	712	675	655	675	735	640	405	275	312	368	240	130 – 355	335	699	1896
8405.610	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	397	392	312	275	255	275	335	240	505	375	412	468	340	130 – 455	435	–	–
8605.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	597	592	512	475	455	475	535	440	505	375	412	468	340	130 – 455	435	499	1896
8805.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	797	792	712	675	655	675	735	640	505	375	412	468	340	130 – 455	435	699	1896
8406.610	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	397	392	312	275	255	275	335	240	605	475	512	568	440	130 – 555	535	–	–
8606.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	597	592	512	475	455	475	535	440	605	475	512	568	440	130 – 555	535	499	1896
8806.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	797	792	712	675	655	675	735	640	605	475	512	568	440	130 – 555	535	699	1896
8608.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	597	592	512	475	455	475	535	440	805	675	712	768	640	130 – 755	735	499	1896
8808.600	2005	1997	1912	1977.5	1875	1850	1830	1800	1011	797	792	712	675	655	675	735	640	805	675	712	768	640	130 – 755	735	699	1896
8426.600	2205	2197	2112	2177.5	2075	2050	2030	2000	1111	397	392	312	275	255	275	335	240	605	475	512	568	440	130 – 555	535	299	2096
8626.600	2205	2197	2112	2177.5	2075	2050	2030	2000	1111	597	592	512	475	455	475	535	440	605	475	512	568	440	130 – 555	535	499	2096
8826.600	2205	2197	2112	2177.5	2075	2050	2030	2000	1111	797	792	712	675	655	675	735	640	605	475	512	568	440	130 – 555	535	699	2096

Rittal PS+*Plus* multi-bay enclosures

were designed specifically to meet the enclosure requirements of the automotive and drive system industries with their need for modularity, heavy load-capacity, multi-bay configurations, horizontal mounting panel installation, and greater flexibility.

Advantages

- Pre-configured systems for 1 to 6 bays
- Integrated wire-tub for storage or expansion
- High-strength, modular transportation plinth
- Horizontal mounting panel installation
- New, refined FMD (flange mount disconnect) hardware
- Fully hinged FMD flange panel with universal cutout (FMD version)
- Removable front door mullion (2-door models)
- NEMA 12/13 protection
- Integrated flange trough collar (FTC)
- Heavy-gauge, removable side/rear walls, doors, roof, and mounting panel
- Ergoform-S handle
- 130° door hinges
- Extensive accessory range

Cabinets designed to be suited for multi-bay configuration – see modular plinth selection chart.

Optional accessories

- Door stop (PS 4583.000)
- Door switch (PS 4127.000)
- Floor-mounting bracket (PS 9902.117)
- All standard PS system accessories
- Rittal climate control products – fans, air conditioners, heat exchangers, panel heaters, and more.

Ratings:
NEMA 12
UL file # E 76083
CSA file # LR 59132
IP 55 per EN 60529/10.9

Configuration:
- Modular PS+*Plus* cabinet with 9-fold, roll-formed frame
- White mounting panel
- Three-point locking system
- Ergoform-S handle with screwdriver lock insert
- Wire tub for cable storage
- 4″ modular plinth blocks with end covers
- Print pocket
- Hinged flange door with universal cut-out and interlocking hardware (FMD models only)

Material:
Sheet steel
Frame: 9-fold roll-formed
Doors, rear/sidewalls, roof, wire tub panels:
14 ga/2.0 mm
Mounting panel:
11 ga/3.0 mm

Finish:
Frame: E-coat primer, RAL 7044 silk grey
Interior/exterior surfaces: Flat RAL 7044 silk grey.

Modular plinth is specially designed to allow seamless baying of multiple cabinets. Can be secured to floor with optional mounting brackets.

Modular plinths for PS+*Plus* multi-bay enclosures

Plinth Part No.	Width dimensions								Depth dimensions			
	W1*	W2*	W3*	W4	W5*	W6*	W7*	W8	D1	D2	D3	D4
9902.201	1000	935	884.2	–	–	–	–	–	400.1	325	285.8	387.4
9902.204	1800	1735	1684.2	–	–	–	–	–	400.1	325	285.8	387.4
9902.207	2000	1935	1884.2	935	–	–	–	935	400.1	325	285.8	387.4
9902.210	2800	2735	2684.2	935	–	–	–	1735	400.1	325	285.8	387.4
9902.213	3000	2935	2884.2	935	935	–	–	935	400.1	325	285.8	387.4
9902.216	3600	3535	3484.2	1735	–	–	–	1735	400.1	325	285.8	387.4
9902.219	3800	3735	3684.2	1735	935	–	–	935	400.1	325	285.8	387.4
9902.222	4000	3935	3884.2	935	935	935	–	935	400.1	325	285.8	387.4
9902.225	4600	4535	4484.2	1735	1735	–	–	935	400.1	325	285.8	387.4
9902.228	4800	4735	4684.2	1735	935	935	–	935	400.1	325	285.8	387.4
9902.231	5000	4935	4884.2	935	935	935	935	935	400.1	325	285.8	387.4
9902.234	5400	5335	5284.2	1735	1735	–	–	1735	400.1	325	285.8	387.4

* Overall width dimension ** Where applicable for suited configurations
Dimensions in millimeters (mm) unless otherwise indicated

PS+*Plus* multi-bay enclosures

Nominal outside dimensions H″ x W″ x D″	NEMA rating	Part No. PS	Number of doors	Exact outside dimensions						Weight		Mounting panel dimensions				Sidewall (required) Part No.
				inches			mm					inches		mm		
				H*	W	D	H*	W	D	lbs	kg	H	W	H	W	
PS+*Plus* multi-bay enclosures																
90 x 39 x 20	1, 12, 13	**9902.015**	1	90.55	39.37	19.69	2300	1000	500	660	300	74.65	35.39	1896	899	9902.027
90 x 71 x 20	1, 12, 13	**9902.017**	2	90.55	70.87	19.69	2300	1800	500	770	350	74.65	66.89	1896	1699	9902.027
PS+*Plus* multi-bay enclosures for flange mount disconnect																
90 x 39 x 20	1, 12, 13	**9902.135**	1	90.55	39.37	19.69	2300	1000	500	660	300	74.65	35.39	1896	899	9902.027
90 x 71 x 20	1, 12, 13	**9902.137**	2	90.55	70.87	19.69	2300	1800	500	770	350	74.65	66.89	1896	1699	9902.027

* Enclosure height includes a 4″/100 mm high modular base and an 8″/200 mm high wire storage area.

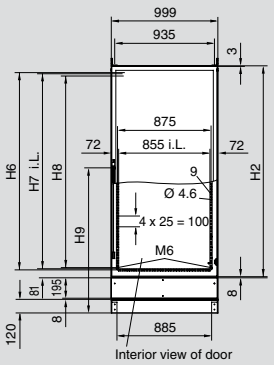
PS+*Plus* multi-bay enclosures Dimensions in millimeters (mm) unless otherwise indicated

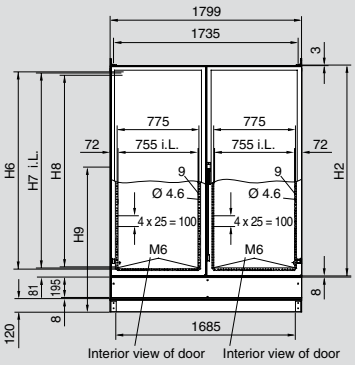
Enclosure Part No.	Doors	Height dimensions									Depth dimensions						Mounting panel dimensions										
		H1	H2	H3	H4	H5	H6	H7	H8	H9	D1	D2	D3	D4	D5	D6	H10	H11	H12	H13	H14	H15	A1 °	W7	W8	W9	W10
9902.015	1	2300	1975	1912	2175	1875	1850	1830	1800	1325	502	375	402	406	482	424	1896	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9902.017	2	2300	1975	1912	2175	1875	1850	1830	1800	1325	502	375	402	406	482	424	1896	1902	1440	948	560	98	98	1634	1232	468	65.5

PS+*Plus* multi-bay enclosures for flange mount disconnect Dimensions in millimeters (mm) unless otherwise indicated

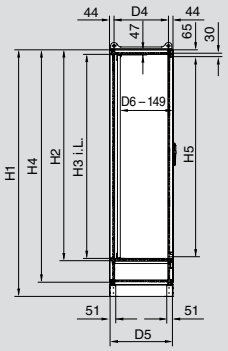
Enclosure Part No.	Doors	Height dimensions									Depth dimensions						Mounting panel dimensions										
		H1	H2	H3	H4	H5	H6	H7	H8	H9	D1	D2	D3	D4	D5	D6	H10	H11	H12	H13	H14	H15	A1 °	W7	W8	W9	W10
9902.135	1	2300	1975	1912	2175	1875	1850	1830	1800	1325	502	375	402	406	482	424	1896	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9902.137	2	2300	1975	1912	2175	1875	1850	1830	1800	1325	502	375	402	406	482	424	1896	1902	1440	948	560	98	98	1634	1232	468	65.5

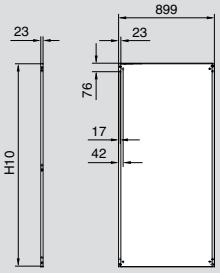
PS+*Plus* multi-bay enclosures

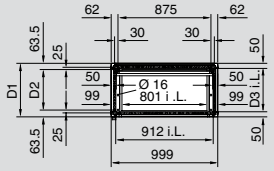


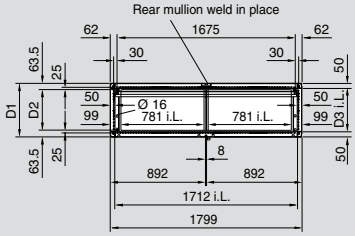


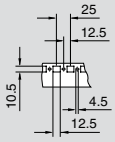
Mounting panels

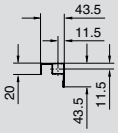


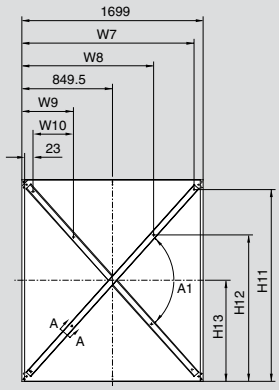






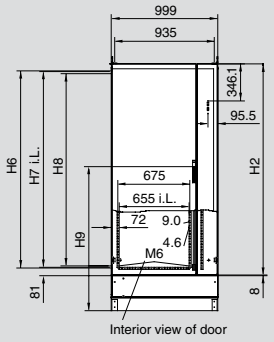


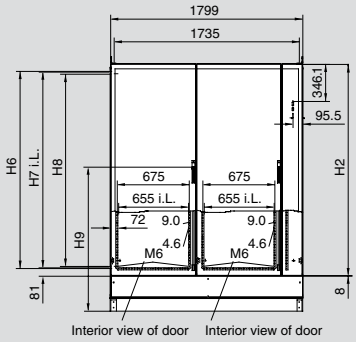




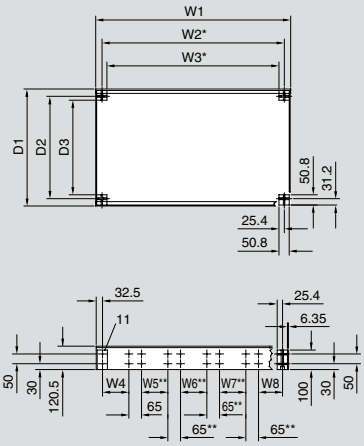
i.L. = available space

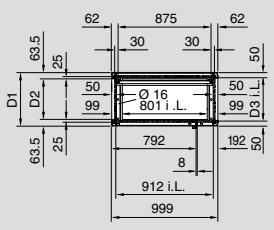
PS+*Plus* multi-bay enclosures for FMD

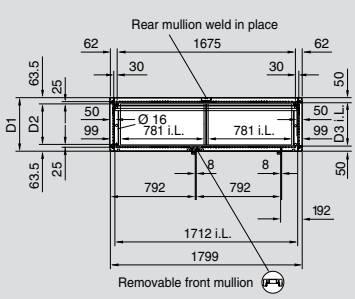




Modular plinths







Overview of system accessories for inside installation, see pages 876/877.

All enclosures with same height and depth are bayable.	Standard enclosures, single door		Standard enclosures, double door		With cable base chamber* (Cannot be bayed to other PS enclosures)	
Height x Depth (inches/mm)	**Width inches/mm**	**Part No.**	**Width inches/mm**	**Part No.**	**Width inches/mm**	**Part No.**
63 x 20/ 1600 x 400						
63 x 24/ 1600 x 600	24/ 600 32/ 800	**4666.600** **4866.600**	47/1200	**4266.600**		
63 x 32/ 1600 x 800	24/ 600 32/ 800	**4668.600** **4868.600**	47/1200	**4268.600**		
71 x 16 / 1800 x 400	24/ 600 32/ 800 39/1000	**4684.600** **4884.600** **4084.600**	39/1000 47/1200 63/1600 71/1800	**4080.600** **4284.600** **4020.600** **4026.600**		
71 x 20/ 1800 x 500	24/ 600 32/ 800 39/1000	**4685.600** **4885.600** **4085.600**	47/1200 63/1600 71/1800	**4285.600** **4022.600** **4088.600**		
71 x 24/ 1800 x 600	24/ 600 32/ 800 39/1000	**4686.600** **4886.600** **4086.600**	47/1200 63/1600 71/1800	**4286.600** **4024.600** **4030.600**		
71 x 32/ 1800 x 800	24/ 600 32/ 800 39/1000	**4688.600** **4888.600** **4027.600**	47/1200 63/1600 71/1800	**4288.600** **4025.600** **4032.600**		
71 x 39/ 1800 x 1000	24/ 600	**4436.000**				
79 x 16 /2000 x 400	24/ 600 32/ 800	**4604.600** **4804.600**	47/1200	**4204.600**		
79 x 20/2000 x 500	16/ 400 24/ 600 32/ 800	**4405.210** **4605.600** **4805.600**	39/1000 47/1200 63/1600 71/1800	**4005.600** **4205.600** **4044.600** **4002.600**	16/ 400 24/ 600 32/ 800 (2 door) 47/1200 (2 door)	**4415.210** **4615.600** **4815.600** **4215.600**
79 x 24/2000 x 600	16/ 400 24/ 600 32/ 800 24/ 600 EMC 32/ 800 EMC	**4406.210** **4606.600** **4806.600** **4606.700**	39/1000 47/1200 63/1600 71/1800	**4006.600** **4206.600** **4046.600** **4003.600**	16/ 400 24/ 600 32/ 800 (2 door) 47/1200 (2 door)	**4416.210** **4616.600** **4816.600** **4216.600**
79 x 32/2000 x 800	24/ 600 32/ 800 24/ 600 EMC 32/ 800 EMC 39/1000	**4608.600** **4808.600** **4608.700** **4808.700** **4040.600**	47/1200 63/1600 71/1800	**4208.600** **4048.600** **4056.600**		
79 x 39/2000 x 1000	24/ 600 32/ 800 39/1000	**4034.600** **4036.600** **4042.600**	47/1200	**4038.600**		
87 x 20/2200 x 500	24/ 600 32/ 800 39/1000	**4625.600** **4825.600** **4058.600**	47/1200	**4225.600**		
87 x 24/2200 x 600	24/ 600 32/ 800 39/1000	**4626.600** **4826.600** **4060.600**	47/1200	**4226.600**		
87 x 32/2200 x 800	24/ 600 32/ 800	**4628.600** **4828.600**	47/1200	**4228.600**		

*** Enclosure H = 71″/1800 mm**
Cable chamber 8″/200 mm.

PS 4000 FREESTANDING ENCLOSURES

Overview

Electronic enclosures		For modular front configurations		For flange mount disconnect		Climate controlled enclosures, single door		Climate controlled enclosures, double door	
Width inches/mm	**Part No.**	**Width inches/mm**	**Part No.**	**Width inches/mm**	**Part No.**	**Width inches/mm**	**Part No.**	**Width inches/mm**	**Part No.**
				32/ 800	**4965.600**				
24/600	**4410.210**			32/ 800	**4966.600**				
24/600	**4418.210****								
				32/ 800	**4984.600**				
				32/ 800 39/1000 71/1800	**4985.600** **4980.600** **4804.600**				
						24/600 (230 V) 24/600 (400 V, 2~) 32/800 (230 V) 32/800 (400 V, 2~)	**4687.100**[1)] **4687.140**[1)] **4887.150**[1)] **4887.140**[1)]	47/1200 (230 V) R 47/1200 (230 V) L 47/1200 (400 V, 3~) L	**4287.170**[1)] **4807.180**[1)] **4807.260**[1)]
				32/ 800 39/1000 71/1800	**4995.600** **4805.600** **4902.600**				
24/600	**4430.210**	16/400 24/600	**4740.200** **4700.200**	32/ 800 39/1000 71/1800	**4906.600** **4996.600** **4903.600**	24/600 (230 V) 24/600 (400 V, 2~) 32/800 (230 V) 32/800 (400 V, 2~)	**4607.100**[1)] **4607.140**[1)] **4807.100**[1)] **4807.140**[1)]	47/1200 (230 V) R 47/1200 (230 V) L 47/1200 (400 V, 3~) L	**4207.170**[1)] **4207.180**[1)] **4807.250**[1)]
24/600	**4438.210****			32/ 800	**4908.600**				

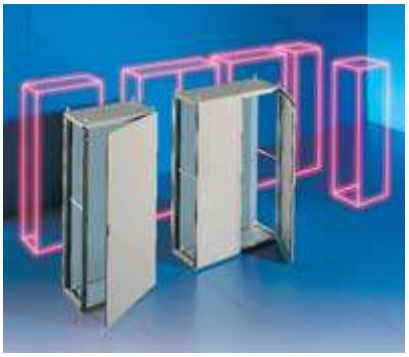
Technical description, see pages 136/137. Order primed enclosures with suffix .800. Lead times upon request.

**** Lead times upon request.**

[1)] Nominal depth 28″/700 mm, bayable to PS enclosures D = 24″/600 mm
R = Climate control door, right
L = Climate control door, left

The PS 4000 Perfect System enclosure has proven its versatility and flexibility. It has been used for applications in leading industry areas – from food/beverage and transportation to the machine tool and automotive industries.

■ PS 4000 standard enclosures



Material:
Sheet steel
Frame: 9 fold formed
Door: 14 ga/2.0 mm
Rear wall: 16 ga/1.5 mm
Mounting panel: 11 ga/3.0 mm

Finish:
Frame: E-coated RAL 7044
Exterior surfaces, door, rear wall and roof: E-coated RAL 7044, exterior powder painted RAL 7032, textured
Mounting panel, cable entry plates: galvanized

Ratings:
Applies to closed enclosures
NEMA 12/IP 55 to EN 60 529/10.91.

Configuration:
Frame with door(s),
removable rear wall and roof,
right hinged, reversible to left.
Main locking door to the right on double door enclosures.
4 eyebolts, installed,
Mounting panel,
Cable entry plates, 3-part,
Depth rail or system chassis is used for transportation support.

Width 16″/400 mm:
Door without stiffener frame, without mounting panel, without cable entry plates.

■ PS 4000 climate controlled enclosures, air conditioning doors and sidewalls

Configuration of climate controlled enclosures:
Frame with rear wall, roof and air conditioning door, painted.
Air conditioning unit installed and included, right hinged, reversible to left (single door enclosures),4 eyebolts, installed, mounting panel, cable entry panel, 3-part, depth rails for transportation support.

Configuration of air conditioning doors:
Air conditioning door chassis with pre-installed air conditioner, hinges and multi-lingual installation instructions are included.

Configuration of air conditioning sidewalls:
Air conditioning sidewall with pre-installed air conditioner, multi-lingual installation instructions are included.

Useful cooling capacity	**3756 BTU/1100 W**				**4781 BTU/1400 W**			
Dimensions (inches/mm) enclosures/door/sidewalls H	71/1800		79/2000		71/1800		79/2000	
enclosure/door W	24/ 600		24/ 600					
enclosures/sidewalls D	28/ 700		28/ 700		24/ 600		24/ 600	
Rated voltage	230 V	400 V, 2~	230 V	400 V, 2~	230 V	400 V, 2~	230 V	400 V, 2~
Part No. Climate controlled enclosure, single door	**4687.100**	**4687.140**	**4607.100**	**4607.140**				
Part No. Climate controlled enclosure, double door, air conditioning door on the right								
Part No. Climate controlled enclosure, double door, air conditioning door, left								
Part No. Air conditioning doors (only for single door enclosures)	**3306.180**	**3306.184**	**3306.100**	**3306.140**				
Part No. Air conditioning sidewalls	**3330.116**	**3330.140**	**3330.316**	**3330.340**	**3330.216**	**3330.240**	**3330.416**	**3330.440**

Note: A base/plinth (minimum height 4″/100 mm) is necessary for the exterior cycle to operate properly.

PS 4000 FREESTANDING ENCLOSURES

PS 4000 electronic enclosures

PS 4000 for modular front configurations

PS 4000 with cable base chamber

PS 4000 EMC version

Configuration, material and finish are the same as PS 4000 standard enclosures, unless noted below:

Aluminum bezel, dark brown anodized (depth +.4″/10 mm) with 19″/482.6 mm adaptor rails.
Rear door and no mounting panel.

MC 4700.200 without door.
MC 4740.200 without bezel.

Height includes 8″/200 mm cable base chamber, with detachable trim panels in the front and rear.
Door with 180° hinges.

Sheet steel with aluminum-zinc surface. Frame and inside surfaces unpainted with conductive EMC gasketing.

PS 4000 for flange mount disconnect

Flange trim panel on the right with cutout for disconnect.

PS 4000, single door, climate controlled enclosures

PS 4000, double door, climate controlled enclosures

PS 4000 offered with air conditioning doors

PS 4000 offered with air conditioning sidewalls

	5150 BTU/1500 W				6800 BTU/2000 W				8700 BTU/2500 W	
	71/1800 32/ 800 28/ 700		79/2000 32/ 800 28/ 700		71/1800 48/1200; 24/600 28/ 700		79/2000 48/1200; 24/600 28/ 700		71/1800 48/1200; 24/600 28/ 700	79/2000 48/1200; 24/600 28/ 700
	230 V	400 V, 2~	230 V	400 V, 2~	230 V	400 V, 2~	230 V	400 V, 2~	400 V, 3~	
	4887.150	**4887.140**	**4807.100**	**4807.140**						
					4287.170		**4207.170**			
					4807.180		**4207.180**		**4807.260**	**4807.250**
	3308.180	**3308.184**	**3308.100**	**3308.140**	**3309.180**	**3309.184**	**3309.200**	**3309.240**	**3310.180**	**3310.200**

Sidewalls

Painted RAL 7032 pebble grey or RAL 7035 light grey.

For enclosure		Part No. DK/PS	
Height inches/mm	Depth inches/mm	RAL 7032 pebble grey	RAL 7035 light grey
32/ 800	24/ 600	**7613.200**	**7613.235**
39/1000	24/ 600	**7615.200**	**7615.235**
48/1200	24/ 600	**7617.200**	**7617.235**
55/1400	24/ 600	**7620.200**	**7620.235**
55/1400	32/ 800	**7619.200**	**7619.235**
63/1600	24/ 600	**4166.200**	**4166.235**
63/1600	32/ 800	**4168.200**	**4168.235**
71/1800	16/ 400	**4184.200**	**–**
71/1800	20/ 500	**4185.200**	**–**
71/1800	24/ 600	**4186.200**	**4186.235**
71/1800	32/ 800	**4188.200**	**4188.235**
71/1800	39/1000	**4129.200**	**–**
79/2000	16/ 400	**4104.200**	**4104.235**
79/2000	20/ 500	**4105.200**	**–**
79/2000	24/ 600	**4106.200**	**4106.235**
79/2000	32/ 800	**4108.200**	**4108.235**
79/2000	39/1000	**4100.200**	**–**
87/2200	20/ 500	**4125.200**	**–**
87/2200	24/ 600	**4126.200**	**4126.235**
87/2200	32/ 800	**4128.200**	**7621.235**

Order primed version with the suffix .300. Lead times upon request.

Side panels for cable base chamber

Painted RAL 7032 pebble grey, textured.

For enclosures Depth inches/mm	PU	Part No. PS
20/500	2	**4539.200**
24/600	2	**4536.200**

Order primed version with the suffix .300. Lead times upon request.

Mounting panel joining piece

Galvanized.

Height inches/mm	Part No. PS
55/1400	**9968.448**
63/1600	**4589.700**
71/1800	**4590.700**
79/2000	**4591.700**
87/2200	**4592.700**

Divider walls

Galvanized.

For enclosures		Solid	For plug-in connectors, 24-pole	
Height inches/mm	Depth inches/mm	Part No. PS	Number of knockouts	Part No. PS
71/1800	16/400	**4384.700**	–	**–**
71/1800	20/500	**4385.700**	36	**4585.700**
71/1800	24/600	**4386.700**	45	**4556.700**
79/2000	16/400	**4304.700**	–	**–**
79/2000	20/500	**4305.700**	40	**4557.700**
79/2000	24/600	**4306.700**	50	**4558.700**
79/2000	32/800	**4308.700**	–	**–**
87/2200	24/600	**4326.700**	–	**–**

1

2

3

4

Baying accessories

	PU	Part No. PS
Interconnecting kit (1)	6	**4580.000**
Interconnecting bracket (2)	4	**4582.000**
Flat baying bracket	4	**4582.500**
Quick connecting wedge (3)	6	**4581.000**
Universal connecting bracket (4)	6 pairs	**4584.000**

Connector cover

For enclosures		Part No. PS
Height inches/mm	Depth inches/mm	
79/2000	20/500	**4588.200**
79/2000	24/600	**4559.200**

Order primed version with the suffix .300. Lead times upon request.

Modular front configuration

	Height inches/mm	PU	Part No.		Page
Trim panels	4/100	4	**MC 4701.200**		
Console	8/200	1	**AP 2696.200**		169
Keyboard drawer	8/200	1	**MC 4757.000**		169
Mullion	–	5	**MC 4750.000**		
Partial doors			without viewing window	with viewing window	
	8/ 200	2	**MC 4702.200**	**–**	
	16/ 400	2	**MC 4704.200**	**MC 4714.200**	
	24/ 600	2	**MC 4706.200**	**MC 4715.200**	
	32/ 800	2	**MC 4708.200**	**MC 4716.200**	
	39/1000	2	**MC 4710.200**	**–**	

Order primed version with the suffix .300. Lead times upon request.

Roof module

Width inches/mm	Depth inches/mm	PU	Part No. MC
16/ 400	24/600	1	**4764.200**
24/ 600	24/600	1	**4766.200**
32/ 800	24/600	1	**4767.200**
48/1200	24/600	1	**4768.200**
Side panels for roof module		2	**4765.200**

Order primed version with the suffix .300. Lead times upon request.

Adaptors for wiring systems

	For enclosures inches/mm	PU	Part No. PS
Lütze LSC	16/400	6	**4572.000**
	20/500	6	**4573.000**
	24/600	6	**4574.000**
	32/800	6	**4575.000**
Moeller MR 25	16/400	1 set	**4343.000**
	20/500	1 set	**4344.000**
	24/600	1 set	**4345.000**

One PC housing system:

Pictured:
Drawer version

Solid enclosure, with two rows of 1″/25 mm system holes in the front and back for universal inside installation directly into the enclosure or via chassis and mounting rails (PS series, see pages 976/977).
Floor panel with knockout and reinforcement panel for pendant arm system CP-XL (see pages 256 – 263).

Other versions, see pages 142/143.

Viewing door on the top with single pane, convex safety glass; lock mechanism behind the drawer.
Rear door with double-bit lock insert, exchangeable for other inserts and Ergoform-S handle.
Lockable drawer, lock No. 3524 E. Handle strip can be folded down for wrist support during data entry.

Three basic types of PC enclosure systems

Based on ES
Pictured:
Fold-down shelf version

Unibody enclosure construction, horizontal and vertical 1″/25 mm system hole pattern for installation and accessories (PS series, see pages 976/977).
Floor with divided cable entry plates.
Viewing door on the top, equipped with bowed single pane safety glass with latch behind fold down shelf. Lockable fold-down shelf, lock No. 3524 E.

Other versions, see pages 144/145.

Enclosure case has installation holes for 19″ installations 4U size (e.g. industrial PC, see page 333) and screwed-on cover for installation of keys, signal lights, key holders and separate drives.
Bottom door with Ergoform-S handle and double-bit insert.

Based on ES
Pictured:
Large installation area version with console

Installation area with flat sheet metal plate. Especially designed for the installation of operator panels, automation control panels, operating and display components. The design alternative to the simple control enclosure. For partial PS series mounting panels (see page 969).
Bottom door with Ergoform-S handle and double-bit insert.

Other versions, see pages 146/147.

PC enclosure and housing systems based on ES and PS have the following approvals:

- UL
- CSA
- TÜV
- Germanischer Lloyd
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- VDE

Based on PS
Pictured:
Small installation area version with drawer

Frame construction with removable side-walls and roof.
1″/25 mm system hole pattern all around perimeter for installation of accessories (PS series, see pages 976/977).
Small installation area, right hinged and screw fixed from the inside left. For the installation of instruments, signal lights and keys.
Bottom door with Ergoform-S handle and double-bit insert.

Other versions, see pages 150/151.

Stainless steel PC enclosure and housing systems, see pages 290/291.

Several versions to choose from

Based on TS 8 (see pages 148/149).

1 Viewing door with sheet steel frame, single pane safety glass and decorative trim panel on the sides.

2 Cam lock for effortless opening of the viewing door. May also be installed behind the door on the top or bottom.

3 Keyboard drawer folds down for wrist support during data entry.

4 Built-in mouse pad pull-out; may be opened to the right or left and is applicable for standard or the NEMA 6/IP 67 mouse and pad (see page 1004).

5 Supports key boards up to 2.75″/70 mm.

6 The pull-out book rest provides additional space for operating manuals, prints etc. on the keyboard shelf extension.

7 Hinged cable carrier attached to the keyboard, for safe, kink-free cable routing with clips included in installation hardware.

8 Keyboard and mouse cable with plug can be safely routed to the PC with the removable cable duct (SZ 2400.500, see page 1004). May also be built into the side of the enclosure to accommodate a scanner cable.

9 Mouse storage tray behind the keyboard.

10 Keyboard drawer and viewing door in front of the monitor can be locked. 2 keys (Lock No. 3524 E) SZ 2532.000 (see page 946) included.

11 Component shelf for monitor is ready for the installation of axial fans to prevent heat pockets. Drilled holes for power strips DK 7240.2XX or DK 7240.510 (see page 1007) are provided. The shelves may be adjusted along the 1″/25 mm system hole pattern.

12 Double-bit lock in the front and back may be exchanged for other lock inserts (see page 937) and comfort handle (see pages 936 – 938). Handle adaptor TS 8611.300 (see page 153) is required for the lower front door.

13 Horizontal and vertical profiles have the 1″/25 mm hole pattern and are designed for universal inside installation directly into the enclosure or via system chassis or rails (see pages 970 and following).

14 Rear door with lockrods and screwed-on door stiffeners. 1″/25 mm hole pattern is provided for print pockets, console shelves, etc.

15 Two mounting levels on the vertical profile for more room and inside installation of component shelves (see page 153). Printer carriage (see page 995), partial mounting panel (see page 968).

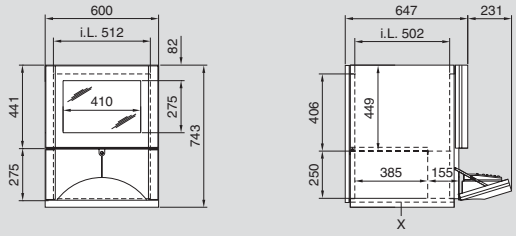
16 Sidewalls and roof are removable, they are secured and screw fixed from the inside.

17 Cable entry plates, 3-part. In the 24″/600 mm deep enclosure they may be rotated by 90° for side cable entry.

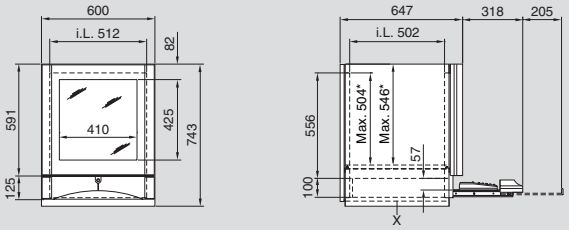
18 Lower front door may be furnished lockable from the inside like the viewing door, with a cam lock.

19 Corrosion protection is optimized through E-coating and powder paint.

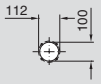
With fold-down shelf



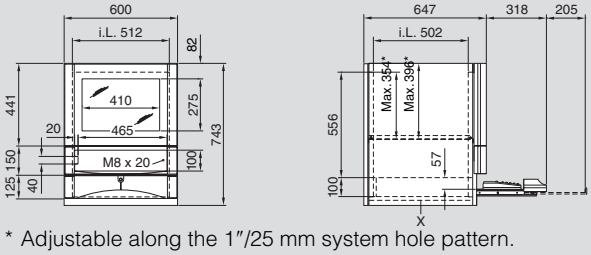
With drawer



X = Pendant arm cutout CP-XL
(Detail drawing see page 260)

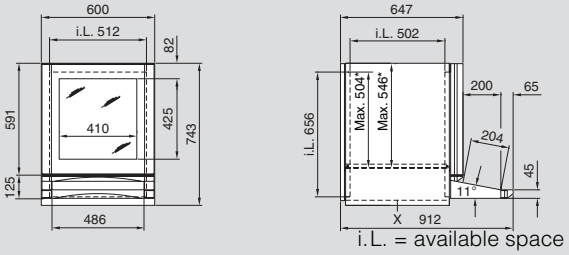


With control panel/drawer



* Adjustable along the 1″/25 mm system hole pattern.

With console



i.L. = available space

Configuration	Version	Material	Color	PC 4617.920	PC 4617.703	PC 4617.913	PC 4617.704
Enclosure body	solid, floor panel with knockout and reinforcement panel for pendant arm system CP-XL with 4 weld nuts for leveling feet PS 4612.000, see page 891	sheet steel 16 ga/1.5 mm	RAL 7035 light grey, textured	●	●	●	●
	cover for knockout	plastic	RAL 7030 stone grey				
Rear door	with lock rod mechanism and double-bit insert, right hinged	sheet steel 14 ga/2.0 mm	RAL 7035 textured	●	●	●	●
Viewing door top	convex glass, vertical rails, lockable from the inside*, right hinged						
	trim panel, top and bottom	plastic per UL 94-V0	RAL 7035	●	●	●	●
	decorative side trim panels	aluminum extrusion	RAL 5018 teal				
	glass with screen printed mask	ESG 4.0 mm safety glass	RAL 7015 slate grey				
Component shelf for monitor	vented, rigid installation	sheet steel 16 ga/1.5 mm	RAL 7035	●	●	●	●
Fold-down shelf for keyboard	enclosure body with cutout in rear wall, height 4U x width 19″, with screwed on cover	sheet steel 16 ga/1.5 mm	RAL 7035				
	trim panel is bottom hinged, comes with 2 crossbar braces, lockable, lock No. 3524 E	plastic per UL 94-V0	RAL 7035	●			
	side trim panels	aluminum extrusion	RAL 5018				
	keyboard shelf with 2 Velcro strips for the keyboard	sheet steel 16 ga/1.5 mm	RAL 7035				
	* with locking mechanism for top viewing door						
Drawer for keyboard	enclosure body/housing	sheet steel 16 ga/1.5 mm	RAL 7035				
	keyboard pull-out with 1 set of telescopic rails	sheet steel 16 ga/1.5 mm	RAL 7035				
	trim panel with handle strip, folded in as wrist support; lockable, lock No. 3524 E	plastic per UL 94-V0	RAL 7035		●	●	
	side trim panels	aluminum extrusion	RAL 5018				
	2 spacers for flat keyboards	closed cell rubber					
	* with locking mechanism for top viewing door						
Control panel front	right hinged, screw fixed from the inside left, bevelled installation panel	sheet steel, 16 ga/1.5 mm	RAL 7035				
	trim panel, bottom	plastic per UL 94-V0	RAL 7035			●	
	side trim panel	aluminum extrusion	RAL 5018				
Console	body with removable lid, top and bottom	sheet steel 16 ga/1.5 mm and 14 ga/2.0 mm	RAL 7035				
	top trim panel and handle	plastic per UL 94-V0	RAL 7035				●
	side trim panels	aluminum extrusion	RAL 5018				
	* locking mechanism for top viewing door from rear door						

Locking systems:

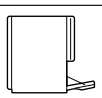
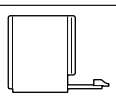
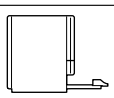
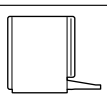
Standard double-bit inserts may be exchanged for any 1.06″/27 mm Version A insert, see page 942 and Ergoform-S locking system, see page 939.

Accessories:

see pages 152/153.

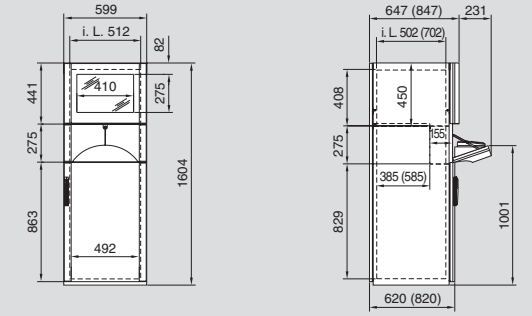
Additional accessories: see pages 876/877 or keyword index.

Maximum keyboard dimensions (inches/mm)				
	Height		Width	Depth
	without mouse pad	with mouse pad		
Fold-down shelf	2.72/69	2.44/62	19/480	9.06/230
Drawer	2.17/55	1.57/40	19/480	10/250

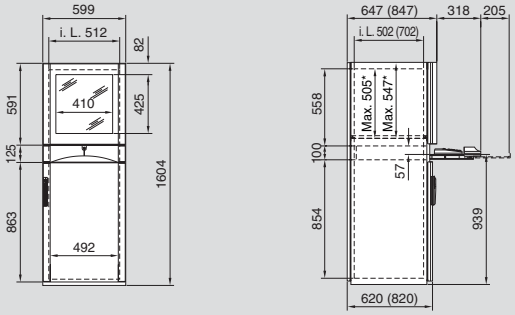
				
Version	**Fold-down shelf**	**Drawer**	**Control panel with drawer**	**Console**
Depth inches/mm	26/650	26/650	26/650	26/650 and 36/910
Part No. PC	**4617.920**	**4617.703**	**4617.913**	**4617.704**
Weight lbs/kg	125.7/57.0	137.8/62.5	135.6/61.5	129.0/58.5
Mouse pad, see page 1005	4613.000	4614.000	4614.000	2380.000

NEMA 6/IP 67 Mouse and pad.
Details on page 1004.

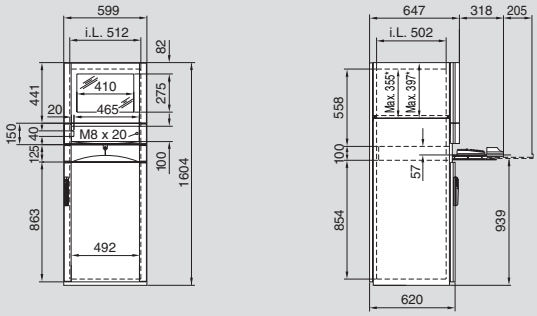
With fold-down shelf



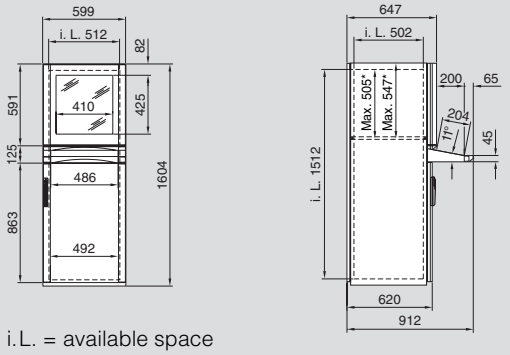
With drawer



With control panel/drawer



With console



*Adjustable along the 1″/25 mm system hole pattern

i.L. = available space

Configuration	Version	Material	Color	PC 4603.920 PC 4609.920	PC 4603.703 PC 4609.703	PC 4603.913	PC 4603.704
Enclosure body	solid, open towards the bottom	sheet steel 16 ga/1.5 mm	RAL 7035 light grey textured	●	●	●	●
	cable entry plates, 3-part	sheet steel 16 ga/1.5 mm	galvanized				
Rear door	with lock rods and double-bit insert, right hinged	sheet steel 14 ga/2.0 mm	RAL 7035 textured	●	●	●	●
Viewing door top	convex glass, vertical rails, lockable from the inside*, right hinged	aluminium extrusion	RAL 5018 teal	●	●	●	●
	trim panel, top and bottom	plastic per UL 94-V0	RAL 7035				
	decorative side trim panels	ESG 4.0 mm safety glass	RAL 7015 slate grey				
Component shelf for monitor	vented, rigid installation	sheet steel 16 ga/1.5 mm	RAL 7035	●	●	●	●
Fold-down shelf for keyboard	enclosure body with cutout in rear wall, height 4U x width 19″, with screwed on cover	sheet steel 16 ga/1.5 mm	RAL 7035	●			
	trim panel is bottom hinged, comes with 2 crossbar braces, lockable, lock No. 3524 E	plastic per UL 94-V0	RAL 7035				
	side trim panels	aluminium extrusion	RAL 5018				
	keyboard shelf with 2 Velcro strips for the keyboard	sheet steel	RAL 7035				
	* with locking mechanism for top viewing door						
Drawer for keyboard	enclosure body/housing	sheet steel 16 ga/1.5 mm	RAL 7035		●	●	
	keyboard pull-out with 1 set of telescopic rails	sheet steel 16 ga/1.5 mm	RAL 7035				
	trim panel with handle strip, folded in as wrist support; lockable, lock No. 3524 E	plastic per UL 94-V0	RAL 7035				
	side trim panels	aluminium extrusion	RAL 5018				
	2 spacers for flat keyboards	closed cell rubber					
	* with locking mechanism for top viewing door						
Control panel front	right hinged, screw fixed from the inside left, bevelled installation panel	sheet steel 16 ga/1.5 mm	RAL 7035			●	
	trim panel, bottom	plastic, per UL 94-V0	RAL 7035				
	vertical rails	aluminum extrusion	RAL 5018				
Console	body with removable lid, top and bottom	sheet steel 16 ga/1.5 mm and 14 ga/2.0 mm	RAL 7035				●
	top trim panel and handle	plastic, per UL 94-V0	RAL 7035				
	side trim panels	aluminum extrusion	RAL 5018				
Door, bottom	vertical rails with rod locking mechanism, Ergoform-S handle and double-bit insert, right hinged	aluminum extrusion	RAL 5018	●	●	●	●
	bevelled door or installation panel	sheet steel 16 ga/1.5 mm	RAL 7035				
	* with locking mechanism for top viewing door and console						

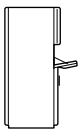
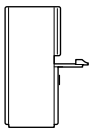
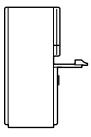
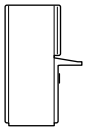
Base/plinth Height inches/mm	Part No. for depth 24.41/620	32.29/820	Page
4/100	2813.200	2846.200	884
8/200	2814.200	2847.200	884
7.25/185 mobile base	4640.600	4640.800	152

Maximum keyboard dimensions (inches/mm)				
	Height without mouse pad	Height with mouse pad	Width	Depth
Fold-down shelf	2.72/69	2.44/62	19/480	9.06/230
Drawer	2.17/55	1.57/40	19/480	10/250

Locking systems:
Standard double-bit insert may be exchanged for any 1.06"/27 mm version A insert, see page 942 and Ergoform-S locking system, see page 939.

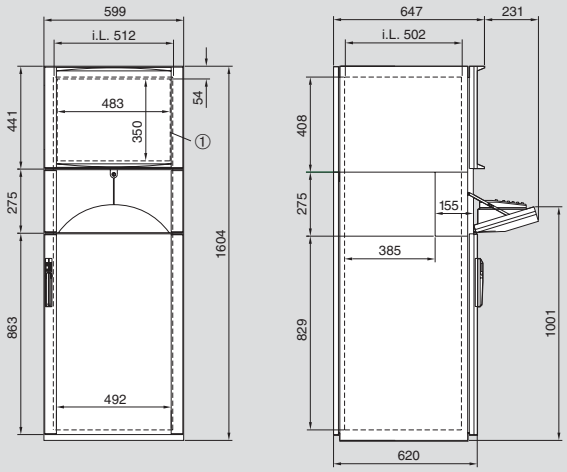
Accessories:
see pages 152/153.

Additional accessories see pages 876/877 or keyword index.

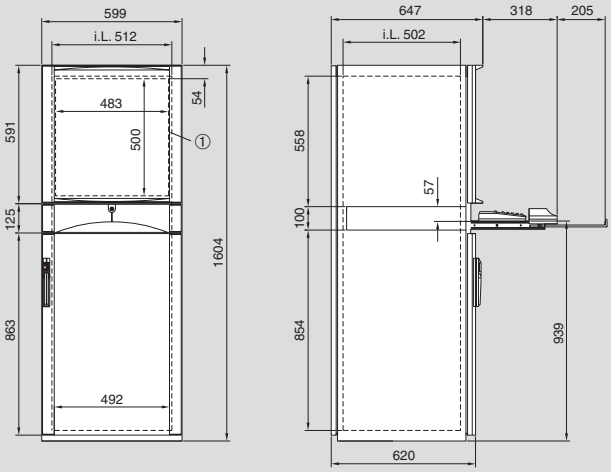
						
Version	**Fold-down shelf**		**Drawer**		**Console with drawer**	**Console**
Depth inches/mm	26/650	33.5/850	26/650	33.5/850	26/650	26/36 / 650/910
Part No. PC	**4603.920**	**4609.920**	**4603.703**	**4609.703**	**4603.913**	**4603.704**
Weight lbs/kg	221.6/100.5	251.5/114.1	234.1/106.2	266.5/120.9	235.5/106.8	225.1/102.1
Mouse pad, see page 1005	4613.000	4613.000	4614.000	4614.000	4614.000	2380.000

Connector grommet
for easy management of cables with attached plugs.
Part No. see page 1004.

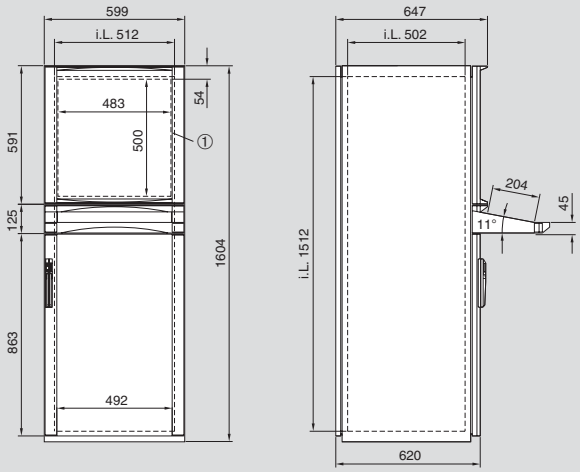
With fold-down shelf

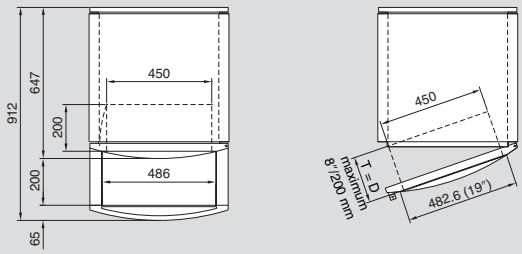


With drawer



With console





i.L. = available space

① = exterior installation surface

Configuration	Version	Material	Color	PC 4603.820	PC 4603.603	PC 4603.604
Enclosure body	solid, open on the bottom	sheet steel 16 ga/1.5 mm	RAL 7035 light grey, textured	●	●	●
	cable entry plates, 3-part	sheet steel 16 ga/1.5 mm	galvanized			
Rear door	with lock rods and double-bit insert, right hinged	sheet steel 14 ga/2.0 mm	RAL 7035 textured	●	●	●
Large installation area on top	vertical rails, locked from the inside*, right hinged	aluminum extrusion	RAL 5018 teal	●	●	●
	bevelled installation panel	sheet steel 16 ga/1.5 mm	RAL 7035			
	trim panel on top and bottom	plastic, per UL 94-V0	RAL 7035			
Fold-down shelf for keyboard	enclosure body with cutout in rear wall, height 4U x width 19″, with screwed on cover	sheet steel 16 ga/1.5 mm	RAL 7035	●		
	trim panel is bottom hinged, comes with 2 crossbar braces, lockable, lock No. 3524 E	plastic per UL 94-V0	RAL 7035			
	side trim panels	aluminum extrusion	RAL 5018			
	keyboard shelf with drilled holes, comes with 2 Velcro strips for the keyboard	sheet steel	RAL 7035			
	* with locking mechanism for installation area above					
Drawer for keyboard	enclosure body/housing	sheet steel 16 ga/1.5 mm	RAL 7035			
	pull-out keyboard with 1 set of telescopic rails	sheet steel 16 ga/1.5 mm	RAL 7035			
	trim panel with handle strip, folded in as wrist support; lockable, lock No. 3524 E	plastic per UL 94-V0	RAL 7035		●	
	side trim panels	aluminum extrusion	RAL 5018			
	2 spacers for flat keyboards	closed cell rubber				
	* with locking mechanism for top viewing door					
Console	body with removable lid, top and bottom	sheet steel 16 ga/1.5 mm and 14 ga/2.0 mm	RAL 7035			●
	top trim panel	plastic, per UL 94-V0	RAL 7035			
	side trim panels	aluminum extrusion	RAL 5018			
Bottom door	vertical rails with rod locking mechanism, Ergoform-S handle and double-bit insert, right hinged	aluminum extrusion	RAL 5018	●	●	●
	bevelled door or installation panel	sheet steel, 16 ga/1.5 mm	RAL 7035			
	* with locking mechanism for top viewing door and console					

Based on ES, with large installation area

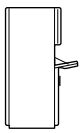
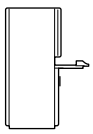
Base/plinth height inches/mm	Part No.	Page
4/100	2813.200	884
8/200	2814.200	884
7.25/185, mobile base	4640.600	152

Locking systems:
standard double-bit insert may be exchanged for any 1.06"/27 mm version A insert, see page 942 and Ergoform-S locking system, see page 939.

Accessories:
see pages 152/153.

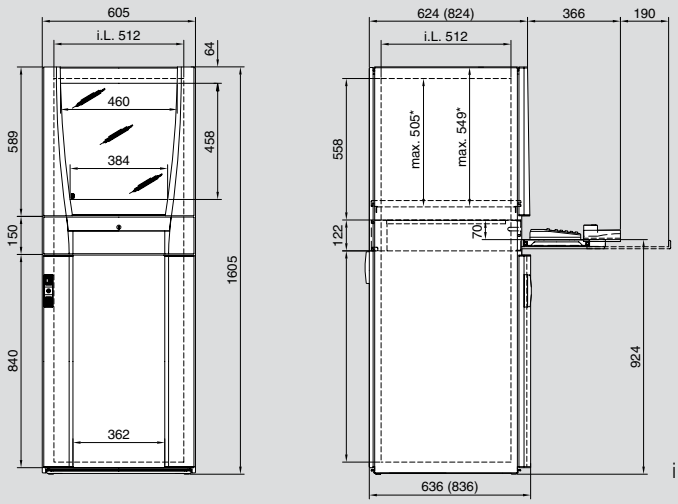
Additional accessories see pages 876/877 or keyword index.

Maximum keyboard dimensions (inches/mm)				
	Height		Width	Depth
	without mouse pad	with mouse pad		
Fold-down shelf	2.72/69	2.44/62	19/480	9.06/230
Drawer	2.17/55	1.57/40	19/480	10 /250

			
Version	**Fold-down shelf**	**Drawer**	**Console**
Depth inches/mm	26/650	26/650	26/650
Part No. PC	**4603.820**	**4603.603**	**4603.604**
Weight lbs/kg	220.5/100.0	233.7/106.0	232.4/105.4
Mouse pad, see page 1005	4613.000	4614.000	2380.000

Signal pillar
for system monitoring.
Details see pages 1000 – 1002.

With drawer



i.L. = available space

* Adjustable along the 1″/25 mm system hole pattern

Locking systems:
Standard lock with double-bit insert may be exchanged for lock inserts, see page 937 and comfort handle, see pages 936 – 938. For bottom door an adaptor PC 8611.300 is necessary, see page 153.

Configuration	Version	Material	Color	PC 8366.000 PC 8368.000
Enclosure body	frame construction with sidewalls and roof fastened from the inside	sheet steel 16 ga/1.5 mm	RAL 7035 light grey textured	●
	cable entry plates, 3-part	sheet steel 16 ga/1.5 mm	galvanized	
Rear door	with rod locking mechanism and double-bit insert, right hinged	sheet steel 14 ga/2.0 mm	RAL 7035 textured	●
Viewing door top	with mounting frame, locked from the inside*, right hinged	sheet steel 16 ga/1.5 mm	RAL 7015 slate grey	●
	vertical trim panels	plastic per UL 94-V0	RAL 7035	
	glass with screen print mask	ESG 4.0 mm safety glass	RAL 7015	
Component shelf for monitor	vented, rigid installation	sheet steel 16 ga/1.5 mm	RAL 7015	●
Drawer for keyboard	enclosure body/housing	sheet steel 16 ga/1.5 mm	RAL 7035	●
	keyboard pull-out with cable carrier, hinged as well as mouse pad pull-out and keyboard holder	sheet steel 16 ga/1.5 mm	RAL 7035	
	trim panel with handle strip, folded in as wrist support; lockable, lock No. 3524 E	plastic per UL 94-V0	RAL 7035/7015/ 9006 white aluminum	
	* with locking mechanism for viewing door on top			
Bottom door	vertical rails with rod type locks and double-bit insert, right hinged	aluminum extrusion	RAL 7035	●
	bevelled door or installation panel	sheet steel 16 ga/1.5 mm	RAL 7015	

PC ENCLOSURE SYSTEMS

Based on TS 8

Base/plinth (inches/mm)		Part No. depth 25/636	Part No. depth 33/836	Page
Stationary plinth*	height 4/100	8800.920	8800.930	152
Base/plinth side panels**	height 4/100	8601.060	8601.080	880
	height 8/200	8602.060	8602.080	

* double casters, leveling feet, see page 891.

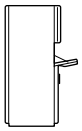
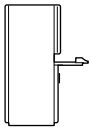
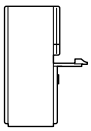
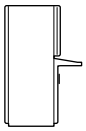
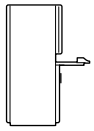
** Base/plinth components front and rear (inches/mm)	Part No.	Page
for height 4/100	8601.600	880
for height 8/200	8602.600	

Maximum keyboard dimensions (inches/mm)			
	height	width	depth
Drawer	2.75/70	19/480	10.23/260

Accessories:

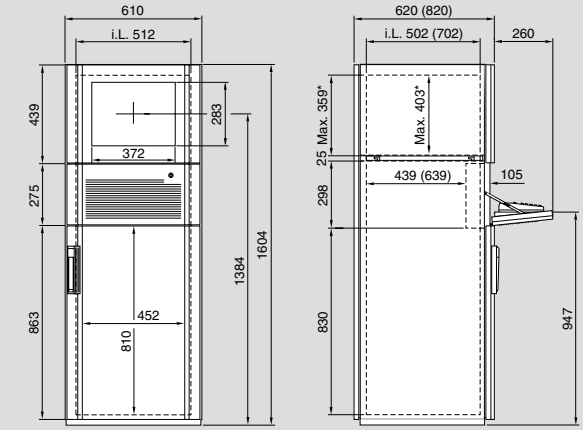
see pages 152/153.

Additional accessories
see pages 876/877
or keyword index.

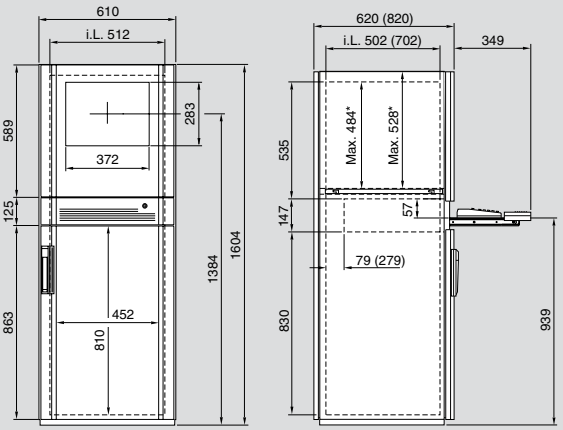
									
Version	**Fold-down shelf**		**Drawer**		**Control panel with drawer**		**Console**		**Installation area, large, drawer**
Depth inches/mm	25/636	33/836	25/636	33/836	25/636		25/636		25/636
Part No. PC	**8366.100***	**8368.100***	**8366.000**	**8368.000**	**8366.300***		**8366.200***		**8366.400***
Weight lbs/kg	–	–	253.5/115.0	–	–	–	–	–	–

* Versions in process. Lead times upon request.

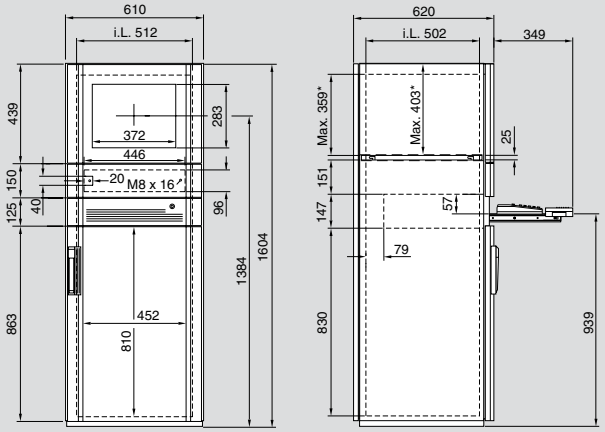
With fold-down shelf



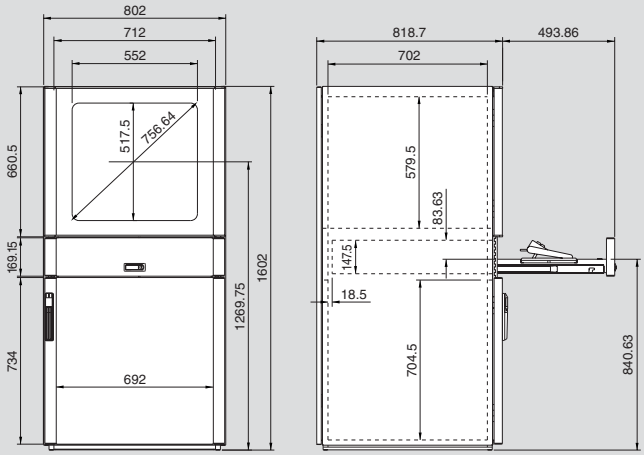
With drawer



With control panel/drawer



21″ PC 4820.210



* Adjustable along the 1″/25 mm system hole pattern

i.L. = available space

Con-figuration	Version	Material	Color	PC 4600.210 PC 4621.210	PC 4610.210 PC 4620.210	PC 4600.913	PC 4610.503	PC 4820.210
Enclosure body	frame construction with sidewalls and roof, fastened from the inside	sheet steel, 16 ga/1.5 mm	RAL7032 pebble grey, textured	●	●	●	●	Color RAL 7035 light grey
	cable plates, 3-part	sheet steel 16 ga/1.5 mm	galvanized					●
Rear door	with lock rods and double-bit inserts, right hinged	sheet steel 14 ga/2 mm	RAL 7032 textured	●	●	●	●	●
Viewing door, top	locked from the inside*, right hinged							●
	trim panel, top and bottom	plastic per UL 94-V0	RAL 7033 cement grey	●	●	●		RAL 7035
	vertical rails	aluminum extrusion	RAL 7033					RAL 7035
	glass with screen print mask	ESG 5.0 mm safety glass	RAL 7032					Poly-carbonate
Component shelf for monitor	vented, rigid installation	sheet steel 16 ga/1.5 mm	RAL 7032	●	●	●		●
19″ mounting frame, top	fastened from the inside, right hinged, holes for cage nuts (see page 1032)	sheet steel 16 ga/1.5 mm	RAL 7033				●	
Fold-down shelf for keyboard	enclosure/housing	sheet steel, 16 ga/1.5 mm	RAL 7032	●				
	trim panel, bottom hinged, with 2 crossbar braces, lockable, lock No. 3524 E	plastic, per UL 94-V0	RAL 7032/ RAL 7033					
	keyboard pull-out with 2 Velcro straps for the keyboard	sheet steel	RAL 7032					
	* with locking mechanism for viewing door on the top							
Drawer for keyboard	enclosure/housing	sheet steel, 16 ga/1.5 mm	RAL 7032					RAL 7035
	keyboard pull-out, with 1 set of telescopic rails	sheet steel 16 ga/1.5 mm	RAL 7032		●	●	●	RAL 7035
	trim panel with handle strip, folded in as wrist support; lockable, lock No. 3524 E	plastic per UL 94-V0	RAL 7032/ RAL 7033					RAL 7035/ RAL 7030**
	* with locking mechanism for top viewing door							●
Control panel	right hinged, screw fixed from the inside left, bevelled installation panel	sheet steel 16 ga/1.5 mm	RAL 7032			●		
	vertical rails	aluminum extrusion	RAL 7033					
Bottom door	vertical rails with lock rods, Ergoform-S handle and double-bit insert, right hinged	aluminum extrusion	RAL 7033	●	●	●	●	RAL 7030
	bevelled door or installation panel	sheet steel 16 ga/1.5 mm	RAL 7032					● RAL 7035
	* with locking mechanism for top viewing door and console			** With pull-out mouse pad holder.				

Base/plinth Height (inches/mm)	Part No. for * 24.41/620	32.29/820	Page
4/100	2813.200	2846.200	884
8/200	2814.200	2847.200	884
7.25/185 mobile base	2981.200	2982.200	889

Maximum keyboard dimensions ** (inches/mm)				
	Height		Width	Depth
	without mouse pad	with mouse pad		
Fold-down shelf	2.72/69	2.44/62	19/480	9.06/230
Drawer	2.17/55	1.57/40	19/480	10/250

Locking systems:

Standard double-bit insert may be exchanged for any 1.06″/27 mm Version A insert, see page 942 and Ergoform-S locking system, see page 939.

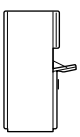
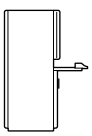
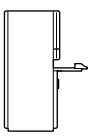
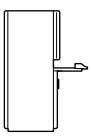
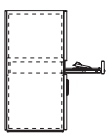
* For 4820.210
4″/100 mm – 2848.200
8″/200 mm – 2849.200

** 4820.210 maximum height of keyboard is 3.1″/80 mm.

Accessories:

see pages 152/153.

Additional accessories see pages 876/877 or keyword index.

							
Version	**Fold-down shelf**		**Drawer**		**Installation area, small, drawer**	**19″ installation frame, drawer**	**Drawer**
Depth inches/mm	26/620	32.28/820	26/620	32.28/820	26/620	26/620	32/800
Part No. PC	**4600.210**	**4621.210**	**4610.210**	**4620.210**	**4600.913**	**4610.503**	**4820.210**
Weight lbs/kg	242.0/ 109.7	295.4/ 134.0	262.4/ 119.0	305.3/ 138.5	268.3/ 121.7	273.4/ 124.0	375.0/ 170.0
Mouse pad, see page 1005	4613.000	4613.000	4614.000	4614.000	4614.000	4614.000	INCLUDED

Cable plinth 2″/50 mm high for 25″/620 mm depths. Painted RAL 7033, rear with knockout for cable entry.
Part No. PC 4601.200

Industrial keyboards

A comprehensive line of keyboards provide an off-the-shelf solution for harsh industrial environments. Keyboards have been designed to meet NEMA Type 4, 4X, and 12/IP65 and IP52 applications.

Configuration:
Keyboard, 9 ft. cable with PS/2 connector, and driver software. Panel mount keyboard includes additional installation hardware.

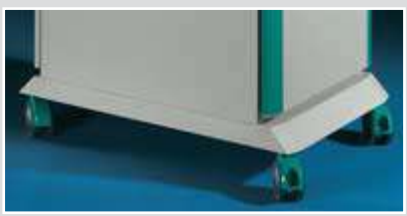
Part No. PC	Keyboard version	NEMA Type	Material	Pointing Device	H	W	D
					inches/mm		
9968500	Desktop	Type 4, 4X	Stainless steel	no	7.9/200.7	16.3/412.8	1.9/48.3
9968501	Desktop	Type 4, 4X	Stainless steel	yes	7.9/200.7	16.3/412.8	1.9/48.3
9968502	Desktop	Type 4, 4X	Polycarbonate	yes	6.5/165.1	15.0/381.0	1.5/38.1
9968503	Desktop	Type 12	Polycarbonate	no	8.0/203.2	15.5/393.7	1.5/38.1
9968504	Desktop/small footprint	Type 4, 4X	Polycarbonate	no	6.3/158.75	11.3/285.75	1.8/45.72
9968505	Panel mount	Type 4, 4X	Stainless steel	no	9.2/233.68	17.7/449.58	2.0/50.8
9968506	Panel mount	Type 4, 4X	Stainless steel	yes	9.2/233.68	17.7/449.58	2.0/50.8

Stationary base/plinth, based on TS

matches the enclosure design, height 4″/100 mm, extends in the front, provides many possibilities.

For enclosure depth inches/mm	Part No. PC
25/636	**8800.920**
33/836	**8800.930**

Configuration	Version	Material	Color
2 depth rails	with installation holes for ● double casters PC 4634.500, see page 891, ● levelling feet PS 4612.000, see page 891, ● installation bolts for cable collecting rails SO 2819.000, see page 887, ● combination bracket PS 4183.000, see page 979	sheet steel 14 ga/2.0 mm	RAL 7035 textured
	with 2 cover panels		RAL 7035
1 rear panel	to fasten to depth rail	sheet steel 14 ga/2.0 mm	RAL 7035 textured
1 front panel	to fasten to depth rail	aluminum extrusion	RAL 7015



Mobile base/plinth, based on ES

built-in C-rail in the rear for cable collecting. Removable floor panel for cable storage space.

Maximum load per caster:
264.6 lbs/120 kg static load.
Total height: 7.28″/185 mm

Color:
Powder painted RAL 7035
Casters: RAL 9005/RAL 5018

Configuration:
Two double casters, shipped unassembled
2 with, 2 without brakes.

For enclosure depths inches/mm	Part No. PC
26 /650	**4640.600**
33.5/850	**4640.800**

Accessories:

Cable clamps,
see page 981.

Double casters

see page 891.

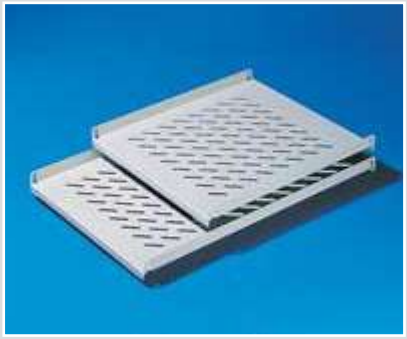
Handle adaptor for bottom door, based on TS

to compensate for the bevel in door vertical.

Material:
Plastic

Color:
Similar to RAL 7035 light grey

Part No. PC	8611.300



Component shelf, rigid installation

depending on enclosure depth, for mounting directly into the system holes of the vertical rails.
Simply hang into 4 pre-mounted screws.

Material:
Sheet steel 16 ga/1.5 mm

Load capacity:
110.23 lbs/50 kg

Based on ES, color RAL 7035

For depths* inches/mm	Part No. PC
26 /650	**4619.660**
33.5/850	**4619.680**

Based on TS, color RAL 7015

For depths* inches/mm	Part No. PC
25.5/636	**8800.900**
33 /836	**8800.910**

* Also fits 24″/600 mm or 32″/800 mm deep ES or TS enclosures without mounting panels.

Component shelf based on TS, no picture available, see page 141.

Component shelf, narrow, based on ES

mounts behind keyboard shelf without additional rails in an enclosure depth of 26″/650 mm. Available monitor space from component shelf 9″/230 mm. Installation hardware included.

Material:
Sheet steel

Color:
RAL 7035 light grey

For enclosure/ housing	Part No. PC
PC 4603.820 PC 4603.920 PC 4617.920	**4629.660**

Door catch, based on ES

A closing latch for the fold-down shelf without lock. Simple installation into existing holes; hardware included.

For enclosure/ housing	PU	Part No. PC
PC 4603.820 PC 4603.920 PC 4609.920 PC 4617.920	1	**4639.000**

Functionality and modularity are the cornerstones of Rittal's AP console system. Their design facilitates easy assembly and provides better security and function. For operator interfaces, demands on versatility, functionality, aesthetics, and ergonomics are at their highest. Operator interface design is critical and the console plays a key role. Only the best possible packaging of modern, sensitive control equipment, and the best ergonomics provide conditions that ensure efficient operation.

AP console systems

US Patent No. 4,843,519
German Patent No. 38 65 047
European-Patent No. 0 281 895
affecting DE, ES, FR, GB, IT

The AP console system, AP freestanding consoles and AP universal consoles have the following approvals:

- UL
- CSA
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- VDE

Examples of the AP console systems combined with the Optipanel operator housing. Details starting on page 196.

AP console systems				Pages
Console top	Centers	Bottoms	Cover panel	158/159

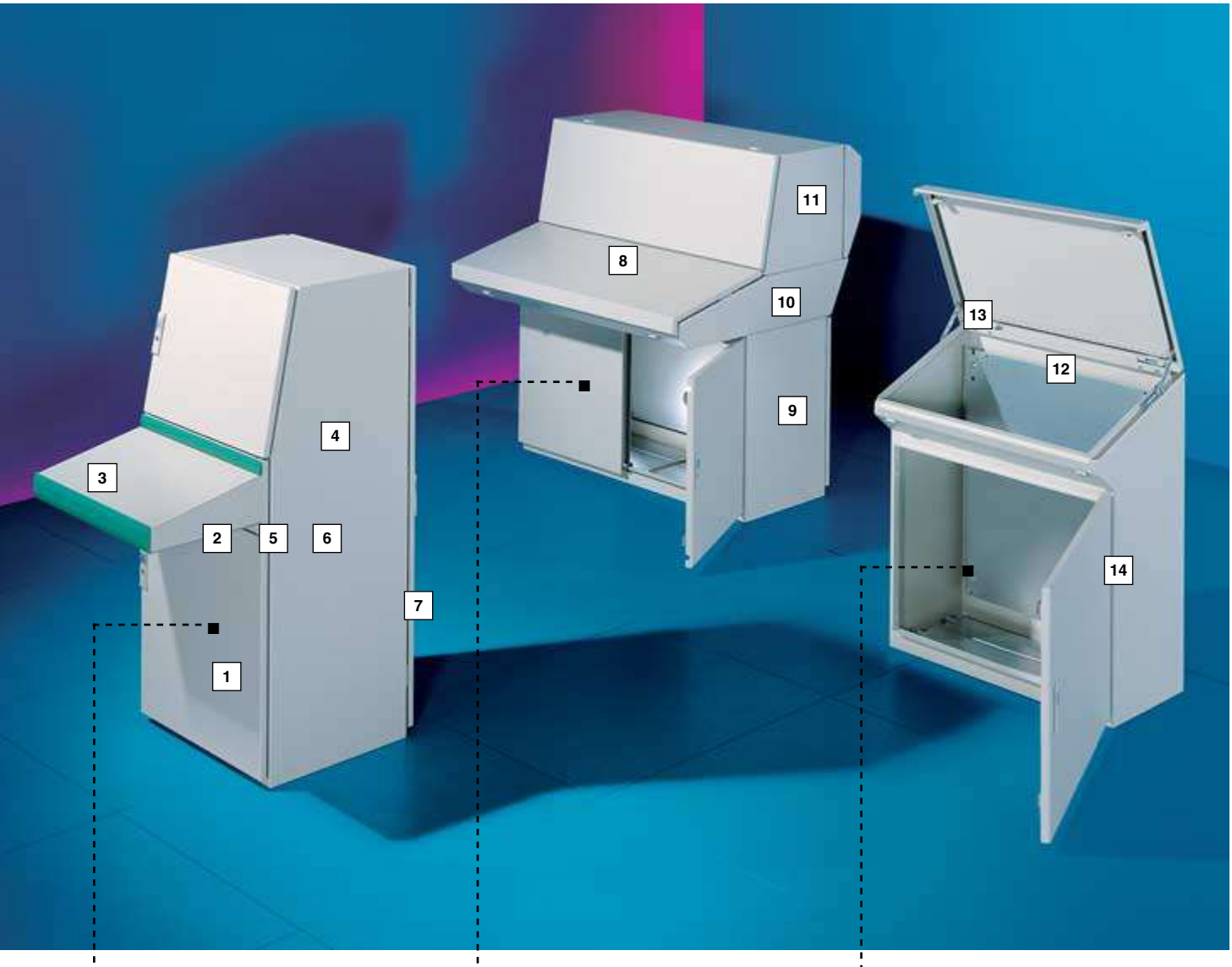
AP freestanding consoles					
Height inches/mm	Width inches/mm	Depth inches/mm	Doors	**Part No. AP**	Pages
38/960	24 /600	16/400; 19/480	1	**2666.600**	164/165
38/960	32 /800	16/400; 19/480	1	**2668.600**	164/165
38/960	40/1000	16/400; 19/480	2	**2670.600**	164/165
38/960	48/1200	16/400; 19/480	2	**2672.600**	164/165

AP freestanding consoles – stainless steel					
Height inches/mm	Width inches/mm	Depth inches/mm	Doors	**Part No. AP**	Pages
38/960	24/ 600	16/400; 19/480	1	**2683.600**	286/287
38/960	32/ 800	16/400; 19/480	1	**2684.600**	286/287
38/960	40/1000	16/400; 19/480	2	**2685.600**	286/287
38/960	48/1200	16/400; 19/480	2	**2686.600**	286/287

AP universal consoles					
Height inches/mm	Width inches/mm	Depth inches/mm	**Part No. AP short front door**	**Part No. AP tall front door**	Pages
51/1300	24/600	20/500	**2694.600**	**2695.600**	166/167

AP universal consoles – stainless steel					
Height inches/mm	Width inches/mm	Depth inches/mm	**Part No. AP short front door**	**Part No. AP tall front door**	Pages
51/1300	24/600	20/500	**2688.600**	**2689.600**	288/289

Stainless steel
AP freestanding
consoles
and
stainless steel
AP universal
consoles,
see pages 286 – 289.



Universal consoles

1 Choice of short or tall door. Short door leaves space for the installation of a console (pictured) or a keyboard drawer.

2 Console can be turned by 180° to feature horizontal or sloped working surface.

3 Interchangeable cover panels, one mounted with screws from outside, the other with bolts from inside.

4 Unibody construction offers high stability and protection rating.

5 One piece mounting panel across the entire height of the enclosure. C-folds on the sides and various installation options along the 1″/25 mm system hole pattern.

6 Universal inside installation options of partial mounting panels, component shelves, chassis and rails with tapped and square holes in the 1″/25 mm system hole pattern.

7 Rear door opens to the entire height for easy access to the components.

Console systems

8 Multi-variable combinations, see pages 156/157. Each component may be used individually as part of a machine or integrated into a complete system.

9 Bottom units with mounting panels come in two depths and may also be used as top units.

10 Center units come in two depths, with system holes in the top or bottom for easy installation.

11 Top units with mounting panels in three depths and two heights for nearly any installation need. The AK compact enclosures (see page 84) may be combined with the consoles instead of the top units.

Freestanding consoles

12 Variable installation depth is possible in the cover. Cable entry offered from the rear because mounting panels can be adjusted vertically by 2 x 1.57″/40 mm.

13 Cover with system hole pattern for cable management. Safety catches secure open lid.

14 Right hinged door may be reversed easily by simply switching the hinges to the other side.

Simply choose your combination
The different AP console system elements are 16″/400 mm (blue) and 20″/500 mm (red) deep and may be combined in a number of user specified ways (see the diagram below).
The table to the right will give you the Part No. for your specific combination.

Flat HMI (Human-Machine Interfaces) screens or displays may also be used.

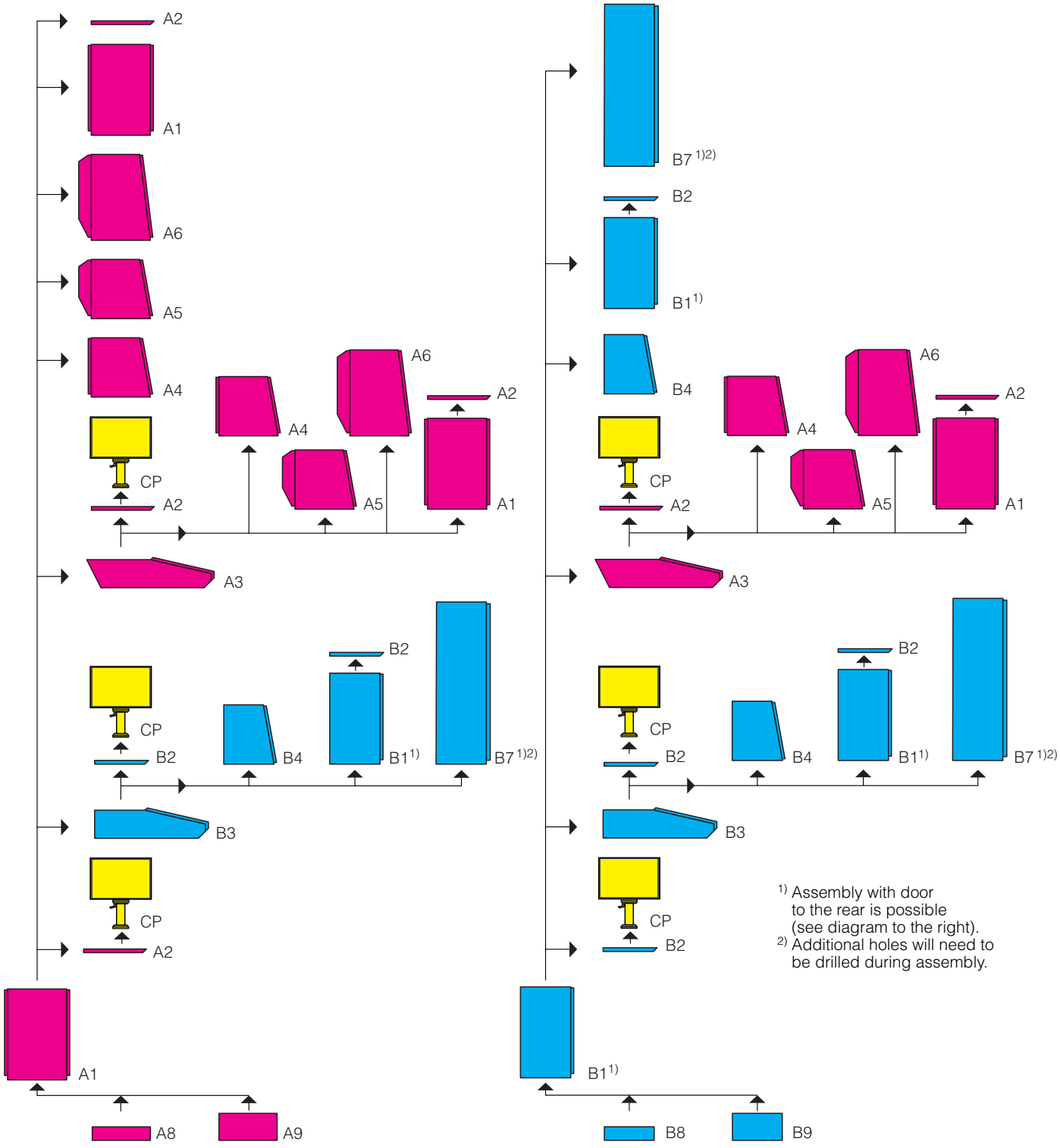
Many modern expansion possibilities for the classic AP console system are built into the elegant VIP 6000 Command Panel Systems and the Optipanel (yellow).

- VIP 6000, see pages 172 – 195
- Optipanel, see pages 196 – 207
- CP-L pendant arm systems, see pages 242 – 255.

Cover plate (A2/B2) with reinforcement and knockout for CP-L upon special request.
Fastened from the inside:
Enclosure coupling CP 6525.500

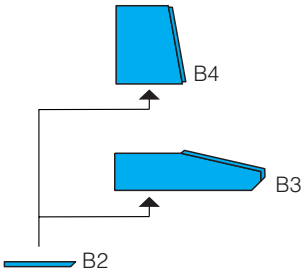
Fastened from the outside:
Wall-floor bracket, small
CP 6520.500

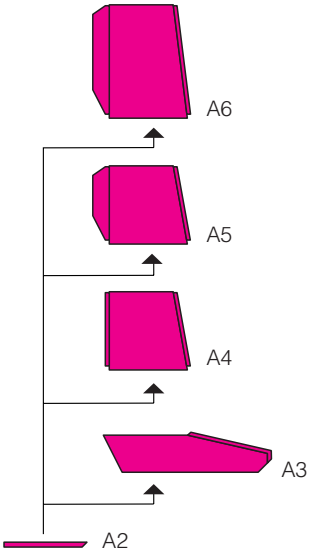
Please state dimensions of location on the cover plate and Part No. of the bracket.

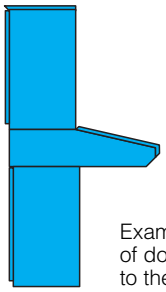


1) Assembly with door to the rear is possible (see diagram to the right).
2) Additional holes will need to be drilled during assembly.

Wide variety of combination possibilities

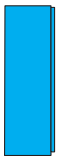






Example of door to the rear

More information, see pages 158/159.
Dimensional drawings, see pages 160 – 163.

Depth = 20″/500 mm				Height (inches/mm)	Depth = 16″/400 mm			
Width (inches/mm)	32/800	48/1200	63/1600		Width (inches/mm)	32/800	48/1200	63/1600
	Part No.	**Part No.**	**Part No.**			**Part No.**	**Part No.**	**Part No.**
AK enclosure								
				48/1200	 B7	**1648.600**	**1652.600**	
Top section								
A6	**2647.600**	**2648.600**	**2649.600**	25/630 deep rear door				
Top section								
A5	**2662.600**	**2663.600**	**2664.600**	17/430 deep rear door				
Top section								
A4	**2614.600**	**2644.600**	**2654.600**	17/430	B4	**2612.600**	**2642.600**	**2652.600**
Center section								
A3	**2613.200**	**2643.200**	**2653.200**	7.8/200	B3	**2611.200**	**2641.200**	**2651.200**
Cover plate								
A2	**2616.200**	**2646.200**	**2656.200**	1.1/28	B2	**2615.200**	**2645.200**	**2655.200**
Bottom section								
A1	**2610.600**	**2640.600**	**2650.600**	27/670	B1	**2600.600**	**2620.600**	**2630.600**
Base/plinth								
A9	**2842.200**	**2852.200**	**2864.200**	7.8/200	B9	**2902.200**	**2922.000**	**2962.200**
A8	**2841.200**	**2851.200**	**2863.200**	4/100	B8	**2901.200**	**2921.200**	**2961.200**

Multiple options

The components of the AP console system can be combined for many different user applications. Modern flat screen monitors and operator panels can be used. The customized VIP 6000 Command Panel System and Optipanel lend themselves to a variety of modern expansion possibilities.

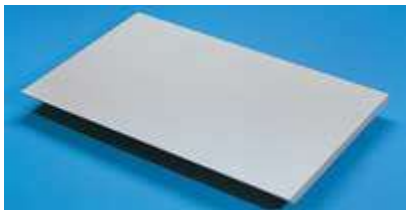
For the classic AP console systems.

For combination options see pages 156/157.

Protection ratings:
NEMA 12/ (with proper configuration).
IP 55 to EN 60 529/10.91

Technical detail, see pages 160-163.

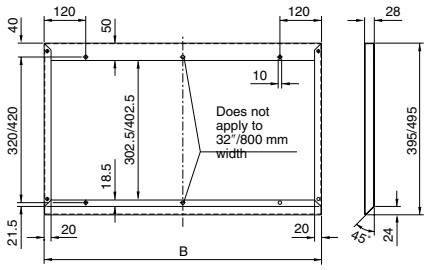
■ Cover plate



Cover for console bottom, center or top sections.

Material:
sheet steel 16 ga/1.5 mm

Finish:
painted RAL 7032 pebble grey



Fits inches/mm Width	Depth	Part No. AP
32/ 800	16/400	**2615.200**
48/1200		**2645.200**
63/1600		**2655.200**
32/ 800	20/500	**2616.200**
48/1200		**2646.200**
63/1600		**2656.200**

Order primed version in RAL 7044 with suffix .300.
Lead times upon request.

B = Width

■ AP consoles – top sections

Configuration	**Material** Sheet steel	**Finish**
Enclosure body bottom open	16 ga/1.5 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Door(s) bottom hinged with safety cables in the front. At a depth of 20"/500 mm: with rear door(s)	14 ga/2.0 mm	
Mounting panel. For 20"/500 mm depth: adjustable along the 1"/25 mm system hole pattern	11 ga/3.0 mm	galvanized

Height (inches/mm)		17/430						17/430			25/630		
Width (inches/mm)	PU	32/800	48/1200	63/1600	32/800	48/1200	63/1600	32/800	48/1200	63/1600	32/800	48/1200	63/1600
Depth (inches/mm)		16/400			20/500			20/500 with rear door					
Part No. AP	1	**2612.600**	**2642.600**	**2652.600**	**2614.600**	**2644.600**	**2654.600**	**2662.600**	**2663.600**	**2664.600**	**2647.600**	**2648.600**	**2649.600**
Number of doors		1	1	1	2	2	2	2	2	2	2	2	2
Weight (lbs/kg)		49.6/22.5	88.1/40.0	115.7/52.5	67.5/30.6	105.8/48.0	137.6/62.4	85.3/38.7	123.5/56.0	159.4/72.3	105.4/47.8	142.0/64.4	191.4/86.8

Lock inserts
Standard double-bit inserts, exchangeable for other 1.85"/47 mm, Version D inserts, see page 942.

Additional accessories starting on pages 876/877 or check the keyword index.

Order RAL 7044 primed top sections with suffix .800, RAL 7035 with suffix .500. Lead times upon request.

■ AP consoles – center sections

Configuration	Material sheet steel	Finish
Enclosure body top and bottom open	16 ga/1.5 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Console door with turn buckle lock and safety catch	14 ga/2.0 mm	

Height (inches/mm)	PU	7.87/200						Page
Width (inches/mm)		32/800	47/1200	63/1600	32/800	47/1200	63/1600	
Depth (inches/mm)		34/850 (for depth 16/400)			38/950 (for depth 20/500)			
Part No. AP	1	**2611.200**	**2641.200**	**2651.200**	**2613.200**	**2643.200**	**2653.200**	
Weight (lbs/kg)		56.2/25.5	78.3/35.5	97.0/44.0	67.5/30.6	93.9/42.6	116.4/52.8	
Accessories								
Aluminum strip AP	3	2678.000	2682.000	–	2678.000	2682.000	–	934

Lock inserts
Standard double-bit inserts, exchangeable for other 1.85″/47 mm, Version D inserts, see page 942.

Additional accessories starting on pages 876/877 or check the keyword index.

Order RAL 7044 primed center sections with suffix .300, RAL 7035 with suffix .500. Lead times upon request.

■ AP consoles – bottom sections

Configuration	Material sheet steel	Finish
Enclosure body top open	16 ga/1.5 mm	E-coated RAL 7044, exterior powder painted RAL 7032 textured
Single or double door lock rod mechanism at a depth of 16″/400 mm: front only At a depth of 20″/500 mm: front and rear	14 ga/2.0 mm	
Cable entry plates, 2-part	16 ga/1.5 mm	galvanized
Mounting panel, at a depth of 20″/500 mm: infinitely adjustable	11 ga/3.0 mm	

Height (inches/mm)		PU	26/670						Page
Width (inches/mm)			32/800	48/1200	63/1600	32/800	48/1200	63/1600	
Depth (inches/mm)			16/400			20/500			
Part No. AP		1	**2600.600**	**2620.600**	**2630.600**	**2610.600**	**2640.600**	**2650.600**	
Doors			1	2	2	1	2	2	
Weight (lbs/kg)			95.9/43.5	137.4/62.3	176.4/80.0	115.1/52.2	165.4/75.0	211.7/96.0	
Accessories for external installation									
Base/plinth SO	H = 4/100	1	2901.200	2921.200	2961.200	2841.200	2851.200	2863.200	884
(inches/mm)	H = 8/200	1	2902.200	2922.200	2962.200	2842.200	2852.200	2864.200	884
Base/plinth, mobile SO		1	2983.200	–	–	2984.200	–	–	889
Accessories for internal installation									
Cable collecting rails		3	2038.200	2037.200	–	2038.200	2037.200	–	898
11U Swing frame SR		1	2027.200	2027.200*		2027.200	2027.200*		1021

Locking systems:
Standard double-bit insert exchangeable for 1.06″/27 mm inserts, Version A, see page 942 and for Ergoform-S handle, see page 939.

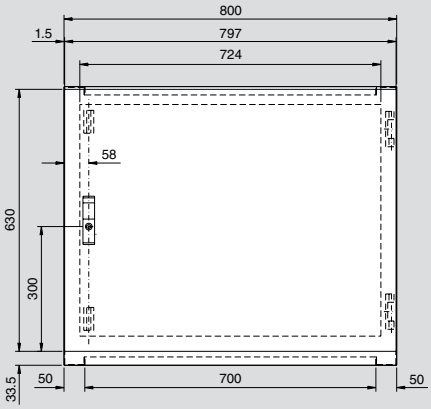
* Einbau von zwei Schwenkrahmen möglich

Additional accessories ab page 876/877 oder über Sachwortverzeichnis.

Grundierte Unterteile RAL 7044 mit End-Nr. .800, RAL 7035 mit End-Nr. .500 bestellen. Lieferzeit auf Anfrage.

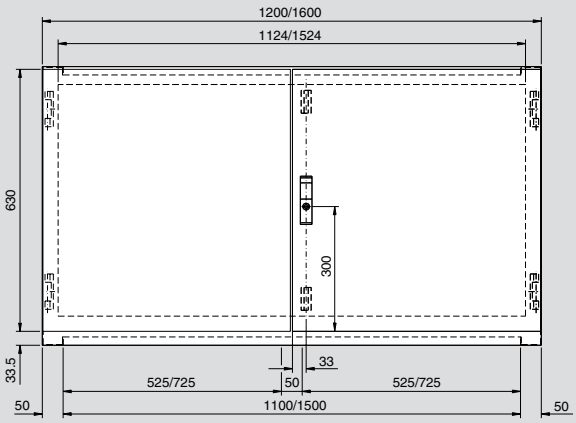
AP consoles bottom sections

H x W 26 x 32″ / 670 x 800 mm



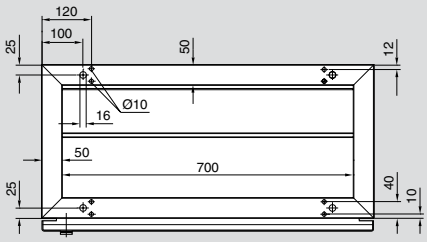
AP 2600.600 / AP 2610.600

H x W 26 x 48/63″ / 670 x 1200/1600 mm



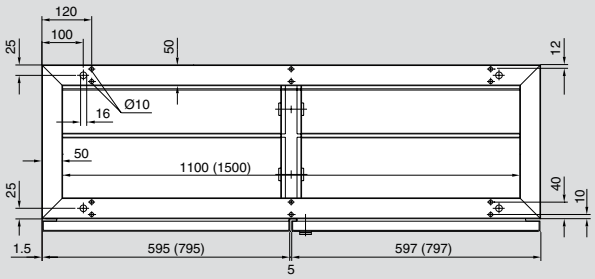
AP 2620.600 / AP 2630.600 / AP 2640.600 / AP 2650.600

D 16″/400 mm



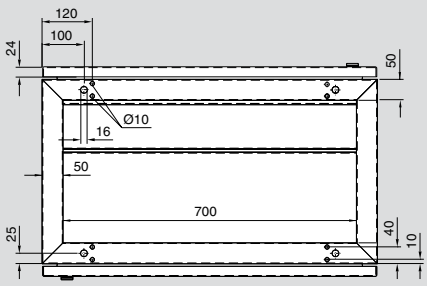
AP 2600.600

D 16″/400 mm



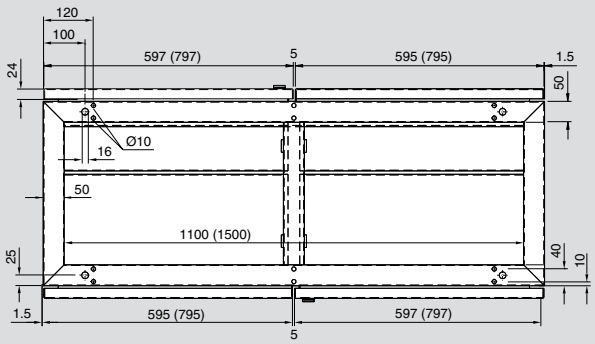
AP 2620.600 / AP 2630.600

D 20″/500 mm



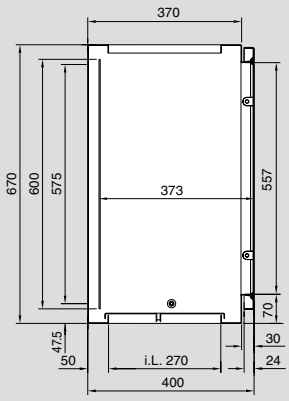
AP 2610.600

D 20″/500 mm



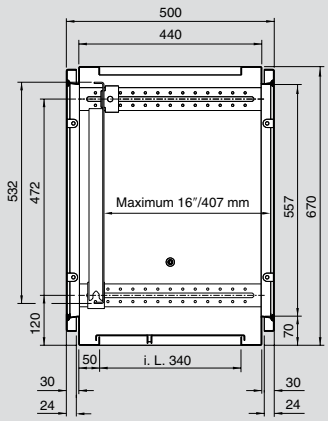
AP 2640.600 / AP 2650.600

D 16″/400 mm



AP 2600.600 / AP 2620.600 / AP 2630.600

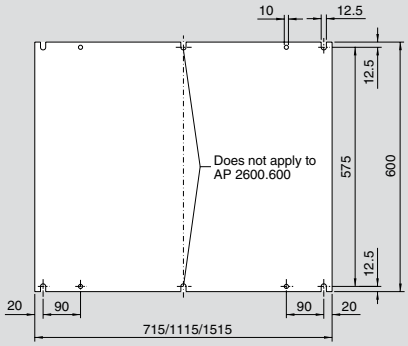
D 20″/500 mm



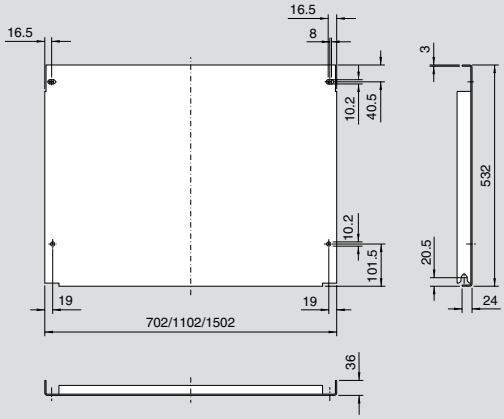
AP 2610.600 / AP 2640.600 / AP 2650.600

i.L. = Clearance or available space

Mounting panel for D 16″/400 mm

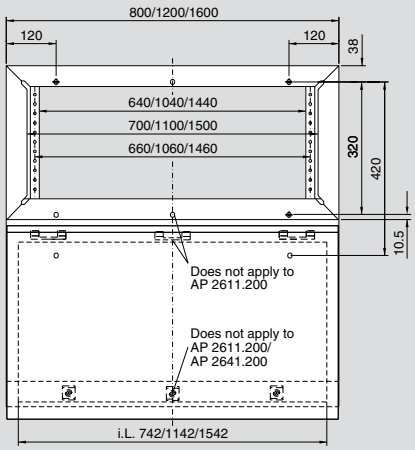


Mounting panel for D 20″/500 mm



AP consoles center sections

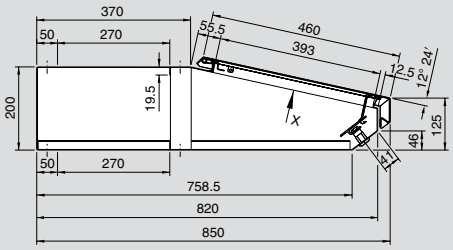
H x D 8 x 34″ / 200 x 850 mm



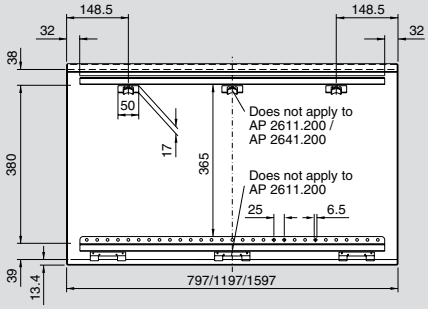
AP 2611.200 / AP 2641.200 / AP 2651.200

i.L. = Clearance or available space

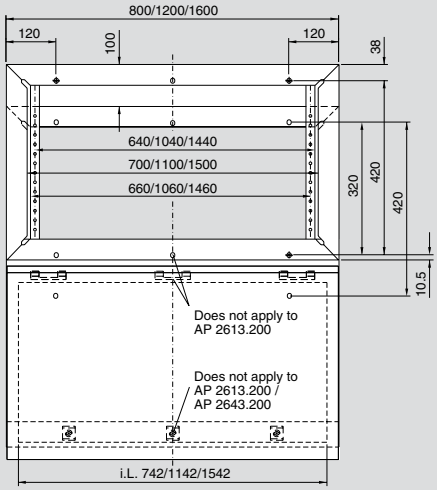
Side view



View in direction X

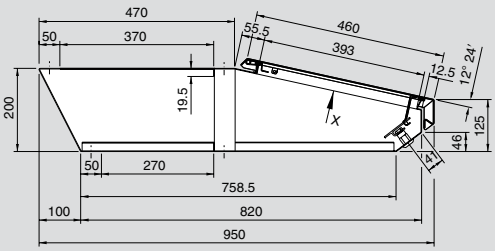


H x D 8 x 38″ / 200 x 950 mm

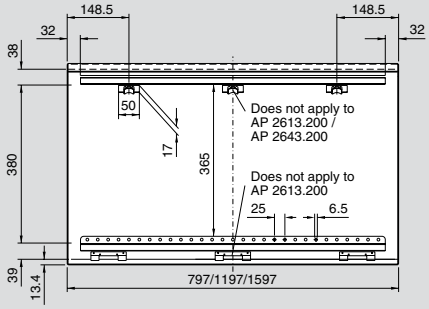


AP 2613.200 / AP 2643.200 / AP 2653.200

Side view

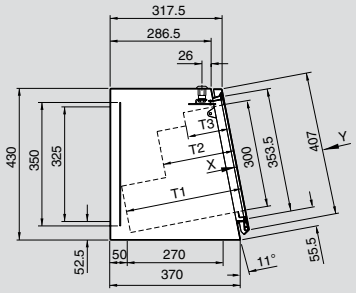


View in direction X



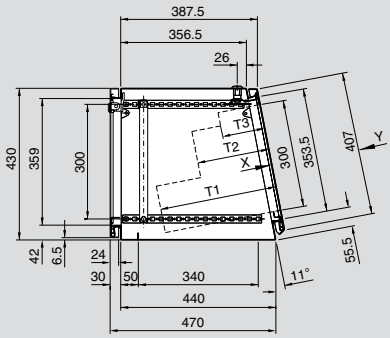
AP consoles top sections

H x D 17 x 16″ / 430 x 400 mm



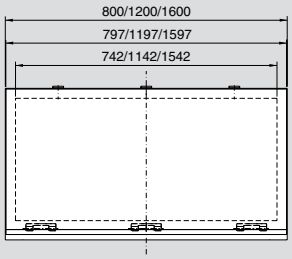
AP 2612.600 / AP 2642.600 / AP 2652.600

H x D 17 x 20″ / 430 x 500 mm

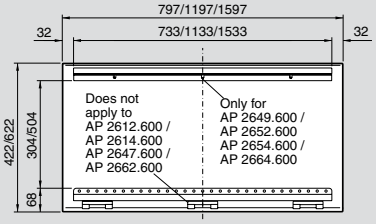


AP 2614.600 / AP 2644.600 / AP 2654.600

View in direction Y

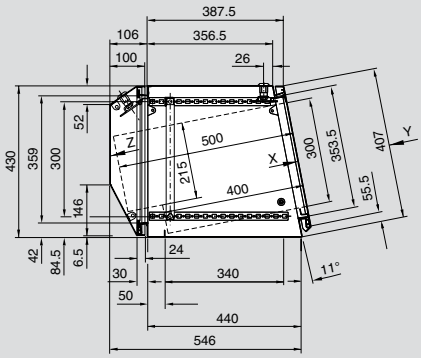


View in direction X



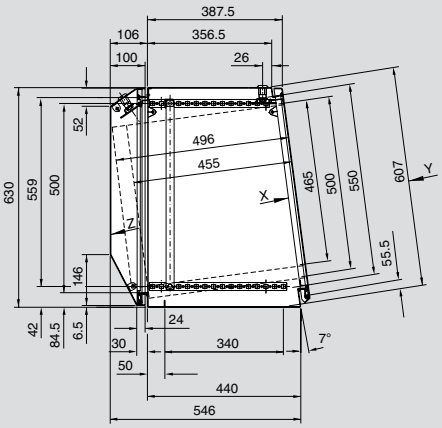
	Depth 16″/400 mm	Depth 20″/500 mm
T1 = pivoting 3 U/5.25	12″ /300 mm	
T2 = pivoting 6 U/ 10.5	7.7″/195 mm	
T3 = pivoting maximum	4.3″/110 mm	
T1 = fixed maximum	12″/300 mm	16″/400 mm

H x D 17 x 20″ / 430 x 500 mm with deep rear door



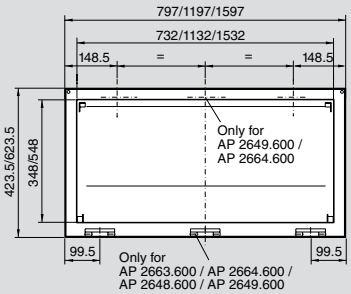
AP 2662.600 / AP 2663.600 / AP 2664.600

H x D 25 x 20″ / 630 x 500 mm with deep rear door

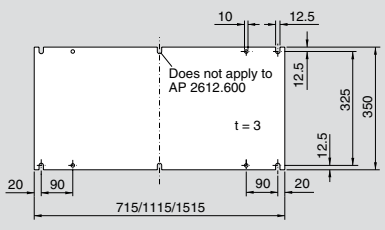


AP 2647.600 / AP 2648.600 / AP 2649.600

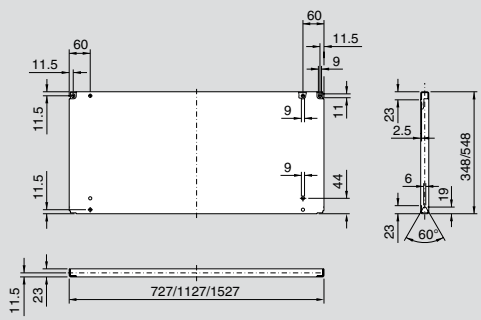
View in direction Z



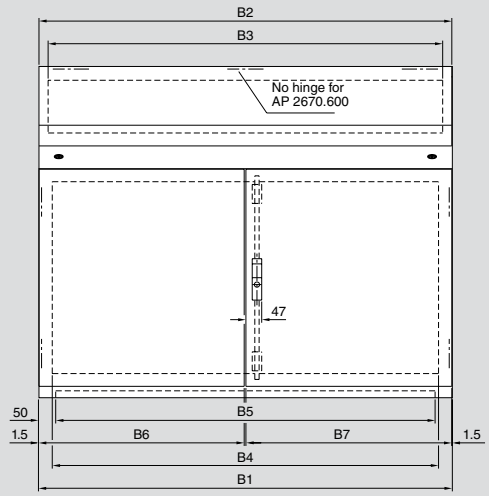
Mounting panel for D 16″/400 mm

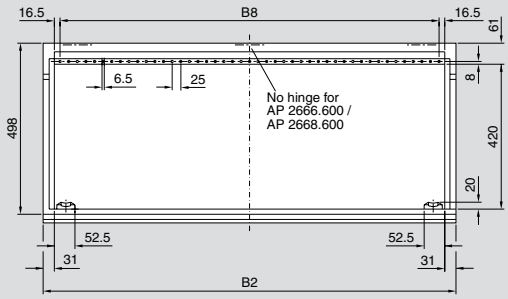


Mounting panel for D 20″/500 mm

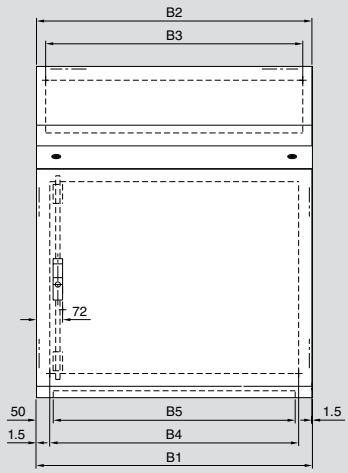


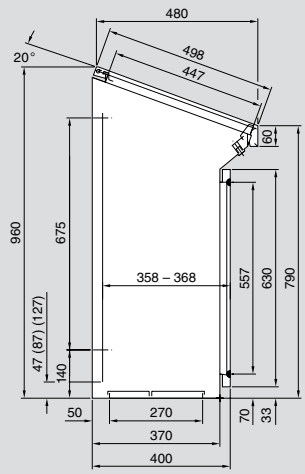
AP 2670.600 / AP 2672.600

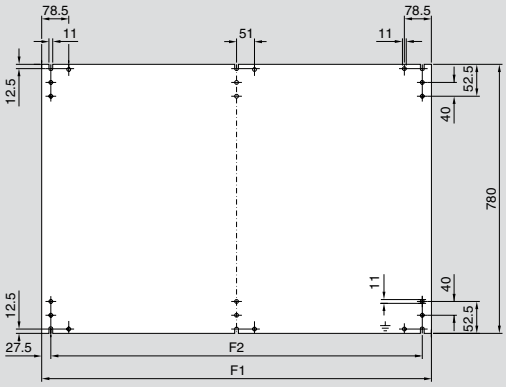




AP 2666.600 / AP 2668.600







Configuration:
- Enclosure closed on rear and sides
- Single or double door in the front
- Console cover with safety catch
- Cable entry plate, 2-part
- Mounting panel

Height (inches/mm)	PU	38/960				Page
Width (B1) (inches/mm)		24/600	32/800	39/1000	48/1200	
Depth (inches/mm)		16/19 / 400/480				
Part No. AP	1	**2666.600**	**2668.600**	**2670.600**	**2672.600**	
B2 = Width		597	797	997	1197	
B3 = Available width, top		544	744	944	1144	
B4 = Available width, front		524	724	924	1124	
B5 = Available width, bottom		500	700	900	1100	
B6 = Left door width		–	–	495	595	
B7 = Right door width		–	–	497	597	
B8 = Span of system holes		500	700	900	1100	
F1 = Mounting panel width		530	730	930	1130	
F2 = Distance of mounting holes		475	675	875	1075	
Doors		1	1	2	2	
Weight (lbs/kg)		113.5/51.5	137.8/62.5	175.3/79.5	198.4/90.0	
Accessories for external installation						
Base/plinth SO H = 4″/100 mm	1	2911.200	2901.200	2891.200	2921.200	884
H = 8″/200 mm	1	2912.200	2902.200	2892.200	2922.200	884
Base/plinth, mobile SO	1	2979.200	2983.200	–	–	889
Aluminum strip AP	3	2676.000	2678.000	2682.000 *	2682.000	934
Accessories for internal installation						
Cable collecting rails	3	2036.200	2038.200	1805.200	2037.200	898
Swing frame SR 11 U	1	–	2027.200	2027.200	2027.200	1021

* Must be shortened by 8″/200 mm.

Order primed freestanding consoles in RAL 7044 with suffix .800, in RAL 7035 textured with suffix .500. Lead times upon request.

Accessories:
see pages 876/877
or keyword index.

Material:
Sheet steel
Enclosure: 16 ga/1.5 mm
Door and console cover:
14 ga/2.0 mm
Mounting panel: 11 ga/3.0 mm

Finish:
Enclosure body, door and console cover:
E-coated RAL 7044 and exterior RAL 7032 textured
Mounting panel and cable entry plates: galvanized

Ratings:
NEMA 12/
IP 55 to EN 60 529/10.91
UL E76083
CSA LR 59132

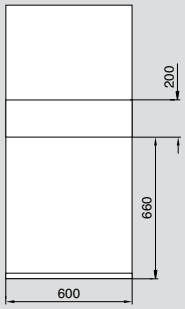
Lock systems

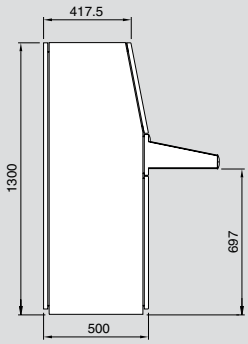
Console:
Standard double-bit insert may be exchanged for 1.85″/47 mm lock inserts, Version D,
see page 942.

Door:
Standard double-bit insert may be exchanged for 1.06″/27 mm lock inserts, Version A,
see page 942
and for Ergoform-S handle,
see page 939.

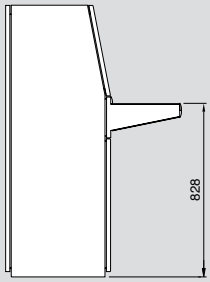
Combination of freestanding console and Optipanel systems.

Possible combinations

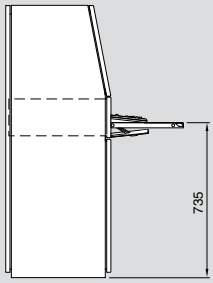




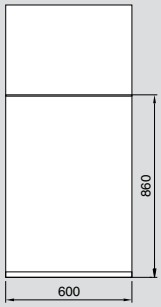
AP 2694.600 and AP 2696.200 (Console)

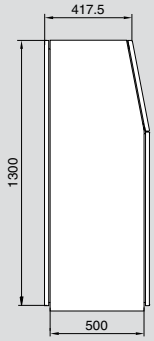


AP 2694.600 and AP 2696.200 (Console)



AP 2694.600 and MC 4757.000 (Drawer)





AP 2695.600

Technical details see page 168.

Configuration	Material	Finish
Enclosure body	Sheet steel 16 ga/1.5 mm	E-coated RAL 7044 exterior powder painted RAL 7032 textured
Doors* top, bottom, rear	Sheet steel 14 ga/2.0 mm	
Mounting panel	Sheet steel 11 ga/3.0 mm	galvanized
Cable entry plate, 3-part	Sheet steel 16 ga/1.5 mm	galvanized
AP 2695.600, 2 trim strips	Aluminum extrusion	RAL 5018
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91/UL 76083/CSA LR 59132. * For bottom door (AP 2695.600) the drawer or console (see page 169) will have to be installed to maintain the protection rating.		

H x W x D 51 x 24 x 20″ / 1300 x 600 x 500 mm	Part No.	Weight (lbs/kg)	Page
Bottom door, short	**AP 2694.600**	169.8/77.0	
Bottom door, tall	**AP 2695.600**	167.1/75.8	

Accessories

Base/plinth	H = 4″/100 mm	SO 2807.200		884
	H = 8″/200 mm	SO 2808.200		884
Base/plinth, mobile		SO 2980.200		889
Cable collecting rails		PS 4191.000		898
180° hinges		PS 4189.000		949
Cable entry plates		PS 4320.700		892

Top door has studs for the installation of vertical mounting bars SZ 2310.038 and horizontally mounted door bars SZ 2325.000 (see page 950).
The inside installation of the AP universal console is like that of the ES 5000 series, i.e. many accessories (PS Part No.) will fit.

Locking system
Standard double-bit insert may be exchanged for 1.06/27 mm lock inserts, Version A, (see page 942) and for Ergoform-S handle,(see page 939).

Order version RAL 7035 textured with suffix .500. Lead times upon request.

Accessories:

see pages 876/877
or keyword index.

PC computer carriage
Sufficient room for tower PCs, printer and paper.
Details on page 995.

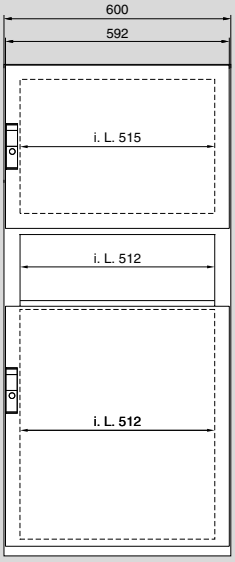
Signal lights
Simple contact with the bayonet lock.
Details on page 1000.

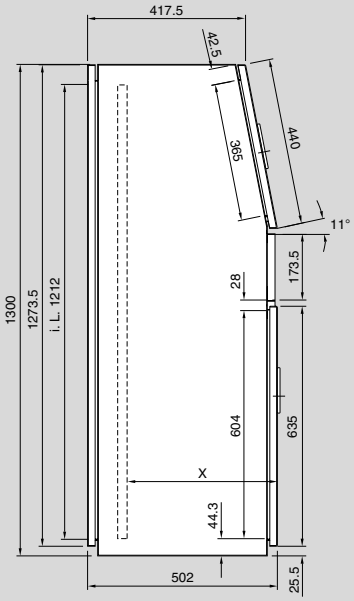
Console
for the installation of display or operator components, keyboards, etc.
Details on page 169.

Drawer
for mouse and keyboard with a maximum width of 20″/500 mm.
Details on page 169.

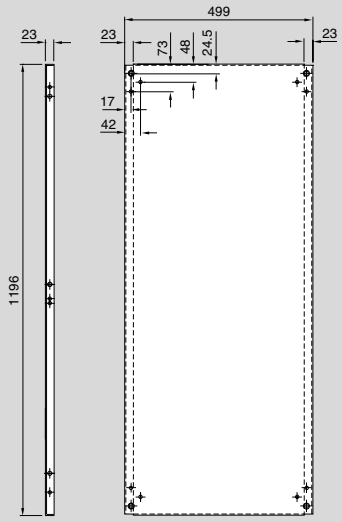
Technical details

Universal console AP 2694.600

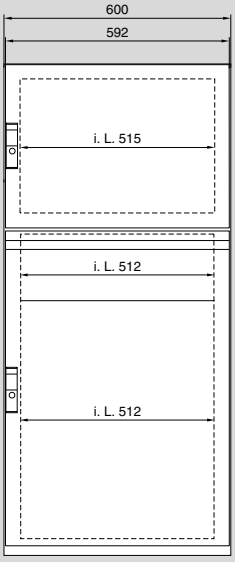


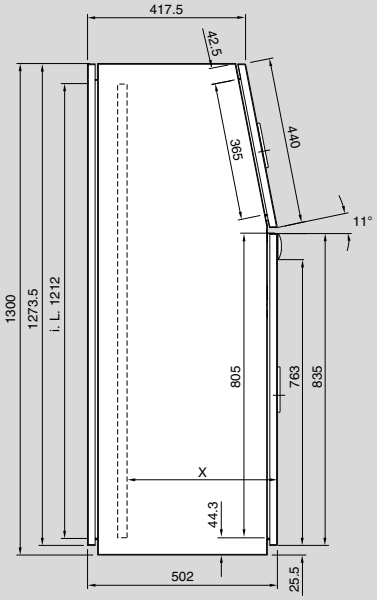


Mounting panel



Universal console AP 2695.600

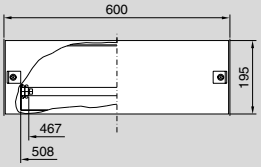


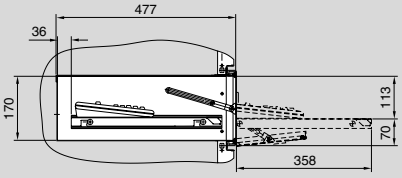


X =
from 8″/200 mm to 16″/400 mm
adjustable along the 1″/25 mm
system hole pattern

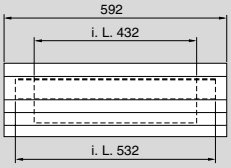
i.L. = available space

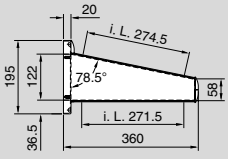
Keyboard drawer MC 4757.000





AP console 2696.200





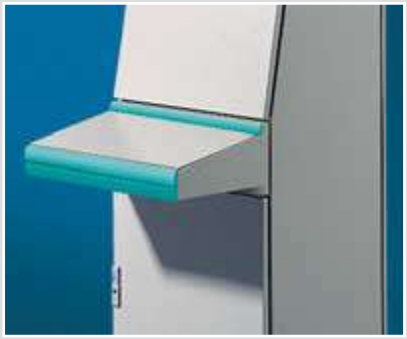
Drawer

For mouse and keyboard with a maximum width of 20″/500 mm.
High protection rating even with open door.
Standard double-bit insert is exchangeable for other 1.06″/27 mm inserts,
Version A (see page 942), plastic handles,
Version B (see page 940).

Height inches/mm	Part No. MC
7.87/200	**4757.000**

Order RAL 7035 textured with suffix .500. Lead times on request.

Configuration	Material	Finish
Enclosure body	sheet steel	primed RAL 7044
Drawer with telescopic rails		primed RAL 7044
Door with 2 locks and 1 crossbar brace		painted RAL 7032
Installation materials for the AP 2694.600		
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91		



Console

For the installation of display or operator components, like keyboards and NEMA 6/IP 67 mouse and pad. Exchangeable cover panels for top and bottom, one attached with screws from the outside, the other with bolts from the inside.

Height inches/mm	Part No. AP
7.87/200	**2696.200**

Order RAL 7035 textured with suffix .500. Lead times on request.

Configuration	Material	Finish
Enclosure body	sheet steel 16 ga/1.5 mm	E-coated RAL 7044, exterior powder coated RAL 7032 textured
2 cover plates	sheet steel 16 ga/1.5 mm	
3 trim strips	aluminum	RAL 5018
Installation materials for the AP 2694.600		
Protection ratings NEMA 12/IP 55 to EN 60 529/10.91		

Additional accessories:

Mouse pad tray for console

and NEMA 6/IP 67 mouse and pad,
see pages 1004/1005.

Cable grommet

for mouse and keyboard cable,
see page 1004.

Flat installation bracket

for universal inside installation,
see page 978.

Productivity is decided at the operator level

For that reason, Rittal offers a variety of enclosure options for all panel combinations, in standard dimensions or custom selections, tailored to your needs.

■ VIP 6000 Command Panel

- Frame and enclosure body are custom manufactured according to the display panel
- Choice of frame, color and trim strips
- Choice of heat dissipating fins on the sides only, or all around the enclosure edges

Example 1
- Operator housings with narrow frame
  Aluminum front panel with cutouts for the panel and buttons
  Cover trim strip, light blue
- CP-L pendant arm with mounting element for signal lights

Example 2
- Operator housings with combination frame
  Cross mullion
  Cover trim strip, bright red
  Built-in interface door, on the side
- Hinged frame connector
- Keyboard housings
  Spacer trim strip, red

Example 3
- Operator housings with wide frame
  Mullions
  End trim strip, light blue
  Vertical handle set

Example 4
- Operator housings with wide frame
  Adapter plate to compensate for distance of drilled holes to edges
  Cover trim strip, stone grey
  Adjustable frame connector
  Keyboard housings

Example 5
- Operator housings with wide frame
  Aluminum front panel with cutouts
  End trim strip, light blue
  Vertical handle set with clip board

Example 6
- AE operator housings with wide VIP 6000 frame
  Aluminum front panel with cutouts
  Keyboard drawer
  Built-in junction box on the side

■ Optipanel

- Elegant, slender design, also great for compact operator panels
- Custom built

Example 1
- Frame with hinged connector
- Center keyboard housings, deep
  Aluminum front panel with cutouts, bolted on studs from the rear
  Connector console to the rear, 10° tilting adaptor and connector bracket for pendant arm system CP-L
- Frame with hinged connector
- Keyboard housings, shallow on the bottom

Example 2
- Operator housings
  Aluminum front panel with cutouts, screw fixed from the front

Example 3
- Operator housings
  Mullion between panel and keyboard

■ Operator housings, standard

- Sheet steel or stainless steel

Example 1
- Operator door housings
  Door to the front, sheet steel with cutouts
  Side handles

Example 2
- Operator housings
  Stainless steel
  Door in front, with cutouts
  Side handles

Example 3
- Operator housings, stainless steel
  Front panel with cutouts
  Also possible as rear wall assembly, by turning 180°

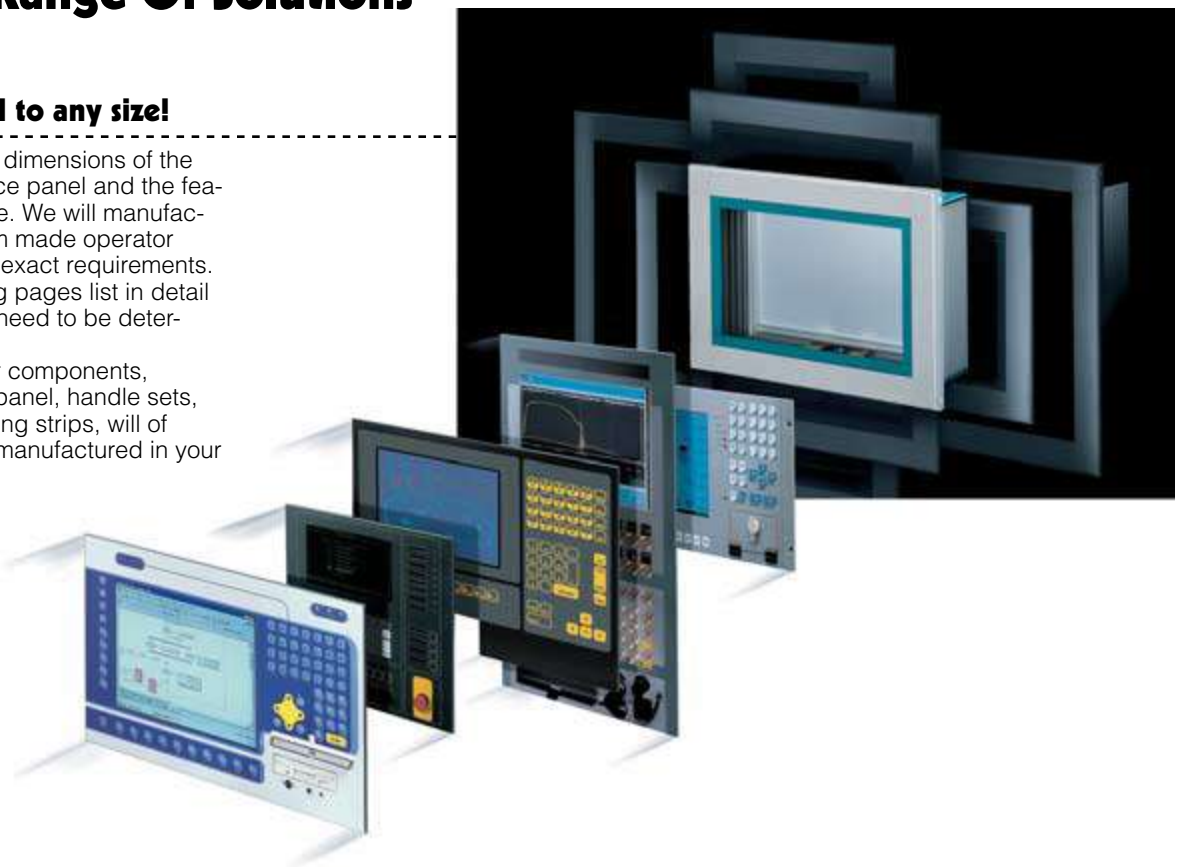
A Wide Range Of Solutions

■ Customized to any size!

Let us know the dimensions of the operator interface panel and the features you require. We will manufacture your custom made operator housing to your exact requirements.

The following pages list in detail the criteria that need to be determined.

The modular components, aluminum front panel, handle sets, mullions or sealing strips, will of course also be manufactured in your required size.



■ Any connecting point around the perimeter is accessible!

The ideal situation is fastening the operator panel to the housing from the outside. This simplifies installation from the front.

The retaining clamps with sliding cage nuts provide the opportunity for installing practically any range of mounting holes with a .28 – .51″/ 7 – 13 mm distance from the panel's outside edge. The screw heads can be covered with a stylish cover trim strip.

Front panels with stud bolts or front tensions may also be used.

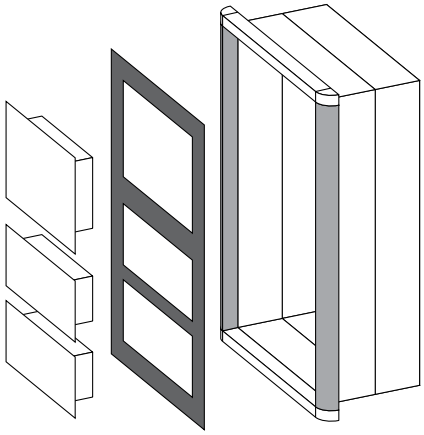
The retaining clamps may be placed anywhere.

The cover trim strip covers the screws.

Front panels with stud bolts can also be accommodated.

■ There is always a solution

If your installation requirements can not be met with Rittal's standard series components, we offer more extensive custom design solutions for you.
Individualized cutouts and installations are made possible with our adapter panel.
The depth can be adjusted with specialized rear walls.
There is always a solution with Rittal.
Contact your regional representative for additional information.



A Choice of Three Frames

The VIP 6000 Command Panel provides an excellent control level setting for high-quality control electronics.

- Operators have optimum ergonomic access.
- Virtually any operator panel is quickly installed with a special assembly kit.
- The Rittal VIP 6000 concept offers customized production to fit your panel.

You couldn't wish for a better enclosure solution for your operator panel.

.009

Wide VIP 6000 frame

- Aluminum extrusion
- Zinc die-cast corner pieces
- Color: textured RAL 7035 light grey

For operator panels and keyboard housings without fins, with fins at the sides or with fins all around, in accordance with the chosen configuration starting on page 178.

.209

Narrow VIP 6000 frame

- Aluminum extrusion
- Zinc die-cast corner pieces
- Color: textured RAL 7035 light grey

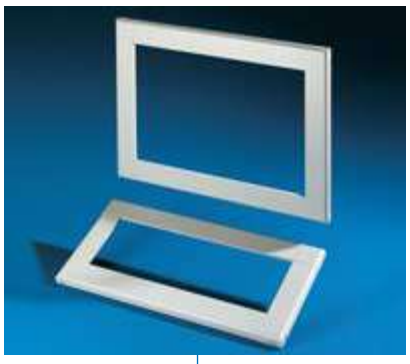
For operator and keyboard housings without fins, in accordance with the chosen configuration starting on page 178.

.109

Combination VIP 6000 frame

- Top/bottom aluminum extrusion in textured RAL 7035 light grey
- On the side soft coated frame similar to RAL 7024 graphite grey
- Zinc die-cast corner pieces RAL 7035 light grey

For operator housings without fins and with fins at the sides; starting on page 178.



Frame connector, adjustable

Frame connector, rigid

Frame hinge connector

Enclosure bracket connector

Enclosure duct connector

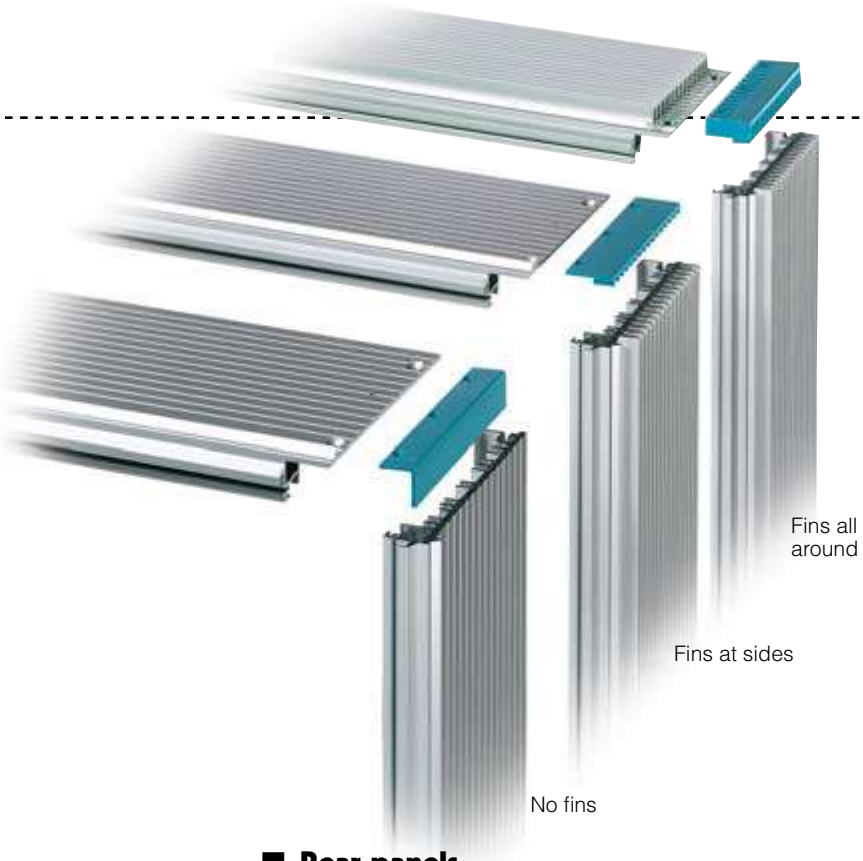
More Than Just An Enclosure!

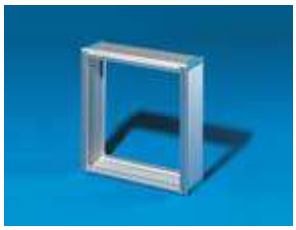
■ Command Panel

Installation depth from 6.10″/155 mm – 19.61″/498 mm provides space for:

- Industrial PCs
- Machine control panels
- Conventional monitors
- Keyboard drawers
- Disk drives
- Bus modules

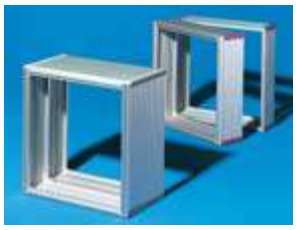
These offer an additional dimension in VIP 6000 solution diversity. Depending on requirements, they are screwed-on or hinged, equipped with a double-bit lock, and manufactured to match the individual dimensions of the installed equipment.



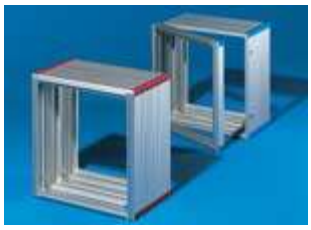


Installation depth 6.10″/155 mm

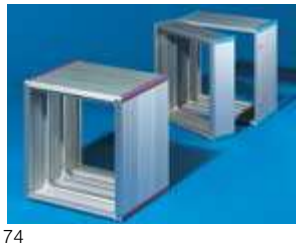
Installation depth 7.28″/185 mm



Installation depth 11.62″/295 mm



Installation depth 12.91″/328 mm



Installation depth 17.24″/438 mm

■ Rear panels

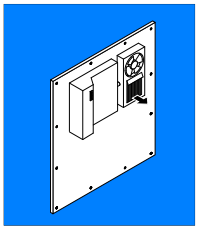
Additional depth extensions of 1.77″/45 mm and 9.65″/245 mm respectively are possible via the rear panels. At high ambient temperatures, coupled with the need to dissipate high temperature losses, the VIP small air conditioner fitted on the rear panel will cool to below the ambient temperature.

Screw-on

Hinged

Depth plus 1.77″/45 mm

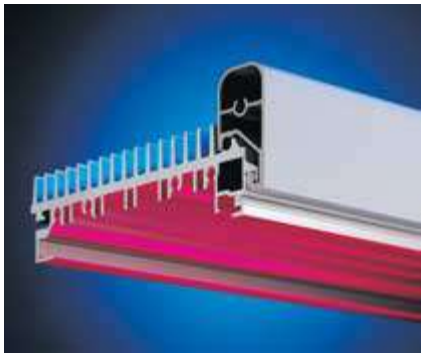
With hinge for heavy components



VIP small air conditioner

■ Get rid of the heat – without expensive climate control devices!

Even the VIP 6000 enclosure version without fins boasts excellent heat loss dissipation. With cooling fins, heat dissipation is more than doubled! In addition to the cooling fins on the outside, the fixing channels on the inside also help with heat loss. They act like internal cooling fins, ensuring optimum heat absorption and dissipation.



Heat dissipation*		
Installation depth 6.10″/155 mm	19″/7 U	19″/7 + 3.5 U
No fins	31 W	37 W
Fins on the sides	50 W	62 W
Fins all around	69 W	82 W

* P_V (W) at ΔT = 20 K and static air in the enclosure (Calculation basis: DIN VDE 0660, part 507). Internal fans can increase the heat dissipation greatly.

■ Enclosure connectors

May be used instead of frame connectors (see page 178) to connect operating and keyboard enclosures.

The frame hinge connector allows infinite adjustment of the tilt from 75° – 120°.

Particularly with narrow enclosures, the enclosure bracket connector leaves plenty of space for the cable duct and support arm connection.

The enclosure duct connector provides the option of integrated cable routing. Accordingly, no cable tube is required.

Frame hinge connector
For use instead of the horizontal extrusion with narrow frames.

Enclosure bracket connector
For keyboard housings, installation depth 1.73″/44 mm.

Enclosure duct connector
For keyboard housings, installation depth 4.13″/105 mm.

■ Keyboard housings

Keyboard housings are available in the following installation depths: 4.13″, 1.73″, 1.06″/105, 44 and 27 mm.

With wide VIP 6000 frames, the width of the keyboard housing is identical to the width of the Command Panel.

With narrow and combined VIP 6000 frames, the width of the keyboard housing may be different from the width of the Command Panel.

The combination options for frames and keyboard housings are explained on pages 184 – 189.

Individual Solutions

Once again, Rittal has significantly extended the individual solution diversity of the VIP 6000 with two new frame designs – the combined frame and the narrow frame. Using the wide frame as an example, this page illustrates several important details that apply to both new frames.

■ Combination VIP 6000 frame

.109

In this example with a combined frame, the keyboard housing is wider than the operator housing. Other features include the enclosure duct connector, a support arm connection at the bottom, and a screwed-on rear panel.

■ Narrow VIP 6000 frame

.209

The design of the narrow frame is very stylish, particularly for small enclosures. In this example, the enclosure is equipped with a cross member and a support arm connection at the bottom. The end trim is purple. The operator housing and the keyboard housing are joined together by enclosure bracket connectors.

■ Approvals

VIP 6000 Command Panels have the following approvals:

- UL
- cUL
- TÜV
- DNV
- Lloyds Register of Shipping
- BV
- VDE

US Design Patent No. Des. 375,726
German Patent No. 195 25 876
German Patent No. P 41 09 695
European Patent No. 0 505 681 affecting CH, DE, FR, GB, IT
German Registered Design No. M 94 08 533
IR Reg. Des. No. DM/032 843 affecting BE, CH, ES, FR, IT, NL
Austral. Reg. Des. No. 125352
Japan. Reg. Des. No. 983 783

Austrian Registered Design No. 17467
Swedish Reg. Des. No. 58 996
South Korean Reg. Des. No. 191148
UK Reg. Des. No. 2047055
Brazilian Design Sample No. DI 5500 709-0

■ Wide VIP 6000 frame

.009

The popular wide frame equipped with a comprehensive range of practical features.

Operator and keyboard housing:

Material:
Enclosure and front frame:
extruded aluminum sections*
Frame corner pieces:
zinc die-cast
Corner protectors:
plastic, self-extinguishing
Trim inserts:
flexible plastic section

Finish:
Enclosure frame:
natural anodized
Front frame and frame corner pieces:
painted in finely textured RAL 7035**
Other plastic parts:
Color to order – see pages 182/183.

Ratings:
(with appropriate front panel or components installed)
NEMA 12/IP 65
UL/cUL Type 12 approved.

* With combined frames, vertical extrusions are soft-coated in plastic.

** With combined frames, vertical extrusions are colored similar to RAL 7024.

VIP 6000 frame section

1 Exact size
The frame is customized to fit your operator panel.

2 Good handling
With or without a handle set.

3 Handle set
The practical addition to the wide front frame.

4 Clipboard plus handle set
Operating instructions or plans can be fixed at eye level.

5 Cross member or sealing bar
For perfect installation of various operating components.

6 All-around trim strip section
Three variations in six colors, depending on the design of the operator panel.

7 Frame connector, enclosure connector
In rigid or adjustable version, a sturdy connection to the keyboard housing.

VIP 6000 operator housing

8 Heat dissipation
Three variations are available: without fins, with fins at the sides, and with fins all around. The version with fins all around dissipates more than twice the amount of heat loss compared with the version without fins.

9 All-around fixing channels
These ensure quick, flexible interior installation and also provide ideal absorption and dissipation of heat loss.

10 Rear wall panels
They are screwed-on or hinged on the longer side. Extended rear panels can also be used to enlarge the enclosure depth.

11 Enclosure corner protectors
To fit the enclosure shape and trim color.

VIP 6000 keyboard housing

12 Keyboard housing, deep
In addition to the keyboard housing shown here, there is also a keyboard tray for standard keyboards and a shallow keyboard housing for membrane keyboards.

13 Fixing channels
The inside walls are fitted with fixing channels all round.

14 Protected cable routing
Cable tubes in a rigid or flexible design with a large cross-section enable convenient cable routing between the operator housing and the keyboard housing.

15 Enclosure corner protectors
In your chosen trim color.

1. Select the frame

Select the frame to match your requirements. Examples are shown on the previous page.

Then determine your panel dimensions and check the installation criteria 1 – 5.

Wide VIP 6000 frame
Wide front frame of extruded aluminum sections and zinc die-cast corner pieces.

.009

Narrow VIP 6000 frame
Narrow front frame of extruded aluminum sections and zinc die-cast corner pieces.

.209

Combination VIP 6000 frame
Combination of narrow front frame top and bottom (made from extruded aluminum sections and zinc die-cast corner pieces), plus soft frame at the sides.

.109

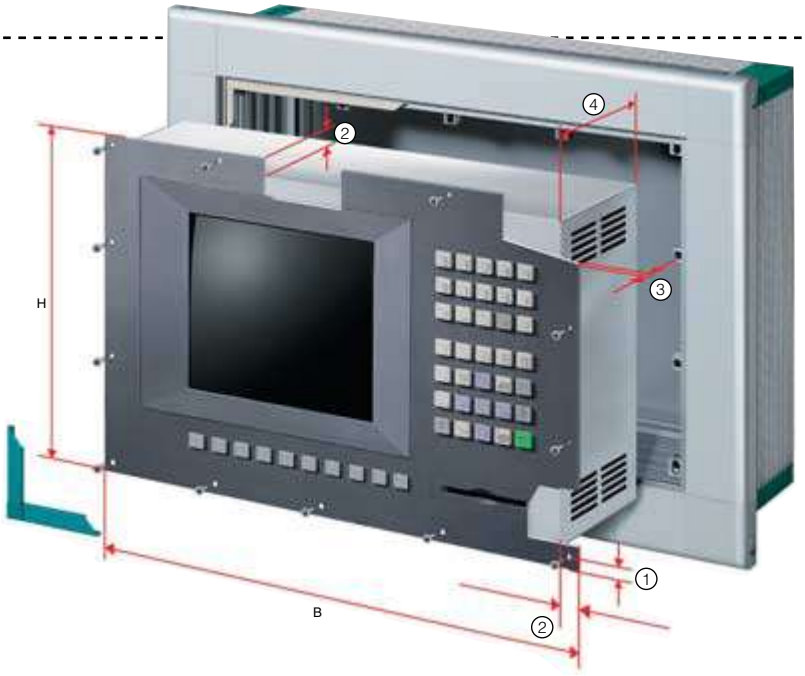
2. Determine the panel dimensions

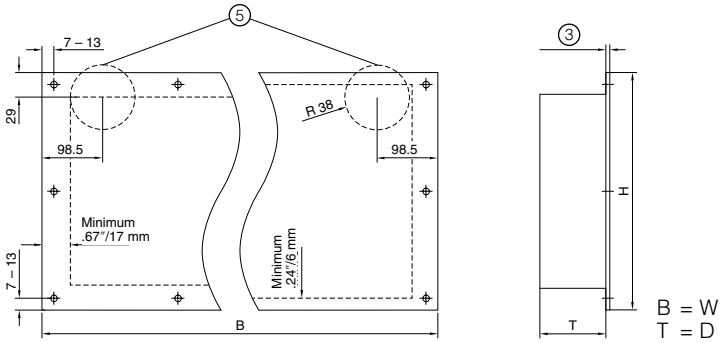
■ It's so easy

Just determine the height and width of your planned operator panel and check the following installation criteria. If these criteria are met, you are ready to install directly in one of three VIP frames, customized to your dimensions. The dimensions of the selected operator housing (3.), the keyboard housing (4.) and the handle sets are automatically tailored to match the frame. Above and beyond these cases, Rittal can help you determine a solution.

① .28 to .51″/7 to 13 mm spacing of the fixing holes or bolts.
② Front plate projection at sides with fixing holes at least .67″/17 mm, and at sides without fixing holes at least .24″/6 mm.
③ Front plate thickness variable, depending on the type of trim section – see page 182, version 3.4.
④ **Installation depths:**
Command Panels = 6.10″, 7.28″, 11.61″, 12.91″, 17.24″/155 mm, 185 mm*, 295 mm*, 328 mm*, 438 mm*.
Command Panels **with 1.77″/45 mm deep rear panel*** = 7.87″, 9.05″, 13.39″, 14.67″/200 mm, 230 mm, 340 mm, 373 mm, 483 mm.
Command Panels **with 9.65″/245 mm deep rear panel**** = 15.75″, 16.93″, 21.26″, 22.56″, 26.89″/400 mm, 430 mm, 540 mm, 573 mm, 683 mm.
⑤ For versions with a hinged rear panel, the maximum installation depth is reduced by 1.06″/27 mm in the vicinity of the lock.

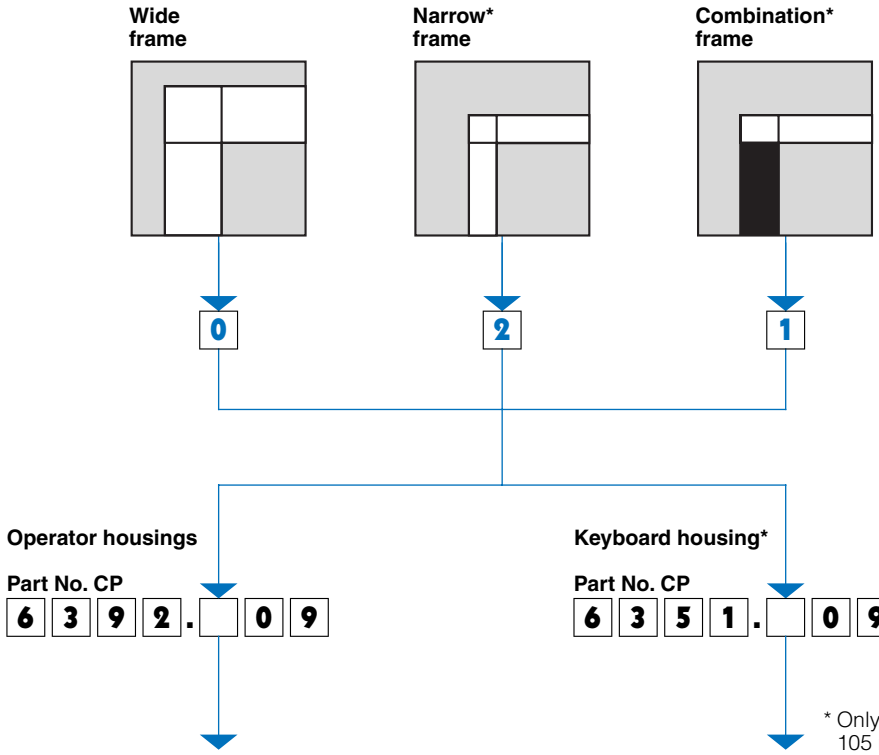
* Can be increased by 2.36″/60 mm.
** Other depths by special request.





■ 1. Select the frame

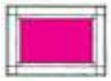
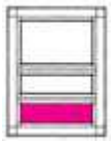
The frame type is determined from the Part No.



* Only for keyboard housings 4.13″/105 mm and 1.73″/44 mm deep.

■ 2. Enter the panel dimension

2.1 For Command Panels CP 6392.X09
Please state the number of front plates/panels used, their height (H) x width (W) x depth (D) and the manufacturer/model (see criteria on page 178).

	H W D inches or mm	
	Manufacturer/ Model:	
	H W D inches or mm	
	Manufacturer/ Model:	
	H W D inches or mm	
	Manufacturer/ Model:	

2.2 For keyboard housing CP 6351.X09
Please specify the height (H) x width (W) x depth (D) of the keyboard/panel or the manufacturer/model (see criteria on page 178).

	H W D inches or mm	
	Manufacturer/ Model:	

■ 3. Determine the operator housing design

Enter the code number for the required design – see pages 180 – 185.

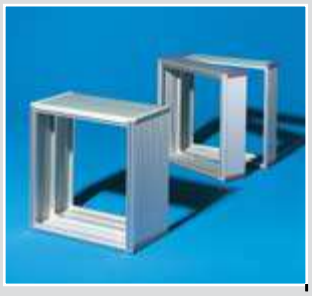
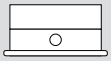
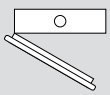
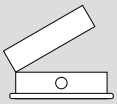
3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8

■ 4. Determine the keyboard housing design

Enter the code number for the required design – see pages 186 – 189.

4.1	4.2	4.3	4.4	4.5

3.1 Operator housing

	1	2/3	4/5
			
	Installation depth: 6.10″/155 mm	Installation depth: 7.28″/185 mm**	Installation depth: 11.61″/295 mm**
Screwed-on	1	2	4 
Hinged		3 	5 
Mounting of the			
● **Pendant arm system CP-L**	Direct mounting	Direct mounting	Direct mounting
● **Pendant arm system CP-XL**	with adaptor CP 6528.500	with adaptor CP 6528.500	with adaptor CP 6528.500

Without connection on top/bottom – please select under 3.6. Other arrangements available on request.

3.2 Front configuration

Mullion
Sealing bar
Adaptor panel
Spacer and installation panel

0

Without mullion or sealing bar

1

With one mullion

2

With one sealing bar [1]

[1] Not possible with spacer trim.

3

With two mullions

4

With two sealing bars [1]

5

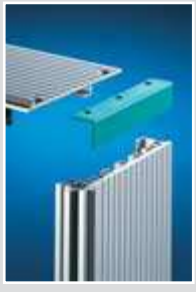
With one cross member and one sealing bar [1] [2]

[2] Mullion at the top, sealing bar on the bottom, unless specified otherwise.

3.3 Cooling fins

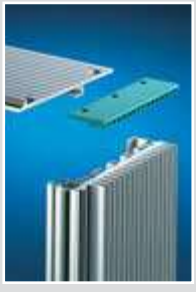
Fin design is chosen according to the heat dissipation required. Compared with the version without fins, the enclosure with fins all around increases the dissipatable heat loss by approximately 120%. Enclosures with an installation depth of 7.28″/185 mm and 12.91″/328 mm do not have any fins immediately behind the front frame to a depth of 1.73″/44 mm. The color of the protective corners matches the trim color selected under 3.5.

1



No fins

2



Fins at sides

3

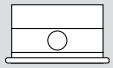
Fins all around

3. Configuration options

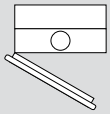
6/7

Installation depth:
12.91″/328 mm**

6



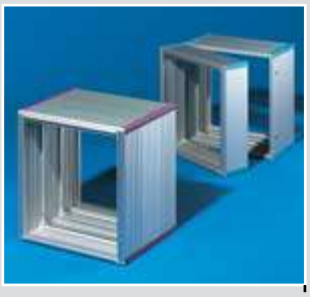
7



with adaptor CP 6528.000*

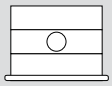
Direct mounting

8/9

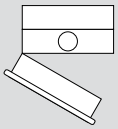


Installation depth:
17.24″/438 mm**

8



9



with adaptor CP 6528.000*

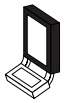
Direct mounting

* If load permits (see page 242).

** The depth of the operator housing without fins may be extended by **2.36″/60 mm** by changing the rear profile.
Special request only – extended lead times.

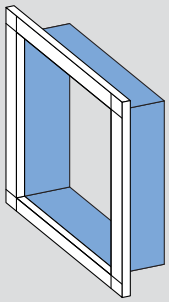
View from the top. May also be configured hinged right.

Detailed dimensions, see pages 190/191.



Examples:
To the right is an example of a typical configuration and the resulting design code numbers.

1							



6

With one adaptor panel (according to specifications) [4]

7

With spacer trim and built-in trim panel on the top [3] [4]

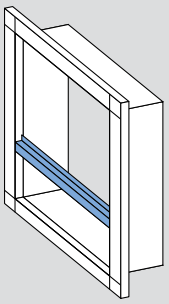
8

With spacer trim and built-in trim panel on the bottom [3] [4]

Detailed dimensions, see pages 194/195.

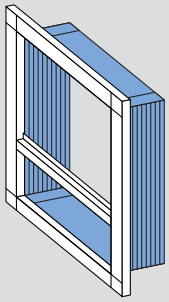
[3] Only in conjunction with trim panel.
[4] Special request only – extended lead times.

1	1						



Detailed dimensions, see pages 190/191.

1	1	2					



3.4 Types of trim

Cover trim
To cover the front panel fixing screws.
For front panel thickness ≤ 3.5 mm.

End trim
For an attractive finish between the front panel and the frame section.
For all front panel thicknesses.

Spacer trim
For installed equipment which is flush with the frame section. For front panel thickness (t) of approximately 1.14″/3.5 mm.

1

Cover trim

2

End trim

3

Spacer trim

Not possible with sealing bar (see 3.2).

3.5 Trim colors

Enclosure corner protectors are also supplied in the chosen color. Other colors are available with large orders.

1

Turquoise
(similar to RAL 5018)

2

Light blue
(similar to RAL 5012)

3

Bright red
(similar to RAL 3001)

3.6 Support arm connection

Two different support arm systems and various stand systems are available.

0

Without connection

1

Connection at top

2

Connection at bottom

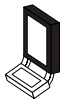
The support arm connection enables connection to all the components shown here.

Support arm system CP-L (6500), see pages 242/243.

Support arm system CP-XL (6000), see pages 242/243.

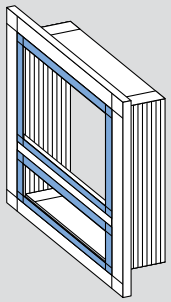
For CP-Vertical support arm system, see pages 264/265.

Pedestal for CP-L, see pages 236/237.



Examples:
To the right is an example of a typical configuration and the resulting design code numbers.

1	1	2	1				



Detailed dimensions, see pages 194/195.

4

Purple
(similar to RAL 4006)

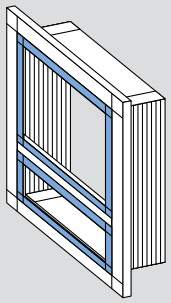
5

Pebble grey
(similar to RAL 7030)

6

Graphite grey
(similar to RAL 7024)

1	1	2	1	2			

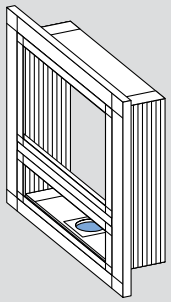


3

Connection top and bottom,
one cover plate included

Detailed dimensions, see pages 190/191.

1	1	2	1	2	2		

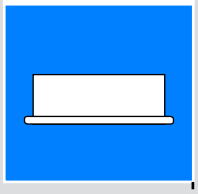
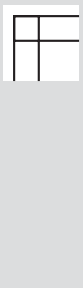
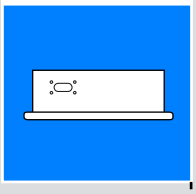
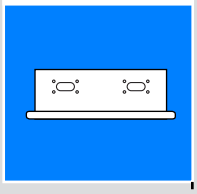


Pedestal base
for CP-L/CP-XL, see page 238.

Mobile pedestal
for CP-L/CP-XL, see page 239.

3.7 Preparations for mounting keyboard housings

Version 4.
Pages 188/189.

	0	1	2
	Without connection to keyboard housing	Connection with frame connector, rigid or adjustable	Connection with enclosure duct connector
		 	
Keyboard housing depth: in inches/mm	–	4.13/105	4.13/105
	–	1.73/ 44	–
	–	1.06/ 27	–
Connection of operator housing to keyboard housing: (Selection 4.4, pages 188/189)	Without	Frame connector rigid/adjustable	Enclosure duct connector
Cable tube: (Selection 4.5, pages 188/189)	Without	Rigid/adjustable	Enclosure duct connector

3.8 Rear wall

	1	2	3	4
Version:	● Screwed-on	● Hinged* For rapid service access	● Depth plus 1.77″/45 mm ● Hinged ● Screw fastening	● Depth plus 9.65″/245 mm ● Screwed-on
Material:	Aluminum, natural anodized	Aluminum, natural anodized	Sheet steel, RAL 7035	Sheet steel, RAL 7035

* Turnbuckle lock with double-bit insert on the longest side (right/bottom), may be exchanged for lock inserts 1.61″/41 mm, Version C, see pages 209, 942, plastic handles, T-handles, Version C, see pages 940/941.
** Special order, extended lead times.

For 19″/7 U concave, as in CP 6018.000, see page 223.

Additional parts needed:

Assembly parts for installing front panels, operator panels and keyboards in the operator and keyboard housing.
Selection – see page 208.

This shows you just how quick and easy it is to define the design of your Command Panel in a few simple steps.

If required, the next step is to select the correct keyboard housing in the corresponding design.

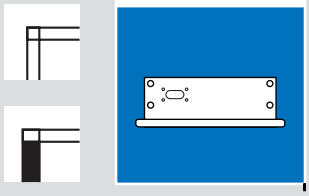
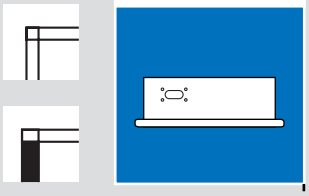
● **Detailed dimensions**
for the selected components can be found on pages 190/193.

● **Accessory components**
such as handle sets, keyboard drawers, clipboards and mounting brackets can be found on pages 208/223.

Our example

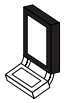
The pictures on the right-hand side give a step-by-step guide to designing your operator housing. The large picture on the right shows the solution we have chosen, together with its corresponding design code number. The following table explains how the code number in our example is configured.

3. Configuration options

3	4
Connection with enclosure bracket connector	Connection with enclosure hinge connector
	
–	4.13/105
1.73/44	1.73/ 44
–	–
Enclosure bracket connector	Frame hinge connector
flexible	flexible

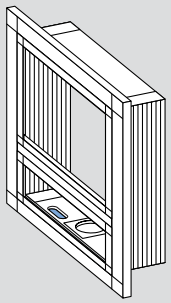
Note:
As selected, included with the keyboard supply.

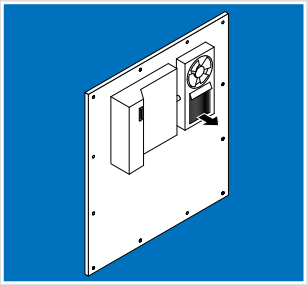
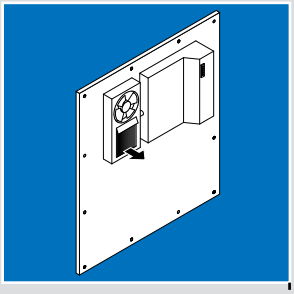
Detailed dimensions, see pages 190/191.



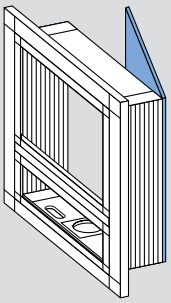
Examples:
To the right is an example of a typical configuration and the resulting design code numbers.

1	1	2	1	2	2	1	



5	6	7
		
● Hinged* for heavy installed equipment	● Screw-fastened with built-in small VIP air conditioner** ● Recommended for Command Panel versions 3, 5, 7, 9 (see 3.1). ● Condenser assembly top left	● Condenser assembly top right
Aluminum, natural anodized	Aluminum, natural anodized	Aluminum, natural anodized

1	1	2	1	2	2	1	2



Technical information for VIP small air conditioner:

see pages 482/483.

3. Design of operator housings

3.1	1	Operator housing, installation depth 6.10″/155 mm
3.2	1	1 cross member/mullion
3.3	2	Cooling fins (sides)
3.4	1	Cover trim
3.5	2	Trim color: light blue
3.6	2	Support arm connection at bottom
3.7	1	With cable tube connection
3.8	2	Rear panel, hinged with double-bit lock

Command Panel
Part No.: CP 6392.009
Design code number

1	1	2	1	2	2	1	2

4.1 Keyboard housings

For the internal or surface mounting of keyboards. Housings do not have cooling fins!

All keyboard housings are custom manufactured to your dimensions. Where the wide front frame is selected, the width of the keyboard is equal to the operator housing width.

1

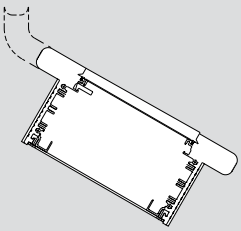
Installation depth
4.13″/105 mm

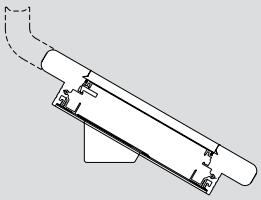
2

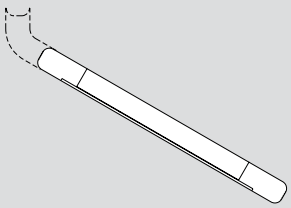
Installation depth
1.73″/44 mm

3

Depth 1.06″/27 mm
with cable entry
grommet







4.2 Types of trim*

Cover trim
To cover the front panel fixing screws.
For front panel thickness
≤ .14″/3.5 mm.

End trim
For an attractive finish between the front panel and the frame section.
For all front panel thicknesses.

Spacer trim
For installed equipment which is flush with the frame section.
For front panel thickness
of approximately .14″/3.5 mm.

1

Cover trim

2

End trim

3

Spacer trim

* Cannot be selected for keyboard housings with a depth of 1.06″/27 mm. In those cases, please enter an **X**.

4.3 Trim colors*

Enclosure corner protectors are likewise supplied in the chosen color.

1

Turquoise
(similar to RAL 5018)

2

Light blue
(similar to RAL 5012)

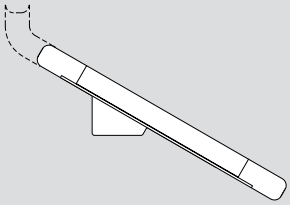
3

Bright red
(similar to RAL 3001)

* Cannot be selected for keyboard housings with a depth of 1.07″/27 mm. In those cases, please enter an **X**.

4

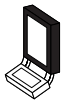
Depth 1.06"/27 mm for cable tube, flexible



For mounting on doors:

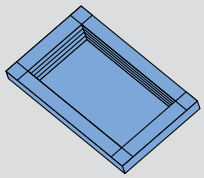
All keyboard housings may be ordered with the rear wall prepared for mounting onto a flat surface, like a door.
Additional parts needed:

- Enclosure duct connector CP 6006.000, for installation and cable routing.
- Door cross rails TS 8800.960 / TS 8800.980. For mounting on 24/32"; 600/800 mm wide TS/PS/ES doors.



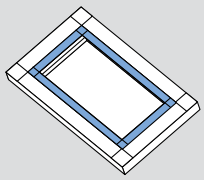
Examples:
To the right is an example of a typical configuration and the resulting design code numbers.

1				



Detailed dimensions, see pages 192/193.

1	1			



4

Purple
(similar to RAL 4006)

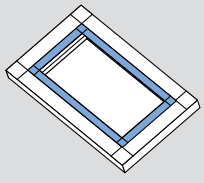
5

Pebble grey
(similar to RAL 7030)

6

Graphite grey
(similar to RAL 7024)

1	1	2		



4.4 Keyboard housing connector

Options for the connections between operator and keyboard housings.

	1	2	3
	Frame connector (rigid)	Frame connector (adjustable)	Enclosure duct connector
Keyboard housing depth:	**4.13/105**	**4.13/105**	**4.13/105**
inches/mm	**1.73/ 44**	**1.73/ 44**	**–**
	1.07/ 27*	**1.07/ 27***	**–**
Tilt angle:	**120°, rigid**	**75°-120°, adjustable in 7.5° increments**	**120°, rigid**
Cable duct:	**see 4.5**	**see 4.5**	**built-in**

* all versions.

Selection for 4.5 cable duct **0**.

4.5 Cable duct

RAL 7035

	0	1	2
	Without	Rigid [1]	Flexible
Keyboard housing depth:	**without**	**4.13/105**	**4.13/105**
inches/mm	**–**	**–**	**1.73/ 44**
	–	**–**	**1.07/ 27[2]**
Material:	**–**	**Aluminum**	**Plastic**

Additional parts needed:

Assembly parts for installing front panels, operator panels and keyboards in the operator and keyboard housing.
Selection – see page 208.

Our example

The pictures on the right-hand side give a step-by-step guide to designing your keyboard housing. The large picture on the right shows the solution we have chosen, together with its corresponding design code number. The following table explains how the code number in our example is compiled.

4. Design of the keyboard housing

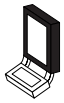
4.1	**1**	Keyboard housing, installation depth 4.13″/105 mm
4.2	**1**	Cover trim
4.3	**2**	Trim color: light blue
4.4	**1**	Frame connector, rigid
4.5	**1**	Cable duct, rigid

Like the operator housing, the dimensions and design of the keyboard housing are defined in a few simple steps. The dimensions and code number clearly identify your chosen design.

Keyboard housing
Part No.: CP 6351.009
Design code number

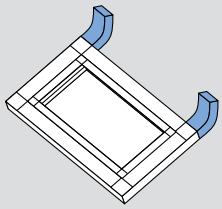
1 1 2 1 1

4	5
Enclosure bracket connector	Frame hinge connector
–	4.13/105
1.73/44	1.73/ 44
–	–
120°, rigid	75° – 120° infinitely adjustable
see 4.5	see 4.5

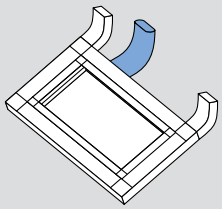


Examples:
To the right is an example of a typical configuration and the resulting design code numbers.

1	1	2	1	



1	1	2	1	1



Note:
As selected, included with the supply.

Detailed dimensions, see pages 192/193.

[1] Not possible with:
- 3.1 operator housing, design code numbers 3 + 7.
- 4.4 keyboard housings, design code number 2.

[2] Not possible with:
- 4.1 keyboard housing, design code number 3.

Complete design example for operator and keyboard housings

This example shows how to compile an entire VIP 6000 Command Panel operator housing.

- **Detailed dimensions** for the selected components can be found on pages 28 – 33.
- **Accessory components** such as handle sets, keyboard drawers, clipboards and mounting brackets can be found on pages 208 – 223.

Operator housing
Part No.: CP 6392.009
Design code number

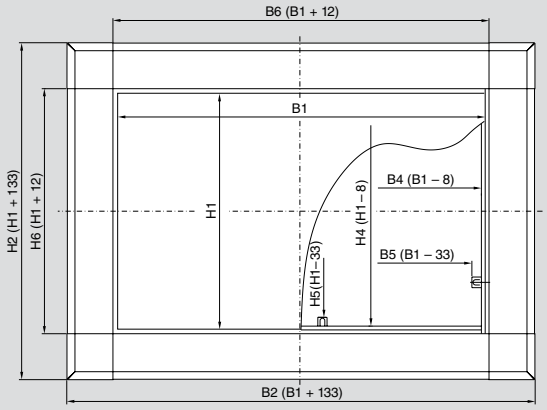
1	1	2	1	2	2	1	2

Keyboard housing
Part No.: CP 6351.009
Design code number

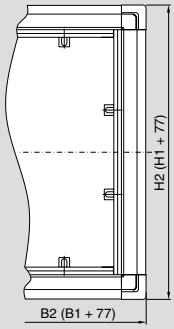
1	1	2	1	1

Command Panel

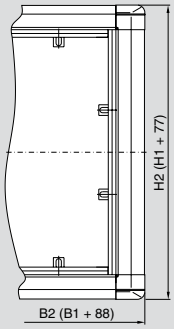
Front frame, wide



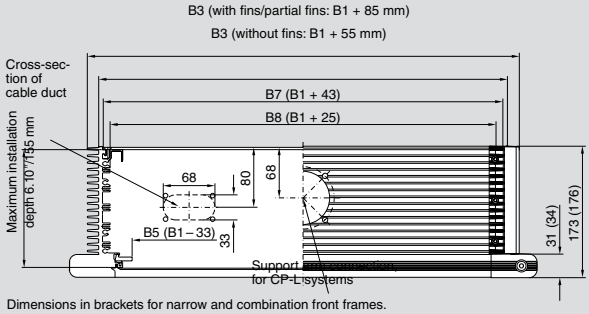
Narrow



Combination



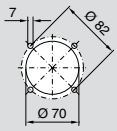
1 Installation depth 6.10″/155 mm



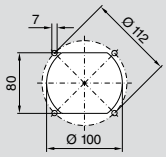
Dimensions in brackets for narrow and combination front frames.

Support arm connections

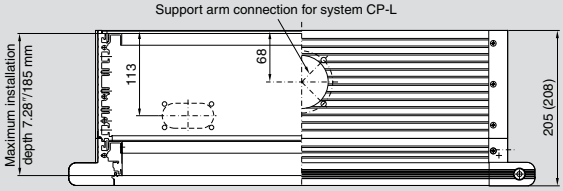
CP-L (CP 6500)



CP-XL (CP 6000)

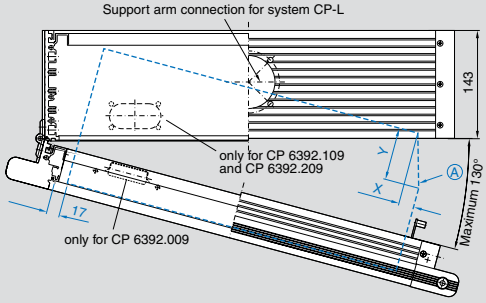


2 Installation depth 7.28″/185 mm, screwed-on



Dimensions in brackets for narrow and combination front frames.

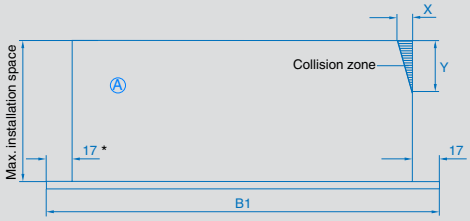
3 Install. depth 7.28″/185 mm, hinged



Height dimensions:
H1 = Height of front panel
H2 = Overall height
H3 = Enclosure height (With fins: H1 + 3.35″/85 mm; without fins: H1 + 2.17″/55 mm)
H4 = Clearance height between the enclosure sections
H5 = Clearance height between the retaining clamps
H6 = Clearance height between the front frames
H7 = Height of rear panel (H1 + 1.69″/43 mm)
H8 = Clearance frame, height (H1 + .98″/25 mm)

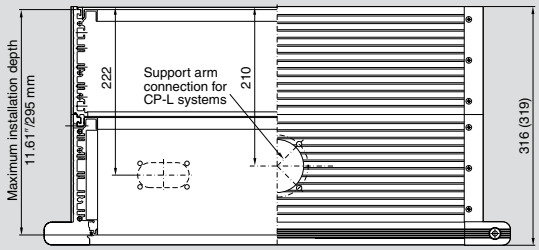
Width dimensions:
B1 = Width of front panel
B2 = Overall width
B3 = Housing width
B4 = Clearance width between the enclosure sections
B5 = Clearance width between the retaining clamps of the assembly parts
B6 = Clearance width between the front frames
B7 = Width of rear panel
B8 = Clearance frame, width

Ⓐ = Maximum installation space for hinged housings



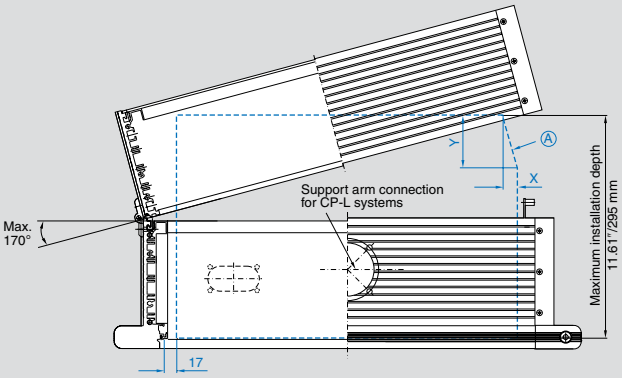
* see page 178

4 Installation depth 11.61″/295 mm, screwed-on

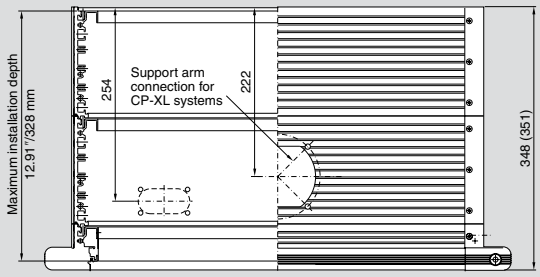


Dimensions in brackets refer to narrow and combination front frames.

5 Installation depth 11.61″/295 mm, hinged

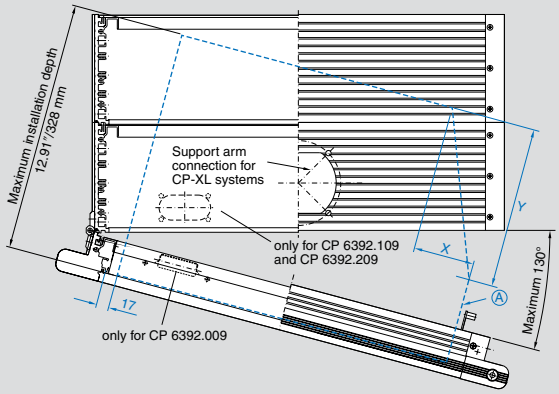


6 Installation depth 12.91″/328 mm, screwed-on

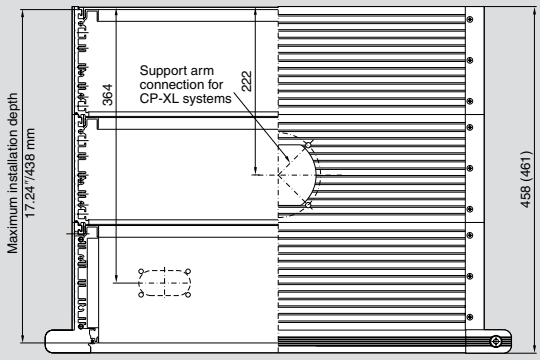


Dimensions in brackets refer to narrow and combination front frames.

7 Installation depth 12.91″/328 mm, hinged

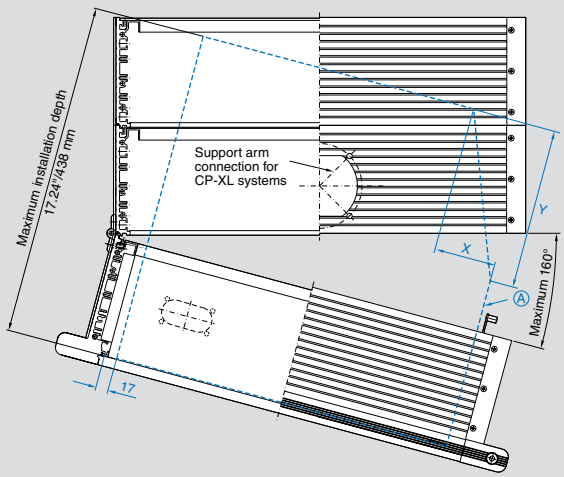


8 Installation depth 17.24″/438 mm, screwed-on

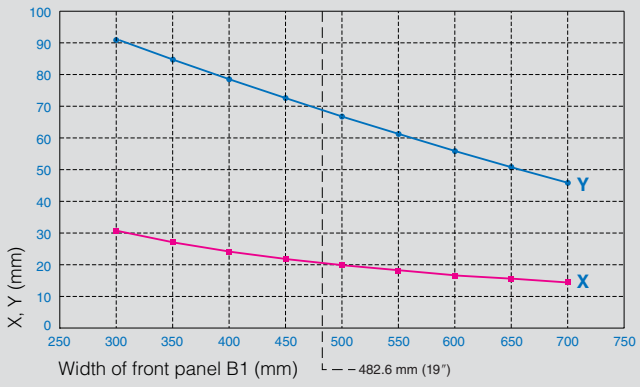


Dimensions in brackets refer to narrow and combination front frames.

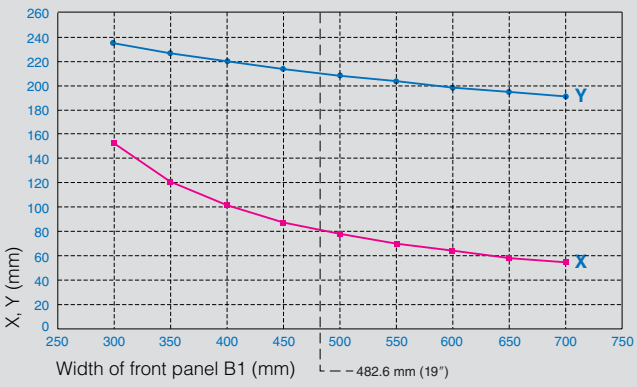
9 Installation depth 17.24″/438 mm, hinged



Calculating the swivel mounting space (version 3 and 5)



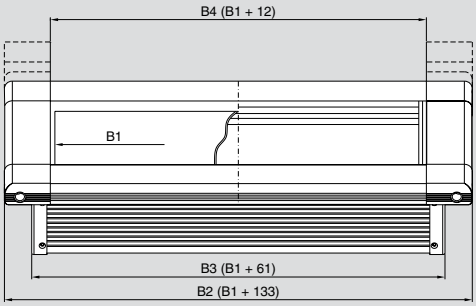
Calculating the swivel mounting space (version 7 and 9)

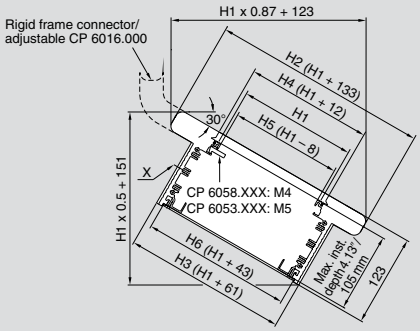


Keyboard housings

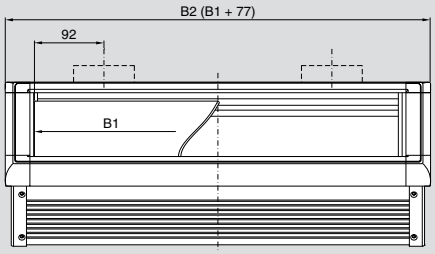
1 Installation depth 4.13″/105 mm

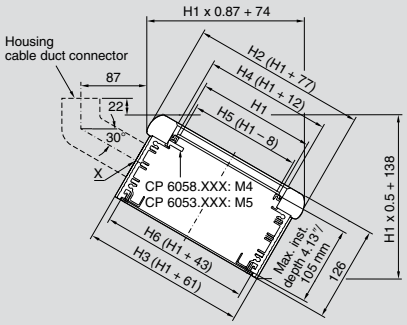
Front frame, wide



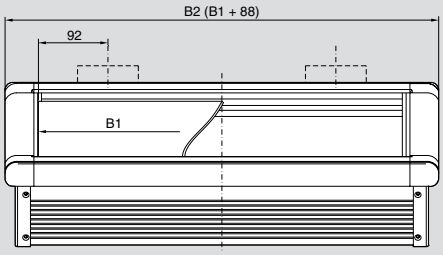


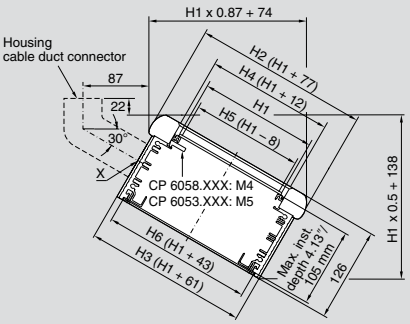
Narrow





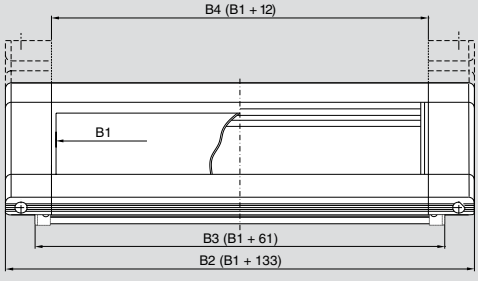
Combination

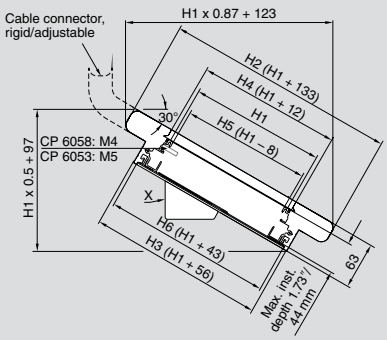




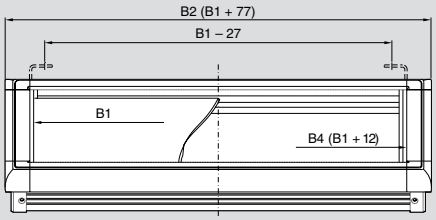
2 Installation depth 1.73″/44 mm

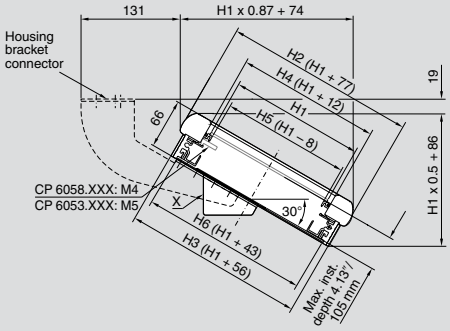
Front frame, wide



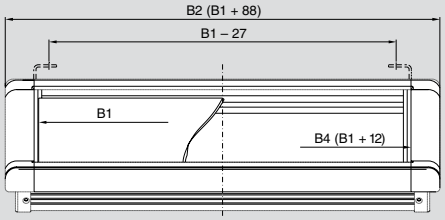


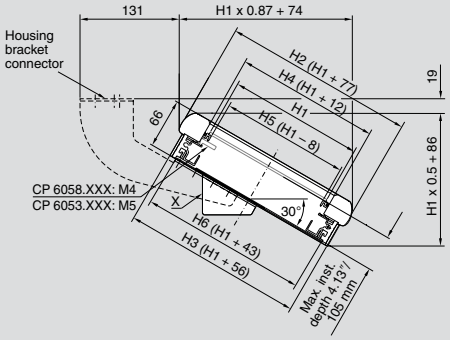
Narrow





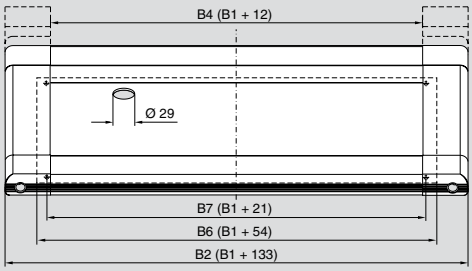
Combination

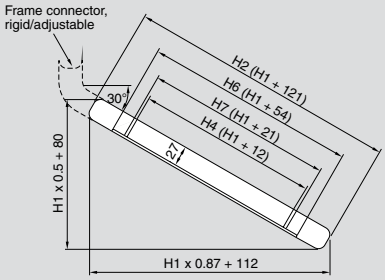




3 Depth 1.07″/27 mm

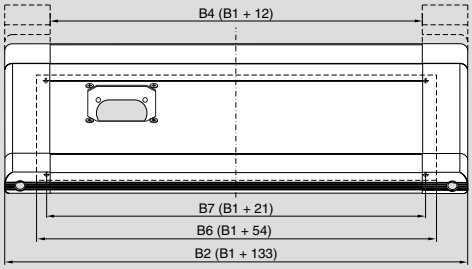
Wide front frame, with cable entry grommet

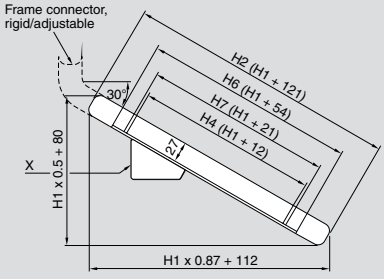




4 Depth 1.07″/27 mm

Wide front frame, for cable duct, flexible

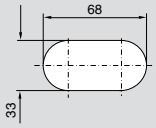




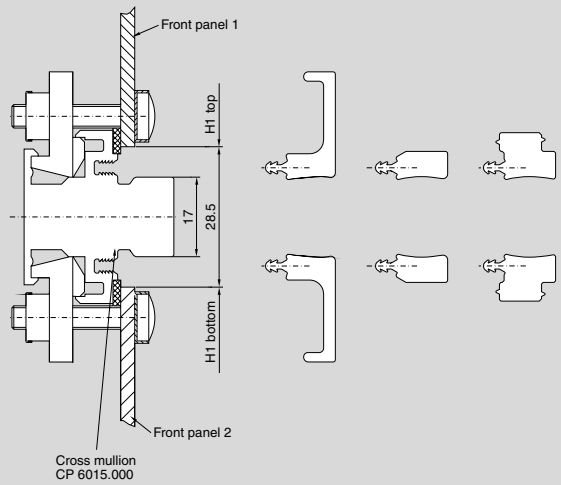
Height dimensions:
H1 = Height of front panel
H2 = Overall height
H3 = Enclosure height
H4 = Clearance height between the front frames
H5 = Clearance height between the enclosure sections
H6 = Height of rear panel
H7 = Distance between fasteners

Width dimensions:
B1 = Width of front panel
B2 = Overall width
B3 = Housing width
B4 = Clearance width between the front frames
B6 = Width of rear wall
B7 = Distance between fasteners

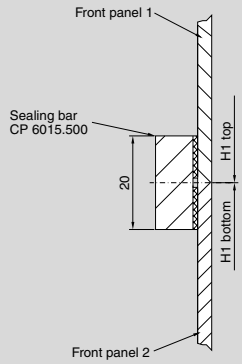
X = Cross-section of the cable tube connection



Cross mullion



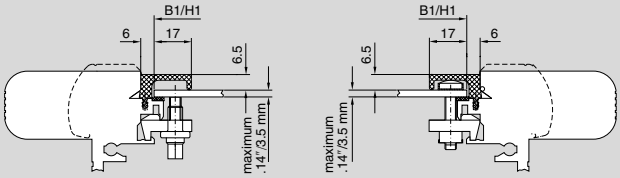
Sealing bar



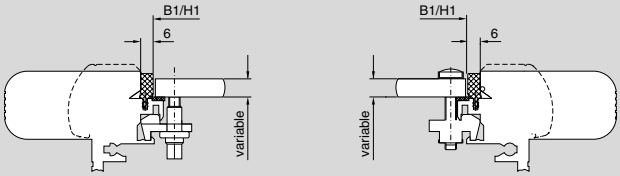
Front panel fastened from the inside

Front panel fastened from the outside

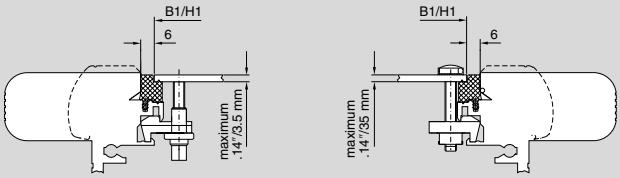
Cover trim
lower front panel, covered screws



End trim
lower front panel



Spacer trim
level front panel maximum .14″/3.5 mm



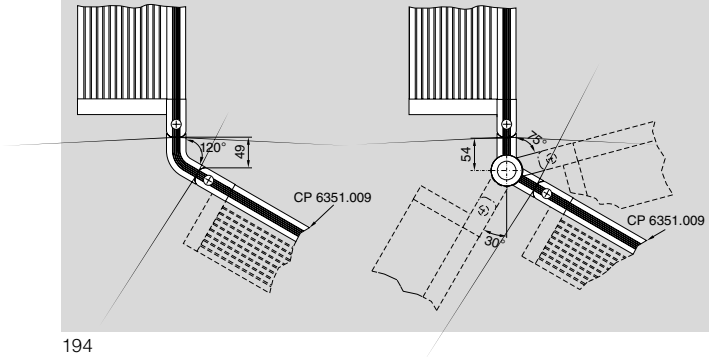
Installation kit:
M5: CP 6053.500
M4: CP 6058.500

Installation kit:
M5: CP 6053.000
M4: CP 6058.000
M6: CP 6053.000 / 6058.000
+ EL 2092.200
+ M6 x 25 fasteners

Keyboard connection frame wide front frame

Frame connector, rigid for any keyboard housing

Frame connector, adjustable for any keyboard housing

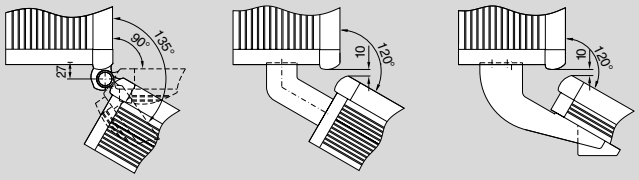


Keyboard connection for narrow and combination front frame

Frame connector hinged
for keyboard housings:
installation depth
4.13″/105 mm
+ 1.73″/44 mm

Housing duct connector
keyboard housings:
installation depth
4.13″/105 mm

Housing bracket connector
for keyboard housings:
installation depth
1.73″/44 mm



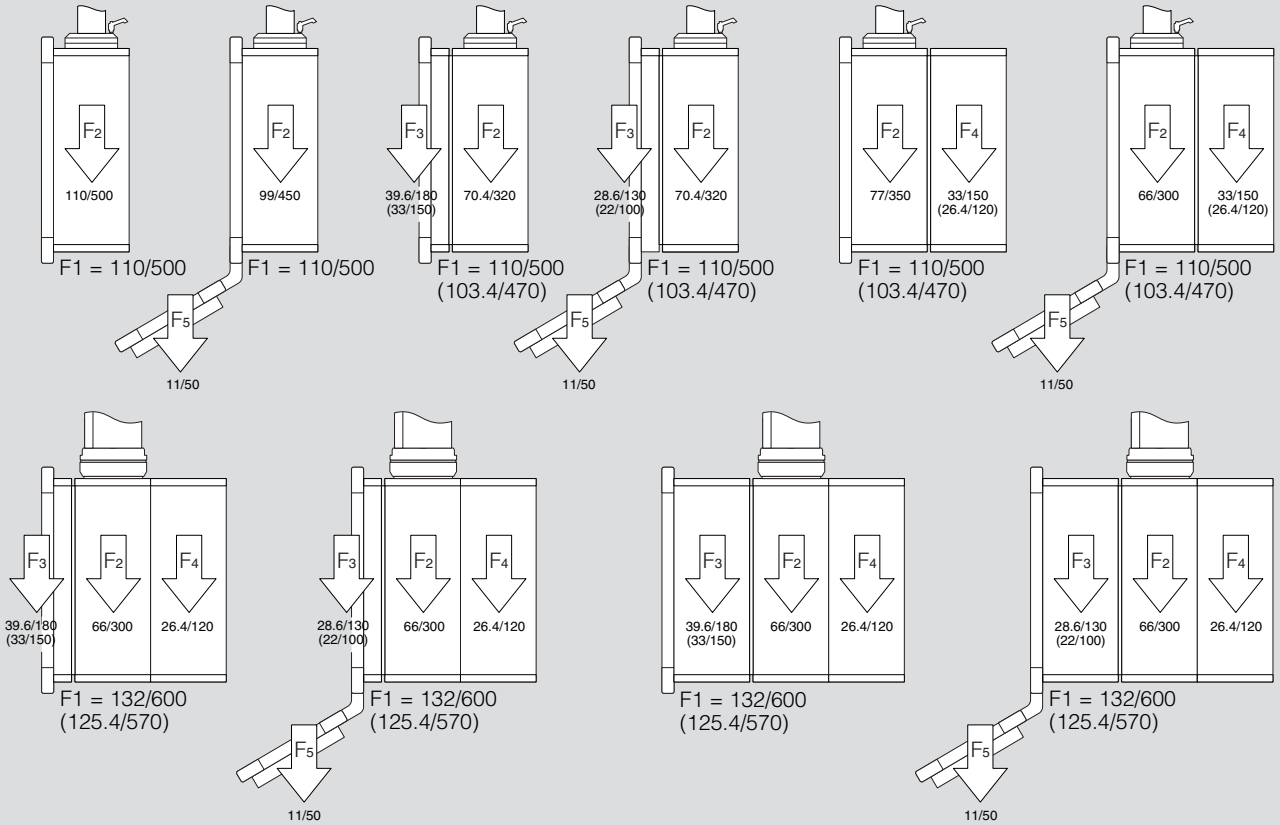
Minimum front panel width (B1)

dependant on
- installation depth of operator housing
- connection of operator/keyboard housing
- location of the pendant arm connection

Dimensions in inches/mm		Installation depth of operator housings (see 3.1, pages 180 – 181)				
		6.10/155	7.28/185	11.61/295	12.91/328	17.24/438
Connection to the keyboard housing (see 3.7, pages 184 – 185)	Position of the carrying arm connector (see 3.6, pages 182 – 183)	1	2 3	4 5	6 7	8 9
0 None	0 to 3 top or bottom	minimum front panel width				
		169	265	169	265	265
1 Frame connector or 4 Frame hinged connector	1 top	169	265	169	265	
	2 and 3 bottom	339*	445*	339*	445*	
2 Housing cable connector	1 top	189	265	189	265	
	2 and 3 bottom	339	445	339	445	
3 Housing arm connector	1 top	169	265	169	265	
	2 and 3 bottom	397*	445*	397*	445*	

* Smaller front panel widths are available by request but will require off-center pendant arm attachment.

Installation components load limits in lbf/N
lbf = 0.2242 x 'N'



Installation weight limit:
F_1 = total weight, F_2 = housing (with support arm),
F_3 = front part, F_4 = rear part, F_5 = keyboard housing

Values in parenthesis are for the hinged version
(see 3.1 operator housing, pages 180/181).
Housing for higher weights upon special design only.

■ Special Optipanel sizes

Rittal's new Optipanel operator housing can be custom produced exactly to the dimensions of your operator panel as well as the desired equipment.

Rittal's step-by-step guide on page 200 will assist you in the selection, configuration and order of your totally customized Optipanel.

■ Each installation point can be reached

Ideally, the operator panel should be mounted from the outside to allow the unit to be easily installed from the front.

The retaining clamps, with sliding cage nuts, provide the space to facilitate practically all points between .28 to .51″/ 7 to 13 mm.

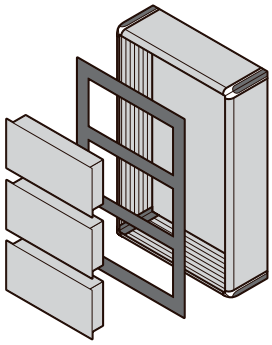
Front panels with spacer bolts or tension screws can be used.

Easy front installation. A .14″/3.5 mm front panel is set flush with the trim strip gasket.

Front plates with stud bolts can be used.

The placement of the installation kit can be moved to the mounting holes or stud in either the front plate or HMI device.

■ Numerous solutions



In cases where the installation requirements of the panel, front plate or the required enclosure depth doesn't match the prerequisites of Rittal's standard models, we offer a variety of individual solutions with our build-to-order program.

Individual knockouts and installation options can be achieved with our adaptor plate.

Hence, Rittal can ensure a variety of solutions for your HMI application. Please contact your Rittal representative for additional information.

Operator/keyboard housings:

Material:
Enclosure body:
aluminum extrusion
Corner pieces:
zinc die-cast
Protective corners:
plastic, self extinguishing
Sealing trim strips:
flexible plastic extrusions

Finish:
Enclosure body:
natural anodized
Corner pieces:
finely textured, powder coated
RAL 7035 light grey
Protective corners and trim strips:
dyed similar to RAL 7024 graphite grey
Other colors are available with large order quantities
- RAL 5018 turquoise
- RAL 5012 light blue
- RAL 3001 bright red
- RAL 4006 purple
- RAL 7030 pebble grey.

Protection ratings:
NEMA 12/IP 65 (with the proper front panel installed).
UL/cUL approvals pending.

■ Standard enclosure

Rittal offers the most commonly used enclosures (19″ x 7U) with a depth of 4″/ 100 mm as a standard off the shelf option (see pages 198/199).

1 Enclosure body profile
Is available in 3 depths (1.97″/50 mm, 3.97″/100 mm, and 5.90″/150 mm).

3 Sealing trim strip all around
No additional gasketing is needed for the front panel assembly.

5 T-slot all around perimeter
Inside installation with M5 spring clip nuts (CP 6108.000) as well as cable tie clips (CP 6059.500), see page 214.

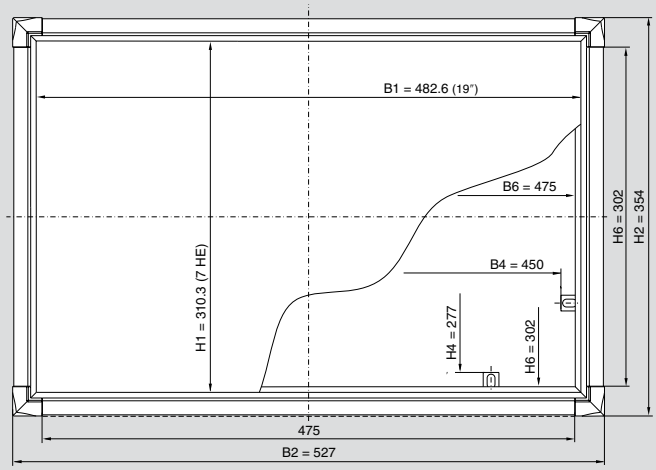
7 Keyboard housing
Included in supply if selection 2.5 is chosen (see page 204). Two installation depths (1.97″/50 mm, 3.97″/ 100 mm).

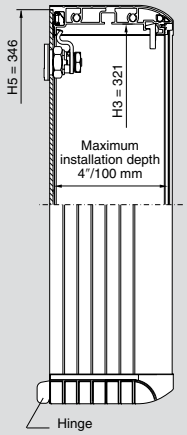
2 Cross mullion or sealing bar
For installation of components without destroying the NEMA protection rating. Vertical and horizontal mounting possible.

4 Swivel angle
Between operator and keyboard housing, smoothly adjustable from 80° to 155°.

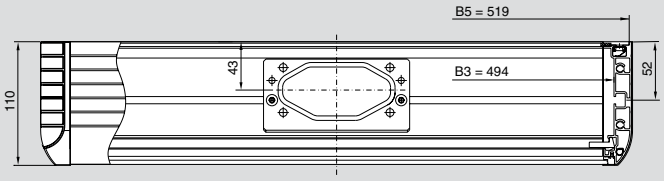
6 Rear walls
May be screw fixed or hinged on the longer side (for support arm configuration, only possible on the side opposite the support arm).

8 Protected cable routing
Between operator and keyboard housing through flexible cable ducts.

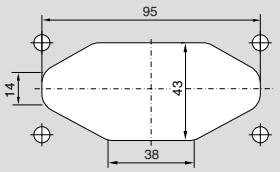




HE = U



Support arm cutout CP-L ▭



Height dimensions:
H1 = Height of front panel
H2 = Total height
H3 = Clearance between enclosure profiles
H4 = Clearance between retaining clamps
H5 = Height of rear wall
H6 = Clearance for mounting (trim-to-trim)

Width dimensions:
B1 = Width of front panel
B2 = Total width
B3 = Clearance between enclosure profiles
B4 = Clearance between the retaining clamps of installation kit
B5 = Width of rear wall
B6 = Clearance for mounting (trim-to-trim)

Note:
Installation prerequisites for direct mount of panel, see page 200.

Standard sizes in stock

Rittal offers a standard operator housing designed for smaller panels that can be installed with dials, light displays, emergency cut off, etc. into front panels, or for direct built-in of 19″ x 7 U panels/front plates.

Version:
- Fits 19″ x 7 U front panel.
- Installation depth 4″/100 mm. With support arm connection for system CP-L ▭ 4.72 x 2.56″/120 x 65 mm at the bottom.
- Turn the enclosure for connection on top.
- Hinged rear wall.

Material:
Enclosure body:
aluminum extrusion
Corner pieces:
zinc die-cast
Protective corners:
plastic, self-extinguishing
Gasketing trim strip:
flexible plastic extrusion

Finish:
Enclosure body:
naturally anodized
Corner pieces:
powder coated RAL 7035 light grey finely textured
Protective corners and gasketing trim strip: dyed similar to RAL 7024 graphite grey

Protection ratings:
NEMA 12/IP 65
(with appropriate front panel installed).

Part No. CP	6380.000

Locking systems:
Standard double-bit insert, exchangeable for 1.61″/41 mm, Version C, see page 942, plastic handles and T-handles, Version C, see pages 940/941.

Standard dimensions for front panel 19″ x 7 U

German Registered Design
No. 4 00 02 955

Additional parts needed:

Installation kit for mounting front panels, operator panels, and keyboards.
Selection, see page 208.
For connection to support arm system CP-L:
enclosure coupling
CP 6525.1X0
or
enclosure mount
CP 6525.6X0,
see page 250.

Optional accessory:

Support arm system CP-L,
see pages 244 – 255.

Installation kit
- with screws
- with threaded bolts
- for tension screws.

Details on page 208.

Spring nut M5
to insert into the fixing channels of the Optipanel.
Details on page 214.

Cable grommet
for sealed throughput of cables with plugs.
Part No. SZ 2400.500,
PU = 5 pieces.

■ 1. Installation criteria checklist

Please check the following installation criteria to determine if your operator panel can be installed directly into the Optipanel.

The dimensions of your panel and the number of mullions determine the dimensions of the operator and keyboard housing.

If your application requires additional configurations, customized solutions can be provided (see page 196).

① **.28 to .51″/7 to 13 mm distance from the side** of the customized solutions can be provided.

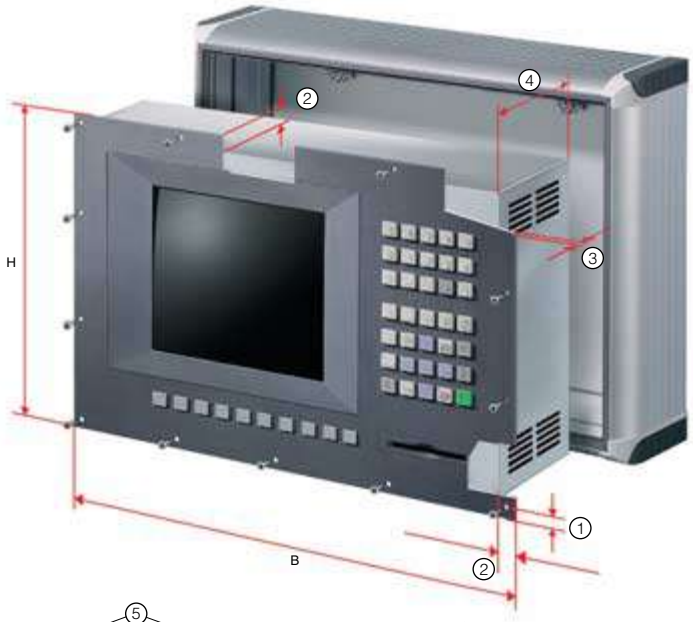
② **Front over-hang** of at least .67″/17 mm on sides with installation points or bolts – at least .24″/6 mm on sides without installation points.

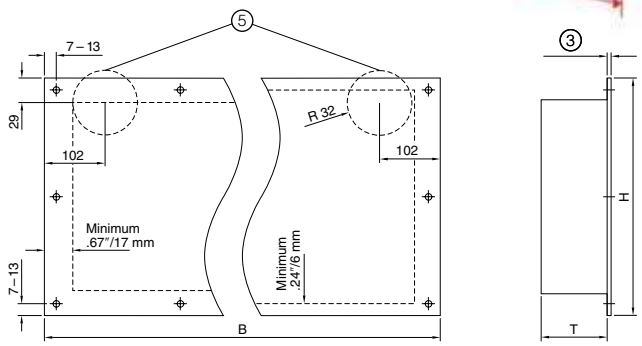
③ **Front panels up to .20″/5 mm.** The front panel meets flush with the gasket trim strip and the enclosure front at a thickness of approximately .14″/3.5 mm.

④ **Depths:**
Operator housing = 2″/50 mm, 4″/100 mm, 6″/150 mm.
Keyboard housing = 2″/50 mm, 4″/100 mm.

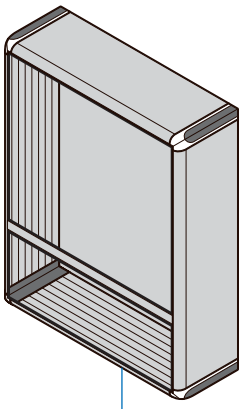
⑤ For versions with a hinged rear panel, the maximum possible installation depth is reduced by 1″/25 mm around the lock.

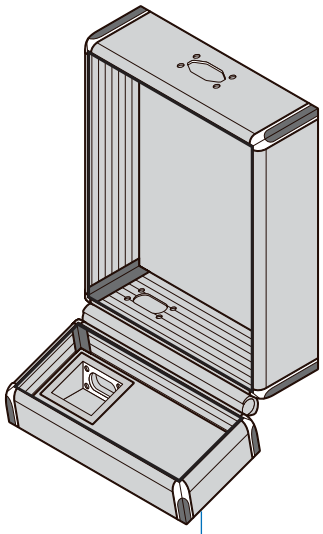
B = W (width)
T = D (depth)





■ 2. Operator/keyboard housing



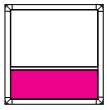
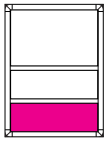


Part No. CP

6	3	8	2	.	0	0	9

■ 3. Enter panel dimensions

2.1 For operator housings
State the number of front panels/plates you use – their dimensions, height (H) x width (W) x depth (D) or the manufacturer/model (see criteria on page 200).

	H x W x D inches/mm	
	Manufacturer/ model	
	H x W x D inches/mm	
	Manufacturer/ model	
	H x W x D inches/mm	
	Manufacturer/ model	

2.2 For keyboard housings
The width of the keyboard housing must correspond with the width of the operator enclosure.
Please indicate the height (H) x width (W) x depth (D) of your keyboard/tray, or the manufacturer model (see criteria on page 200).

	H x W x D inches/mm	
	Manufacturer/ model	

■ Versions of operator/keyboard housings

State the design code number of your selection here, see pages 202 – 205. ☐☐☐☐☐

2.1 Operator housings

1

Installation depth 2″/50 mm

2

Installation depth 4″/100 mm

2.2 Front configuration

0

Without cross mullion

1

With cross mullion*

2

With sealing bar*

* Number required according to hinges needing to be sealed off. Example: 3 front panels in the operator housing = 2 cross mullions = 1 cross/mullions/1 sealing bar included in configuration. Other combinations upon request.

2.3 Support arm and pedestal connector

0

Without connector

1

Connector on top

2

Connector on bottom

3

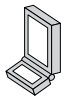
Connect on top and bottom*

CP-L ▭
for enclosure coupling CP 6525.1X0,
enclosure mount CP 6525.6X0
only valid for installation depth
4″/100 mm
and 6″/150 mm

* Includes a cover plate to seal off the unused cutout.

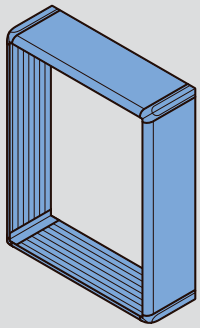
3

Installation depth 6″/150 mm



Examples:
To the right is an example of a typical configuration and the resulting design code numbers.

2				



3

With spacer and installation panel**, on the top

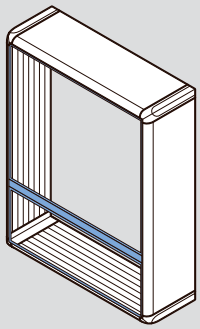
4

With spacer and installation panel**, on the bottom

5

With one adaptor plate (as per specifications)

2	1			



** Technical details, see pages 206/207. Extended lead times.

4

Connection on top

5

Connection on bottom

6

Connection on top and bottom*

7

Top rear connection*

8

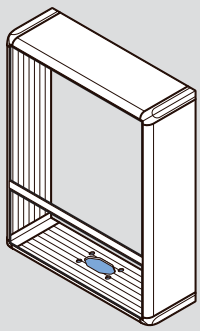
Bottom rear connection

* In RAL 7030 unless requested other wise.

for CP 6525.1X0, CP 6525.6X0

CP-L ○
for enclosure coupling CP 6525.0X0,
enclosure mount CP 6525.5X0,
angle coupling CP 6526.0X0
applies to 6″/150 mm installation depth only

2	1	2		



2.4
Rear wall

Aluminum, .12″/3 mm, natural anodized.

Note:
1) For 50 mm housings with support arm connection, the rear wall must be hinged on the side opposite the support arm.
2) Not possible for operator housing 2″/50 mm deep with keyboard housing.
3) Standard double-bit lock insert may be exchanged for other 1.61″/41 mm inserts, version C, see page 942, plastic handles and T-handles, version C, see pages 940 – 941.
4) With a hinged rear wall the maximum installation depth around the lock is reduced by 1″/25 mm (see page 200, ⑤).

1

Rear wall screwed-on

2

Rear wall is hinged on the longest side.
Viewed from the rear right or bottom hinged
1) 2) 3) 4)

2.5
Keyboard housings

Width is independent from operator housing. The swing bracket is smoothly adjustable from 80° to 155°.

0

Without keyboard housing

1

With keyboard housing
Installation depth 2″/50 mm

■ Signal lights

A signal light can be installed with the assembly component SZ 2375.0X0 and the conduit connection (SZ 2368.000) to the support arm system CP-L. Fits angle piece (CP 6524.0X0) and angle coupling (CP 6526.0X0). Detailed information may be found on pages 1000 – 1002.

Additional parts needed:

Installation kit for the installation of front panels, operator panels and keyboards into operator or keyboard housings. Selection, see page 208.

Optional accessories:

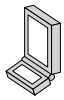
	Pages
Support arm system CP-L	244 – 255
Pedestal	236 – 241
CP-Vertical	264/265

For support arm components for the Optipanel connection to a CP-L support arm, see page 248 and 250.

Doormount:

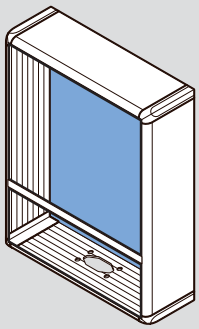
All operator/keyboard housings may be configured for mounting onto another surface – as a special order.

Additional parts needed:
- Housing-cable duct CP 6006.000, see page 220. For installation and cable routing.
- Cross support-bar for door TS 8800.960 / TS 8800.980. For installation onto 24 or 32″/600 or 800 mm wide TS/PS/ES doors.



Examples:
To the right is an example of a typical configuration and the resulting design code numbers.

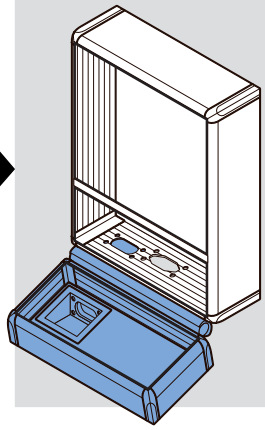
2	1	2	1	



2

With keyboard housing
Installation depth 4″/100 mm

2	1	2	1	1



Optipanel configuration example:

The drawing, above right, highlights the build-up of the Optipanel as various options are added. The photo to the right shows the final configuration along with the configuration design code number below. The following table shows the composition of the design code number.

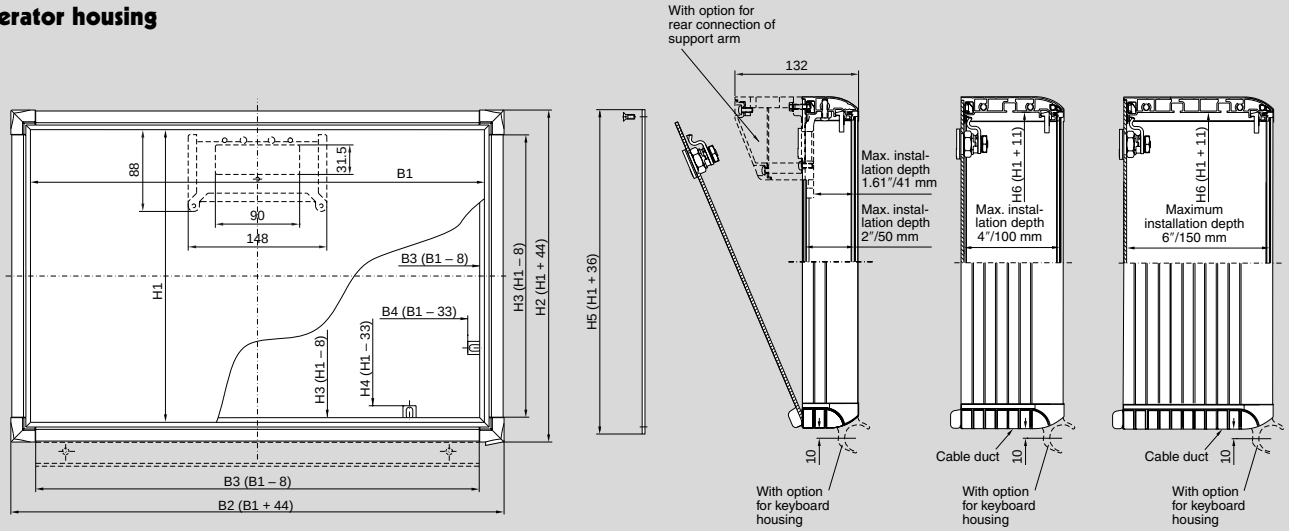
2.1	**2**	Operator housing, installation depth of 4″/100 mm
2.2	**1**	With mullion
2.3	**2**	Support arm connection CP-L ▭, bottom
2.4	**1**	Rear wall, screwed-on
2.5	**1**	Keyboard housing, installation depth 2″/50 mm

You can easily define the dimensions and configuration of an operator housing in just a few steps.
Please provide the following pieces of information for your RFQ or order:
1. Part No.: CP 6382.009
2. Dimensions and number of panels/front plates in the operator or keyboard housing, along with drawings for holes/cutouts
3. Configuration of design code number

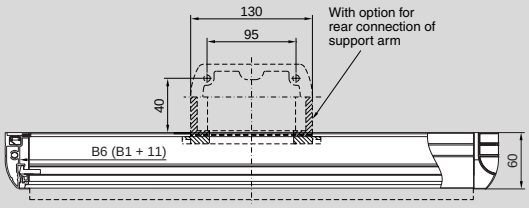
Operator/keyboard housings
Part No.: CP 6382.009
Design code number

2	1	2	1	1

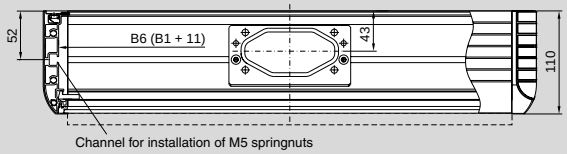
Operator housing



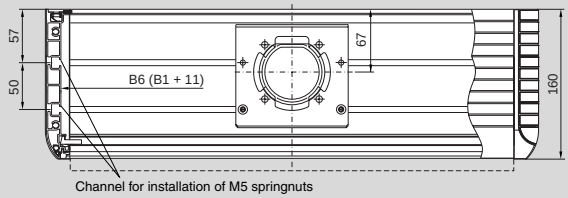
Installation depth 2″/50 mm



Installation depth 4″/100 mm

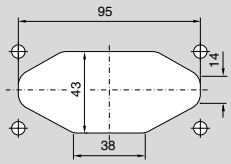


Installation depth 6″/150 mm



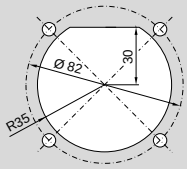
Support arm cutout

CP-L ▭
For installation depth 4 – 6″/100 – 150 mm



For mounting of:
- CP 6525.1X0
- CP 6525.6X0

CP-L ○
For installation depth 6″/150 mm



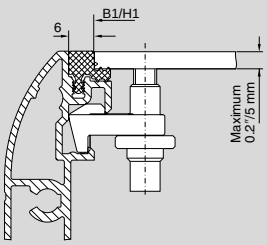
For mounting of:
- CP 6525.0X0
- CP 6525.5X0
- CP 6526.0X0

Height dimensions:
H1 = Height of front panel
H2 = Total height
H3 = Clearance between enclosure profiles
H4 = Clearance between retaining clamps of installation kit
H5 = Height of rear wall
H6 = Height clearance for mounting (trim-to-trim)

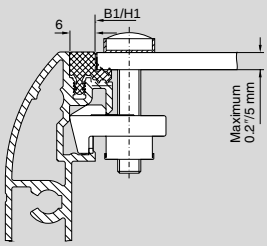
Width dimensions:
B1 = Width of front panel
B2 = Total width
B3 = Clearance between enclosure profiles
B4 = Clearance between retaining clamps of installation kit
B5 = Width of rear wall (B1 + 36)
B6 = Width clearance for mounting (trim-to-trim)

Front panel, screwed-on

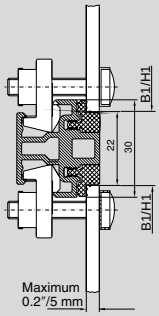
from inside



from outside

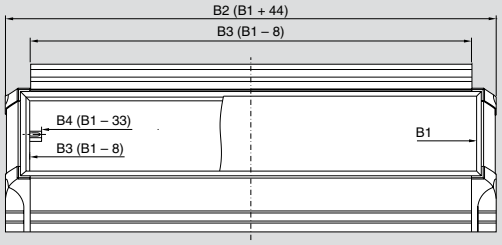


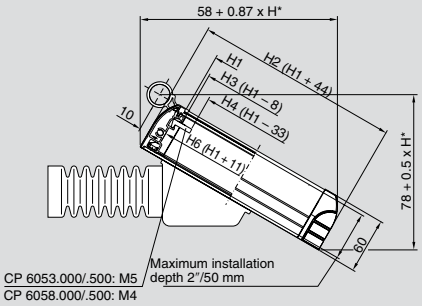
Cross mullion



Keyboard housings

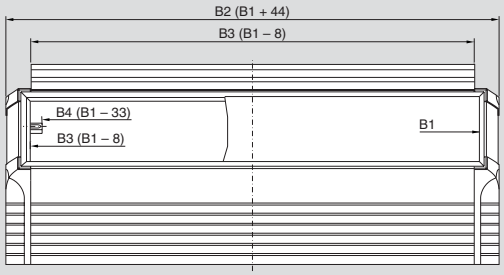
Installation depth 2″/50 mm

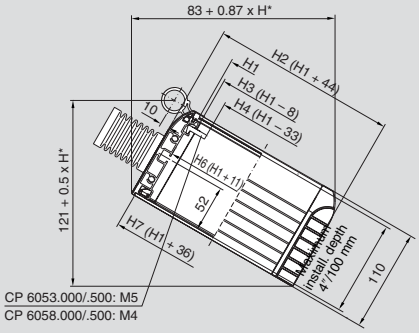




* for tilt of 30° to the horizontal

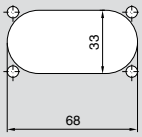
Installation depth 4″/100 mm





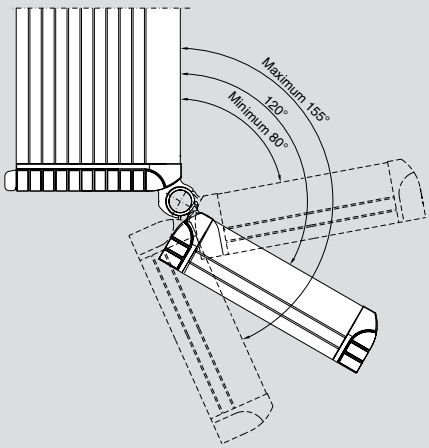
* for tilt of 30° to the horizontal

Cross-section of cable duct connection



Keyboard housing connection

Hinged frame connector



Frame connector angle easily adjustable from 80° to 155°.

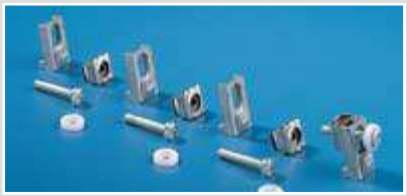
Minimum width of front panel (B1):

Depending on
- Installation depth of the operator housing
- With or without keyboard housing
- Position of support arm connection

		Installation depth of operator housing (see 2.1, pages 202 and 203)		
2.5 Keyboard housings (see pages 204/205)	2.3 Position of the support arm connection (see pages 202/203)	2″/50 mm	4″/100 mm	6″/150 mm
		minimum width of front panel (mm)		
0 without	**0** to **8** top, bottom or to the rear	160 (265)	150	150
1 and **2** with	**1** **4** **7** **8** top or to the rear			
	2 **3** **5** **6** bottom	378*	339*	339*

( ) Values in parentheses:
Only for hinged rear wall configuration (see pages 204 – 205, 2.4)
Version **2** and rear connection (see pages 202/203, 2.3) version **7** and **8**.

* Smaller front panel widths are available by request but will require off-center pendant arm attachment.



with screws

with threaded bolts

Installation kit

For the installation of
- Aluminum front panels
- Operator panels
- Keyboards in the Command Panel
- VIP 6000
- Optipanel operator and keyboard housings.

With screws

For front panels	Thread	Part No. CP
Rittal and others	M5	**6053.000**
Others	M4	**6058.000**

Configuration:
PU = 30 retaining clamps, cage nuts, screws and sealing washers.

With threaded bolts

Thread	Part No. CP
M4	**6058.500**
M5	**6053.500**

Configuration:
PU = 10 retaining clamps, and screws with bushings.

Installation kit for clip mounting

Tension clips intended for surface mounting (e.g.: Siemens, Sinumerik OP 012) can easily and securely be compression mounted with the installation kit.

For housings	Part No. CP
VIP 6000 and Optipanel	**6053.200**

Configuration:
PU = 2 installation clips, 4 retaining clamps and screws.

Aluminum front panel

with .22″/5.5 mm Ø mounting holes for the configuration of operator panels.

Material:
Aluminum, 11 ga/3.0 mm, natural anodized.

Note: When several front panels are used in the operator housing
- VIP 6000
- Optipanel

cross mullions are required for the division of the sections, see page 221.

Rittal Service:
Other dimensions and configurations with threaded bolts, knockouts and engravings by special request.

Height	Width	Part No. CP
3.5 U/ 155 mm	19″/ 482.6 mm	**6027.000**
4 U/ 177 mm	19″/ 482.6 mm	**6019.000**
7 U/ 310.3 mm	19″/ 482.6 mm	**6028.000**
7 + 3.5 U/ 493.8 mm*	19″/ 482.6 mm	**6029.000**

* The front panel height consists of a CP 6027.000 plus CP 6028.000 as well as a mullion (+ 28 mm) for VIP 6000.

Additional parts needed:
Installation kit CP 6053.000, see above.

Cover plate

As a secure cover for an unused support arm connection in the enclosure body.

Material:
Sheet steel, chromated

Configuration:
Cover plate with gasket, assembly parts included.

Support arm connection	Part No. CP
CP-XL ○	**6505.000**
CP-L ○	**6505.500**
CP-L ▭	**6505.100**

Note:
- VIP 6000 or
- Optipanel

operator housings equipped with two support arm connections include one cover plate in the configuration of the enclosure body.

VIP 6000

Optipanel

Spacer and installation panel

Provides additional space for cable entry
- Buttons/Indicator lights
- Emergency shut-off/lockable switches
- CD-ROM/disk drives
- Meters, etc.

Snap-on installation (horizontal or vertical) fasten from the rear.

Additional spacer or installation panels, front panels and operator panels are possible without additional cross mullions.

Material:
Aluminum extrusion, natural anodized.

Configuration:
Panel with assembly parts and end trim (VIP 6000), sealing trim (Optipanel).

For VIP 6000

For front panel width	Part No. CP
19″/482.6 mm	**6015.300**
Special	**6015.309**

Height is equivalent to a front panel height of 4.06″/103 mm.

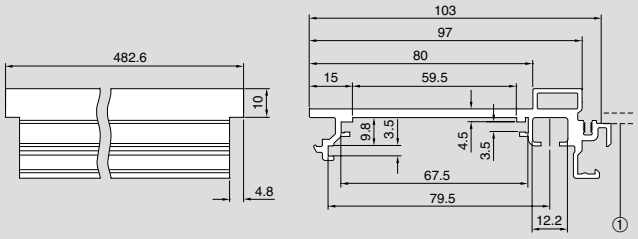
Trim colors see pages 182/183. Please specify on your order.

For Optipanel

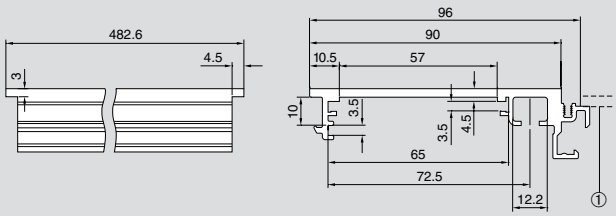
For front panel width	Part No. CP
19″/482.6 mm	**6386.300**
Special	**6386.309**

Height is equivalent to a front panel height of 3.77″/96 mm.

VIP 6000



Optipanel



① Other spacer and installation panels, front panels or operator panels.

Lock inserts

Version C
VIP 6000/Optipanel hinged versions of the operator housing and/or with hinged rear panels have the option of exchanging the lock inserts of the cam locks.

Note:
With this lock insert application the lock hook is located approximately 1.25″/32 mm inside the enclosure body.

Material:
Zinc die-cast

Length 1.61″/41 mm	Part No. SZ
.26″/7 mm triangular	**2527.000**
.31″/8 mm triangular	**2528.000**
.26″/7 mm square	**2523.000**
.31″/8 mm square	**2526.000**
Daimler insert	**2522.000**
.12″/3 mm double-bit	**2483.000**

VIP 6000 handle set for the wide frame

For mounting on the corner connectors of the enclosure frame.

Material/finish:
Handle tube: aluminum extrusion, natural anodized
Handle holder: zinc die-cast, powder painted in RAL 7035 light grey

For horizontal mounting
on
- Operator housings
- Keyboard housings
- VIP 6000 component table

For front panel width	PU	Part No. CP
19″/482.6 mm	1 set	**6101.000**
per specifications	1 set	**6101.009**[1)]

Configuration:
PU = 2 handle holders, 1 handle tube, 2 screws.

For vertical side mounting
on
- Operator housings
- Keyboard housings

For front panel width	PU	Part No. CP
7 U	1 set	**6102.000**
7 + 3.5 U[2)]	1 set	**6103.000**
per specifications	1 set	**6102.009**[1)]

[2)] divided by cross mullion CP 6015.000

Configuration:
PU = 4 handle holders, 2 handle tubes, 4 screws.

Optional accessories:

Clipboard, see page 212.

Ring board, see page 212.

[1)] Please include in your order:
- Number and dimensions of the front panels
- Number of cross mullions of sealing bars
  or
- Order number of your enclosure.

Note:
The handle may be cut down for smaller height or width dimensions.

Handle set

For horizontal or vertical mounting on the enclosure wall of:
- VIP 6000 with combination or narrow front frame,
- Optipanel or
- other enclosures.

Fixing holes (surfaces without fins) and recesses (surfaces with fins) are required for installation. The VIP 6000 with fins can be milled as needed. Please specify with the operator/keyboard housing:
"Prepared for handle set CP 6107.XXX."

Material:
Handle holder:
zinc die-cast, painted RAL 7035 light grey
Cover plugs:
plastic, similar to RAL 7035 light grey
Handle tube:
aluminum, natural anodized,
similar to RAL 9006 white aluminum

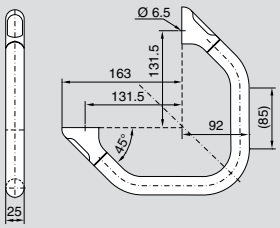
Note:
Suitable for mounting on all surfaces.

Corner handle

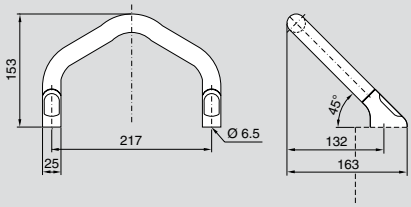
Configuration:
PU = 4 handle holders, 2 handle tubes, installation hardware included.

PU	Part No. CP
1 set	**6107.000**

Mounting on enclosure corner



Mounting on flat surfaces (90° rotation of handle holder)



U handle

Configuration:
PU = 2 handle holders, 1 handle tube, installation hardware included.

For front panel dimensions	PU	Part No. CP
≥ 7 U	1 set	**6107.100**
19″/482.6 mm	1 set	**6107.200**

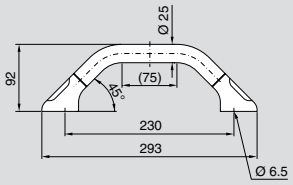
Optional accessories:

For CP 6107.200:

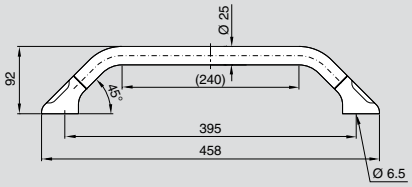
Clipboard,
see page 212.

Ring board,
see page 212.

CP 6107.100
Mounting on flat surfaces
(for front panel size 7 U)



CP 6107.200
Mounting on flat surfaces
(for 19″/482.6 mm)



Clipboard

For securing operator instructions or plans (A4 format = 210 x 297 mm and letter size 8.5″ x 11″ or approximate A size) at eye level. Prepared for mounting on the right-hand side; it may also be mounted on the left by unscrewing and moving the clip. For mounting purposes, a tube ≥ 8″/ 200 mm long is required.

Material:
Sheet steel, painted RAL 7035 light grey
Clip: aluminum, natural anodized

Height	Width	Part No. CP
12″/315 mm	9″/225 mm	**6013.000**

Additional parts needed:

Vertical handle set CP 6102.000, CP 6103.000 or CP 6107.200, see pages 210/211.

Clipboard in conjunction with VIP 6000 Command Panel:
German Utility Model No. 295 11 459
European No. 0 839 093 with validity for DE, FR, GB, IT

Ring board

An alternative to clipboard CP 6013.000. Four-ring strip (A4 format = 210 x 297 mm or approximate A size), for filing plans or documents.
May be mounted on the left or right.
For mounting purposes, a tube ≥ 8″/ 200 mm long is required.

Material:
Sheet steel, painted RAL 7035 light grey
Ring strip: .63″/16 mm sheet steel, chromated

Height	Width	Part No. CP
12″/315 mm	9″/225 mm	**6013.500**

Additional parts needed:

Handle set, see pages 210/211.

Connector grommet

For easy routing of up to 3 cables pre-assembled with connectors. Simply insert the cables and screw down. A high NEMA 12/IP 65 protection rating can be maintained. This makes this connector grommet an ideal addition for the NEMA 6/ IP 67 mouse (Part No. see page 217).

Technical description:
- For mounting on any sufficiently large surface, such as front panels.
- Accommodates 3 cables up to a diameter of .24″/6 mm.

PU	Part No. SZ
5	**2400.500**

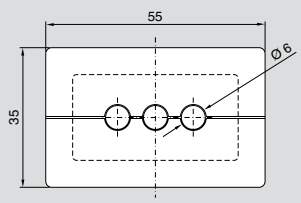
- For material thicknesses of up to .16″/ 4 mm, e.g. front panels, sheet steel panels.
- Cable ties can be used to relieve the strain on cable bundles.

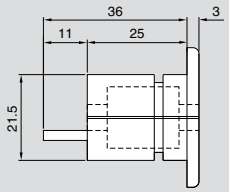
Material:
Plastic, RAL 9005 black

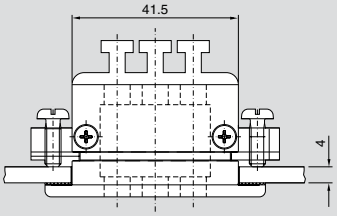
Configuration:
Two-piece connector grommet, including assembly parts.

Rittal Service:

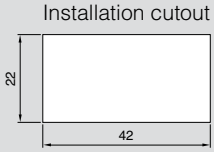
The cutouts will be made by our service centers.

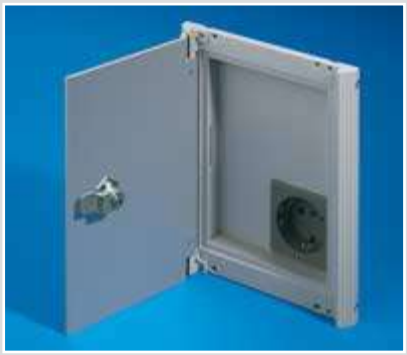






Installation cutout





Interface box

For secure accommodation of all common computer ports, disk drives and outlets. The lockable metal cover provides a high mechanical load-bearing capacity, protects against unauthorized access, and ensures an increased shielding effect for the installed equipment.
Modifications such as
- Other sizes
- Acrylic covers
- Cutouts for connectors, etc. are available upon request.

Material:
Frame: aluminum extrusion
Mounting tray: sheet steel, 16 ga/1.5 mm
Cover: aluminium, 9 ga/3.0 mm

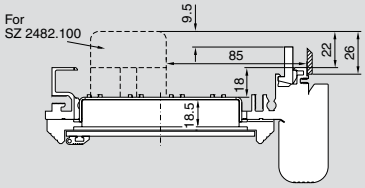
Finish:
Frame and mounting tray:
powder painted in RAL 7035 light grey
Cover: natural anodized

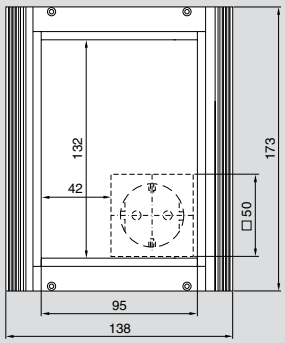
Grounding-pin socket	Part No. SZ
without	**2482.000**
with	**2482.100**

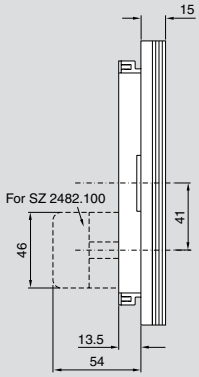
Configuration:
Frame with hinged door,
cam with security lock
(No. 3231).
Mounting tray including gasket and assembly parts.

Note:
Upon request, the interface box can be supplied pre-installed in the VIP 6000 Command Panel. If required, please specify the desired installation position.

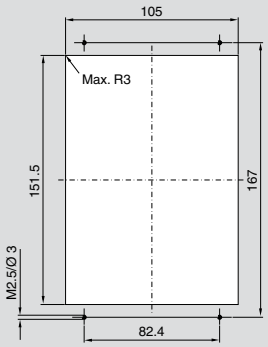
Mounting example in the VIP 6000:







Installation cutout



Mounting bracket/ mounting plate

For universal interior installation. The following accessories may be installed in the VIP 6000 operator and keyboard housings with a front panel width of 19″ using mounting brackets:
VIP 6000 and Optipanel*
- C-rail PS 4943.000
- Mounting panel KL 1565.700/ KL 1569.700
- Clip nuts TS 8800.340/ TS 8800.350

VIP 6000
- Support strip PS 4596.000
- Punched rail PS 4171.000
- System chassis without flange PS 4376.000

	Part No. PS
Mounting bracket	**4597.000**
Mounting plate (flat)	**4532.000**

- System chassis with flange PS 4370.000
- Mounting plate TS 8612.410

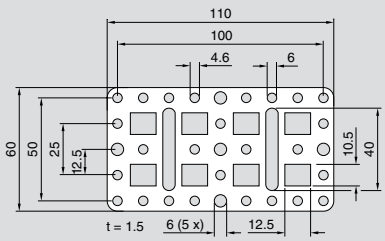
* Minimum installation depth 4″/100 mm (see version 2.1, pages 202/203) use with springnuts CP 6108.000 (page 214).

Material:
Sheet steel, galvanized, chromated.

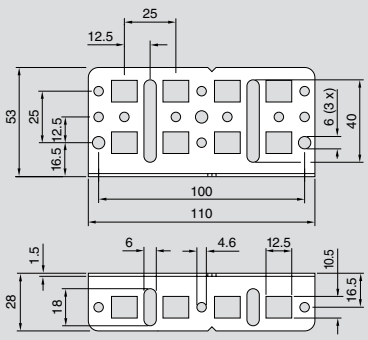
Configuration:
4 mounting brackets or mounting plates, 12 self-tapping screws M5 x 4″/10 mm.

Optional accessories:
Screws for attaching to the screw channels of the VIP 6000 Command Panel Part No. 2504.000 (M5 x 4″/10 mm), PU = 500 pieces,
see page 981.

Mounting plate (flat)



Mounting bracket (angle)



Cable clamping bracket

For operator housings. To fit arm cutout CP-L, CP-L ▭ and CP-XL.
Cable clamping can be done via:

- Cable clamps
  (see page 898)
  or
- Cable ties for quick mount
  SZ 2597.000 (see page 1010).
- Commercially available cable ties.

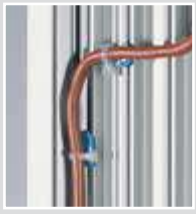
Bracket height = 1″/25 mm with installed 1.57″/40 mm C-rail.

	Part No. CP
Cable clamping bracket	**6052.000**

Material:
Sheet steel, galvanized, chromated.

Configuration:
1 cable clamping bracket,
1 C-rail,
2 self-tapping screws
M5 x .4″/10 mm.

Note:
Cable routing module is available on request for the tight routing of cables, when no support arm will be installed. Part No. CP 6052.500.



Cable tie holder for VIP 6000

For all commercially available cable ties up to a width of 4.8 mm. The holder is inserted into the screw channel and secured with a rivet.

Material:
Polyamide 6.6

PU	Part No. CP
1 pack	**6059.000**

1 pack = 100 pieces

Cable tie holder for Optipanel

For all commercially available cable ties up to a width of 4.0 mm. The holder is inserted into the T-nut and secured by twisting 45°.

Material:
Polyamide 6.6

PU	Part No. CP
1 pack	**6059.500**

1 pack = 100 pieces

M5 springnuts

To insert into fixing channels of the Optipanel with an installation depth of 4″/100 mm and 6″/150 mm. For VIP 6000 starting at installation depth of 7.28″/185 mm. The springnuts can be inserted easily and provides secure protection against sliding.
For additional inside assembly, like mounting bracket PS 4597.000 (see page 213).

Material:
Sheet steel, galvanized, chromated.

PU	Part No. CP
1 pack	**6108.000**

1 pack = 50 pieces

Door stop for VIP 6000

To secure the open panel.
- Mounted on the bottom
- Available installation height is only reduced by .4″/10 mm
- Adjustable to open up to 120°.

Material:
Sheet steel, galvanized, chromated.

	Part No. CP
Door stop	**6045.000**

Configuration:
1 door stop,
installation hardware included.

Keyboard drawer 19″/2 U

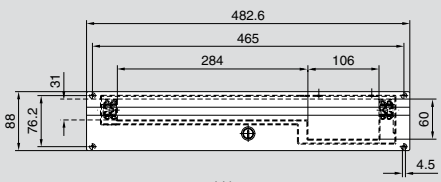
For installation in:
- VIP 6000 Command Panel* (all depths **1** to **9**, see pages 180/181).
- Optipanel operator housing* (installation depth **3** = 6″/150 mm, see pages 202/203).
- Any sufficiently large surface (door, side panel, etc.)
- 19″ subracks.

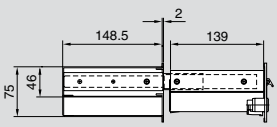
Suitable for:
- All keyboards up to a maximum size of (H x W x D) 1.25 x 15.35 x 5.47″/32 x 390 x 139 mm.
- Any commercially available mouse or trackball.

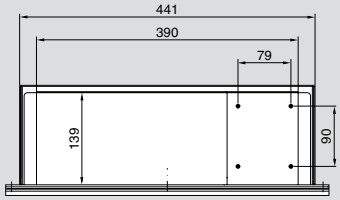
Technical description:
- Keyboard drawer:
  – with catch
  – even when open, a high degree of mechanical protection and shielding is retained.
  – manufactured from aluminum
- Drawer housing:
  – sheet steel, galvanized, chromated
- Front panel:
  – with safety lock (lock No. 12321)
  – with handle grips
  – with gasketing
  – aluminum, natural anodized
- Installation hardware for VIP 6000/ Optipanel operator housings.

Height	Width	Depth	Part No. CP
2 U	19″/ 482.6 mm	6″/ 150 mm	**6002.000**

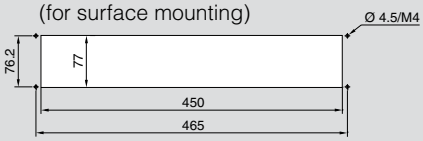
*** Note:**
To divide the operator panel of the:
- VIP 6000, a cross mullion (recommended) or sealing bar are necessary (see pages 180/181, version 3.2). The end trim strip (see pages 182/183, version 3.4 **2**) must also be chosen at this time.
- Optipanel, a cross mullion (see pages 202/203, version 2.2 **1**) is necessary.



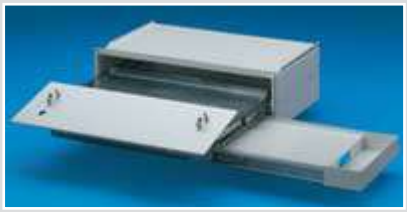




Installation cutouts
(for surface mounting)



For VIP 6000 and Optipanel



Keyboard drawer with mouse pad support

For installation in:
- VIP 6000 Command Panel* (installation depths **4**, **6** or **8**, see pages 180 – 181, 3.1)
- Any sufficiently large surface (door, side panel, etc.).

Suitable for:
- Keyboards up to a maximum H x W x D of 1.6 x 18.11 x 6.69″/ 42 x 460 x 170 mm.
- NEMA 6/IP 67 mouse and mouse pad (see page 217).
- Standard mouse and mouse pad.

Technical specifications:
- Keyboard and housings:
  – with pull-out mouse pad
  – even with the drawer open, a high degree of mechanical protection and shielding are retained
  – sheet steel, painted RAL 7035 light grey.

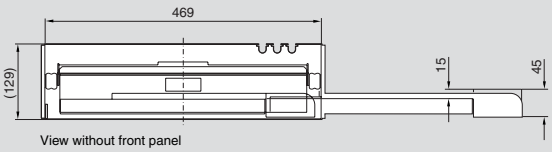
Height	Width	Depth	Part No. CP
3.5 U	19″/ 482.6 mm	10.25″/ 261 mm	**6003.000**

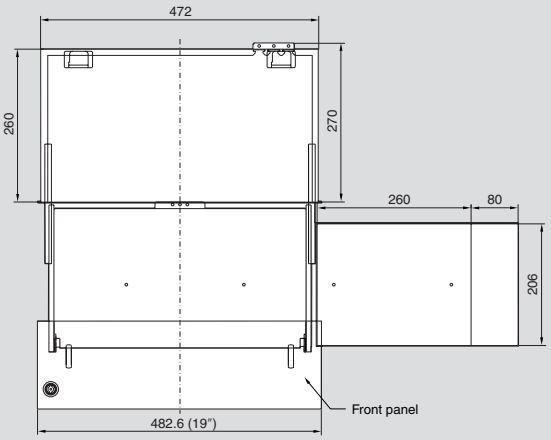
- Front panel
  – lockable, with .12″/3 mm double-bit lock; exchangeable for any 1.06″/ 27 mm lock insert, version A, safety cylinder insert (SZ 2571.000) with lock No. 3524 E as well as E1-lock for VW/Audi;
  – folds down as a wrist support
  – aluminum, natural anodized.
- Installation material for mounting in VIP 6000 operator housings.

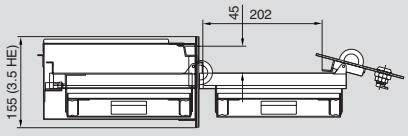
*** Note:**
A cross mullion is necessary for the division of the operator panel (see pages 180 – 181, version 3.2). The end trim (see pages 182 – 183, version 3.4 **2**) also needs to be chosen at this time.

Optional accessories:

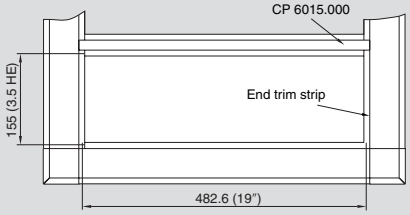
NEMA 6/IP 67 mouse, mouse pad, see page 217.



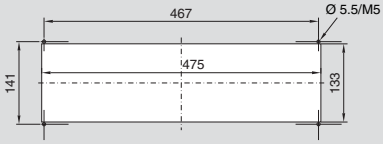




Installation in VIP 6000



Installation cutout for mounting in flat surfaces



HE = U

NEMA 6/IP 67 mouse, mouse pad

An ideal input device for all areas where heavy contamination is unavoidable, or where exceptional standards of hygiene are required, for example in the food industry or medical technology.
Because the mouse detects positions inductively, there is no need for a trackball, and the housing can be completely sealed with a protective film. This achieves a high protection category of NEMA 6/IP 67.
The mouse operates in conjunction with the NEMA 6/IP 67 inductive mouse pad and is available for connection to either a COM or a PS/2 interface.

Material:
Mouse pad: plastic PBT
Mouse: plastic ABS

Color:
Mouse pad: grey (similar to RAL 7035)
Mouse: grey (similar to RAL 7032)

Technical specifications:

NEMA 6/IP 67 mouse
Mouse/mouse pad connector:
DIN 7-pole

Mouse pad COM interface
Mouse pad – PC connection:
9-pole D-SUB socket,
DIN 5-pole connector

Mouse pad PS/2 interface
Mouse pad – PC connection:
PS/2 connector

Temperature range:
32 °F to 131 °F/0 °C to + 55 °C
Current rating: < 20 mA
Pad size (H x W x D):
8 x 10 x .6″/205 x 250 x 15 mm
Cable lengths: 79″/2000 mm
Runs under DOS, Windows 3.1/3.11, Windows 95/98/ME, Windows NT/2000

Optional accessories:
Connector grommet (SZ 2400.500), see page 212.

Mouse pad support, see below.

	H x W x D	Part No. SM
NEMA 6/IP 67 inductive mouse pad COM interface	8 x 10 x .6″/ 205 x 250 x 15 mm	**6444.000**
NEMA 6/IP 67 inductive mouse pad PS/2 interface	8 x 10 x .6″/ 205 x 250 x 15 mm	**6444.500**
NEMA 6/IP 67 mouse for mouse pad SM 6444.000/.500	–	**6445.000**

*** German Patent No. 198 51 619**

Mouse pad support for VIP 6000

For use with NEMA 6/IP 67 mouse pad SM 6444.000 and SM 6444.500 and for mounting on the side handle set of the VIP 6000 keyboard/operator housing.
The angle of the mouse pad support is individually adjustable. Two fixing holes must be made on the handle holder for mounting.

Material:
Sheet steel, chromated

Configuration:
Mouse pad support, including assembly parts.

For	Part No. SM
VIP 6000 with side handles	**2381.000**

Additional parts needed:
Vertical handle set for wide frames, see page 210.

Optional accessories:
Mouse holder, see below.

Mouse holder

To match the mouse pad support, for secure storage of a standard mouse or the NEMA 6/IP 67 mouse SM 6445.000.

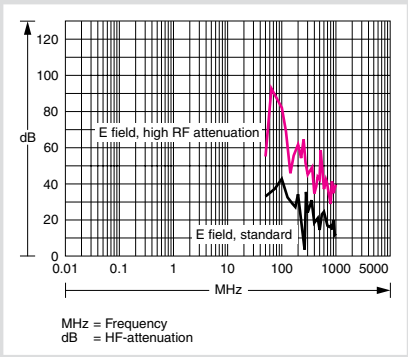
Material:
Sheet steel, chromated

Configuration:
Mouse holder, including assembly parts.

	Part No. SM
Mouse holder	**2382.000**

Additional parts needed:
Mouse pad support, see above.

VIP 6000 Command Panel EMC version



VIP 6000, EMC version

The standard VIP 6000 enclosure already offers effective shielding. However, if greater EMC protection is required, e.g. due to the particular environment where the enclosure is being located, the EMC version of the VIP 6000 provides the ideal solution.

- The frame parts of the enclosure and the rear panel are coated with a special electrically conductive finish.
- EMC seals between the frame parts and contact surfaces of the rear panel and front plate ensure a good electrical connection.

Lead times upon request.

Configuration	Material	Finish
Enclosure frame	aluminum extrusion	electrically conductive coating
Front frame	aluminum extrusion	painted RAL 7035, textured
Frame corner pieces	zinc die-cast	painted RAL 7035, textured
Rear panel	aluminum, 9 ga/.12″/3 mm	electrically conductive coating

Aluminum front panels, EMC version

For individual assembly of a user interface. The aluminum front panel is coated with a special electrically conductive finish. If a different front plate or a controller is installed, appropriate EMC measures must be taken by the customer.

Configuration:
Front panel

Material:
Aluminum, 9 ga/3 mm

Configuration:
Electrically conductive coating

Lead times upon request.

Note:
The following connector parts are specifically designed for retrofitting, the redesigning and/or exchange of components.

The frame symbol identifies the category the part belongs to.

Additional details and our selection of entire VIP 6000 operator and keyboard housings, including the proper connectors, are shown on the pages 178 – 189.

Frame connector, adjustable

Fits all operator and keyboard housings of the same width, with a wide frame.
- Adjustable from 75° to 210°.
- In 7.5° stepped increments for secure locking.
  Lock screws may be exchanged for standard clamping lever (M10 x 50).
- Keyboard housing adapts ergonomically to suit any user.

Material:
Zinc die-cast

Color:
RAL 7035 light grey

Configuration:
2 frame connectors, assembly parts.

German Patent No. 196 03 097
US Patent No. 6,106,181

PU	Part No. CP
1 set	**6016.000**

Optional accessories:

Tilting adapter 10°,
see pages 248 and 259.

Tilting adapter ± 45°, adjustable,
see page 249.

Detail drawings see page 194.

Frame hinge connector

To fit operator and keyboard housings with narrow and combined frames in conjunction with keyboard housings 4.13″/105 mm and 1.73″/44 mm deep.
- Locked with two clamping screws on the back of the hinge section.
- Replaces the opposite frame sections of the operator and keyboard housing.
- May also be used where the operator and keyboard housings have different front panel widths.

Material:
Aluminum

Color:
RAL 7035 light grey

Configuration:
2 frame sections, 2 clamping screws.

Additional parts needed:

Cable duct, flexible, see page 221.

Please do not specify these part numbers when configuring a VIP operator housings and/or keyboard.

Front panel width/ keyboard width	PU	Part No. CP
19″/482.6 mm	1 set	**6007.000**
Special*	1 set	**6007.009**

* Please specify the front panel width of the operator and keyboard housings.

Optional accessories:

Tilted adaptor 10°,
see pages 248 and 259.

Tilted adaptor, adjustable by ± 45°,
see page 249.

Detail drawings, see page 194.

Frame connector, rigid

Fits all operator and keyboard housings of the same width, with a wide frame.

- Operator and keyboard housings are joined together at an angle of 120°.

Material:
Zinc die-cast

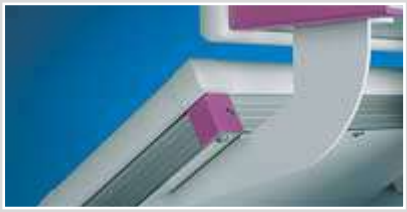
Color:
RAL 7035 light grey

Configuration:
2 frame connectors, installation hardware.

PU	Part No. CP
1 set	**6016.500**

Technical details – see page 194.

US Patent Nr. 6,050,738
German Patent No. 195 25 880
European Patent No. 0 839 346
affecting FR, GB, IT
South Korean Patent No. 0 276 473



Enclosure bracket connector

To fit narrow and combination frames in conjunction with the keyboard housing 1.73″/44 mm deep.

- The angle between the operator and keyboard housing is 120°.
- When using the enclosure bracket connector, the operator and keyboard housings may also have different widths.
- The narrow design of the connectors means that they are particularly well suited to small enclosures.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
Enclosure bracket connector left/right, installation hardware.

PU	Part No. CP
1 set	**6005.000**

Technical details – see page 194.

Note:
When retrofitting, appropriate fixing holes must be made in the operator and keyboard housings before assembly.

Enclosure duct connector

To fit narrow and combination frames in conjunction with the keyboard housing 4.13″/105 mm deep.

- The angle between the operator and keyboard housing is 120°.
- At the same time, the duct connector is used for cable routing from the operator housing to the keyboard housing.

Material:
Aluminium

Color:
RAL 7035 light grey

Configuration:
Duct connector left/right, installation hardware.

PU	Part No. CP
1 set	**6006.000**

Technical details – see page 194.

Note:
When retrofitting, appropriate fixing holes and cutouts must be made in the operator and keyboard housings for assembly.

Cable duct, flexible

For cable routing from the operator housing to the keyboard housing.
Suitable for use with
- Frame connector, adjustable
- Frame hinged connector
- Frame connector, rigid
- Enclosure bracket connector

May be mounted on the following keyboard housings:
- Keyboard housing: 4.13″/105 mm
- Keyboard housing: 1.73″/ 44 mm
- Keyboard housing: 1.07″/ 27 mm with connection for flexible cable conduit (version 4.1; see pages 186/187).

Appropriate cutouts are required for connecting the cable duct into the operator and keyboard housing.
A cable duct is included in the configuration with selection 4.5, see pages 188/189.

Operator housings as in version 3.1. (Pages 180/181)	Part No. CP
1, 2, 4, 5, 6, 8, 9	**6017.000**
3, 7	**6017.100**

Material:
Plastic

Color:
RAL 7035 light grey

Configuration:
Cable duct, installation hardware.

Cable duct, rigid

Suitable for cable routing when using the rigid frame connector (for wide frames) and keyboard housings with a depth of 4.13″/ 105 mm.
- This gives the operator housing added stability, particularly with large (heavy) keyboard housings.

Appropriate cutouts are required for connecting the cable duct into the operator and keyboard housings.
A cable duct is included in the configuration with selection 4.5, see pages 188/189.

	Part No. CP
Cable duct, rigid	**6017.500**

Material:
Aluminum

Color:
RAL 7035 light grey

Configuration:
Cable duct, installation hardware.

Cross member

For horizontal and/or vertical division of the Command Panel front. With mounting channel on both sides to accommodate assembly parts, see page 208.

Material:
Aluminum extrusion

Configuration:
1 cross member, 2 retaining clamps,
2 screws with washers,
** 2 trim profiles.

For VIP 6000

For front panel width	Part No. CP
19″/482.6 mm	**6015.000**
Special*	**6015.009**

* Please state the height and width of your front panel.

**** For type and color of trim, see pages 182/183. Please specify on your order!**

Technical details – see page 194.

For Optipanel

For front panel width	Part No. CP
19″/482.6 mm	**6386.000**
Special*	**6386.009**

* Please state the height and width of your front panel.

Technical details – see page 206.

VIP 6000

Optipanel

Spacer and installation panel

For VIP 6000 Command Panel and Optipanel.

Material:
Aluminum extrusion, natural anodized.

Configuration:
Panel including assembly material and trim strips.

Note:
More detailed information on page 209.

*** Type and color of trim strips, see pages 182/183. Please specify on your order.**

For VIP 6000

For front panel width	Part No. CP
19″/482.6 mm	**6015.300***
Special*	**6015.309***

Height is equivalent to a front panel height of 4.05″/103 mm.

For Optipanel

For front panel width	Part No. CP
19″/482.6 mm	**6386.300**
Special*	**6386.309**

Height is equivalent to a front panel height of 3.77″/96 mm.

Sealing bar

For horizontal division of Command Panels. The “gap-free” division produces a panel height gain of 1.10″/28 mm (VIP 6000) or .86″/22 mm (Optipanel).

Material:
Aluminum section .31 x .79″/8 x 20 mm

Configuration:
1 sealing bar with assembly parts.

Note:
Sealing bar may not be used in conjunction with spacer trim.

For VIP 6000 and Optipanel

For front panel width	Part No. CP
19″/482.6 mm	**6015.500**
Special*	**6015.509**

* Please state dimensions for front panel width.

Technical details – see page 194 or 206.

Rear panel, depth plus 1.77″/45 mm

The installation depth of the operator housing is extended by 1.77″/45 mm. Specifically designed for controllers with built-in disk drives or plugs on the rear.

Material:
Sheet steel

Configuration:
Hinged at the side and secured with captive screws. Other depths and designs are also possible.

Finish:
Powder painted in RAL 7035 light grey

Front panel dimensions	Rear panel depth	Part No. CP
19″/ 482.6 mm/ 7 U	1.77″/ 45 mm	**6014.000**
Special*		**6014.009**

* Additional information needed:
- Number and dimensions of front panels
- Number of cross mullions/sealing bars
- Depth of rear panel
  or
- Depth of rear panel and order number of your enclosure.

Rear panel, depth plus 9.65″/245 mm

The installation depth of the operator housing is extended by 9.65″/245 mm. This allows problem-free installation of deep CRT equipment, such as conventional monitors.

Configuration:
Screwed-on

Material:
Aluminum for CP 6018.000
Sheet steel for CP 6018.009

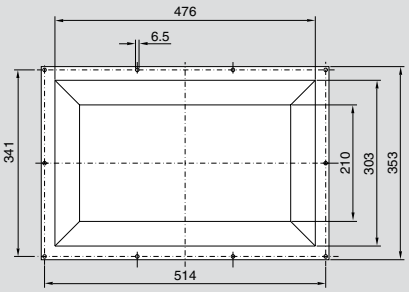
Finish:
Powder painted in RAL 7035 light grey

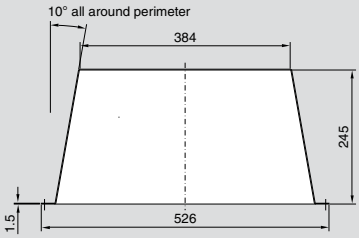
Note:
Special sizes and designs of rear panels available to specification.

Front panel dimensions	Depth of rear panel	Part No. CP
19″/ 482.6 mm/ 7 U	9.64″/ 245 mm	**6018.000**
Special*		**6018.009**

* Additional information needed:
- Number and dimensions of front panels
- Number of cross members/sealing bars
- Depth of rear panel

or
- Depth of rear panel and order number of your enclosure.





Profile strip

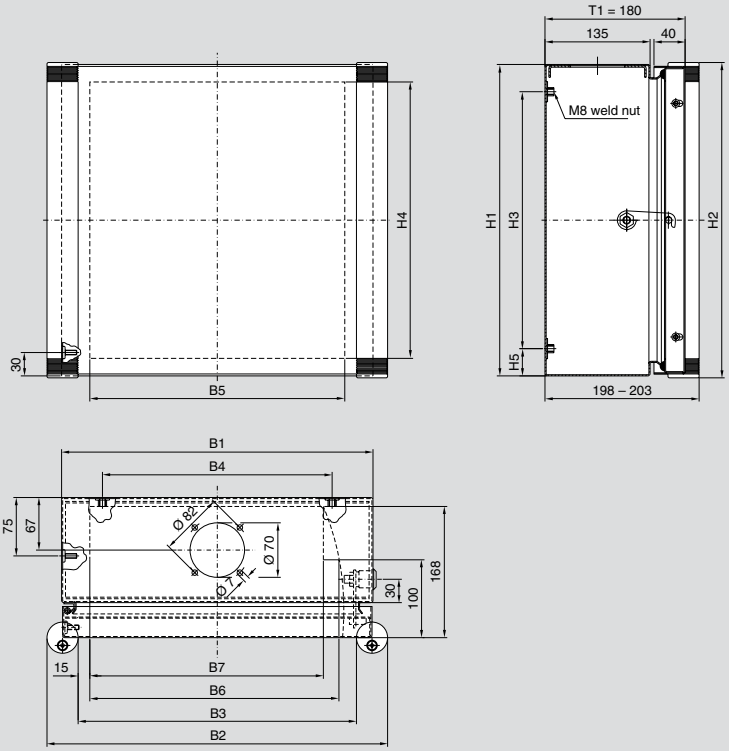
- Protects the edges of the Command Panel or installed membrane against damage.
- Provides space for panel labelling.

For labels:
Width: enclosure width – 1.77″/45 mm
Height: .67″/17 mm
Thickness: .69″/0.4 mm

Configuration:
2 aluminum strips, including 4 end caps.

Color:
RAL 5018 turquoise

For Command Panel housings with door	Width inches/ mm	**Part No. CP**
CP 6534.000 CP 6535.000 CP 6537.000	12/300	**6542.000**
CP 6536.000 CP 6538.000	16/400	**6543.000**



Configuration:
Enclosure, (AE based, see pages 66/67) with cutout and reinforcement for support arm system CP-L, lockable. Door with sealing frame, handle strips on the sides and end caps.

Support arm connection	Hinging
top	left
bottom	right

Height (inches/mm) (H1)	PU	8/200	12/300	16/400	12/300	16/400	Page
Width (inches/mm) (B1)		12/300	12/300	12/300	16/400	16/400	
Depth (inches/mm) (T1)		7/180	7/180	7/180	7/180	7/180	
Part No. CP	1	**6534.000**	**6535.000**	**6537.000**	**6536.000**	**6538.000**	
H2 = Height of enclosure with handle strips (mm)		205	305	405	305	405	
H3 = Distance of mounting panel holes (mm)		122	250	350	250	330	
H4 = Maximum height of front cutout (mm)		155	255	355	255	355	
H5 = Distance between floor and mount. panel holes		39	25	25	25	35	
B2 = Enclosure width with handle strips (mm)		338	338	338	438	438	
B3 = Front clearance, inside dimensions (mm)		258	258	258	358	358	
B4 = Distance of mounting panel holes (mm)		260	215	215	295	295	
B5 = Maximum height of front cutout (mm)		227	227	227	327	327	
B6 = Hinged width for depth of 4″/100 mm		220	220	220	320	320	
B7 = Hinged width for depth of 6.61″/168 mm		200	200	200	300	300	
Weight (lbs/kg)		12.1/5.5	15.7/7.1	18.5/8.4	18.5/8.4	23.4/10.6	
Accessories							
Matching mounting panel from AE		1032.791	1033.791	1034.791	1030.791	1380.791	68
Support rails* **Part No. SZ**	10	2316.000	2316.000	2316.000	2317.000	2317.000	983

Lock systems
Standard double-bit lock insert may be exchanged for plastic handle, T handle, Version C, and 1.61″/41 mm lock inserts, see pages 940 – 942.

* Only with vertical attachment of system bar .9 x .9″/23 x 23 mm, see page 976.

AE based operator housings have the following approvals:
- UL – Underwriters Laboratories, Inc. for USA and Canada
- Lloyds Register of Shipping

Ratings:
NEMA 12/IP 55 to EN 60 529/10.91
UL/cUL E76083

Accessories:
Pedestal systems,
see pages 234 – 241.

Support arm system CP-L,
see pages 244 – 255.

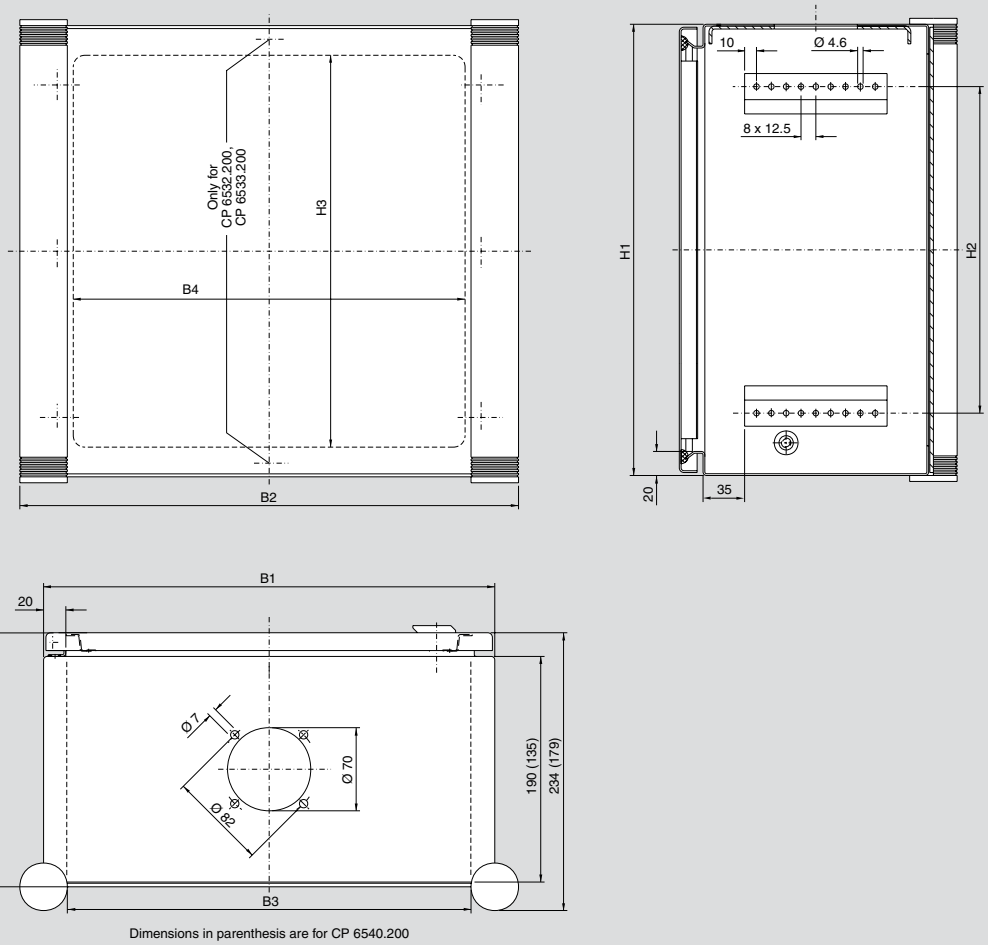
Modifications on request:
- other sizes
- other RAL colors
- support arm connections as specified
- holes and knockouts for buttons or operator panels

Material and finish:
Enclosure body and door:
sheet steel, E-coated and powder painted in RAL 7035 light grey, textured
Interior:
E-coated RAL 7044 silk grey
Handle strips:
aluminum RAL 5018 teal
Cover caps:
plastic, RAL 5018 teal

Signal lights
for system monitoring.
Details on pages 1000 – 1002.

Stainless steel
An alternative, when hygiene and corrosion resistance are most important.
Details on pages 274/275.

Aluminum front panels
up to a thickness of .2″/5 mm may be used.



Dimensions in parenthesis are for CP 6540.200

Configuration:
Enclosure with reinforcement,
Support arm connection CP-L and mounting rails spot-welded to the sides.
Front with cutout, covered with 9 ga/ 3 mm aluminum front panels and handle strips with end caps on the sides.
Rear door.

Support arm connection	Hinging
top	right
bottom	left

US Patent No. 5 662 397
US Design Patent No. Des. 375,938
German Patent No. 44 13 543
French Patent No. 95 04769
GB Patent No. 2 288 971
Italian Patent No. 01273518
Japanese Patent No. 2 820 637
German Registered Des. No. M 94 03 156
Irish Reg. Design No. DM/031 020
affecting BE, DE, ES, FR, IT, LU, NL
U.K. Reg. Design No. 2 042 639
Japanese Registered Design No. 955 950

Height (inches/mm) (H1)	PU	8 /200	12 /300	15 /380	20 /500	15 /380	Page
Width (inches/mm) (B1)		12 /300	15 /380	15 /380	20 /500	24 /600	
Depth (inches/mm) (T1)		6.10/155	8.27/210	8.27/210	8.27/210	8.27/210	
Part No. CP	1	**6540.200***	**6531.200**	**6530.200**	**6532.200**	**6533.200**	
H2 = Hole distance of side mounting rails (mm)		75	175	275	375	275	
H3 = Cutout in enclosure (mm)		150	250	330	450	330	
B2 = Enclosure with handle strip (mm)		340	420	420	540	640	
B3 = Clearance opening: Front (mm)		260	340	340	460	560	
B4 = Cutout in enclosure (mm)		250	330	330	450	550	
Weight (lbs/kg)		10.8/4.9	20.5/9.3	22.5/10.2	34.0/15.4	32.2/14.6	
Accessories							
PS door rails for mounting on the mounting angles of the side panel	20	–	–	4594.000	4309.000	4594.000	950

Lock systems
Standard double-bit lock insert may be exchanged for 1.06″/2 mm lock inserts, Type A, see page 942, plastic handles, T handles, Type B and security cylinders see pages 940 – 943.

***** Rear door hinged at the bottom, support arm connection at the bottom.

OPERATOR HOUSINGS BASED ON AE

AE based operator housings have the following approvals:
- UL
- CSA
- TÜV
- Norske Veritas
- Lloyds Register of Shipping
- VDE

Modifications on request:
- Other sizes
- Other RAL colors
- Support arm connections as specified
- Holes and knockouts for push buttons or operator panels.

Material and finish:
Enclosure body and door:
sheet steel, e-coated and powder painted in RAL 7035 light grey, textured
Interior:
E-coated RAL 7044 silk grey
Handle strips:
aluminum, RAL 7030 stone grey
Cover caps:
plastic, RAL 7030 stone grey

Protection ratings:
NEMA 12/IP 55 to EN 60 529/10.91 UL E76083 CSA LR 59132

Accessories:

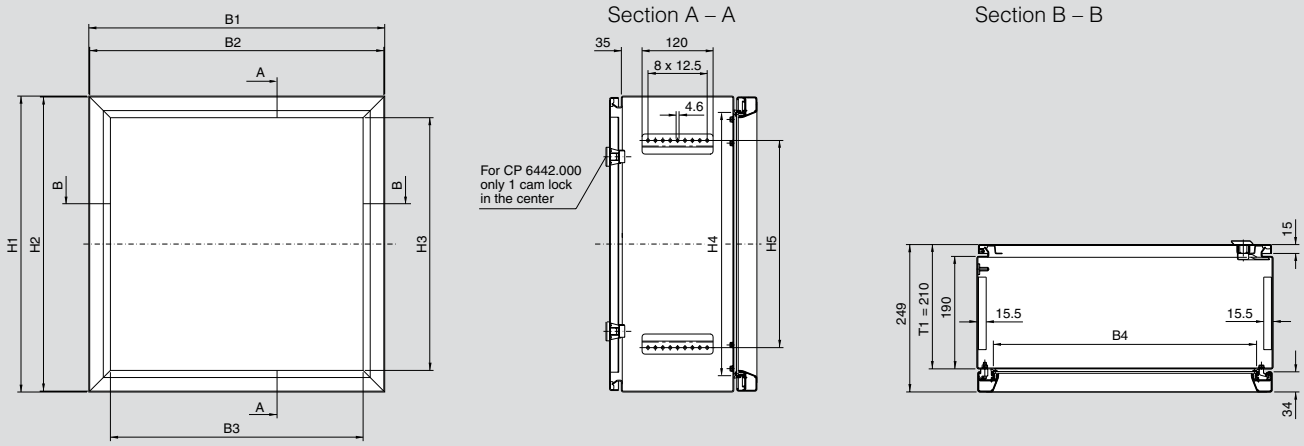
Pedestal systems,
see pages 234 – 241.

Support arm system CP-L,
see pages 244 – 255.

Profile half cylinder lock
for retrofitting in any enclosure with a cam lock.
Details on page 945.

AE mounting rails
to install components onto the door.
Details on page 950.

Stainless steel
An alternative, when hygiene and corrosion protection are most important.
Details on pages 272/273.



Material and finish:
Enclosure and door:
sheet steel, E-coated and powder painted in RAL 7032 pebble grey, textured
Interior: E-coat in RAL 7044 silk grey
Frame and front panel:
aluminum, natural anodized

Configuration:
Enclosure without support arm connection with mounting rails spot-welded onto the sides. Front with knockout and operator console; right hinged, screwed-on from the inside.
Rear door, right hinged with 2 cam locks (1 lock for CP 6442.000).

Ratings:
NEMA 12/IP 54 per EN 60 529/10.91

Modifications on request:
- Other sizes
- Other RAL colors
- With support arm cutout
- Holes and knockouts for push buttons or operator panels.

Height (inches/mm) (H1)	PU	15/380	24/600	20/500	24/600	Page
Width (inches/mm) (B1)		15/380	15/380	20/500	24/600	
Depth (inches/mm) (T1)		10/249	10/249	10/249	10/249	
Part No. CP	1	**6442.200**	**6462.200**	**6552.200**	**6662.200**	
H2 = Height of console front (mm)		377	597	497	597	
H3 = Inside clearance, front (mm)		307	527	427	527	
H4 = Height of front panel (mm)		321	541	441	541	
H5 = Distance of mounting rail holes (mm)		250	450	350	450	
B2 = Width of console front (mm)		379	379	499	599	
B3 = Inside clearance, front (mm)		309	309	429	529	
B4 = Width of front panel (mm)		323	323	443	543	
Weight (lbs/kg)		21.0/9.5	29.5/13.4	39.5/18	43.1/19.6	

Lock systems
Standard double-bit lock insert may be exchanged for 1.06″/27 mm lock inserts, Version A, see page 942, safety cylinders, plastic handles and T handles, Version B, see pages 940 – 943.

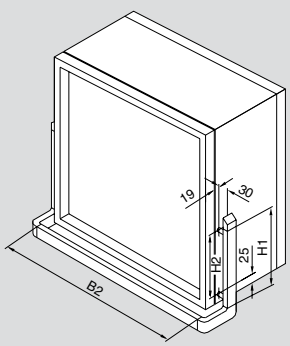
The reinforcement plate needed for CP 6135.000 stand is already included in the configuration.	241

Order operator housings in RAL 7035 with the suffix .500. Lead times on request.

Frame handle for operator housings

Configuration:
- Aluminum, square tube
- Plastic corner pieces
- End caps
- Installation hardware

For operator housings with console front	Part No. CP RAL 8019 grey brown	Part No. CP RAL 7030 stone grey
CP 6442.200 CP 6462.200	**6191.000**	**6194.000**
CP 6552.200	**6192.000**	**6195.000**
CP 6662.200	**6190.000**	**6193.000**



Dimensions of handle set	**CP 6191.000 CP 6194.000**	**CP 6192.000 CP 6195.000**	**CP 6190.000 CP 6193.000**
B1 = Operator housings (inches/mm)	15/380	20/500	24/600
B2 = Width of horizontal square tube (mm) (B1 + 48 mm)	428	548	648
H1 = Height of vertical square tube (mm)	345	465	299
H2 = Distance of mounting holes (mm)	295	415	249

Components for frame handle, customized

In RAL 8019 grey brown.

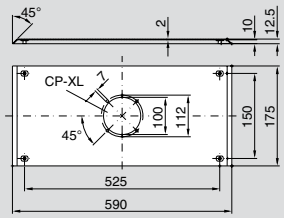
Configuration	Part No. CP
Square aluminum tube 79″/2 m	**6197.000**
4 x corner pieces 4 x end covers, installation hardware included	**6196.000**

OPERATOR HOUSINGS BASED ON AE

With console front

AE based operator housings, with console fronts have the following approvals:

- UL
- CSA
- TÜV
- Lloyds Register of Shipping
- VDE



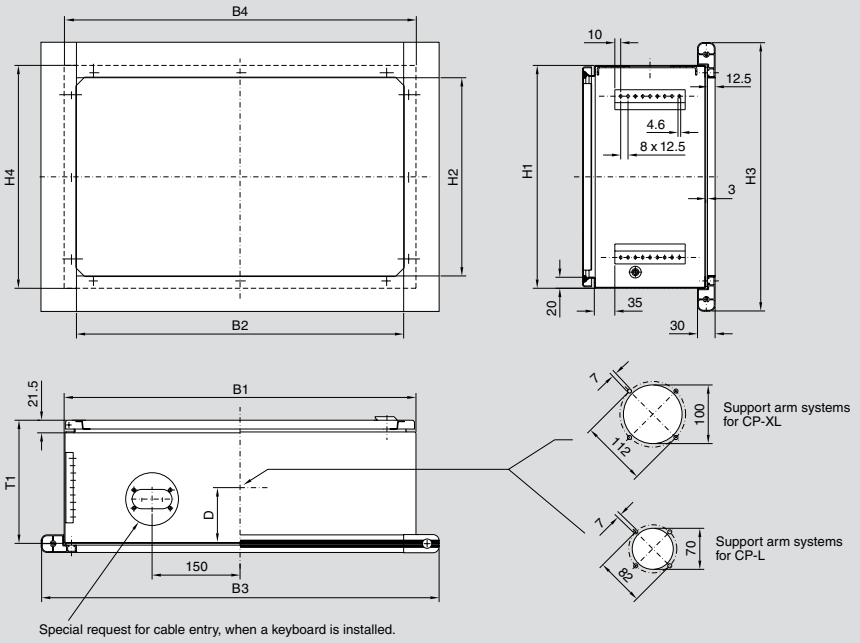
Reinforcement panel

With support arm made of 14 ga/2 mm sheet steel.

For enclosures (inches/mm)	Support arm connection	Painted	**Part No. CP**	Page
B1 < 24/600	CP-L	RAL 7035	**6143.210**	240
CP 6662.000 or AE (width = 24/600, depth ≥ 8.27/210)	CP-XL	RAL 7032	**6503.000**	–

AE Command Panel with wide VIP 6000 frame

The right frame, even for deeper operator panels.
On request, the AE compact enclosure can be equipped with an elegant VIP 6000 frame mounted on the rear. The large AE door provides easy access for servicing and maintenance.



Configuration:
Enclosure with built-in roof or floor reinforcement and connector for support arm system CP-L or CP-XL. Aluminum front panel and front frame are shipped with the enclosure; rear door.

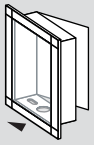
Standard AE operator housings with wide VIP 6000 frame:

Enclosure height (inches/mm) (H1)	15 /380	24/600	30/760
Enclosure width (inches/mm) (B1)	24 /600	24/600	24/600
Enclosure depth (inches/mm) (T1)	8.25/210	14/350	14/350
Part No. CP	**6541.100**	**6541.200**	**6541.300**

H2 = H1 – 42 mm, clearance between front frame members	338	558	718
B2 = B1 – 42 mm, clearance between front frame members	558	558	558
H3 = B1 + 79 mm, total height	459	679	839
B3 = B1 + 79 mm, total width	679	679	679
H4 = H1 – 5 mm, front panel height	375	595	755
B4 = B1 – 5 mm, front panel width	595	595	595
D = Position of support arm connection	95	165	165
Support arm cutout, on top	CP-L	CP-XL	CP-XL
Weight (lbs/kg)	40.8/18.5	65.0/29.5	73.9/33.5

Special AE operator housings with wide VIP 6000 frame for compact AE enclosures or custom dimensions.

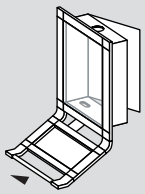
	6541.009	**Design code number**		
Support arm connector for systems:				
Without	6541.009	**0**		
CP-XL top	6541.009	**1**		
CP-XL bottom	6541.009	**2**		
CP-L top	6541.009	**3**		
CP-L bottom	6541.009	**4**		
Cable duct connector				
Without	6541.009	X	**0**	
Bottom	6541.009	X	**1**	
Dimensions				
Custom dimensions	6541.009	X	X	H x W x D:
Like compact AE enclosures (pages 68 – 73)	6541.009	X	X	Part No. AE:
Order example:	6541.009	**4**	**1**	H x W x D: 14 x 21 x 14″/352 x 537 x 350 mm (e.g. AE 1050.600)



Order example:

Part No. CP 6541.009
Design code number:
- **support arm connector CP-L bottom (4)**
- **cable duct connector, bottom (1)**
- **custom dimensions:**
  H x W x D:
  14 x 21 x 14″/352 x 537 x 350 mm

Enclosure with built-in floor panel reinforcement, rear door, aluminum front panel and VIP 6000 front frame.
Including mounting rails in the side of the enclosure.



VIP 6000 keyboard housings:
The configuration of a VIP keyboard housing needs to calculate the front panel dimensions as follows:

Front panel width of keyboard housing = AE enclosure width B1 – 2.13″/54 mm.

Example 1:
If B1 = 24″/600 mm, the front panel width is = 21.49″/546 mm.

Example 2:
If B1 = 21.14″/537 mm, the front panel width is = 19″/486.2 mm.

OPERATOR HOUSINGS BASED ON AE

With wide VIP 6000 frame

AE based operator housings have the following approvals:

- UL – Underwriters Laboratories Inc. for USA and Canada

c UL us LISTED

Accessories:

Pedestal systems,
see pages 236 – 241.

Support arm system CP-L or CP-XL,
see pages 242 – 263.

VIP 6000 keyboard housings,
see pages 186 – 189.

Material and finish:
Enclosure and door:
sheet steel, E-coated and powder painted RAL 7035 light grey, textured
Interior:
E-coated RAL 7044 silk grey
Front panel:
aluminum, 9 ga/3 mm, (natural anodized)
Frame members:
aluminum, powder painted RAL 7035 light grey
Frame corner pieces:
zinc die-cast, powder painted RAL 7035 light grey

Protection ratings:
NEMA 12/IP 56 per EN 60529/10.91

Handle set/clip board
Operating instructions and notes always in view.
Details on pages 210 and 212.

90° Adaptor
Connector element between support arm CP-XL and CP-L.
Details on page 262.

Connector grommet
for the tight lead-in of cables and connectors.
Details on page 212.

VIP 6000 equipment table

The flexible alternative for quick mounting of monitors and measuring instruments, or simply as a utility table for documents or plans.

- Slotted monitor plate for installing the equipment.
- Non-slip support pad.
- All external components in the VIP 6000 system (keyboard housings, handles, etc.) may be fitted.
- Cable fixing to the holes provided with cable ties SZ 2597.000.
- Facility for cable entry through 2 holes with rubber grommets, 60 mm diameter, on the mounting flange.
- The practical benefits are enhanced by matching accessories (mouse pad and keyboard support cradle).

	Part No. CP
Equipment table	**6512.000**

Material:
Frame: extruded aluminum
Monitor plate: sheet steel 14 ga/2.0 mm

Color:
Monitor plate: RAL 7035 light grey
support pad similar to RAL 7030
Frame: RAL 7035 light grey

Configuration:
Equipment table with support pad, 2 rubber entry grommets, installation hardware for securing the equipment.

Accessories:

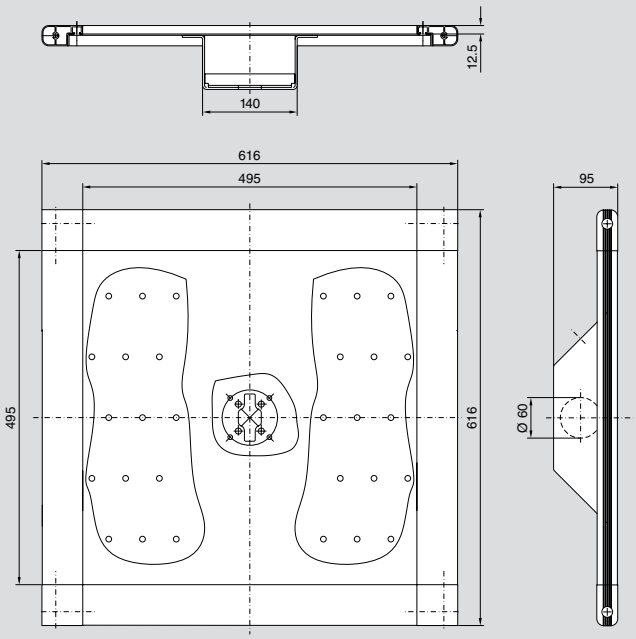
Mouse pad,
see right page.

Keyboard support cradle,
see right page.

VIP 6000 accessories such as handle set,
see page 210.

Ring board,
see page 212.

Accessories	Part No.	Mount		Page
		rigid	swivel	
Pedestal, mobile with support arm CP-L	CP 6136.500	direct	with enclosure coupling CP 6525.000	239
Pedestal, mobile with support arm CP-XL	CP 6136.000	with connecting adaptor CP 6528.000	with CP 6528.000 and enclosure coupling CP 6130.000	239
Panel lift	CP 6138.000 CP 6139.000	direct	with enclosure coupling CP 6525.000	239
Pedestal for operator housings	CP 6141.000 CP 6141.100			236
Support arm system CP-L				from 244
Support arm system CP-XL		with connecting adaptor CP 6528.000	with CP 6528.000 and enclosure coupling CP 6130.000	from 256



Keyboard support cradle

To accommodate standard keyboards.
For direct connection to the VIP 6000 equipment table.

Material:
Steel, chromated

Configuration:
Support cradle, installation hardware.

Maximum keyboard depth	Part No. CP
9.06″/230 mm	**6514.000**

Mouse pad for VIP 6000 equipment table

For mounting (on the left or right) on the VIP 6000 equipment table.
Usable area 5.5 x 9″/140 x 230 mm.

Material:
Sheet steel with covering pad

Color:
RAL 7035 light grey

Configuration:
Mouse pad, installation hardware.

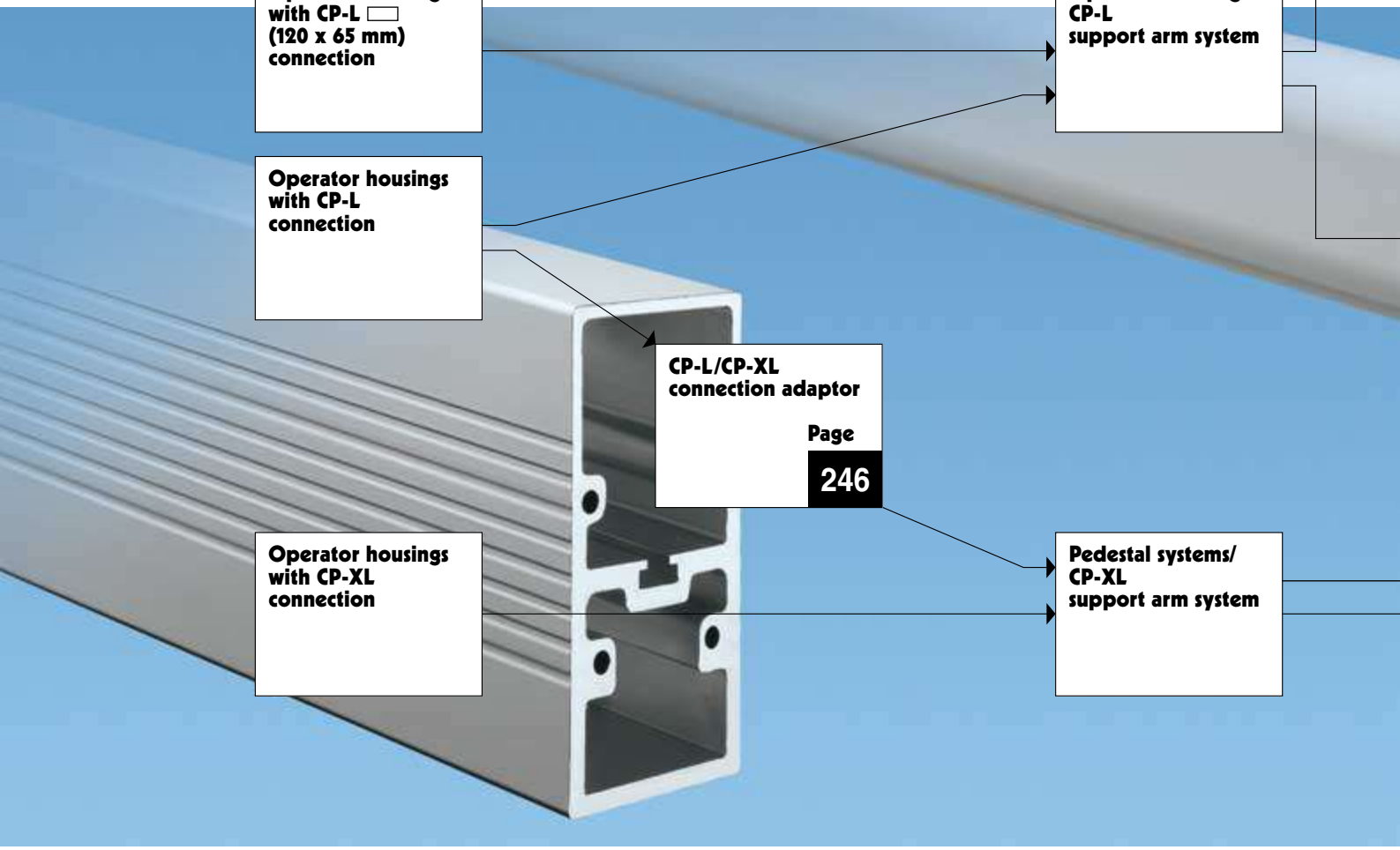
	Part No. CP
Mouse pad	**6516.000**

Pedestal and support arm systems

Everything fits perfectly!

The Rittal Command Panel range is a comprehensive system, consisting of operator housings prepared for pedestal and support arm systems CP-L, CP-L and CP-XL.

In addition to direct use, enclosures with a CP-L connection may also be combined with the support arm system CP-XL via an adaptor. Stainless steel operator housings for use in areas with demanding hygiene and corrosion protection requirements are combined with the stainless steel support arm system.



Operator housings with CP-L ▭ (120 x 65 mm) connection

Operator housings with CP-L connection

Operator housings with CP-XL connection

Operator housings in stainless steel

CP-L/CP-XL connection adaptor

Page 246

Operator housings/ CP-L support arm system

Pedestal systems/ CP-XL support arm system

CP-L/CP-XL PEDESTAL AND SUPPORT ARM SYSTEMS

Overview

Pedestal system CP-L
Page 236

Pedestal systems CP-XL
Page 234

CP-L support arm system
Page 244

90° CP-XL on CP-L angle adaptor
Page 246

CP-XL support arm system
Page 256

Support arm system in stainless steel
Page 276

Pedestal Page
for CP-L 236

Panel-Lift
electric
or manual for CP-L 239

Pedestal base, small, modular
for CP-L 240

Pedestal base plate, large
for CP-L and CP-XL 238

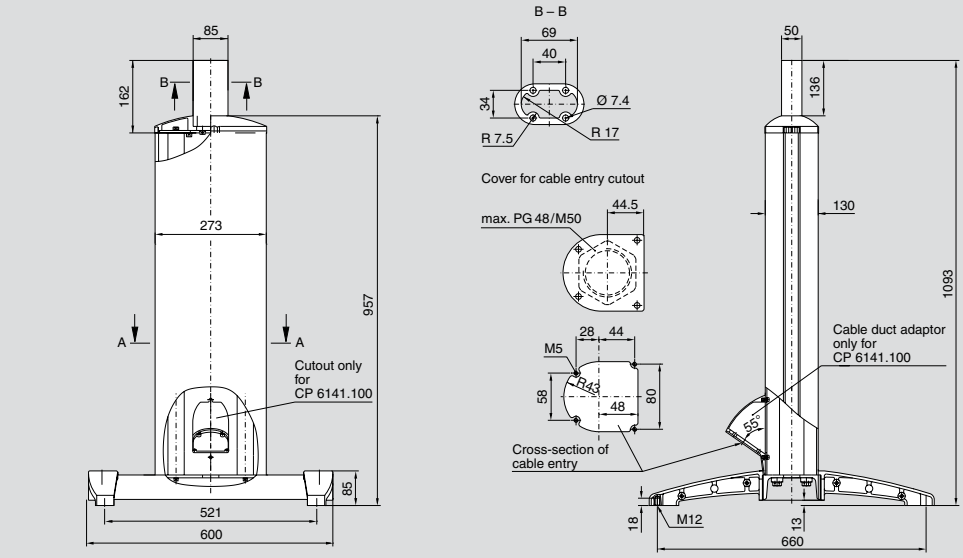
Mobile pedestal base
for CP-L and CP-XL 239

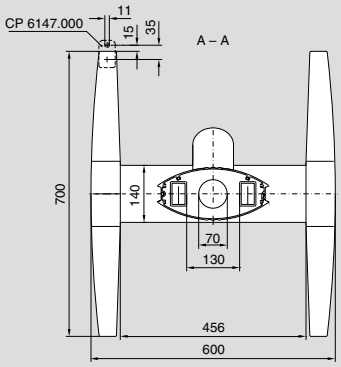
CP-L support arm system
Load capacity, assembly system 242
Assembly sequence 244
CP-L components 246

CP-XL support arm system
Load capacity, assembly system 242
Assembly sequence 256
CP-XL components 258

CP-Vertical support arm system 264

Stainless steel support arm system 276
Load capacity, support arm components 276





Pedestal

consisting of
2 aluminum die-cast feet,
1 cross member, steel,
2 support frame, steel, welded to cross member,
2 oval columns,
aluminum extrusion.
One half of the oval column is fastened with screws, the other half can be opened by unclipping.
The VIP 6000 Command Panel with keyboard housing should have either an adjustable or hinged frame connector in the front for opening the cover (see page 219).
1 top cover made of zinc die-cast, with support arm CP-L partially pre-assembled.

Pedestal H x W x D 43 x 24 x 28″/ 1093 x 600 x 700 mm	**Part No. CP**
With drilled holes for cable entry in the cross member	**6141.000**
With flexible cable duct adaptor and drilled hole for cable entry in the cross member	**6141.100**

Other widths and heights as well as support pipes by special request.

Finish:
Oval column, natural anodized, remainder, powder painted RAL 7035 light grey, textured.

Configuration and accessories:

Die-cast feet	**Accessories**	**Part No.**	see page
M12 threads on bottom for	**Double casters**	**CP 6148.000** **PC 4634.500** **PC 4634.000** **PS 4611.000**	891
	Leveling feet	**PS 4612.000**	891
	Floor mount brackets	**CP 6147.000**	237
M8 threads inside for	**Foot rest**	**CP 6145.100**	237
	Trim panel	**CP 6144.100**	237

Housing installation may be done with

Accessories	**Part No. CP**	see page
Enclosure mount CP-L	**6525.500**	249
Enclosure mount CP-L ▭ 4.72 x 2.56″/ 120 x 65 mm	**6525.600**	250
Enclosure coupling CP-L	**6525.000**	250
Enclosure coupling CP-L ▭ 4.72 x 2.56″/ 120 x 65 mm	**6525.100**	251

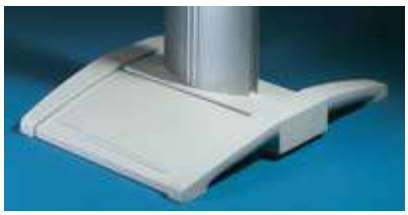
Ample room for cable entry.

Foot rest

Configuration	Material	Finish
Connector pieces right and left	Alumi-num die-cast	RAL 7035 light grey, textured
Round tube	Alumi-num	natural anodized

With installation parts for fastening between the die-cast feet.

PU	Part No. CP
1 set	**6145.100**



Trim panel
Made from aluminum die-cast, powder painted RAL 7035 light grey, textured, with installation hardware – accessories for mounting between the die-cast feet front and back.

PU	Part No. CP
1	**6144.100**

Floor mount brackets
Brackets, made of galvanized steel, can be fastened to the die-cast feet from the bottom with M12 countersunk screws. Overhang to the rear or the side, with drilled holes Ø 11 mm for fastening to the floor.

PU	Part No. CP
4	**6147.000**

Pedestal base, large

Material:
Sheet steel

Finish:
Powder painted RAL 7035 textured.

Configuration:
Pedestal base with built-in reinforcement and installation cutout for CP-L or CP-XL support arm, installation hardware for installing the support arm included.

For support arm	Color RAL	Part No. CP
CP-L	7035	**6137.535**
CP-XL	7035	**6137.035**

Additional parts needed:

CP-L support arm,
see page 247.

CP-XL support arm,
see page 258.

Panel lift (for CP-L version)
see page 239.

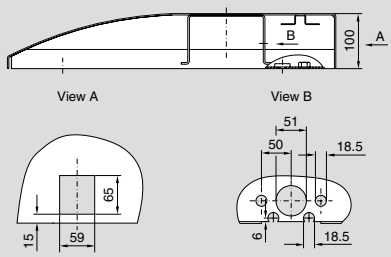
Optional accessories:

Choice of equipment table or CP enclosure.

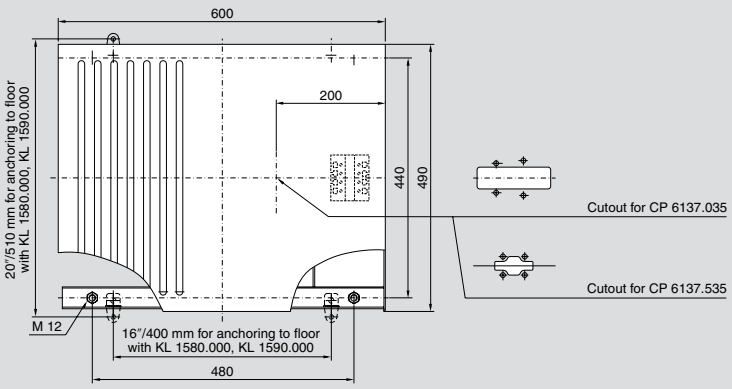
Standard equipment:

Cutout for covered installation of flexible cable duct adaptor as large as PG 36 or M50.

Cutout for PG sections (EL 2235.010 to EL 2235.080) or flexible cable duct to Ø 2.75″/70 mm.



Integral cable collecting angle



Matching accessories:

Double casters PC 4634.500, PC 4634.000 or CP 6148.000, see page 891

Double casters PS 4611.000, see page 891

Leveling feet PS 4612.000, see page 891

Wallmount bracket KL 1580.000 or KL 1590.000, see page 962

Panel lift

Height adjustment 17.5″/445 mm
from 34″/865 mm to 52″/1310 mm
maximum load: 110 lbs/50 kg

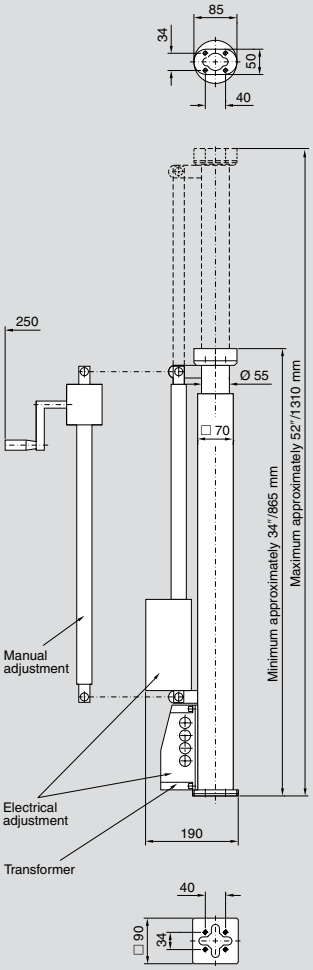
Color:
RAL 7035 light grey

Configuration:
Telescopic steel shaft with elevating screws.
Choice of self-locking drive, in versions:
- Electrical 230 V, 50 Hz, with transformer, control panel on coiled cable (approximately 3′/1 m long)
- Manual with hand crank.

Panel lift	Part No. CP
electrical	**6138.000**
manual	**6139.000**

By special request:
(110 – 120 V, 50 – 60 Hz), adaptor plate for installation on the horizontal support arm, cover or floor pane.

Accessories	Part No. CP	see page
Pedestal base, large	**6137.535**	238
Enclosure coupling CP-L	**6525.500** **6525.000**	249/ 250
Enclosure coupling CP-L ▭ 4.72 x 2.56″/ 120 x 65 mm	**6525.600** **6525.100**	250/ 251



Mobile pedestal

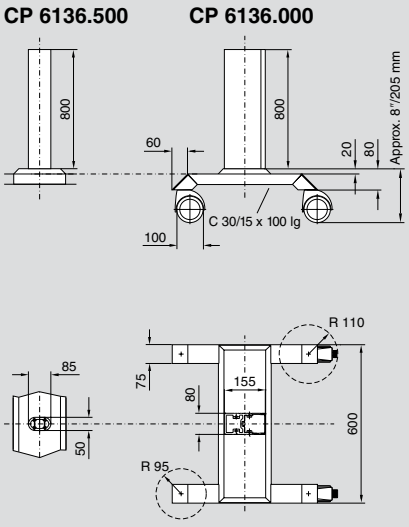
Configuration:
2 legs made of sheet steel with
2 zinc die-cast caps with plastic cover,
4 double casters,
2 x with, 2 x without brakes,
1 cross member, screwed-on, made of sheet steel with 2 built-in cable collecting brackets,
1 aluminum support arm.

Finish:
Powder painted RAL 7035 light grey
End caps RAL 7030 stone grey,
partially pre-assembled.

Mobile pedestal with support arm	Part No. CP
CP-XL (see page 258)	**6136.000**
CP-L (see page 247)	**6136.500**

Accessories for assembly of the Command Panel:

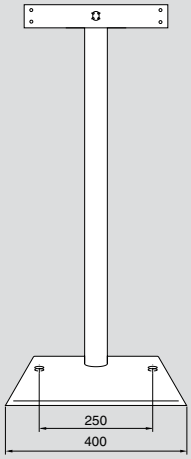
Enclosure coupling for	Part No. CP	see page
6136.000 CP-XL	**6130.600** **6130.500**	260
6136.500 CP-L	**6525.600** **6525.500**	250 249

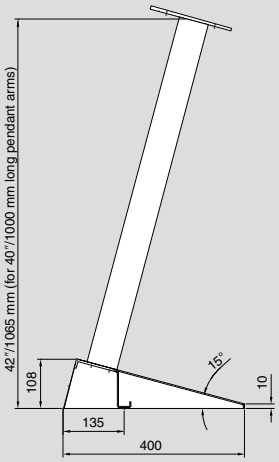


Modular pedestal, small

Consisting of:
- Pedestal base, small
- CP-L support arm
- CP-L enclosure flange

for installation of KL series junction boxes or GA series aluminum die-cast enclosures as compact operator housings.





CP-L enclosure flange

For the installation of:
- KL series junction boxes 1515.210 (HWD 6 x 12 x 3″/150 x 300 x 80 mm); GA series aluminum die-cast enclosures 9114.210 (HWD 6.25 x 14 x 3.5″/160 x 360 x 90 mm) or larger. Smaller enclosures may not need a flange mount for installation.
- Mounted inside as a reinforcement plate for all matching enclosures (also EB and AE enclosures) together with
  - Enclosure coupling CP 6525.000
  - Enclosure mount CP 6525.500
  - Tilted adaptor CP 6526.000

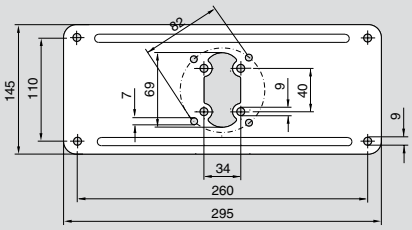
to support arm CP-L (see pages 244/245).

Installation hardware for enclosure and support arm plus 2 gaskets.

PU	Part No. CP
1	**6143.210**

Material:
Sheet steel

Color:
RAL 7035 light grey



CP-L support arm

Configuration:
Bend and torsion resistant aluminum extrusion.

Color:
RAL 7035 light grey

Length*	Part No. CP
40″/1000 mm	**6513.000**

* Can be cut to length for custom lengths. For other standard lengths, see page 247.

Pedestal base, small

With reinforcement bracket for the installation of support arm CP-L.
- Rear with one hole for a standard M20 cable conduit connection.
- Top with two holes (grommets included) for access to floor mounting cross rail.
- Ready for installation of cable collecting clamp DK 7077.000 or DK 7078.000 (see TS 8 catalog, page 56) for strain relief.

Includes installation materials for support arm and gaskets.

PU	Part No. CP
1	**6143.200**

Additional parts needed:

Standard screws, up to M8 may be used for mounting to floor.

Material:
Sheet steel 12 ga/2.5 mm

Color:
RAL 7035 light grey

Pedestal for operating housing

Especially developed for side mounting of operator housings.

Components:
- Base plate for pedestal, with casters
- Support arm
- Cover plate with handle grips.

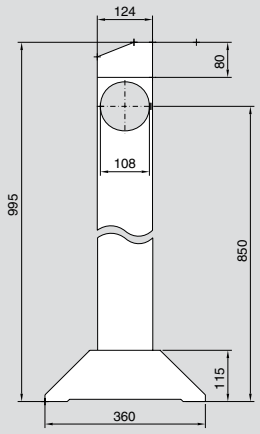
Advantages:
- Pre-fabricated cables can be routed the same as in a cable duct and covered.
- An integrated recessed handle and casters provide mobility.
- Smooth 360° rotation allows the operator housing to be tilted for an optimum working position.
  Assembly parts included.

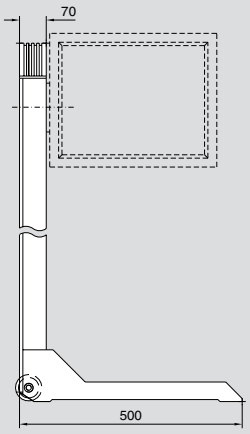
Recommended enclosures*	Maximum allowable installation weight
AE 1380.600	99 lbs/45 kg
AE 1039.600	44 lbs/20 kg
AE 1050.600	66 lbs/30 kg
AE 1060.600	44 lbs/20 kg

For all enclosures mentioned, the door can be exchanged for a control panel.
* Side cutouts on the enclosures for mounting on pedestal by special request.

US Patent No. 4 754 942
German Patent No. 36 10 151
European Patent No. 0 238 911
affecting AT, BE, CH, ES, FR, GB, IT, NL, SE

Weight	Part No. CP
53 lbs/24 kg	**6135.000**



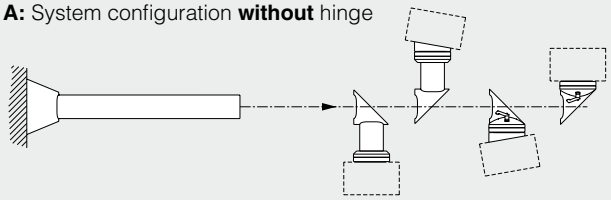


■ CP-L support arm systems

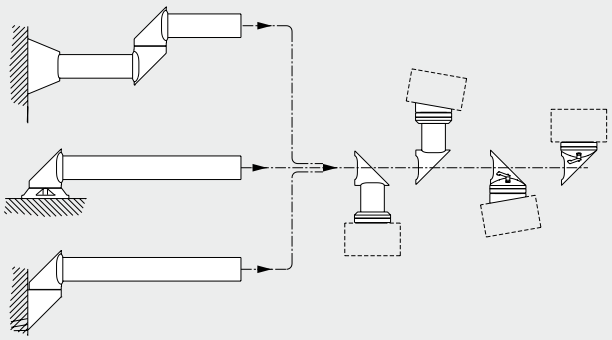
The CP-L support arm system is designed for small and medium-sized operator housings. It offers a whole range of connection and hinged parts, and hence a large number of possible applications.

This ensures optimum operation at the interface between human and machine. In other words, the CP-L support arm system provides perfect back-up for optimum information exchange and user-friendly handling of graphical interactive control systems.

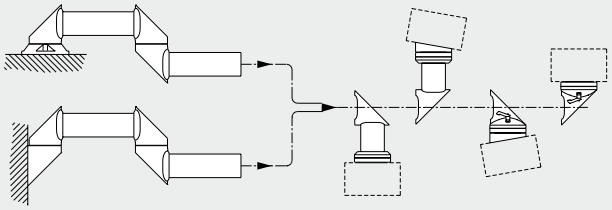
A: System configuration **without** hinge



B: System configuration **with one** hinge

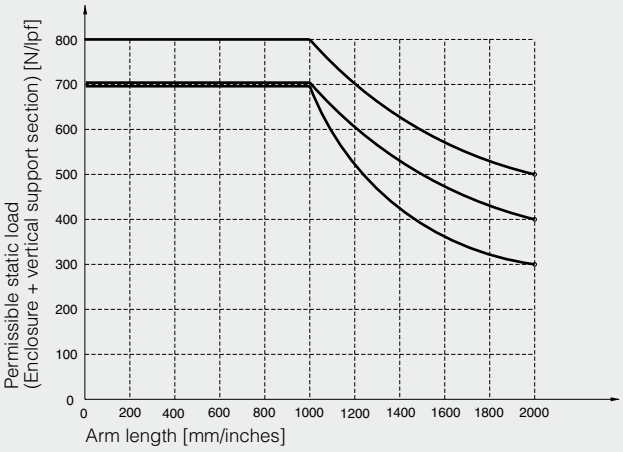


C: System configuration **with two** hinges



Permissible load depending on system configuration

Intermediate hinge CP 6523.000, only one per system!



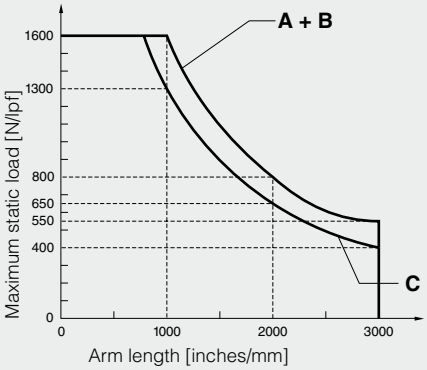
■ CP-XL support arm systems

The CP-XL support arm is sure to impress with its high load capacity. There is a choice of 2 profile designs:

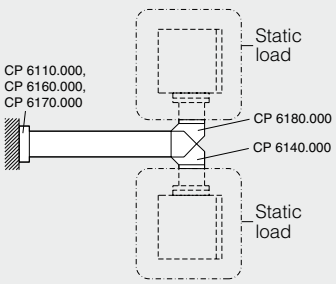
- Solid for high torsion loads (particularly when using an intermediate hinge)
- Open for simple cable entry.

Permissible load depending on system configuration

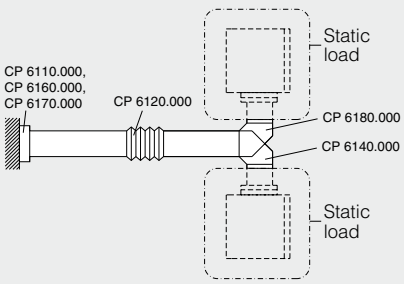
Intermediate hinge CP 6120.000, only one per system!



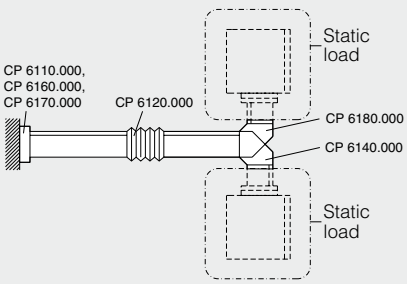
A: Open and closed support arm section

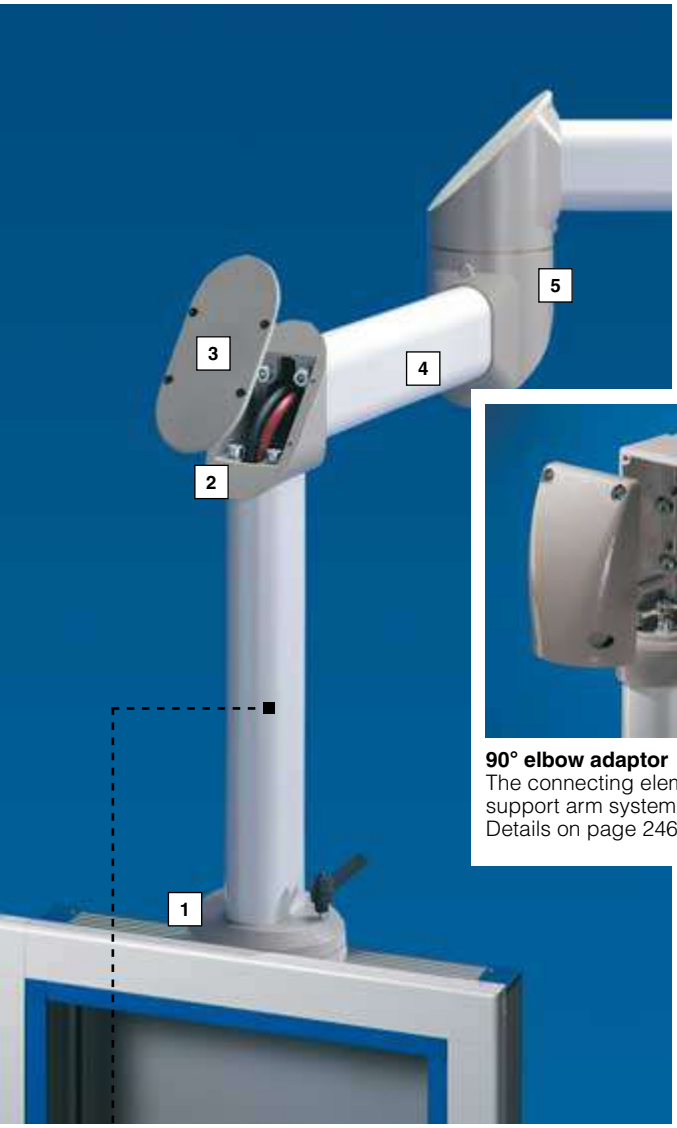


B: Solid support arm section



C: Open support arm section





90° elbow adaptor
The connecting element between support arm systems CP-L and CP-XL.
Details on page 246.

CP-L (6500)

starting on page 244

1 Housing coupling for swivel mounting of the enclosure to the vertical part of the support arm system, with the enclosure either suspended or top-mounted.

2 Self-tapping screws for individual assembly without the need for time-consuming thread tapping.

3 Plastic cover with gasket permits access to the inserted cables.

4 Extruded aluminum section of high bending resistance, easily adapted to individual situations by cutting to length.

5 Intermediate hinge for swivel connection of horizontal support sections within the support arm system.

CP-XL (6000)

starting on page 256

6 Self-tapping screws permit simple, fast assembly of the support arm without time consuming thread-tapping.

7 Extruded groove to accommodate the clip-on lid with the open support arm section CP-XL (included with the configuration of the support arm section).

8 Intermediate hinge for swivel connection of horizontal support sections within the support arm system.

9 Extruded aluminum section of high bending resistance with a high load capacity and an attractive design.

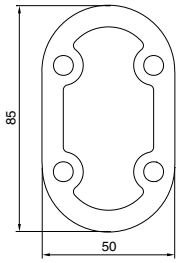
10 Section open on one side, enabling easy insertion of pre-assembled cables.

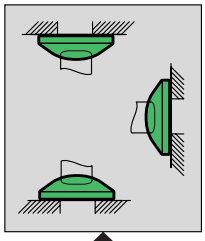
11 Enclosure coupling for connecting the support arm section to the enclosure permits an infinitely variable enclosure swivel range of approx. 350°.

12 Connection adaptor VIP 6000 (installation depth 6.10, 7.28 and 11.60″/ 155, 185 and 295 mm) on CP-XL support arm.

13 90° angle piece for a stable connection between support arm sections; the design permits problem-free insertion of pre-assembled cables.

Installation options for CP-L support arm systems





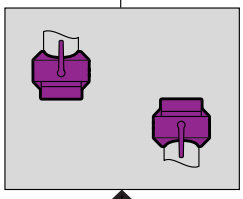
Wall/floor-
mount, small
Part No. 6520.5X0*

This page illustrates the possible combinations for CP-L support arm connections in conjunction with the robust, oval support arm section. Each grey box shows a support arm component in a variety of assembly positions.

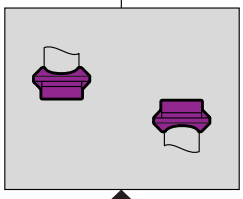
There is a fast, perfect solution to meet your specific requirements.

*** Legend:**
X = 0 RAL 7030 stone grey
X = 1 RAL 7024 graphite grey

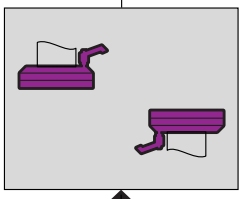
Enclosure coupling
Part No. 6525.1X0*



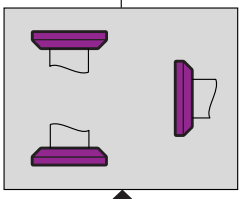
Enclosure mount
Part No. 6525.6X0*



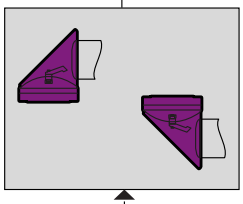
Rotating
enclosure coupling
Part No. 6525.0X0*



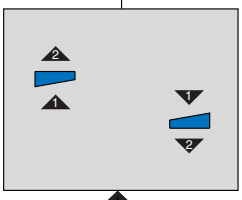
Fixed
enclosure coupling
Part No. 6525.5X0*



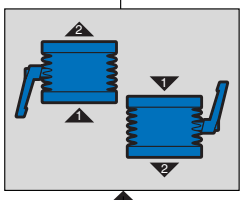
90° enclosure coupling
Part No. 6526.0X0*

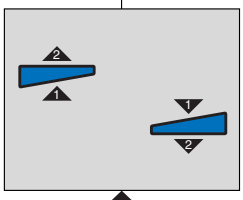


10° tilting
adaptor
Part No.
6527.1X0*



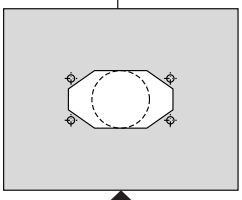
Tilting adaptor
adjustable by ± 45°
Part No. 6529.0X0*



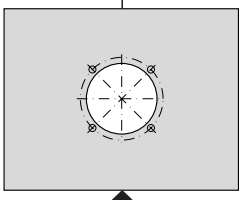


10° tilting
adaptor
Part No.
6527.1X0*

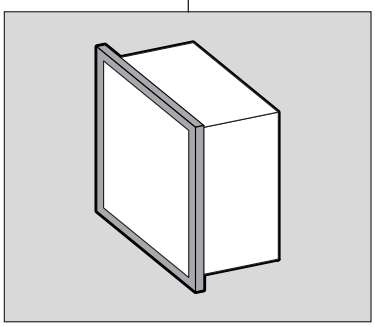
1 Enclosure side
2 Support arm side



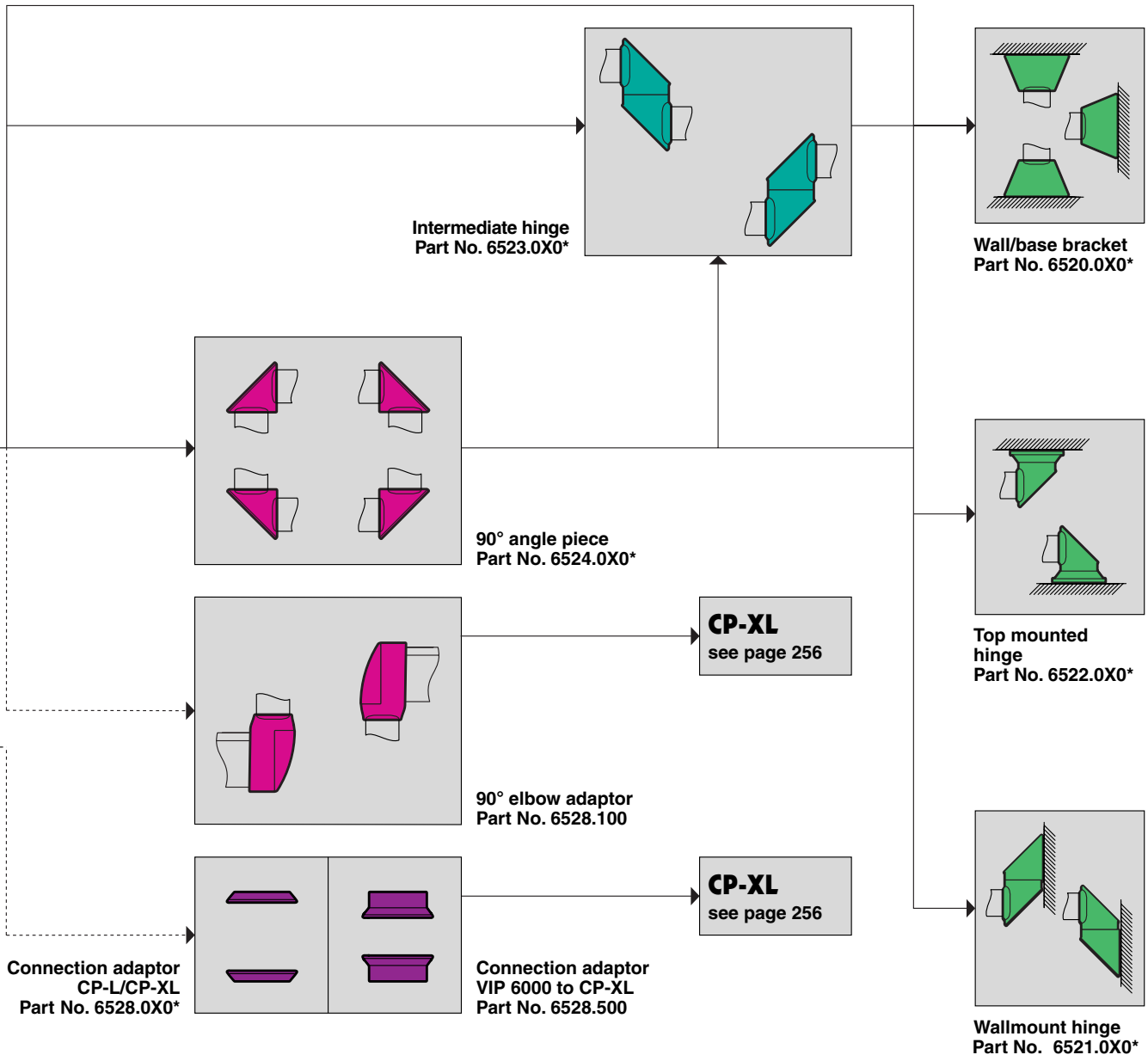
Support arm connection
CP-L ▭ 4.72 x 2.56″/
120 x 65 mm



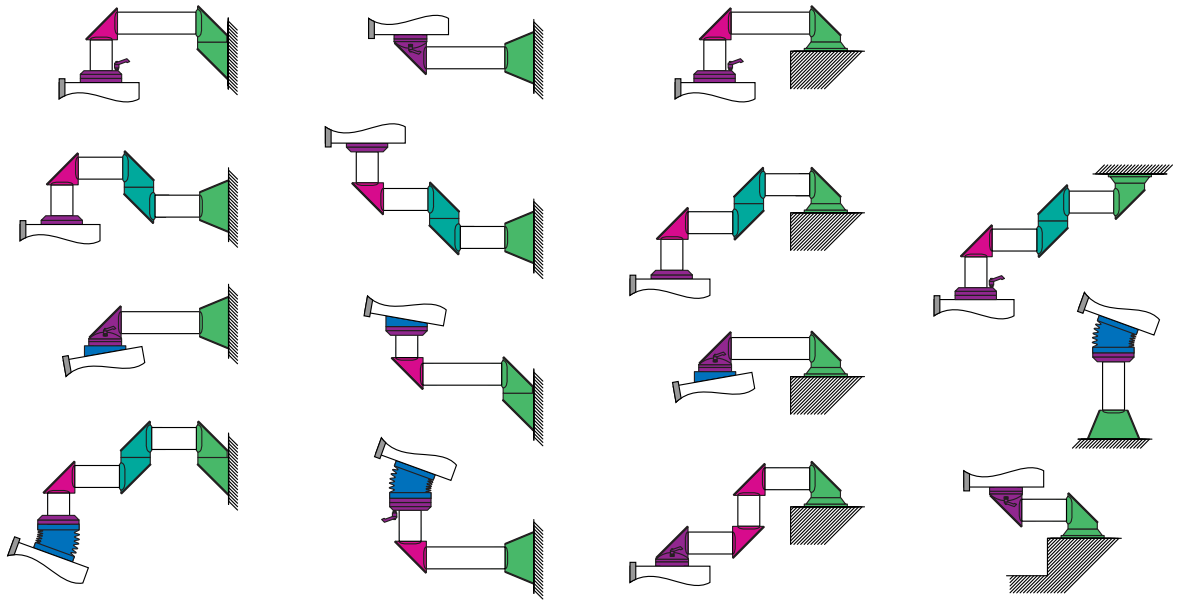
Support arm connection
CP-L ○



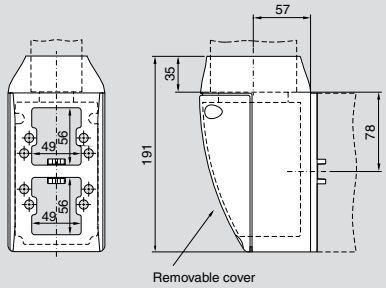
Command Panel with
support arm connection
at the top, bottom
or top and bottom.

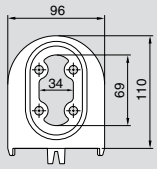


■ These are just a few examples from a wide range of possibilities



Adaptors for installation between CP-L and CP-XL





CP-XL to CP-L 90° angle adaptor,

A coupling between
- horizontal support arm CP-XL and
- vertical support arm CP-L.

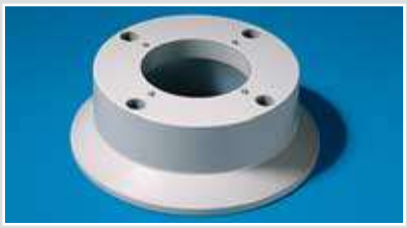
Choose exit on top or bottom when the configuration is chosen for
- structural or
- aesthetic reasons.

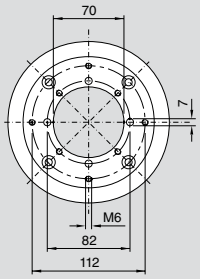
The removable cover makes cable routing easy.

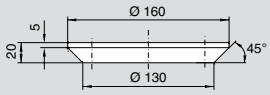
Configuration:
Aluminum die-cast, includes gaskets and self-forming screws for CP-L/CP-XL support arm mount.

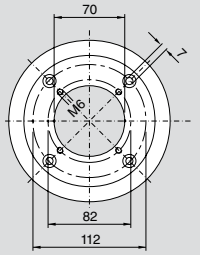
Color:
RAL 7030 stone grey

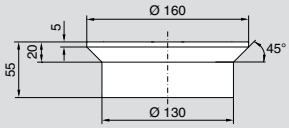
Weight	Part No. CP
3.3 lbs/1.5 kg	**6528.100**











CP-L/CP-XL connection adaptor

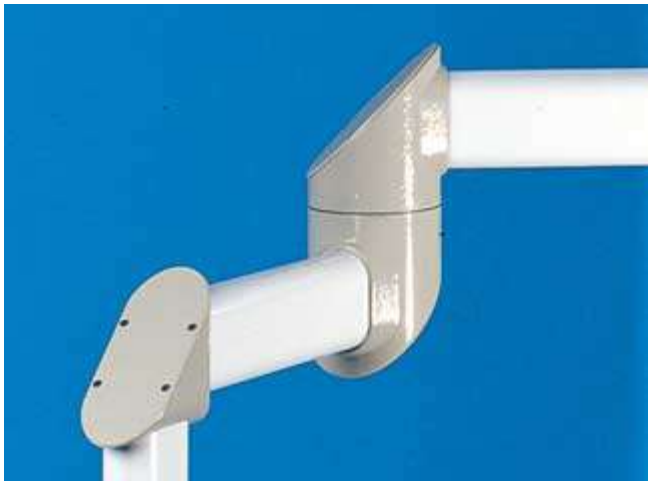
For installation between
- enclosure with support arm CP-L and
- support arm system CP-XL.

Configuration:
Aluminum die-cast, including gasket and assembly parts.

Height (mm)	RAL	Weight (lbs/kg)	Part No. CP
20*	7030	1.1/0.5	**6528.000**
20*	7024		**6528.010**
55**	7030	1.54/0.7	**6528.500**

* May also be installed between enclosures using support arm CP-XL and support arm CP-L load limits permitting.

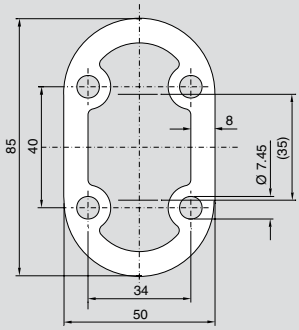
** For VIP 6000 Command Panel see pages 180/181 3.1. Operator housing, versions: design codes numbers 1 through 5.



CP-L support arm systems

This support arm system combines compact sizes and elegant styling with excellent load capacity for small and medium-sized enclosures (see page 242 for load diagram). All moving parts are maintenance free.
You may choose to have the tilting adaptor, enclosure mount and coupling mounted on the top or the bottom. **These components are not designed as a base for a support arm system.** We also recommend the CP-Vertical pendant arm, see pages 264/265.

US Design Patent No. Des. 369 196
German Registered Design No. 93 07 212
IR Reg. Design No. DM/028 949 affecting FR, IT, ES
Japanese Registered Design No. 970 649



CP-L support arm

For assembling a support arm system. The connection components are connected to the support section parts with self-tapping screws, which means that the support section can be cut to any required length.

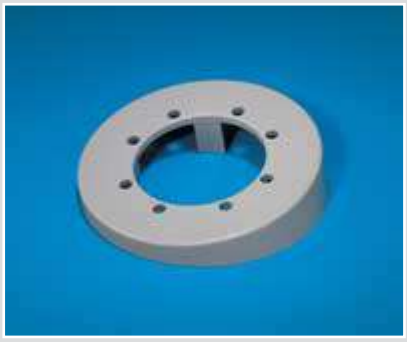
Configuration:
Torsion resistant extruded aluminum section of high bending resistance.

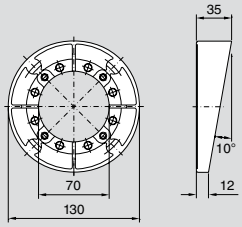
Weight:
3.15 lbs/ft; 4.7 kg/m

Length (inches/ mm)	**Part No. CP** RAL 7035 light grey	**Part No. CP** RAL 9006 white aluminum
20/ 500	**6511.000**	**6511.010**
40/1000	**6513.000**	**6513.010**
79/2000	**6515.000**	**6515.010**

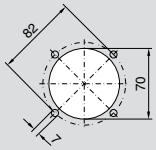
Note:
Load limits, see page 242.

US Patent No. 5 460 894
Dt. Patent No. 43 31 124
French Patent No. 94 10 806
Italian Patent No. 01275022
Japanese Patent No. 2730621





Installation cutout enclosure CP-L



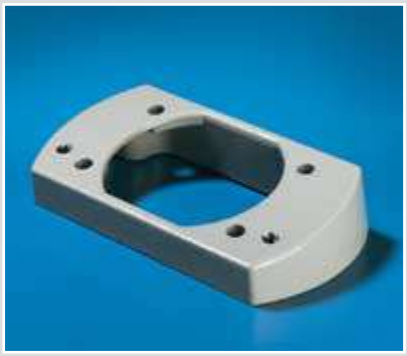
CP-L 10° tilting adaptor

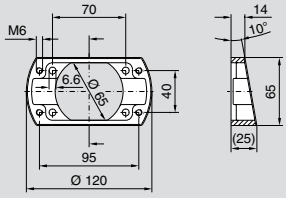
For installation between:
- enclosure coupling CP 6525.0X0
  or
- enclosure mount CP 6525.5X0
  or
- 90° enclosure coupling CP 6526.0X0
  and operator housing.

Configuration:
Zinc die-cast, gaskets and installation hardware included.

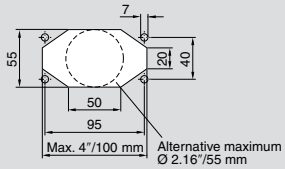
Weight:
1.32 lbs/0.6 kg

RAL	Part No. CP
7030 stone grey	**6527.000**
7024 graphite grey	**6527.010**





Installation cutout enclosure



CP-L 10° tilting adaptor ▭ 120 x 65 mm

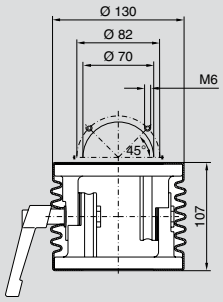
For installation between:
- enclosure coupling CP 6525.1X0
  or
- enclosure mount CP 6525.6X0

and operator housing.

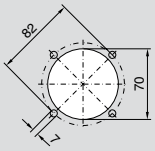
Configuration:
Zinc die-cast, gaskets and installation hardware included.

Weight:
1.10 lbs/0.5 kg

RAL	Part No. CP
7030 stone grey	**6527.100**
7024 graphite grey	**6527.110**



Installation cutout enclosure CP-L



CP-L ± 45° adjustable adaptor tilting

For installation between:

- enclosure coupling CP 6525.0X0 or
- enclosure coupling CP 6525.5X0 or
- 90° enclosure coupling CP 6526.0X0 and operator housing.

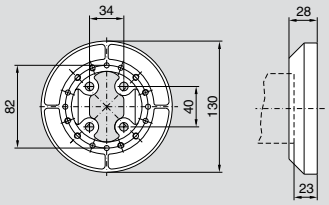
Angle of tilt adjustable in 7.5° increments. The inner ratchet hinge ensures a secure connection.

Configuration:
Cast aluminum with expansion bellows section, including gasket and assembly parts. Not suitable for use as a base for a support arm system.

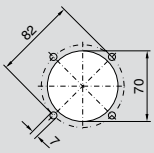
Weight:
2.2 lbs/1.0 kg

RAL	Part No. CP
7030 stone grey	**6529.000**
7024 graphite grey	**6529.010**

US Patent No. 5 911 393
German Patent No. 195 40 298



Installation cutout enclosure CP-L



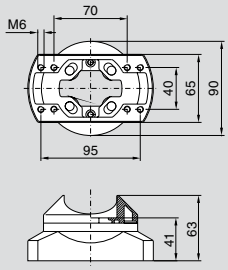
CP-L enclosure coupling, fixed

For the fixed installation of the enclosure onto the support arm system.

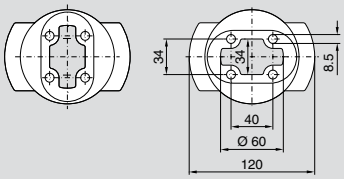
Configuration:
Zinc die-cast, gaskets and self-tapping screws for CP-L support arm mount included. Not suitable as a base for a support arm system.

Weight:
1.8 lbs/0.8 kg

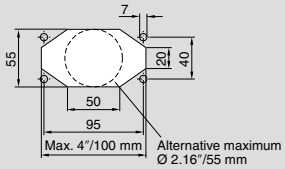
RAL	Part No. CP
7030 stone grey	**6525.500**
7024 graphite grey	**6525.510**



For installation of enclosure onto the CP-L support arm; choice of:



Installation cutout enclosure



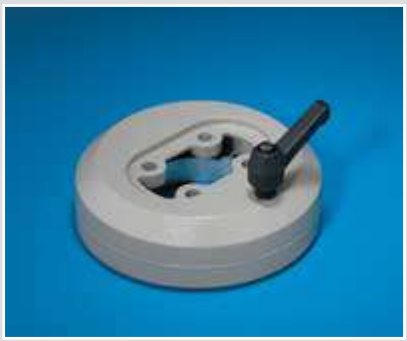
CP-L enclosure coupling ▭ 120 x 65 mm, fixed

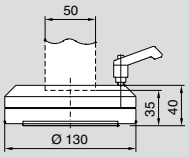
For fixed installation of enclosure to support arm CP-L. Can be mounted to the top or bottom of an enclosure.

Version:
Zinc die-cast, includes gasketing and installation hardware. Not designed as a base for a support arm systems.

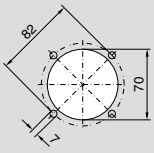
Weight:
2.2 lbs/1.0 kg

RAL	Part No. CP
7030 stone grey	**6525.600**
7024 graphite grey	**6525.610**





Installation cutout enclosure CP-L



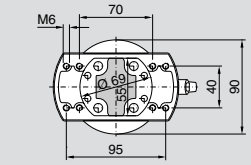
CP-L enclosure coupling, rotating

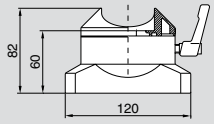
For swivel mount of the enclosure to the vertical part of the support arm.

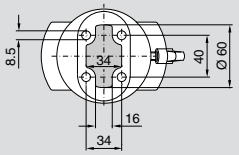
Version:
Zinc die-cast, including gasket and installation hardware. Rotation range is approximately 350°. The rotation range can be narrowed to ± 5°, 65°, 95° and 155° by using additional dowel pins (5 x 18 mm per ISO 8752).

Weight:
3.3 lbs/1.5 kg

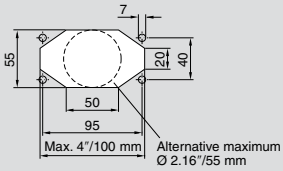
RAL	Part No. CP
7030 stone grey	**6525.000**
7024 graphite grey	**6525.010**







Installation cutout enclosure



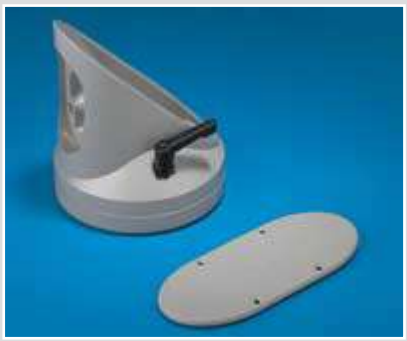
CP-L enclosure coupling, rotating ▭ 120 x 65 mm

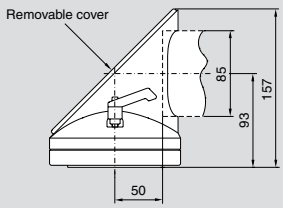
Rotating mount of enclosure to CP-L. Top or bottom mount.

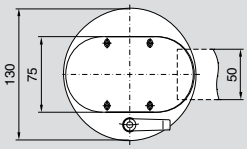
Configuration:
Zinc die-cast, including gasketing and installation materials. Approximately 350° rotation. Not designed as a base for a support arm system. The rotation range can be narrowed to ± 55° and ± 100° by using additional dowel pins (6 x 20 mm per ISO 8752).

Weight:
2.65 lbs/1.2 kg

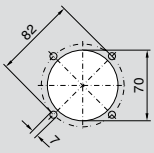
RAL	Part No. CP
7030 stone grey	**6525.100**
7024 graphite grey	**6525.110**







Installation cutout CP-L enclosure



CP-L 90° enclosure coupling

For swivel mounting of the enclosure on the horizontal part of the support arm system. Enclosure may be suspended or top-mounted.
The removable plate enables problem-free cable routing.

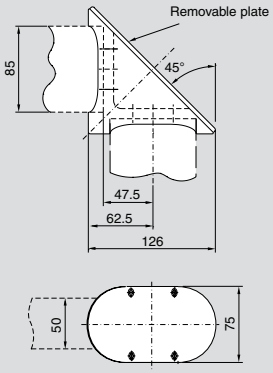
Version:
Cast aluminum/zinc die-cast, including gaskets, adjustment set and installation hardware. Not suitable for use as a base point for a support arm system. Rotation range approximately 350°. Rotation range can be narrowed to ± 5°, 65°, 95° and 155° by using additional dowel pins (5 x 18 mm per ISO 8752).

Weight:
3.3 lbs/1.5 kg

RAL	Part No. CP
7030 stone grey	**6526.000**
7024 graphite grey	**6526.010**

Optional accessories:

Mounting components for signal pillars, see page 252.



CP-L 90° elbow

For connecting horizontal and vertical support arm parts.
The removable plate ensures easier cable routing.

Configuration:
Cast aluminum, including gaskets, adjustment set and installation hardware including self-tapping screws for CP-L support arm.

Weight:
1.1 lbs/0.5 kg

RAL	Part No. CP
7030 stone grey	**6524.000**
7024 graphite grey	**6524.010**

Optional accessories:

Mounting component for signal pillars, see below.

US Patent No. 5 533 763
German Patent No. 43 31 125
French Patent No. 94 10901
Italian Patent No. 012 74 738
Japanese Patent No. 2 809 993

Mounting component for signal pillar

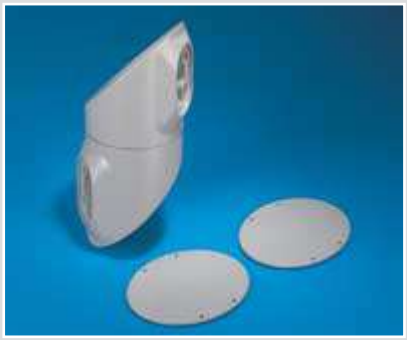
For attaching a signal pillar with connection piece for conduit mounting onto support arm system CP-L. Will fit angle piece CP 6524.0X0 and angle coupling CP 6526.0X0

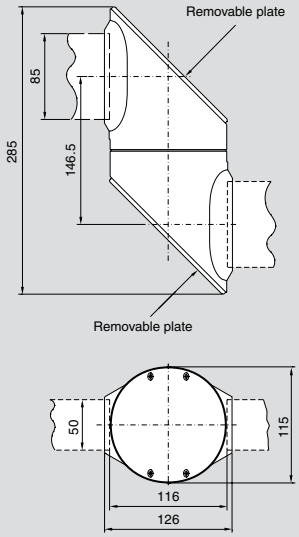
RAL	Part No. CP
8022 black brown	**2375.000**

Configuration:
Sheet steel

Optional accessories:

Signal pillars,
starting on page 1000.





CP-L intermediate hinge

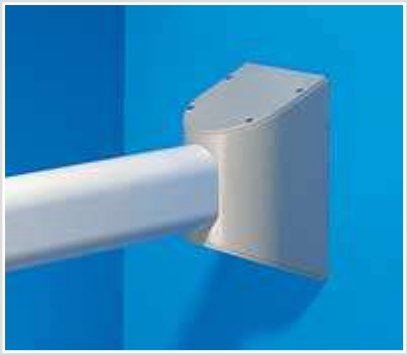
For the hinged connection of horizontal support section parts within the support arm system. The removable plates ensure easy cable routing.

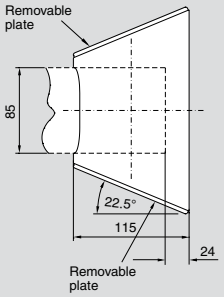
Configuration:
Cast aluminum, including gaskets, adjustment set and installation hardware. Maximum angle of rotation approx. 350°. The rotation range may be restricted in 60° increments.

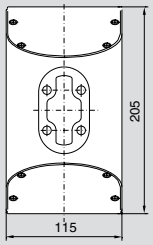
Weight:
5.5 lbs/2.5 kg

RAL	Part No. CP
7030 stone grey	**6523.000**
7024 graphite grey	**6523.010**

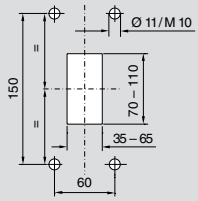
US Patent No. 5 522 118
German Patent No. 44 03 593
French Patent No. 94 10902
Italian Patent No. 012 74 751
Japanese Patent No. 2 675 264







Installation cutout



CP-L wall/base bracket, large

For rigid installation of the support arm system to vertical or horizontal surfaces.

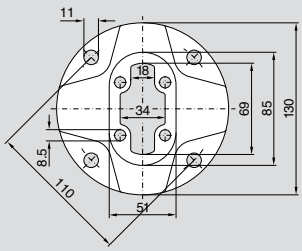
Configuration:
Cast aluminum, including gaskets, option of adjustment via shim screw, and installation kit including self-tapping screws for installation on CP-L support arm.

Weight:
3.5 lbs/1.6 kg

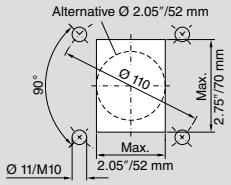
RAL	Part No. CP
7030 stone grey	**6520.000**
7024 graphite grey	**6520.010**

Optional accessories:

CP pillar,
check with your Rittal representative.



Installation cutout



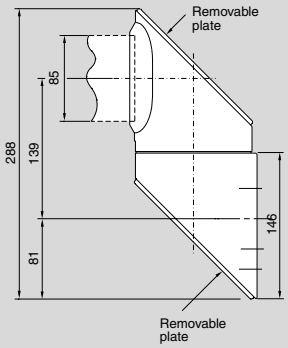
CP-L wall/base bracket, small

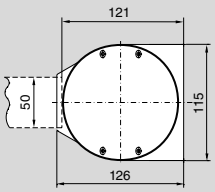
For rigid attachment of the support arm system to vertical or horizontal surfaces. Especially well suited for the installation of compact support arm systems with internal cable entry.

Configuration:
Cast aluminum, including gaskets, option of adjustment via shim screw, and installation kit including self-tapping screws for installation on CP-L support arm.

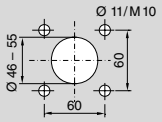
Weight:
1.32 lbs/0.6 kg

RAL	Part No. CP
7030 stone grey	**6520.500**
7024 graphite grey	**6520.510**





Installation cutout



CP-L wallmount hinge

For vertically hinged mounting of the support arm system on vertical surfaces. The removable plates facilitate problem-free cable routing and cable entry.

Configuration:
Cast aluminum, including gaskets, option of adjustment via shim screws and installation kit.
Maximum rotation range approx. 350°.
Option of limiting the rotation range in 60° increments; hardware included.

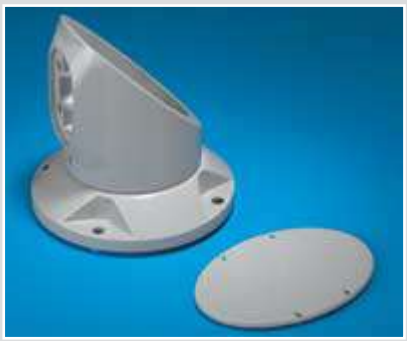
Weight:
6.2 lbs/2.8 kg

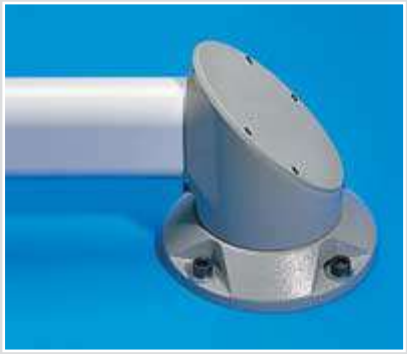
RAL	Part No. CP
7030 stone grey	**6521.000**
7024 graphite grey	**6521.010**

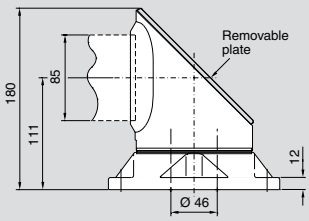
Optional accessories:

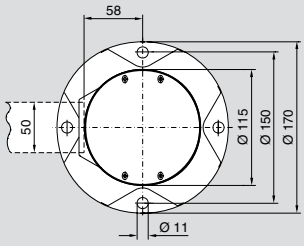
CP pillar,
check with your Rittal representative.

US Patent No. 5 522 118
Dt. Patent No. 44 03 593
French Patent No. 94 10902
Italian Patent No. 01274751
Japanese Patent No. 2 675 264

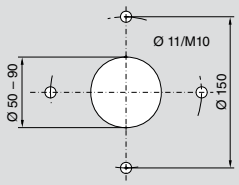








Installation cutout



CP-L horizontal hinge

For swivel mounting of the support arm system on horizontal surfaces – also suitable for suspending from the ceiling. The removable plate enables simplified cable entry.

Note:
Cannot be used as an enclosure coupling.

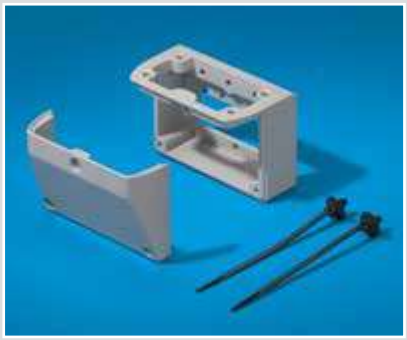
Configuration:
Cast aluminum, including gaskets, adjustment set, and installation hardware.
Maximum rotation range approximately 350°.
Option of restricting the turning range in 60° increments.

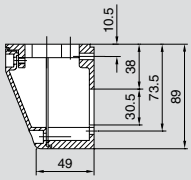
Weight:
5.5 lbs/2.5 kg

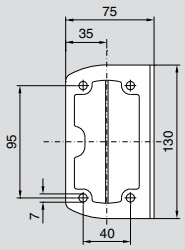
RAL	Part No. CP
7030 stone grey	**6522.000**
7024 graphite grey	**6522.010**

Optional accessories:

CP pillar,
check with your Rittal representative.







CP-L connector console

For connecting flat operator housings to the CP-L support arm system from the rear via:

- Enclosure mount ▭ 120 x 65 mm – (CP 6525.6x0)
- Enclosure coupling ▭ 120 x 65 mm – (CP 6525.1x0)
- 10° tilting adaptor ▭ 120 x 65 mm – (CP 6527.1x0)

removable cover for easy cable routing.

Design:
Cast aluminum, including gaskets and installation hardware for installation on the enclosure, 2 cable ties included.

Weight:
1.32 lbs/0.6 kg

RAL	Part No. CP
7030 stone grey	**6508.000**
7024 graphite grey	**6508.010**

Optipanel support plate

For mounting to the enclosure frame member. Rear wall or door can be removed for easy maintenance access.

Version:
Cast aluminum, including gaskets and installation hardware.

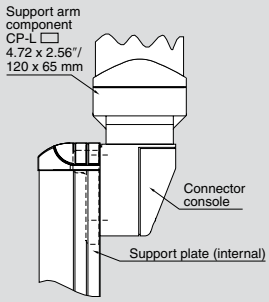
PU	Part No. CP
1 set	**6508.100**

Installation options

1. For retrofitting to Optipanel*

The connector console is screwed directly to the Optipanel frame member, together with the appropriate support plate (see above). This ensures a solid connection and enables the rear wall or door to be removed for maintenance.

* If you configure according to the design code number system (see pages 202/203, Pos. 2.3, selection **7**), the connector console and support plate will already be included in the configuration. The rear wall or door will already have the necessary cutouts.



2. For other enclosures

e.g.

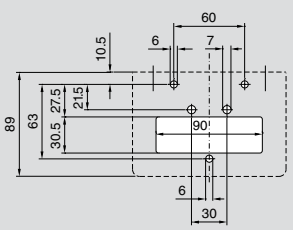
- junction boxes (see pages 48/49),
- cast aluminum enclosures (see pages 40/41)

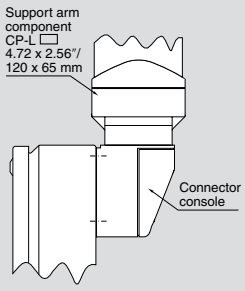
the connector console may be mounted –

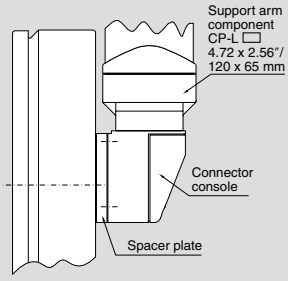
a) direct, flush with the enclosure edge,
b) with spacer plate (by special request)

to the rear wall of the enclosure.
Rear wall reinforcement may be necessary and should be checked each time.

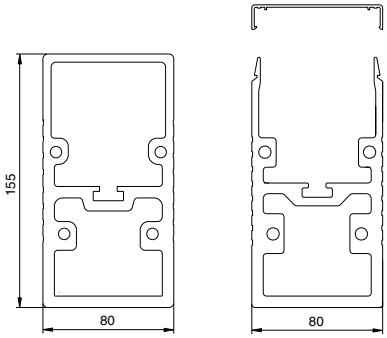
Installation cutout







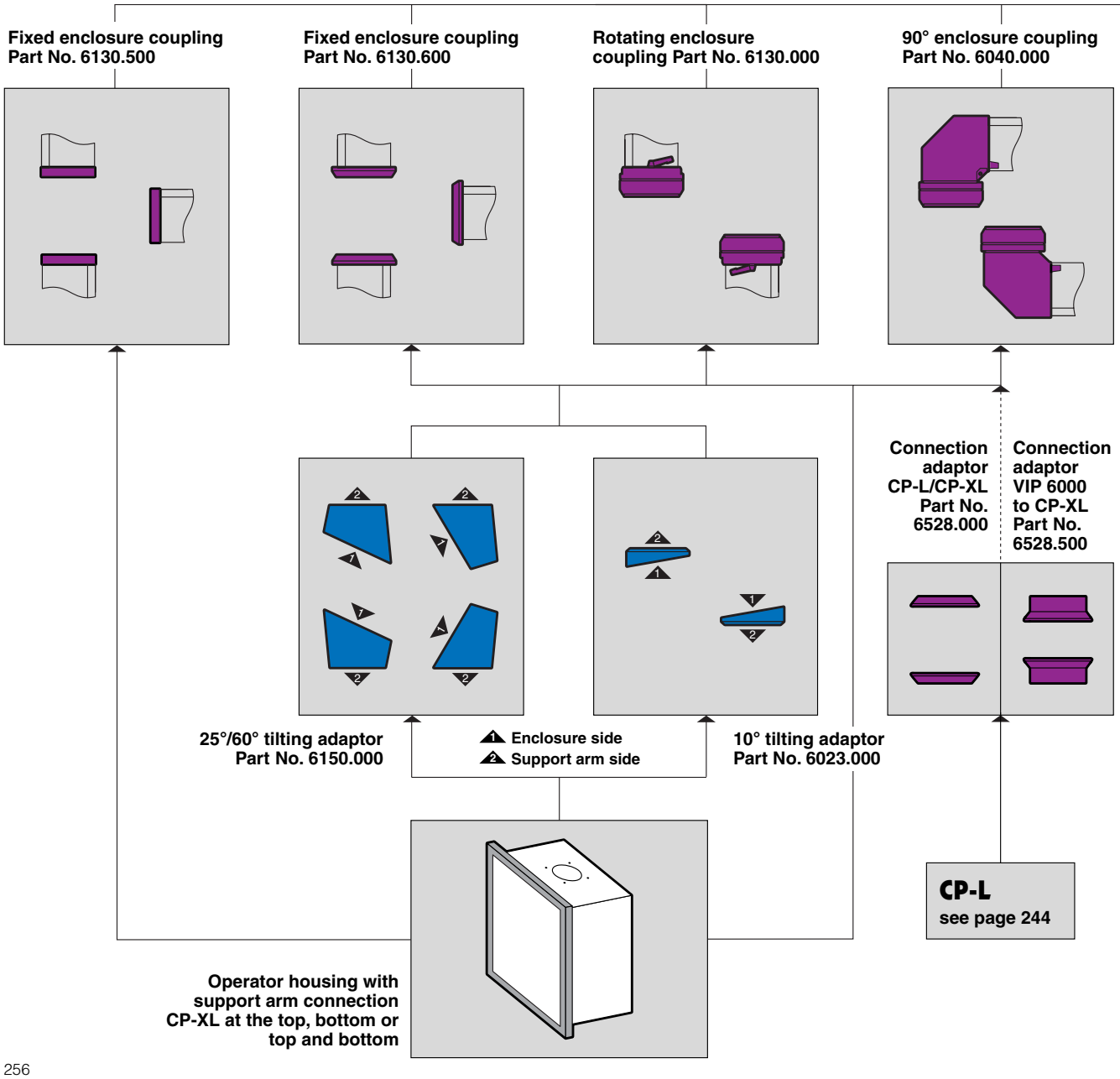
Installation options for CP-XL support arm systems

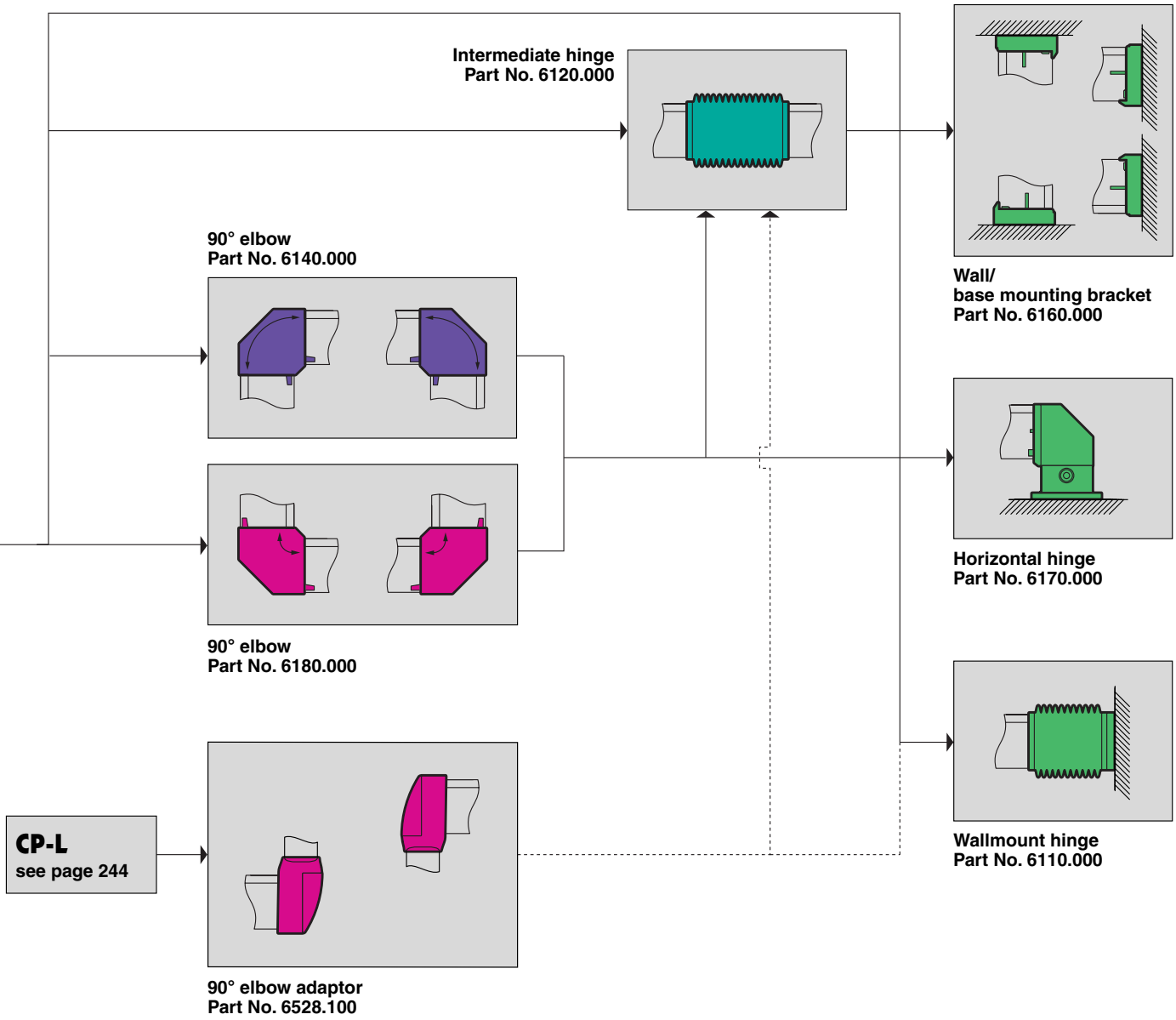


These pages show a range of possible combinations for CP-XL support arm connections. The special feature is the choice of two profile versions:

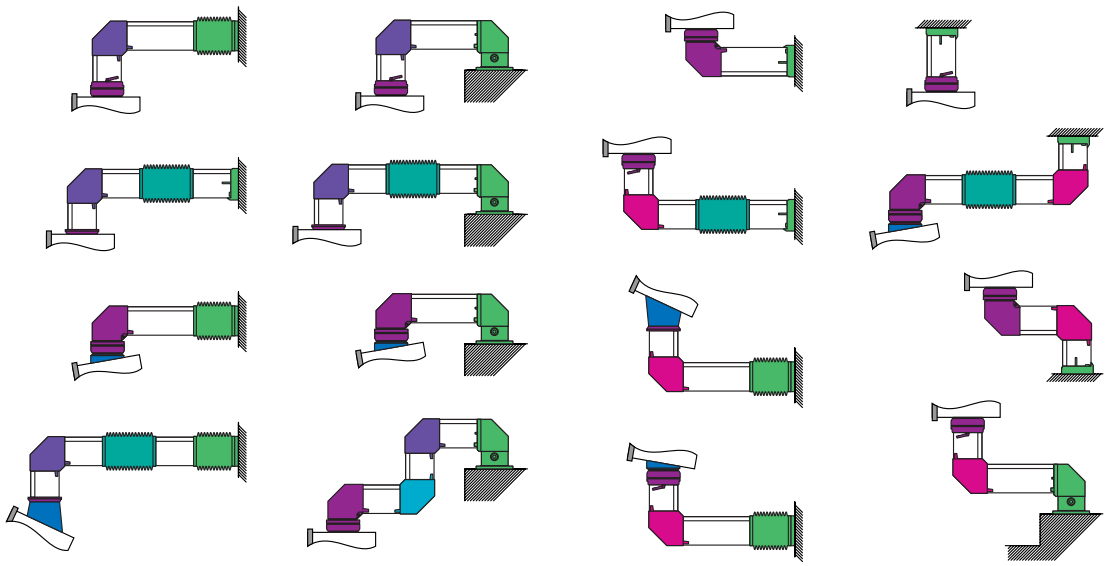
- Solid for high torsion loads (particularly when using an intermediate hinge)
- Open for simple cable entry.

Each grey box illustrates a support arm component in a variety of assembly locations. You are sure to find a fast, perfect solution to meet your specific requirements.





■ These are just a few examples from a wide range of possibilities

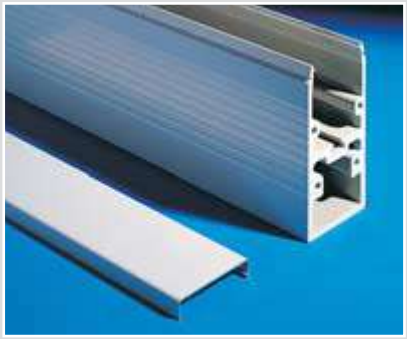


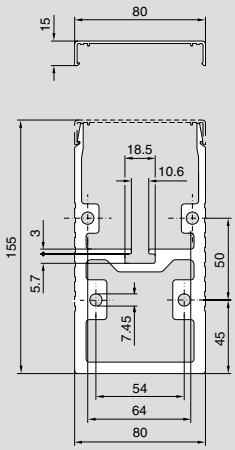
CP-XL support arm systems

The ideal support arm system for heavy loads (see page 242 for load diagram).
There is a choice of two profile designs:

- Solid for high torsion loads (particularly when using an intermediate hinge)
- Open for simple cable entry.

There are two integral cable ducts in the profiles for separate cable routing, of voltage and control cables.
The moving parts have a maintenance-free sliding bearing.
The tilting adaptors, enclosure mounts and couplings can all be installed either at the top or the bottom of the enclosure. **The components are not designed as a base for a support arm system.** We also recommend the vertical pendant arm; see pages 264/265.





CP-XL support arm, open

For assembling a support arm system. Connection components are attached to the support section parts with self-tapping screws, enabling the support section to be cut to any needed length. With open cable duct, for easy servicing access and for pre-assembled cables; easily locked via clip-on lid.

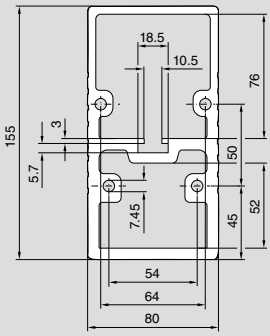
Configuration:
Extruded aluminum section of high bending resistance, complete with clip-on lid.

Color:
RAL 7035 light grey

Weight:
6.37 lbs/ft; 9.5 kg/m

Note:
Load specifications – see page 242.

Length (inches/mm)	Part No. CP
20/ 500	**6050.000**
39/1000	**6100.000**
79/2000	**6200.000**



CP-XL support arm, solid

The alternative solution for higher loads and torsion compared with the open support section CP-XL.
Connection components are attached to the support section parts by means of self-tapping screws, enabling the support section to be cut to any length, as required.

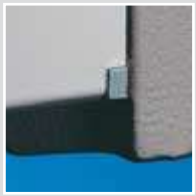
Configuration:
Extruded aluminum section of high bending strength.

Color: RAL 7035 light grey

Weight: 6.91 lbs/ft; 10.3 kg/m

Note: Load specifications – see page 242.

Length (inches/mm)	Part No. CP
20/ 500	**6050.500**
39/1000	**6100.500**
79/2000	**6200.500**

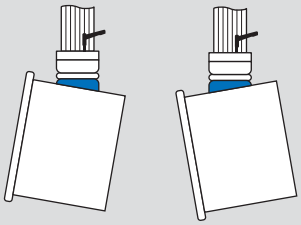


Adjustment shim for CP-XL support section

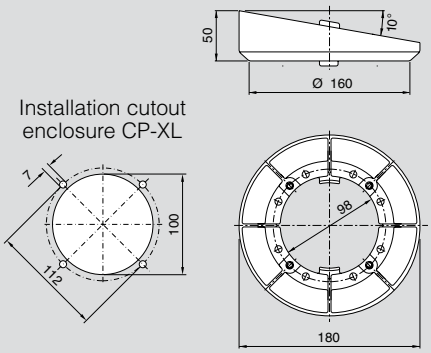
The adjustment shim permits alignment of the CP support section after installation.

PU	Part No. CP
10	**6205.000**

Configuration:
Sheet steel
.04″/1.0 mm, galvanized, chromated.



Installation cutout enclosure CP-XL



CP-XL 10° tilting adaptor

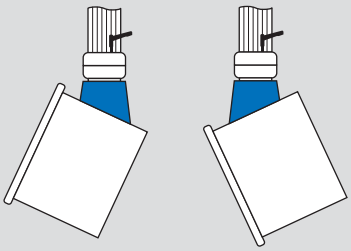
For mounting between
- housing coupling CP 6130.000
  or
- enclosure attachment CP 6130.600
  or
- 90° angle coupling CP 6040.000
  and the operator housing.

Configuration:
Zinc die-cast, including gasket and assembly parts.

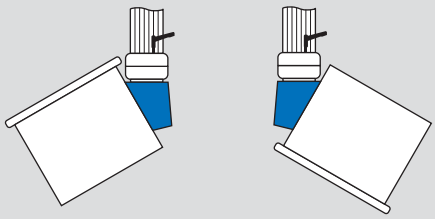
Color:
RAL 7030 stone grey

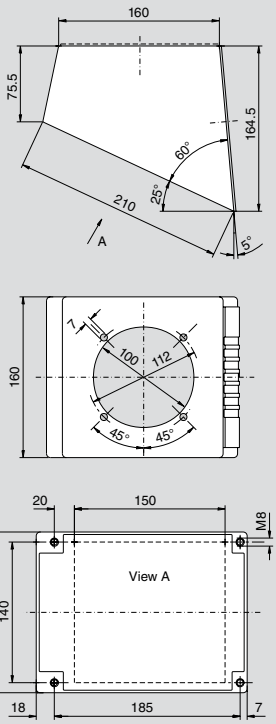
Weight (lbs/kg)	Part No. CP
2.6/1.2	**6023.000**

Tilt 25°



Tilt 60°





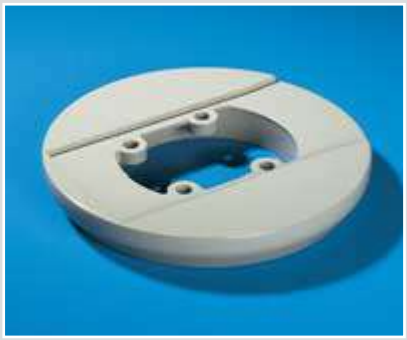
CP-XL 25°/60° tilting adaptor

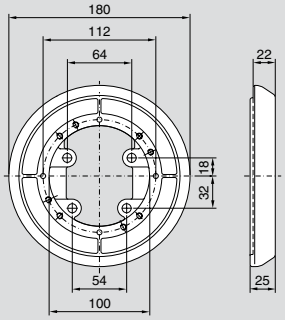
For mounting between
- rotating
  enclosure coupling CP 6130.000 or
- fixed
  enclosure coupling CP 6130.600 or
- 90°
  enclosure coupling CP 6040.000
  and operator housing.

Configuration:
Tilting adaptor made of cast aluminum. Cover for unused tilting surface made of plastic; gaskets and assembly parts included.

Color:
RAL 7030 stone grey

Weight (lbs/kg)	Part No. CP
2.9/1.3	**6150.000**



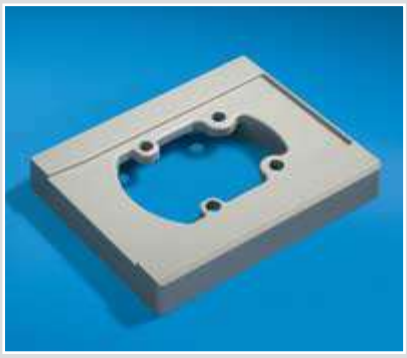


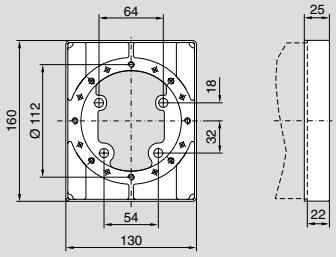
CP-XL enclosure coupling, fixed

For the rigid fastening of the enclosure to the support arm system.

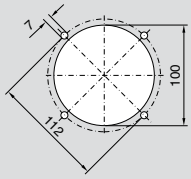
For connection between
10° tilting adaptor CP 6023.000,
25°/60° tilting adaptor CP 6015.000
or directly to the enclosure.

Design	Weight lbs/kg	Part No. CP
Round	2.4/1.1	**6130.600**





Installation cutout enclosure CP-XL

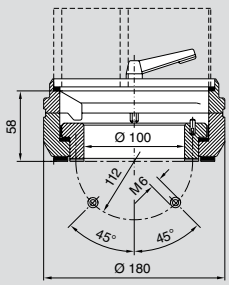


For direct installation.

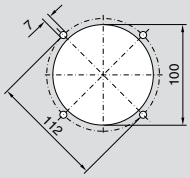
Configuration:
Zinc die-cast, including gasket and self-tapping screws for mounting onto the CP-XL support arm system.

Color:
RAL 7030 stone grey

Design	Weight lbs/kg	Part No. CP
Rectangular	3.1/1.4	**6130.500**



Installation cutout enclosure CP-XL



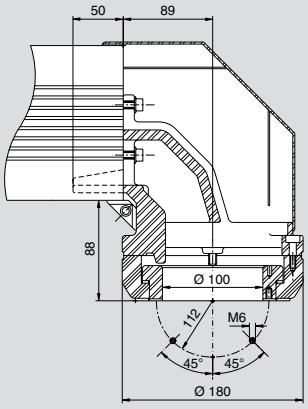
CP-XL enclosure coupling, rotating

For swivel mounting of the enclosure to the vertical part of the support arm system, with the enclosure either suspended or top-mounted.

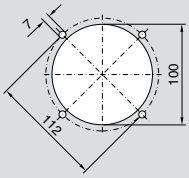
Configuration:
Zinc die-cast, including gasket and self-tapping screws for mounting onto the CP-XL support arm system. Rotation range approximately 350°. By using tapered grooved dowel pins (5 x 12 per DIN 1474) the rotation range may be restricted in 90° increments.

Color:
RAL 7030 stone grey

Weight lbs/kg	Part No. CP
7.05/3.2	**6130.000**



Installation cutout CP-XL



CP-XL 90° enclosure coupling

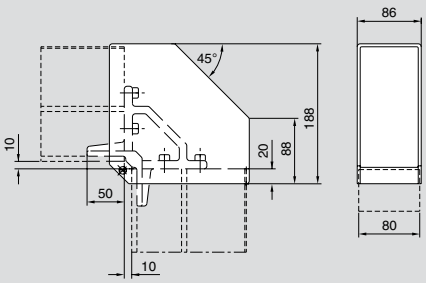
For swivel mounting of the enclosure to the horizontal part of the support arm system. Enclosure may be suspended or top-mounted.

Configuration:
Spheroidal-graphite cast iron and zinc die-cast, including gaskets, plastic trim and self-tapping screws for fixing to the CP-XL support arm, rotation range approximately 350°.
By using tapered grooved dowel pins (5 x 12 per DIN 1474) the rotation range may be restricted in 90° increments.

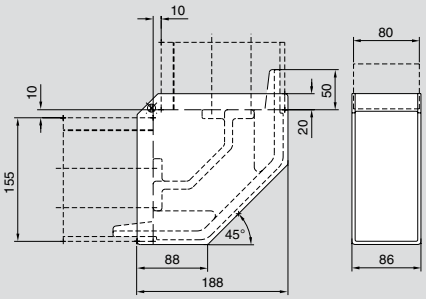
Color:
RAL 7030 stone grey

Weight lbs/kg	Part No. CP
12.13/5.5	**6040.000**

German Patent No. 40 33 747
Swiss Patent No. 684 439
Italian Patent No. 1252 120



Dimensions are in mm, unless stated otherwise.



CP-XL 90° elbow

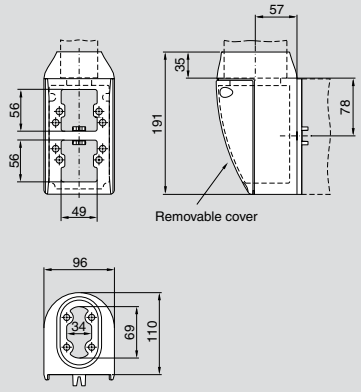
For the connection of horizontal and vertical support sections.

Configuration:
Spheroidal-graphite cast iron with plastic trim, including gaskets and assembly parts.

Color:
RAL 7030 stone grey

Opening	Weight lbs/kg	Part No. CP
Top	4.19/1.9	**6140.000**
Bottom	7.05/3.2	**6180.000**

US Patent No. 4 997 155
German Patent No. 58 901 106
European Patent No. 0 330 027
affecting FR, IT
Japanese Patent No. 1870 561



CP-XL to CP-L 90° elbow adaptor

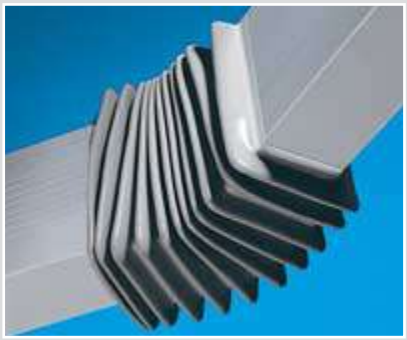
The connecting component between the
- Horizontal CP-XL support arm and CP-L vertical support arm.
- Choice of opening on top or bottom for:
- Structural or
- Aesthetic reasons

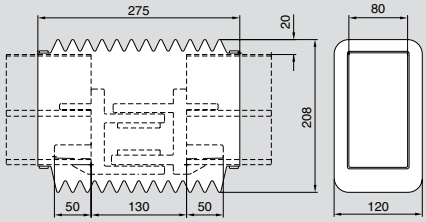
The removable cover makes cable entry easy.

Version:
Cast aluminum, including gasket and self-tapping screws for installation on CP-L/CP-XL support arm section.

Color:
RAL 7030 stone grey

Weight lbs/kg	Part No. CP
3.3/1.5	**6528.100**





US Patent No. 4 998 702
German Patent No. 38 05 424
European Patent No. 0 330 029
affecting FR, GB, IT
Japanese Patent No. 1 903 905

CP-XL intermediate hinge

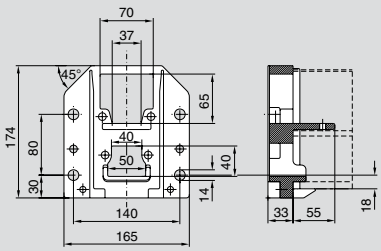
For a swivel connection of horizontal support arm segments within the system.

Configuration:
Spheroidal-graphite cast iron, including gaskets, installation hardware and divided expansion bellow section with zipper for unobstructed access to the cable duct. Swivel range approximately 180°, may be constrained with CP-XL 6110.100 rotation limiter.

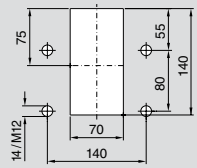
Color:
RAL 7030 stone grey

Weight lbs/kg	Part No. CP
13.5/6.1	**6120.000**

Optional accessories:
CP-XL rotation limiter, see right.



Installation cutout



CP-XL wall/base mounting

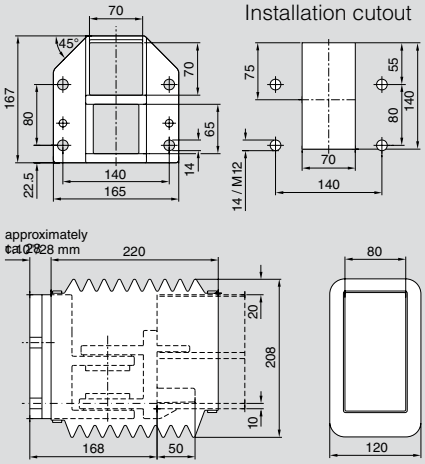
For rigid attachment of the support arm system to vertical or horizontal surfaces.

Configuration:
Spheroidal-graphite cast iron, gaskets and self-tapping screws for installation to CP-XL support arm included.

Color: RAL 7030 stone grey

Weight lbs/kg	Part No. CP
7.9/3.6	**6160.000**

Accessories:
CP pillar,
check with your Rittal representative.



CP-XL wallmount hinge

For the swivel installation of the support arm system on a vertical surface.

Version:
Spheroidal-graphite cast iron with bellows, gaskets included, rotation range approximately 180°, may be constrained with CP-XL 6110.100 rotation limiter.

Color:
RAL 7030 stone grey

Weight lbs/kg	Part No. CP
18.5/8.4	**6110.000**

Accessories:

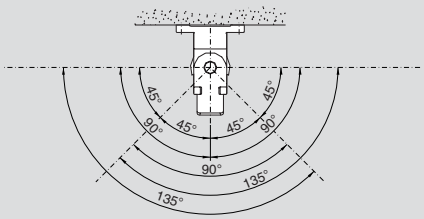
CP pillar,
check with your Rittal representative.

CP-XL rotation range restraint, see below.

CP-XL rotation limiter

designed for
- CP 6110.000 wallmount hinge, see above
- CP 6120.000 intermediate hinge, see left page.

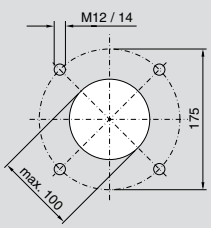
Adjustable rotation range:

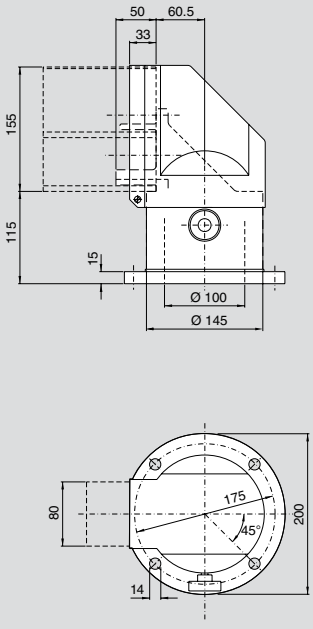


PU	Part No. CP
1 set	**6110.100**

Version:
2 steel discs, with radial hole pattern, chromated, including 3 cylinder screws for fixing.

Installation cutout





CP-XL horizontal hinge

For swivel mounting of the support arm system to horizontal surfaces.

Note:
Not suitable for the suspension of enclosures or for attachment to ceiling.

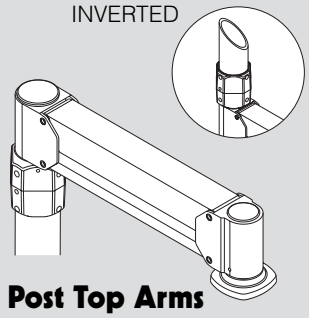
Design:
Rotation range approximately 350°, lockable. Steel and cast iron parts with plastic cover.
Safety stop as an anti-twist guard, gaskets self-tapping screws for installation to CP-XL support arm system included.

Color:
RAL 7030 stone grey

Weight lbs/kg	Part No. CP
24.3/11.0	**6170.000**

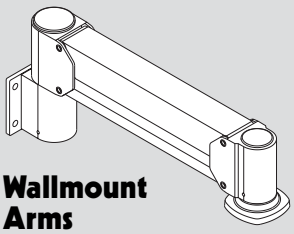
Accessories:

CP pillar,
check with your Rittal representative.



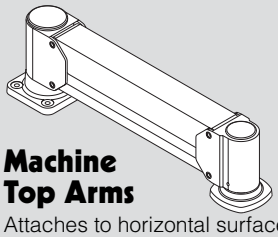
Post Top Arms

Attaches to a plain end 3.5 ≤ OD tube or pipe. Cables exit through tube.



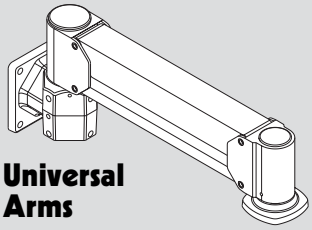
Wallmount Arms

Attaches to a vertical surface with 5.3″ H x 6.0″ W mounting plate with 4 (.5″) Ø hole pattern on 4.75″ H x 3.50″ W centers. 2.0″ Ø hole through center for cable exit. 2.5″ NPS threaded opening as alternate cable exit.



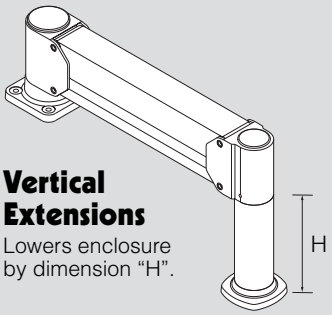
Machine Top Arms

Attaches to horizontal surface with 5″ x 5″ mounting plate with 4 (.37″) Ø hole pattern on 3.54″ centers. 1.5″ Ø hole through center for cable exit.



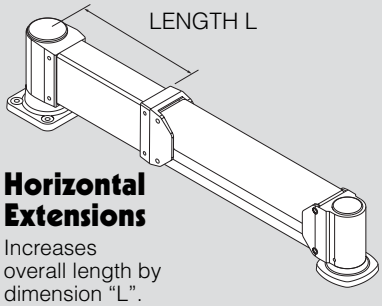
Universal Arms

Designed for increased flexibility. Mounting method can be easily configured based on user requirements.



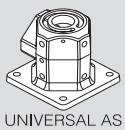
Vertical Extensions

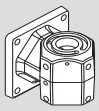
Lowers enclosure by dimension “H”.

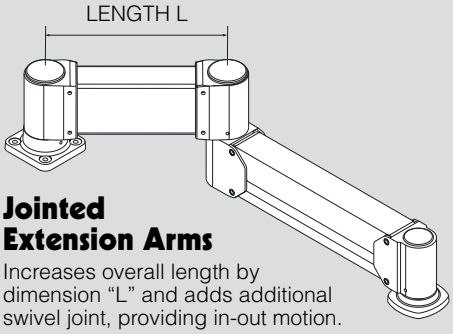


Horizontal Extensions

Increases overall length by dimension “L”.

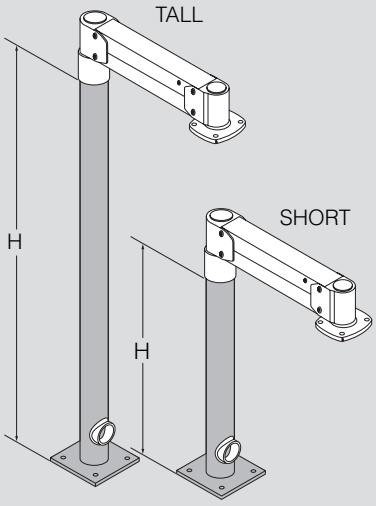






Jointed Extension Arms

Increases overall length by dimension “L” and adds additional swivel joint, providing in-out motion.

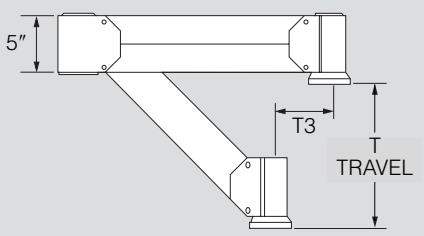


Floor Posts

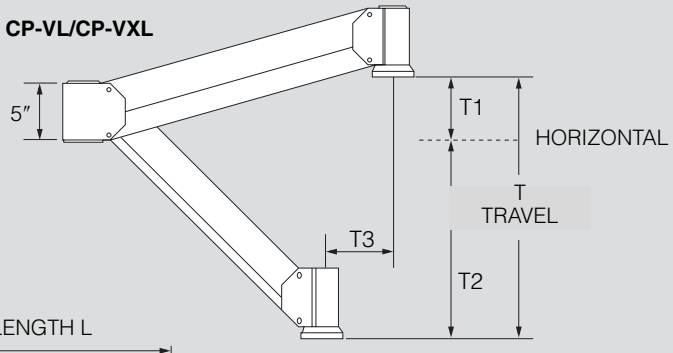
36″, 74″, or 79″ tall, 3.5″ x .25″ OD post with square base plate. 1.5″ NPT female coupling near base can be used for cable entry. Post can be easily shortened.
Note: When using jointed extension arms, a 79″ tall post should be used.

CP-Vertical Travel

CP-V



CP-VL/CP-VXL



CP-VERTICAL SUPPORT ARM SYSTEMS

Part No.	Description	Maximum load in lbs	Vertical travel T in inches	T1 inches	T2 inches	T3 inches	Length (L) in inches
9967987	Post top/CP-V	100	13	–	–	5.6	22.25
9967988	Post top/CP-VL	75	23	5.9	17.1	6.3	28.00
9967989	Post top/CP-VXL	50	30	7.4	22.6	8.7	35.00
9967993	Wallmount/CP-V	100	13	–	–	5.6	22.25
9967994	Wallmount/CP-VL	75	23	5.9	17.1	6.3	28.00
9967995	Wallmount/CP-VXL	50	30	7.4	22.6	8.7	35.00
9967996	Machine top/CP-V	100	13	–	–	5.6	22.25
9967997	Machine top/CP-VL	75	23	5.9	17.1	6.3	28.00
9967998	Machine top/CP-VXL	50	30	7.4	22.6	8.7	35.00
9967999	Universal mount/CP-V	100	13	–	–	5.6	22.25
9968000	Universal mount/CP-VL	75	23	5.9	17.1	6.3	28.00
9968001	Universal mount/CP-VXL	50	30	7.4	22.6	8.7	35.00

Part No.	Description	Height in inches	Base plate in inches
9968008	4″ Vertical extension piece	4	–
9968009	8″ Vertical extension piece	8	–
9968010	12″ Vertical extension piece	12	–
9968011	36″ Floor post	36	8 x 8
9968012	74″ Floor post	74	12 x 12
9968013	79″ Floor post	79	12 x 12
9968014	Release handle W ≤ 16″	–	–
9968015	Release handle W > 16″	–	–
9968016	Release handle for VIP [1)]	–	–

Part No.	Length (L) in inches	Description
9968002	6	Horizontal extension
9968003	12	Horizontal extension
9968004	18	Horizontal extension
9968005	24	Horizontal extension
9968006	18	Hinged extension arm
9968007	24	Hinged extension arm

The ideal vertical pendant arm solution for your system.

Design/ technical description:
- Adjusts to viewing of each operator with simple motion
- Counterbalance can be adjusted by user for loads up to 100 lbs (depending on arm)
- 13″, 23″, or 30″ of vertical adjustment
- Locks and unlocks with a convenient release mechanism
- Swivels at both ends
- NEMA Type 4, 12 sealed cable passageway protects wiring
- All arms can be easily reconfigured for inverted applications
- A release handle mechanism must be ordered for each arm

[1)] Lead times upon request.

3 sizes are available:
CP-V 5″ H x 3″ W x 26″ L
CP-VL 5″ H x 3″ W x 31″ L
CP-VXL 5″ H x 3″ W x 39″ L

Material:
Aluminum

Finish:
Powder painted aluminum, RAL 7035 light grey

Technical information:
- Pivoting travel: swivel at both ends
- Mounting styles: wallmount, machine top, post top, – standard and inverted mounting
- Rotational stops: one stop per swivel
- Cable passageway: sealed passageway, minimum diameter restriction: 1.4″

Ratings:
NEMA 4/12

Perfection in stainless steel

When hygiene and protection against corrosion are important considerations, Rittal stainless steel enclosures are the ideal solution. They're the right products for extreme environmental conditions, as found in the chemical and food/beverage processing industries, and on off-shore drilling platforms.

Rittal offers an extensive stainless steel program with a wide range of dimensions such as field bus housings, operator housings, compact enclosures, electronic enclosures, console systems, PC enclosures, freestanding enclosures or as bayed enclosure configurations.

Rittal offers the same high customer satisfaction and the same unlimited line of accessories and configuration possibilities as with their standard line, only with a different appearance.

Rail systems, electronic components, 19″ components, climate control units or power distribution parts – perfectly designed so that you can depend on certified quality.

If necessary, even the accessories may be manufactured in stainless steel, with the same material and quality as the enclosures (see pages 296 – 299).

KL series junction boxes – stainless steel – (inches/mm)					
H	W	D	**Type 304**	**Type 316**	Pages
5.91/150	5.91/150	3.15/ 80	**1521.010**		268/269
5.91/150	11.81/300	3.15/ 80	**1522.010**		268/269
7.87/200	7.87/200	3.15/ 80	**1523.010**		268/269
7.87/200	11.81/300	3.15/ 80	**1524.010**		268/269
7.87/200	15.75/400	4.72/120	**1525.010**		268/269
11.81/300	11.81/300	4.72/120	**1526.010**		268/269

BG series field bus housings – stainless steel – (inches/mm)					
H	W	D	**Type 304**	**Type 316**	Pages
7.87/200	15.75/400	4.84/123	**1558.010**		270/271
7.87/200	23.62/600	4.84/123	**1559.010**		270/271
11.81/300	7.87/200	3.15/ 80	**1583.010**		270/271
11.81/300	11.81/300	3.15/ 80	**1584.010**		270/271
11.81/300	15.75/400	3.15/ 80	**1585.010**		270/271

CP series operator housings – stainless steel – (inches/mm)					
H	W	D	**Type 304**	**Type 316**	Pages
9.45/240	12.60/320	6.30/160	**6670.000**		272/273
15.75/400	12.60/320	6.30/160	**6671.000**		272/273
12.60/320	15.75/400	6.30/160	**6672.000**		272/273
CP support arm system – stainless steel for CP Command Panel					276 – 279

Operator housings – stainless steel – (inches/mm)					
H	W	D	**Type 304**	**Type 316**	Pages
7.87/200	11.81/300	5.91/150	**6534.010**		274/275
11.81/300	11.81/300	5.91/150	**6535.010**		274/275
11.81/300	15.75/400	5.91/150	**6536.010**		274/275
15.75/400	15.75/400	5.91/150	**6538.010**		274/275
15.75/400	23.62/600	5.91/150	**6539.010**		274/275

AE compact enclosures – stainless steel – (inches/mm)					
H	W	D	**Type 304**	**Type 316**	Pages
11.81/ 300	7.87/ 200	6.10/155	**1002.600***		280/281
11.81/ 300	14.96/ 380	6.10/155	**1004.600***		280/281
14.96/ 380	11.81/ 300	8.27/210	**1005.600***		280/281
14.96/ 380	14.96/ 380	8.27/210	**1006.600***		280/281
14.96/ 380	23.62/ 600	8.27/210	**1009.600***		280/281
15.75/ 400	11.81/ 300	8.27/210	**1097.000**	**1097.100**	280/281
19.69/ 500	19.69/ 500	8.27/210	**1007.600***	**1097.120**	280/281
19.69/ 500	19.69/ 500	11.81/300	**1097.020**		280/281
23.62/ 600	14.96/ 380	8.27/210	**1008.600***		280/281
23.62/ 600	23.62/ 600	8.27/210	**1010.600***	**1097.160**	280/281
27.56/ 700	19.69/ 500	9.84/250	**1097.030**	**1097.130**	280/281
29.92/ 760	23.62/ 600	8.27/210	**1012.600***	**1097.170**	280/281
29.92/ 760	29.92/ 760	11.81/300	**1014.600***	**1097.180**	280/281
29.92/ 760	39.37/1000	11.81/300	**1097.050**		280/281
35.43/ 900	59.06/1500	11.81/300	**1097.060**		280/281
39.37/1000	23.62/ 600	9.84/250	**1097.010**	**1097.110**	280/281
39.37/1000	31.50/ 800	11.81/300	**1016.600***	**1097.190**	280/281
39.37/1000	39.37/1000	11.81/300	**1018.600**		280/281
47.24/1200	31.50/ 800	11.81/300	**1017.600***		280/281
47.24/1200	39.37/1000	11.81/300	**1019.600**	**1097.150**	280/281
59.06/1500	35.43/ 900	11.81/300	**1097.040**	**1097.140**	280/281
Technical details					282/283

* For blind nut inserts, order xxxx.660.

EL 19″ wallmount enclosures – stainless steel – (inches/mm)					
H	W	D	**solid**	**viewing window**	Pages
8.35/212	23.62/600	19.69/500	**–**	**2273.600**	284/285
13.58/345	23.62/600	15.75/400	**2267.600**	**2266.600**	284/285
13.58/345	23.62/600	19.69/500	**–**	**2276.600***	284/285
18.81/478	23.62/600	15.75/400	**2270.600***	**2269.600***	284/285
18.81/478	23.62/600	19.69/500	**2280.600**	**2279.600**	284/285
24.09/612	23.62/600	15.75/400	**–**	**2272.600***	284/285
24.09/612	23.62/600	19.69/500	**2283.600***	**2282.600***	284/285
29.37/746	23.62/600	19.69/500	**2286.600***	**2285.600***	284/285

* Lead times upon request.

AP freestanding consoles – stainless steel – (inches/mm)					
H	W	D1	bottom part	**AP**	Pages
37.80/960	23.62/ 600	15.75/400	18.89/480	**2683.600**	286/287
37.80/960	31.50/ 800	15.75/400	18.89/480	**2684.600**	286/287
37.80/960	39.37/1000	15.75/400	18.89/480	**2685.600**	286/287
37.80/960	47.24/1200	15.75/400	18.89/480	**2686.600**	286/287

AP universal consoles – stainless steel – (inches/mm)					
H	W	D	**short front door**	**tall front door**	Pages
51.18/1300	23.62/600	19.69/500	**2688.600**	**2689.600**	288/289

PC enclosure systems – stainless steel – (inches/mm)					
H	W	D	**fold down shelf or drawer**	**with console**	Pages
62.99/1600	24.02/610	24.41/620	**4650.000**	**4650.704**	290/291
62.99/1600	24.02/610	24.41/620	**Type 4X poly-carbonate**	**4650.304**	290/291
62.99/1600	24.02/610	24.41/620	**Type 4X safety glass**	**4650.305**	290/291

ES 5000 freestanding enclosures – stainless steel – (inches/mm)					
H	W	D	**Type 304**	**Type 316**	Pages
62.99/1600	23.62/ 600	15.75/400	**5450.600**		292/293
70.87/1800	23.62/ 600	19.69/500	**5451.600**		292/293
70.87/1800	31.50/ 800	19.69/500	**5452.600**		292/293
70.87/1800	39.37/1000	15.75/400	**5454.600**		292/293
78.74/2000	31.50/ 800	23.62/600	**5453.600**		292/293
78.74/2000	47.24/1200	19.69/500	**5455.600**		292/293

PS 4000 freestanding enclosures – stainless steel – (inches/mm)					
H	W	D	**Type 304**	**Type 316**	Pages
70.87/1800	23.62/ 600	19.69/500	**4457.600**		294/295
70.87/1800	31.50/ 800	15.75/400	**4454.600**		294/295
70.87/1800	31.50/ 800	19.69/500	**4455.600**		294/295
70.87/1800	47.24/1200	15.75/400	**4456.600**		294/295
70.87/1800	47.24/1200	19.69/500	**4453.600**		294/295
78.74/2000	23.62/ 600	23.62/600	**4452.600**		294/295
78.74/2000	31.50/ 800	23.62/600	**4450.600**		294/295
78.74/2000	47.24/1200	23.62/600	**4451.600**		294/295

Stainless Steel Bayed Configurations Are Available By July 2002.

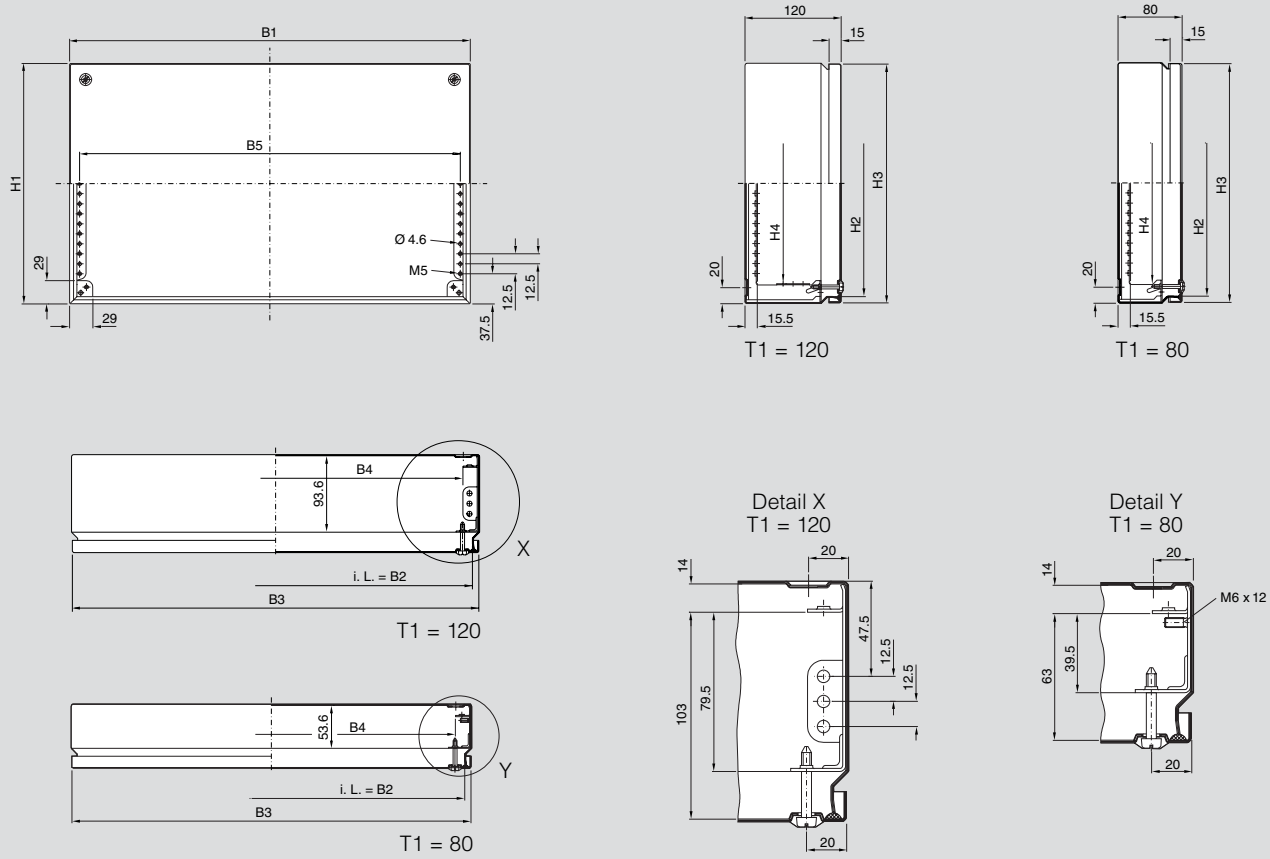
Stainless steel accessories:
see pages 296 – 299.

■ Stainless steel grades

Rittal's standard stainless steel enclosures are manufactured from Type 304 (V2A) stainless steel to provide the strongest possible corrosion resistance, and satisfy the needs of the most demanding industries.
Many models are also available in Type 316 stainless steel (V4A) to provide enhanced resistance to salts, acids and high temperatures for industries such as chemical, textile, and paper processing.

■ DIN ISO 9001

ISO 9001
All Rittal worldwide manufacturing facilities and distribution centers have been ISO 9001 certified since March 1993. This also applies to our stainless steel facility – so you can depend on certified quality.



i.L. = available space

Configuration:
Housing, cover with foamed-on gasket,
cover screws, plastic bushings.

	PU	KL series junction boxes – stainless steel						Page
Height (H1) (inches/mm)		6/150	6/150	7.87/200	7.87/200	7.87/200	12/300	
Width (B1) (inches/mm)		6/150	12/300	7.87/200	12 /300	16 /400	12/300	
Depth (T1) (inches/mm)		3/ 80	3/ 80	3 / 80	3 / 80	5 /120	5/120	
Part No. KL Type 304	1	**1521.010**	**1522.010**	**1523.010**	**1524.010**	**1525.010**	**1526.010**	
H2 = Height clearance (mm)		132	132	182	182	182	282	
H3 = Height of cover (mm)		148	148	198	198	198	298	
H4 = Clearance between mounting rails (mm)		100	100	150	150	150	250	
B2 = Width clearance (mm)		132	282	182	282	382	282	
B3 = Cover width (mm)		148	298	198	298	398	298	
B4 = Clearance between mounting rails (mm)		109	259	159	259	359	259	
B5 = Holes in profile, center-to-center (mm)		125	275	175	275	375	275	
Weight (lbs/kg)		2.9/1.3	4.0/1.8	4.0/1.8	5.3/2.4	7.9/3.6	5.6/3.9	
Cover screws		4	4	4	4	4	4	

Accessories

Mounting panel KL	1	**1560.700**	**1561.700**	**1562.700**	**1563.700**	**1564.700**	**1567.700**	965
Wallmount bracket KL	4	1594.000						299
Wallmount angle SZ	1	2583.000						299
Pole mounting kit SZ	1	2584.000						962
Installation rails TS 35/7.5 SZ	10	2314.000	2316.000	2315.000	2316.000	2317.000	2316.000	983

KL series stainless steel junction boxes have the following approvals:
- UL
- CSA
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

Material:
Type 304 stainless steel
Housing: 18 ga/1.25 mm
Cover: 18 ga/1.25 mm

Finish:
Housing and cover:
brushed

Ratings:
NEMA 4X/IP 66
per EN 60529/10.91
UL E76082
CSA LR59132

Additional accessories:
see pages 296 – 299
and pages 876/877
or keyword index.

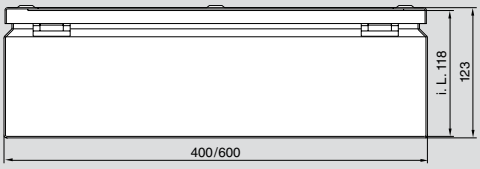
Ex enclosures
The KL enclosure is also available in an Ex version approved to ATEX 100.

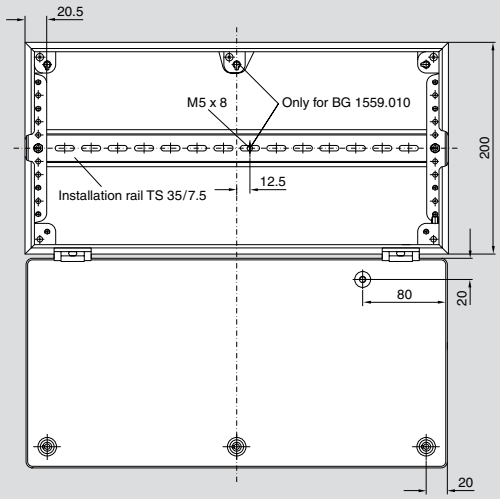
Wallmount bracket
for secure installation to any flat surface or wall.
Details on page 299.

Enclosure coupling
for mounting the 5″/120 mm deep KL on a support arm.
Details on page 277.

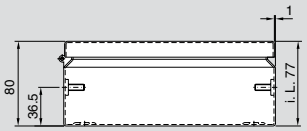
Mounting panel
for component installation even outside the enclosure.
Details on page 965.

BG 1558.010 / BG 1559.010

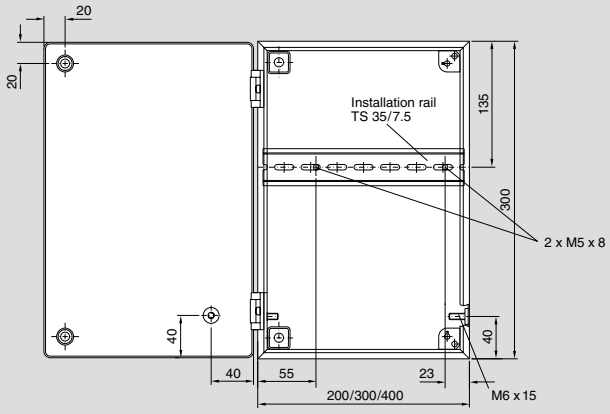




BG 1583.010 / BG 1584.010 / BG 1585.010



i.L. = available space



Configuration:
Enclosure with one installation rail
TS 35/7.5;
Cover with foamed-on gasket,
180° hinge,
with quick-release locks.

	PU						Page
Height (inches/mm)		7.87/200	7.87/200	12 /300	12 /300	2 /300	
Width (inches/mm)		16 /400	24 /600	7.87/200	12 /300	16 /400	
Depth (inches/mm)		4.84/123	4.84/123	3.15/ 80	3.15/ 80	3.15/ 80	
Part No. BG	1	**1558.010**	**1559.010**	**1583.010**	**1584.010**	**1585.010**	
Weight (lbs/kg)		9.9/4.5	13.2/6.0	6.2/2.8	8.2/3.7	9.9/4.5	
Accessories							
Wallmount bracket KL	4	1594.000					299
Pole mounting kit SZ	1	2584.000					962
Condensate drain SZ	6	2459.000					900

BG series stainless steel field bus housings have the following approvals:

- UL
- CSA
- TÜV
- DNV
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

Material:
Housing:
Type 304 stainless steel

Hinges:
Zinc-diecast, chromated

Finish:
Brushed

Ratings:
NEMA 4X/IP 66 per EN 60529/ 10.91

Modifications:
Viewing windows for I/O display and holes for connections or other configurations by special request.

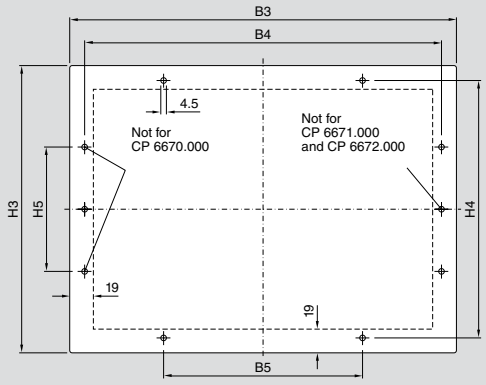
Additional accessories:

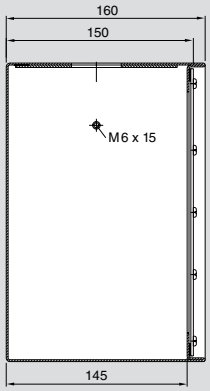
see pages 296 – 299
and page 876/877
or keyword index.

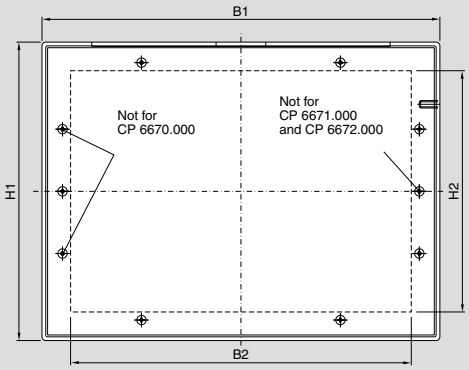
Wallmount bracket
for secure mounting of the enclosure.
Details on page 299.

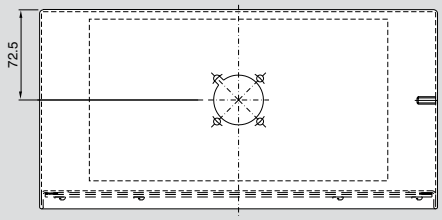
Pole mounting kit
for installation on round or rectangular poles.
Details on page 962.

EMC cable connections
with special outlet for 360° contact.
Details on page 894.









Configuration:
Enclosures with cutout and reinforcement for installation on support arm,
Front panel or rear wall with gasket and assembly parts.

Two configuration options:
- Front panel screwed on from the front
- Front panel as rear wall, additional handle strips made of plastic safe for the food industry. Dyed similar to RAL 5002 ultramarine blue by request (see pages 274/275).

Height (H1) (inches/mm)	PU	10/240	16/400	13/320	Page
Width (B1) (inches/mm)		13/320		16/400	
Depth (inches/mm)		6.30/160			
Part No. CP	1	**6670.000**	**6671.000**	**6672.000**	
H2 = Installation clearance (mm)		195	355	275	
H3* = Height of front panel (mm)		233	393	313	
H4 = Distance of drilled holes (mm)		208	368	288	
H5 = Distance of drilled holes (mm)		–	220	180	
B2 = Installation clearance (mm)		275		355	
B3* = Width of front panel (mm)		313		393	
B4 = Distance of drilled holes (mm)		288		368	
B5 = Distance of drilled holes (mm)		180		220	
Weight (lbs/kg)		11.0/5	17.6/8	17.6/8	

Accessories

Mounting panel KL	1	1563.700	1567.700	965
Installation rails TS 35/7.5 SZ	10	2316.000		983
Flat installation bracket	4	4532.000		978
Installation bracket	4	4597.000		978
Enclosure coupling CP	1	6664.000		277

* Other sizes and front panel customization available by special request.

CP stainless steel operator housings have the following approvals:
- UL/E76083
- CSA/LR59152

Additional accessories:
see pages 296 – 299
and pages 876/877
or keyword index.

Operator housing

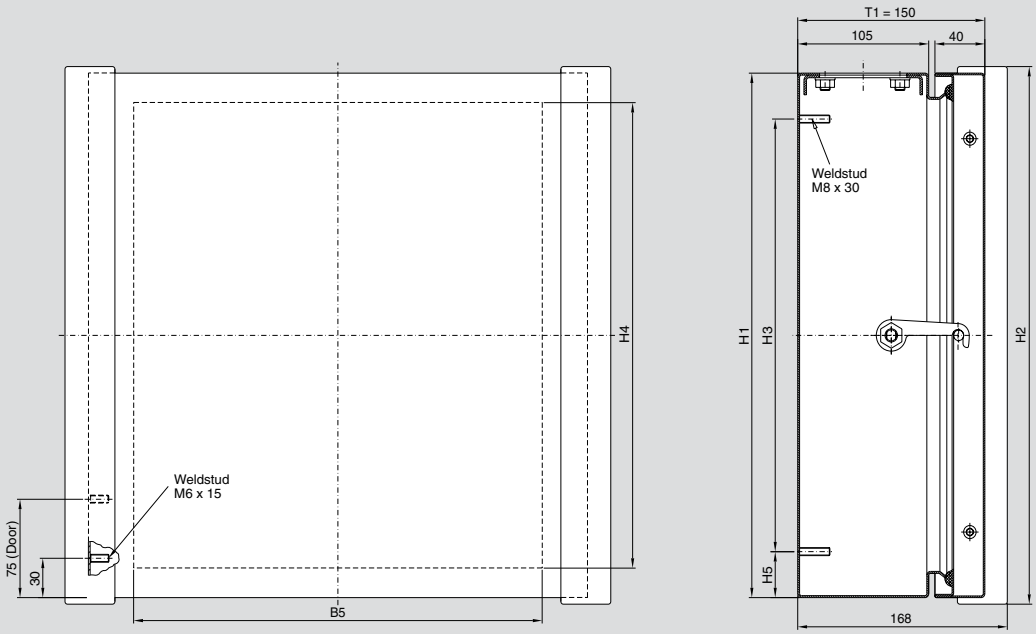
Material:
Type 304 stainless steel
Housing: 18 ga/1.25 mm
Front panel: 14 ga/2.0 mm

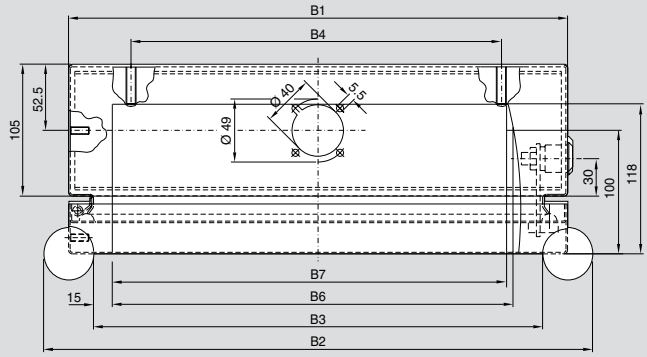
Finish:
Brushed

Ratings:
NEMA 12/IP 65 per EN 60529/
10.91

Handle strips
Plastic, available as an accessory.

Enclosure coupling
for simplified enclosure installation.
Details on page 277.





Configuration:
Enclosure (based on AE see page 68) with cutout and reinforcement for support arm system with lock.
Door with sealing gasket frame and side handle strips.

Support arm connection	Hinging
Top	Left
Bottom	Right

All dimensions are in mm, unless stated otherwise.

Height (H1) (inches/mm)	PU	8/200	12/300	12/300	16/400	16/400	Page
Width (B1) (inches/mm)		12/300	12/300	16/400	16/400	24/600	
Depth (T1) (inches/mm)		6/150	6/150	6/150	6/150	6/150	
Part No. CP	1	**6534.010**	**6535.010**	**6536.010**	**6538.010**	**6539.010**	
H2 = Enclosure height with handle strips (mm)		210	310	310	410	410	
H3 = Spacing of mounting plate attachment (mm)		122	250	250	330	330	
H4 = Maximum front cutout, height (mm)		155	255	255	355	355	
H5 = Distance from base – mounting panel attachment (mm)		39	25	25	35	35	
B2 = Enclosure width with handle strips (mm)		340	340	440	440	640	
B3 = Clearance opening, front (mm)		260	260	360	360	560	
B4 = Spacing of mounting plate attachment (mm)		260	215	295	295	510	
B5 = Maximum front cutout, width (mm)		225	225	325	325	525	
B6 = Hinged width for depth 4″/100 mm (mm)		220	220	320	320	520	
B7 = Hinged width for depth 5.43″/138 mm (mm)		212	212	317	317	519	
Weight (lbs/kg)		11.0/5.0	13.9/6.3	16.5/7.5	19.4/8.8	26.7/12.1	

Accessories

Matching mounting panel from AE		1032.600	1033.600	1030.600	1380.600	1039.600	68
Cross rails SZ * **Part No. SZ**	10	2316.000	2316.000	2317.000	2317.000	2319.000	983

Lock systems
Standard double-bit lock insert may be exchanged for 1.57″/41 mm lock inserts, plastic handle and T handle, Version C, see pages 940 – 942.

* Only with vertical mount of system bar .90 x .90″/23 x 23 mm see page 976.

Operator housings based on AE

Stainless steel operator housings have the following approvals:
- TÜV
- Norske Veritas
- Bureau Veritas
- Germanischer Lloyd
- UL/cUL – Underwriters Laboratories, Inc.

Modifications by request:
- Separate keyboard housing
- Other dimensions
- Modified support arm cutout or hinging
- Drilled holes or cutouts for buttons or operator panels.

Material:
Housing and door:
Type 304 stainless steel
Handle strips: plastic, approved for food industry, similar to RAL 5002 ultramarine blue

Finish:
Brushed

Ratings:
NEMA 4X/IP 66 to EN 60529/ 10.91

Additional accessories:
see pages 296 – 299
and pages 876/877
or keyword index.

Half cylinder lock
for retrofitting of stainless steel enclosures with cam locks.
Details on page 298.

Enclosure coupling
for installation of enclosure to support arm.
Details on page 277.

The alternative
AE stainless steel, rear door, support arm connection and handle strips by request.
Details on page 280.

Support arm systems, stainless steel

5″/120 mm deep junction boxes and compact AE series enclosures, together with special operator housings made of stainless steel, this support arm system is particularly well-suited to situations which demand high standards of corrosion protection and hygiene.

Tilting adaptor and enclosure coupling may be installed at the top or bottom of the enclosure. **They are not suited as a base for the support arm system.** The wall or floor mounts are designed as bases, or if larger heights or weights are necessary, a pillar made of steel or stainless steel is available by special request.

Ratings:
NEMA 12/IP 55 per EN 60 529/10.91

Load specification for CP stainless steel support section

Arm length in inches/mm (dimension B)	Permissible static load* (N/lbf)
20/ 500	800/176
40/1000	400/ 88
59/1500	250/ 56

* Dimension A and C maximum of 31.50″/800 mm.

Support arm section

Type 304 stainless steel (1.4301) brushed finish.

Seven standard units are available off the shelf. They may be cut to fit your specific dimensions . . .

L-bend

A inches/mm	B inches/mm	Part No. CP
10/240	20/ 500	**6660.110**
20/500	40/1000	**6660.120**

U-bend

A inches/mm	B inches/mm	C inches/mm	Part No. CP
10/240	32/800	32/800	**6660.210**
10/240	20/500	20/500	**6660.220**

Pipe, straight

A inches/mm	Part No. CP
20/ 500	**6660.050**
40/1000	**6660.010**
79/2000	**6660.020**

. . . or we can custom manufacture.

L-bend

Part No. CP	
6660.100	+ A = + B =

U-bend

Part No. CP	
6660.200	+ A = + B = + C =

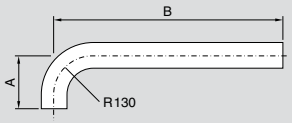
Z-bend

Part No. CP	
6660.300	+ A = + B = + C =

Pipe, straight

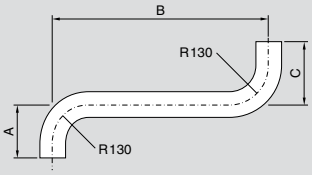
Part No. CP	
6660.000	+ A =

Lead times upon request.

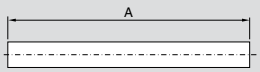


$A_{min.}$ = $B_{min.}$ = 10/240,
$B_{max.}$ = 59/1500

$A_{min.}$ = $C_{min.}$ = 10/240,
$B_{min.}$ = 16/410,
$B_{max.}$ = 59/1500



$A_{min.}$ = $C_{min.}$ = 10/240,
$B_{min.}$ = 16/410,
$B_{max.}$ = 59/1500



$A_{min.}$ = 4/100,
$A_{max.}$ = 79/2000

Ordering example:
Z-bend = CP 6660.300
Dimension A = 12″/300 mm
Dimension B = 32″/800 mm
Dimension C = 10″/240 mm

The minimum dimensions must be maintained because of the bending radius and insertion depth of the housing coupling or wall/base mount.

Dimensions:
Outside diameter: 1.89″/48 mm
Wall thickness: 9 ga/.14″/3.6 mm

Weight:
.24 lbs/inch or 4.3 kg/m

Finish:
Brushed

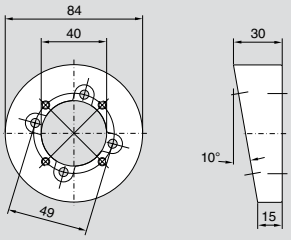
10° tilting adaptor

Type 304 stainless steel.

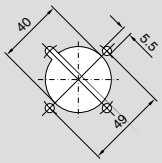
For installation between:
● CP 6664.000 enclosure coupling and operator housing.

Weight	Part No. CP
1.5 lbs/0.7 kg	**6664.100**

Configuration:
1 set =
1 tilting adaptor,
4 fasteners,
1 gasket.



Installation cutout



Enclosure coupling

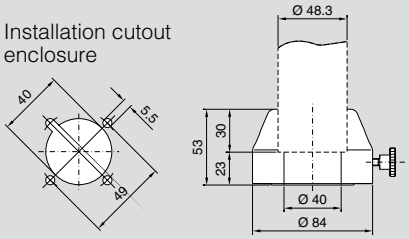
Type 304 stainless steel.

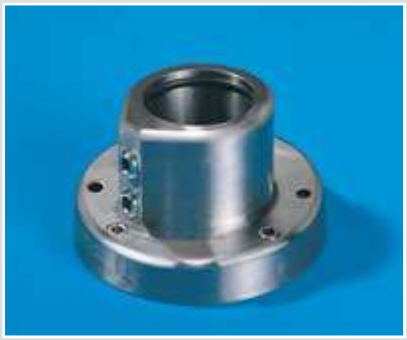
Design:
Rotation range approximately 350°. For installation to the vertical section of the support arm system; 350° rotation range may be set with knurled head set screw.

Configuration:
1 set =
1 enclosure coupling,
2 fasteners for support arm section,
4 fasteners for enclosure,
1 gasket for support arm sections,
1 gasket for enclosure.

Weight	Part No. CP
2.4 lbs/1.1 kg	**6664.000**

Installation cutout enclosure





Wall/floor mount, rigid

Type 304 stainless steel.
For mounting the support arm system to vertical or horizontal surfaces.

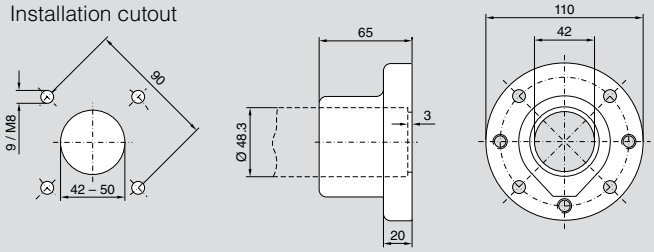
Configuration:
1 set =
1 wall/floor mount,
2 fasteners for support arm sections,
3 set screws,
1 gasket for support arm,
1 gasket for wall/floor.

Weight	Part No. CP
3.2 lbs/1.6 kg	**6663.000**

Optional accessories:

Wall consoles,
see page 279.

Installation cutout



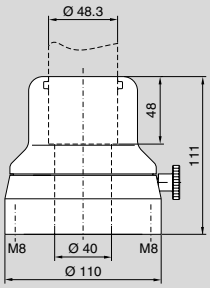
Floor mount, swivel

Type 304 stainless steel.
For mounting on
- Horizontal surfaces
- Wall consoles (only for CP 6663.500).

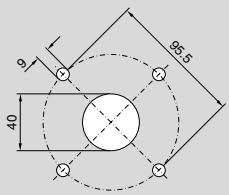
Rotation angle approximately 350°. May be limited in 60° increments with a stop plate (included) and set with a knurled thumb screw.

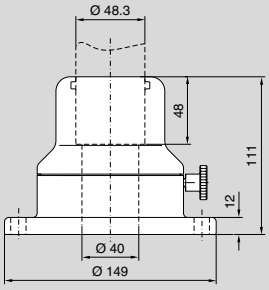
Configuration:
1 set =
1 floor mount,
2 fasteners for support arm section,
1 gasket for support arm section,
1 gasket for surface or wall console.

Mount	Weight	Part No. CP
Rear M8 thread	4.2 lbs/ 1.9 kg	**6663.500**
Front drilled hole Ø .35″/9 mm	4.6 lbs/ 2.1 kg	**6663.400**

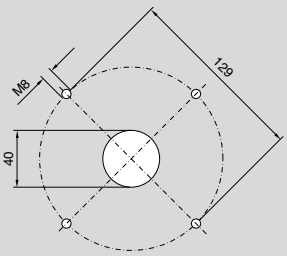


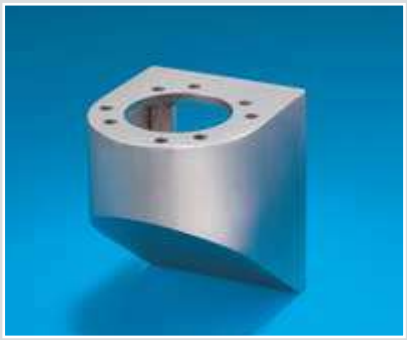
Installation cutout





Installation cutout





Wall console

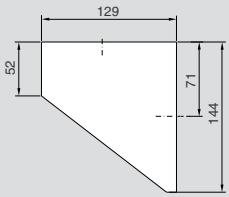
Type 304 stainless steel, brushed finish with drilled holes for the installation of

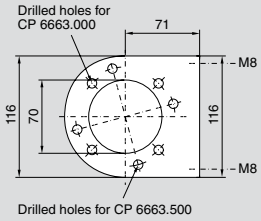
- swivel floor mount, CP 6663.500 with 4 screws
- rigid wall, floor mount CP 6663.000 with nuts and bolts, gasket for the vertical surface and a replacement gasket when CP 6663.000 is installed.

Mount	Weight	Part No. CP
Rear, M8 thread	3.3 lbs/ 1.5 kg	**6665.000**
Front, drilled holes Ø .35″/9 mm	4.0 lbs/ 1.8 kg	**6665.500**

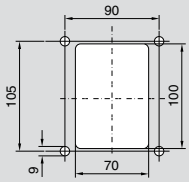
Example: CP 6665.000 + CP 6663.000

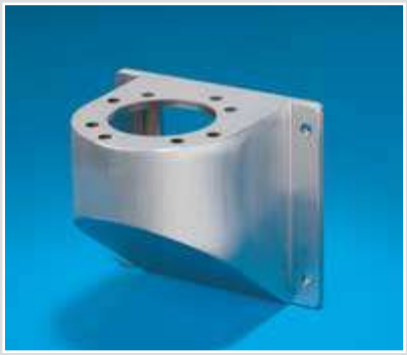
Installation in the rear





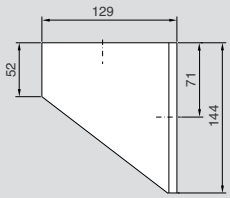
Installation cutout

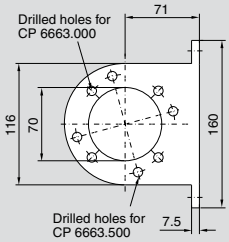




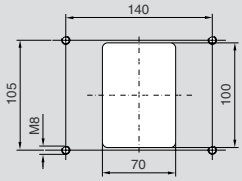
Example: CP 6665.500 + CP 6663.500

Installation in the front

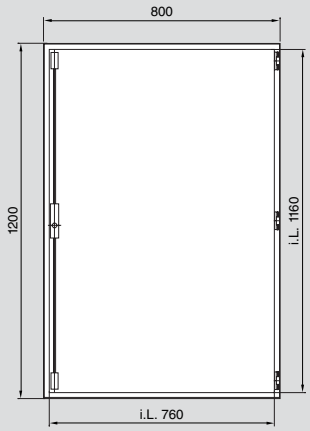




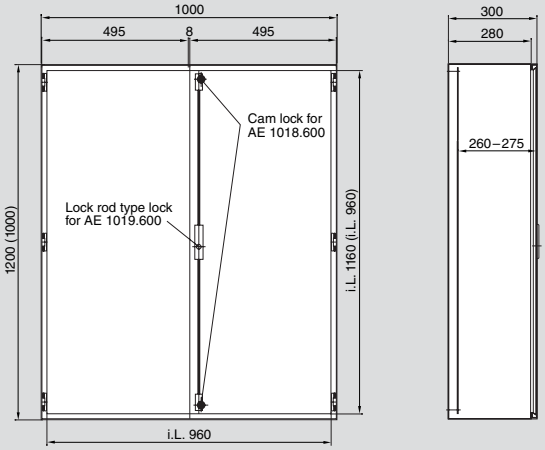
Installation cutout



AE 1017.600

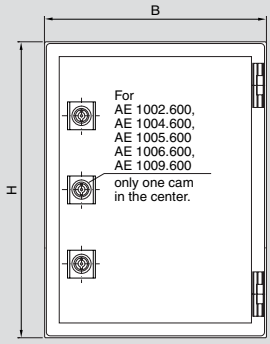


AE 1018.600 / AE 1019.600

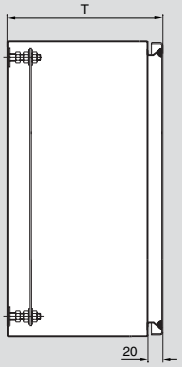


Dimensions in parenthesis are for AE 1018.600

AE 1002.600 – AE 1016.600



B = width
T = depth
i.L. = available space



Detail drawings
Pages 282/283.

Configuration:
Enclosure, door(s) with foamed-on gasket, mounting panel.

Part No. AE	H	W	D	Weight	NEMA	Wallmount brackets		Rain canopy SZ	Handles		Pole mounting kit SZ
	inches/mm			lbs/kg		3/8" stand-off SZ	flush angle SZ		T handle SZ	Ergoform-S SZ	
Type 304 stainless steel											
1002.600*	11.81/ 300	7.87/ 800	6.10/155	9.9/ 4.5	1, 4, 4X, 12	2433.000	2583.000	2470.000	2572.000	–	2584.000
1004.600*	11.81/ 300	14.96/ 380	6.10/155	19.4/ 8.8	1, 4, 4X, 12	2433.000	2583.000	2471.000	2572.000	–	2584.000
1005.600*	14.96/ 380	11.81/ 300	8.27/210	19.1/ 8.7	1, 4, 4X, 12	2433.000	2583.000	2361.000	2572.000	–	2584.000
1006.600*	14.96/ 380	14.96/ 380	8.27/210	26.4/ 12.0	1, 4, 4X, 12	2433.000	2583.000	2472.000	2572.000	–	2584.000
1009.600	14.96/ 380	23.62/ 600	8.27/210	37.4/ 17	1, 4, 4X, 12	2433.000	2583.000	2473.000	2572.000	–	2584.000
1097.000	15.75/ 400	11.81/ 300	8.27/210	20.5/ 9.3	1, 4, 4X, 12	2433.000	2583.000	2361.000	2572.000	–	2584.000
1007.600*	19.69/ 500	19.69/ 500	8.27/210	41.6/ 18.9	1, 4, 4X, 12	2433.000	2583.000	2362.000	2572.000	–	2584.000
1097.020	19.69/ 500	19.69/ 500	11.81/300	47.3/ 21.5	1, 4, 4X, 12	2433.000	2583.000	–	2572.000	–	2584.000
1008.600*	23.62/ 600	14.96/ 380	8.27/210	37.4/ 17	1, 4, 4X, 12	2433.000	2583.000	2472.000	2572.000	–	2584.000
1010.600*	23.62/ 600	23.62/ 600	8.27/210	55 / 25	1, 4, 4X, 12	2433.000	2583.000	2473.000	2572.000	–	2584.000
1097.030	27.56/ 700	19.69/ 500	9.84/250	69.7/ 31.7	1, 4, 4X, 12	2433.000	2583.000	–	2572.000	–	2584.000
1012.600*	29.92/ 760	23.62/ 600	8.27/210	69.7/ 31.7	1, 4, 4X, 12	2433.000	2583.000	2473.000	2572.000	–	2584.000
1014.600*	29.92/ 760	29.92/ 760	11.81/300	93.5/ 42.5	1, 4, 4X, 12	2433.000	2583.000	2474.000	2572.000	–	–
1097.050	29.92/ 760	39.37/1000	11.81/300	136.4/ 62	1, 12	2433.000	2583.000	2363.000	2572.000	–	–
1097.060	35.43/ 900	59.06/1500	11.81/300	165 / 75	1, 12	2433.000	2583.000	–	2572.000	–	–
1097.010	39.37/1000	23.62/ 600	9.84/250	132 / 60	1, 4, 4X, 12	2433.000	2583.000	–	2572.000	–	2584.000
1016.600*	39.37/1000	31.50/ 800	11.81/300	116.4/ 52.9	1, 4, 4X, 12	2433.000	2583.000	2475.000	2572.000	–	–
1018.600	39.37/1000	39.37/1000	11.81/300	156.2/ 71	1, 12	2433.000	2583.000	2363.000	–	2452.000	–
1017.600*	47.24/1200	31.50/ 800	11.81/300	154 / 70	1, 4, 4X, 12	2433.000	2583.000	2475.000	–	2452.000	–
1019.600	47.24/1200	39.37/1000	11.81/300	187 / 85	1, 12	2433.000	2583.000	2363.000	–	2452.000	–
1097.040	59.06/1500	35.43/ 900	11.81/300	224.4/102	1, 4, 4X, 12	2433.000	2583.000	–	–	2452.000	–
Type 316 stainless steel											
1097.100	15.75/ 400	11.81/ 300	8.27/210	20.5/ 9.3	1, 4, 4X, 12	2433.000	2583.000	2361.000	2572.000	–	2584.000
1097.120	19.69/ 500	19.69/ 500	8.27/210	41.6/ 18.9	1, 4, 4X, 12	2433.000	2583.000	2362.000	2572.000	–	2584.000
1097.160	23.62/ 600	23.62/ 600	8.27/210	55 / 25	1, 4, 4X, 12	2433.000	2583.000	2473.000	2572.000	–	2584.000
1097.130	27.56/ 700	19.69/ 500	9.84/250	69.7/ 31.7	1, 4, 4X, 12	2433.000	2583.000	–	2572.000	–	2584.000
1097.170	29.92/ 760	23.62/ 600	8.27/210	69.7/ 31.7	1, 4, 4X, 12	2433.000	2583.000	2473.000	2572.000	–	2584.000
1097.180	29.92/ 760	29.92/ 760	11.81/300	93.5/ 42.5	1, 4, 4X, 12	2433.000	2583.000	2474.000	2572.000	–	–
1097.110	39.37/1000	23.62/ 600	9.84/250	132 / 60	1, 4, 4X, 12	2433.000	2583.000	–	2572.000	–	2584.000
1097.190	39.37/1000	31.50/ 800	11.81/300	116.4/ 52.9	1, 4, 4X, 12	2433.000	2583.000	2475.000	2572.000	–	–
1097.150	47.24/1200	39.37/1000	11.81/300	187 / 85	1, 12	2433.000	2583.000	2363.000	–	2452.000	–
1097.140	59.06/1500	35.43/ 900	11.81/300	224.4/102	1, 4, 4X, 12	2433.000	2583.000	–	–	2452.000	–

* For blind nuts inserts, order Part No. XXXX.660.

AE series stainless steel compact enclosures have the following approvals:
- UL
- CSA
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

Material:
Type 304 stainless steel
Enclosure and door: stainless steel
Mounting panel: sheet steel
Cam lock: zinc die-cast, nickel plated

Finish:
Enclosure and door: brushed
Mounting panel: galvanized

Protection ratings:
NEMA 4X/IP 66 per EN 60 529/ 10.91.
NEMA 12/IP 55 per EN 60 529/ 10.91.
UL E76083
CSA LR /9132

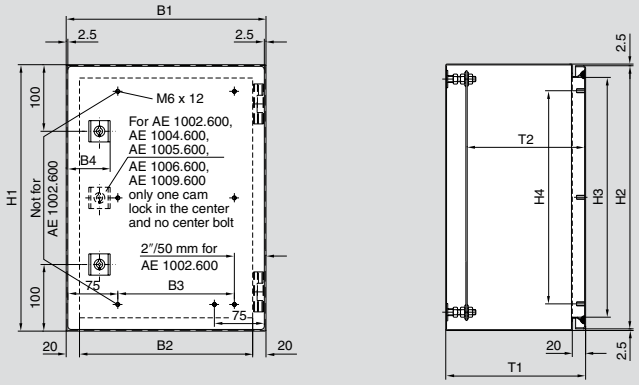
Additional accessories:
see pages 296 – 299 and pages 876/877 or keyword index.

Ex enclosures
The AE enclosure is also available in an Ex version approved ATEX 100.

Rain canopy
to protect against direct water entry.
Details on page 299.

Punched installation rail
for mounting of accessories in the doors.
Details on page 950.

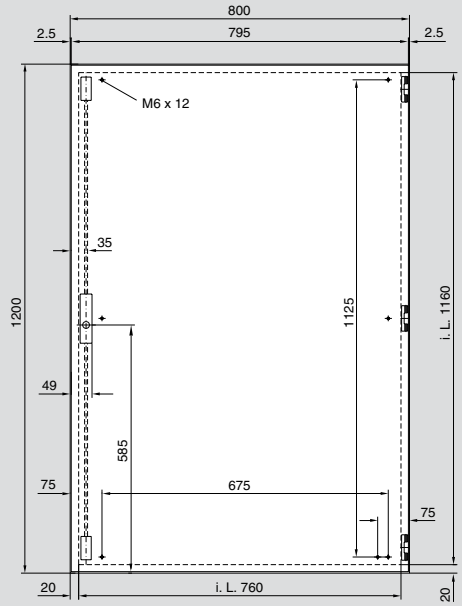
AE 1002.600 – AE 1016.600



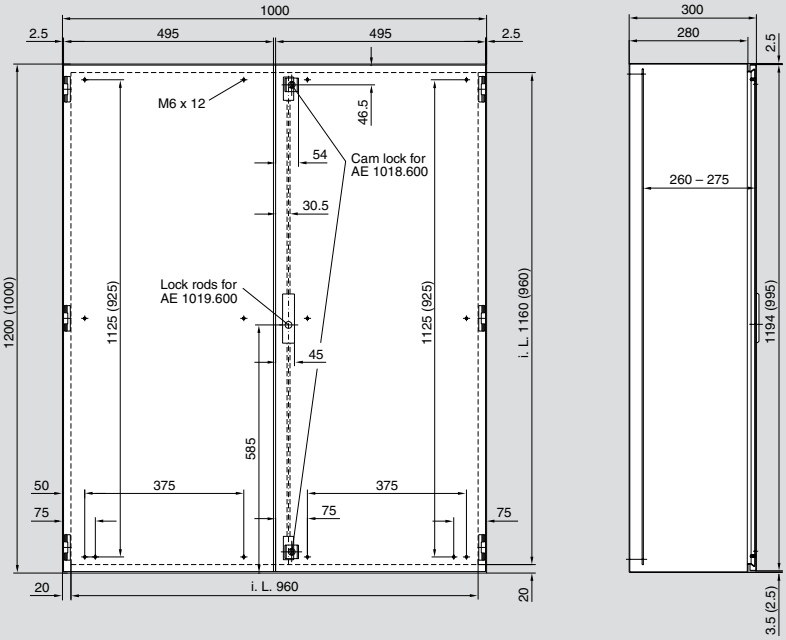
Dimensions in parenthesis are for AE 1018.600

i. L. = available space

AE 1017.600



AE 1018.600 / AE 1019.600



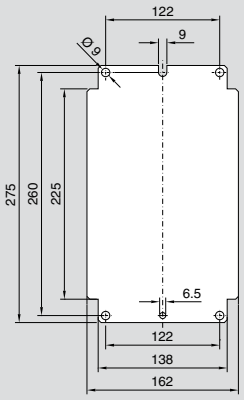
AE stainless steel compact enclosures

Dimensions in millimeters (mm) unless indicated otherwise.

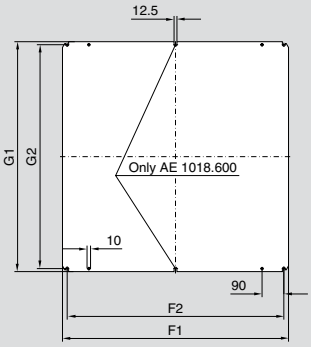
	Enclosure dimensions in (mm) unless stated otherwise										Mounting panel dimensions				Material thickness ga/mm		
Part No. AE	H1	H2	H3	H4	B1	B2	B3	B4	T1	T2	F1	F2	G1	G2	Enclo-sure	Door	MPL
1002.600	300	295	274	225	200	33	–	56	155	135	162	122	275	260	18/1.25	16/1.50	14/2.0
1004.600	300	295	260	225	380	340	250	66	155	113 – 129	334	295	275	250	17/1.38	16/1.50	14/2.0
1005.600	380	375	340	275	300	260	175	66	210	168 – 184	254	215	355	330	17/1.38	16/1.50	14/2.0
1006.600	380	375	340	275	380	340	250	66	210	168 – 184	334	295	355	330	17/1.38	16/1.50	12/2.5
1097.000 1097.100	400	395	360	325	300	260	175	66	210	168 – 184	254	215	254	215			
1007.600 1097.120	500	495	460	425	500	460	375	66	210	168 – 184	449	410	470	445			
1097.020	500	495	460	425	500	460	375	66	300	258 – 274	449	410	470	445			
1008.600	600	595	560	525	380	340	250	66	210	168 – 184	334	295	570	545		16/1.50	12/2.5
1009.600	380	375	340	275	600	560	475	66	210	168 – 184	355	330	549	510	17/1.38	16/1.50	12/2.5
1010.600	600	595	560	525	600	560	475	66	210	168 – 184	549	510	570	545		14/2.0	12/2.5
1097.030 1097.130	700	695	660	625	500	460	375	66	250	208 – 224	449	410	670	645			
1012.600 1097.170	760	755	720	675	600	560	475	66	210	168 – 184	549	510	730	705		14/2.0	11/3.0
1014.600 1097.180	760	755	720	675	760	720	625	66	300	258 – 274	704	665	730	705	16/1.50	14/2.0	
1097.050	760	754	720	675	1000	960	375	66	300	258 – 274	939	900	730	705			
1097.060	900	894	860	820	1500	1460	615	66	300	258 – 274	1439	1400	870	845			
1097.010 1097.110	1000	995	960	920	600	560	475	66	250	208 – 224	549	510	970	945			
1016.600 1097.190	1000	995	960	920	800	760	675	66	300	258 – 274	739	700	955	930	16/1.50	14/2.0	11/3.0
1018.600	1000	995	960	925	1000	960	375	–	300	258 – 274	939	900	955	930	16/1.50	14/2.0	11/3.0
1017.600	1200	1194	1160	1125	800	760	675	–	300	258 – 274	739	700	1150	1130	16/1.50	14/2.0	11/3.0
1019.600 1097.150	1200	1195	1160	1125	1000	960	375	–	300	258 – 274	939	900	1150	1130	16/1.50	14/2.0	11/3.0
1097.040 1097.140	1500	1494	1460	1425	900	860	775	–	300	258 – 274	839	800	1450	1430	16/1.50		

Mounting panels

AE 1002.600

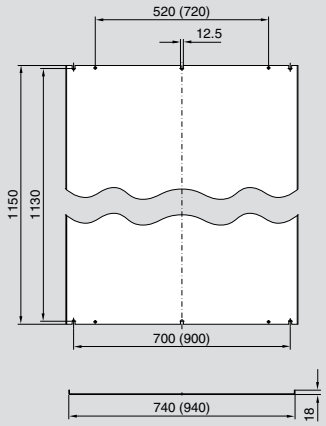


AE 1004.600 – AE 1016.600 / AE 1018.600

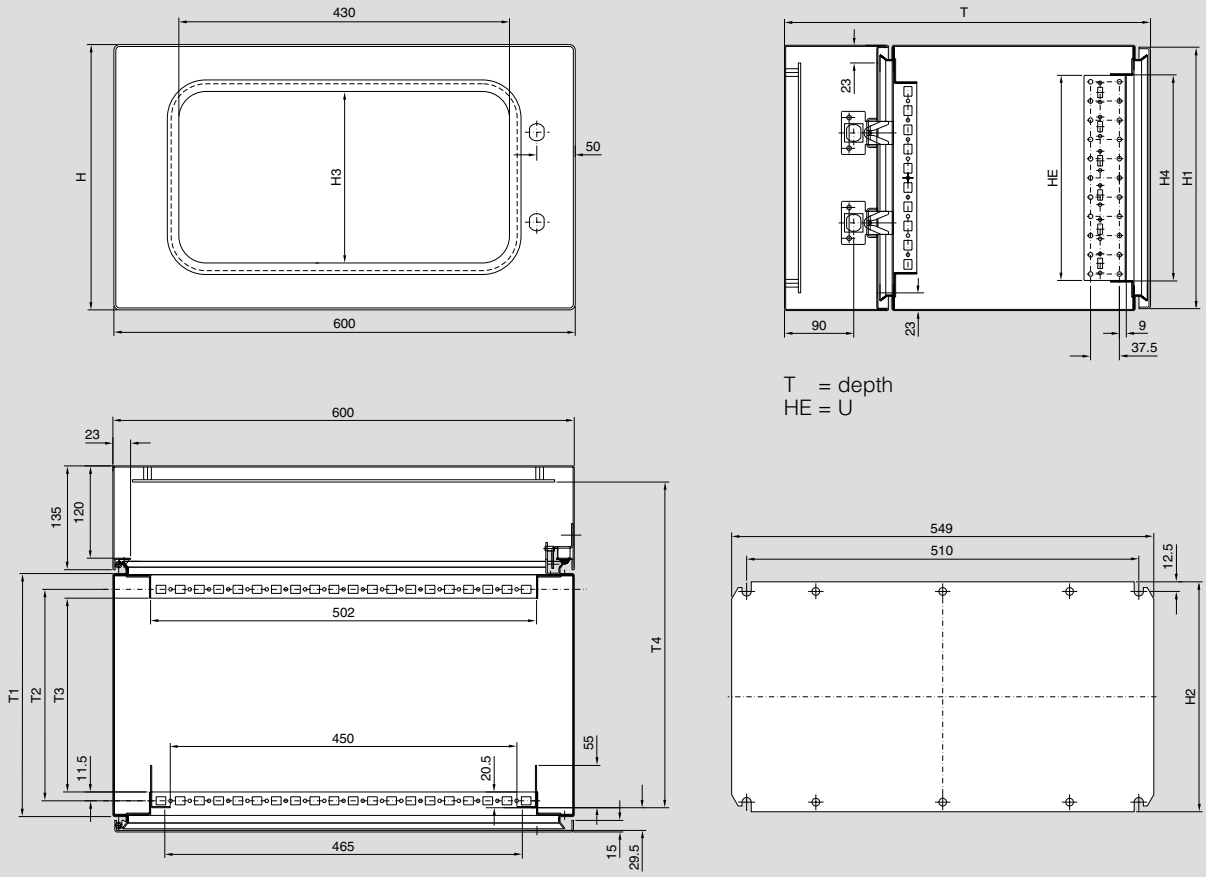


Mounting panel location
AE 1005.600 turn by 90°
for AE 1009.600.

AE 1017.600 / AE 1019.600



Dimensions in parenthesis
for AE 1019.600



Configuration:
1 front door with safety glass
or
1 solid front door,
1 center piece,
1 basic housing,
2 19″/482.6 mm mounting angles,
1 mounting panel, galvanized,
assembly parts,
locks,
foamed-on gasket,
completely assembled.

	PU	Enclosure depth 15″/375 mm			Enclosure depth 19″/475 mm					Page
		6 U	9 U	12 U	3 U	6 U	9 U	12 U	15 U	
Part No. EL solid	1	**2267.600**	**2270.600***	**–**	**–**	**–**	**2280.600**	**2283.600***	**2286.600***	
Part No. EL with viewing window	1	**2266.600**	**2269.600***	**2272.600***	**2273.600**	**2276.600***	**2279.600**	**2282.600***	**2285.600***	
H (inches/mm)		13.45/345	18.82/478	24.09/612	8.35/212	13.45/345	18.82/478	24.09/612	29.37/746	
H1 (mm)		340	473	607	207	340	473	607	741	
H2 (mm)		299	432	565	165	299	432	565	699	
H3 (mm)		233	366	500	100	233	366	500	634	
H4 (mm)		268	401	535	135	268	401	535	669	
B (inches/mm)		24/600	24/600	24/600	24/600	24/600	24/600	24/600	24/600	
T (inches/mm)		14/375	14/375	14/375	18/475	18/475	18/475	18/475	18/475	
T1 (mm)		216	216	216	316	316	316	316	316	
T2 (mm)		175	175	175	275	275	275	275	275	
T3 (mm)		152	152	152	252	252	252	252	252	
T4 (mm)		324	324	324	424	424	424	424	424	
Accessories for external installation										
Wallmount bracket SZ 4″/10 mm distance	1	2433.000	2433.000	2433.000	2433.000	2433.000	2433.000	2433.000	2433.000	299
Accessories for internal installation										
Slide rails EL	10	2240.000	2240.000	2240.000	2250.000	2250.000	2250.000	2250.000	2250.000	800
C-rail EL	4	2238.000	2238.000	2238.000	2239.000	2239.000	2239.000	2239.000	2239.000	800
Blanking plate	see page 1036									

* Lead times upon request.

EL 19″ stainless steel cabinets have the following approvals:

- UL (without viewing window)
- CSA (without viewing window)
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

Material:
Front door: 16 ga/1.5 mm Type 304 stainless steel or with 4 mm safety glass
Center piece, base cabinet, mounting angle:
16 ga/1.5 mm Type 304 stainless steel
Mounting panel:
sheet steel 11 ga/3.0 mm
Lock:
Type 304 stainless steel

Finish:
Enclosure body: brushed
Mounting panel: galvanized

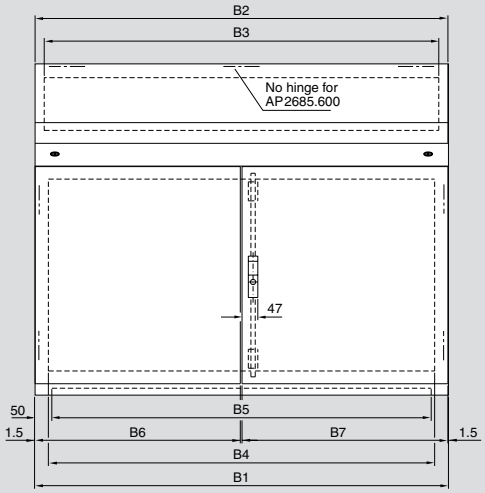
Ratings:
NEMA 12 /IP 55 per EN 60529/10.91
UL E76083
CSA LR59132

Additional accessories:
see pages 296 – 299, pages 876/877 or keyword index.

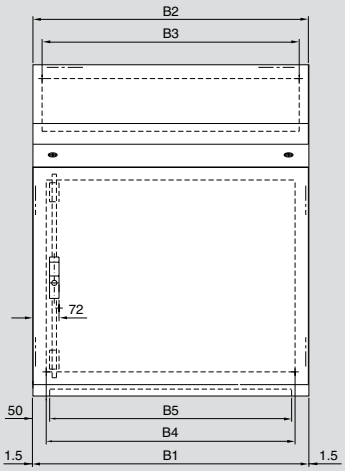
Wallmount bracket
makes cable routing behind the enclosure possible.
Details on page 299.

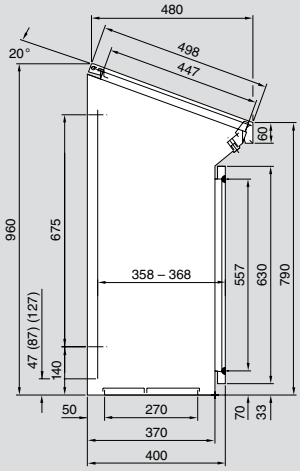
Blanking plate
In various heights, can swing out or fold down.
Details on page 1036.

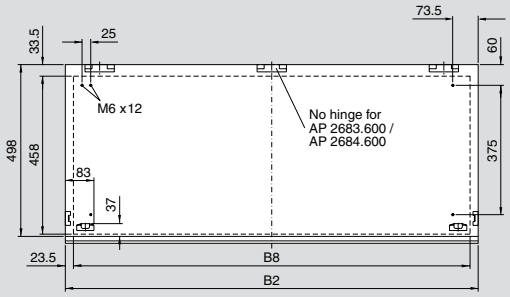
AP 2685.600 / AP 2686.600

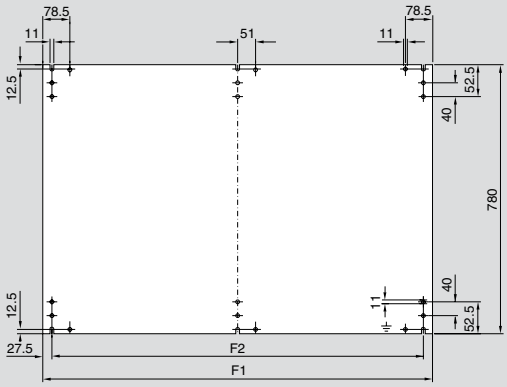


AP 2683.600 / AP 2684.600









Configuration:
Enclosure body closed on rear/sides, front door(s) with rod-type locking, console lid with support braces and stainless steel turnbuckle locks, 2-part cable entry panel (bottom), mounting panel, galvanized.

Dimensions are in mm unless stated otherwise.

Height (inches/mm)	PU	37.80/960				Page
Width (B1) (inches/mm)		24/600	32/800	39/1000	47/1200	
Depth (inches/mm)		Bottom 16/400; top 19/480				
Part No. AP	1	**2683.600**	**2684.600**	**2685.600**	**2686.600**	
B2 = Width		597	797	997	1197	
B3 = Top clearance		544	744	944	1144	
B4 = Front clearance		524	724	924	1124	
B5 = Bottom clearance		500	700	900	1100	
B6 = Width, left door		–	–	495	595	
B7 = Width, right door		–	–	497	597	
B8 = System hole pattern		500	700	900	1100	
F1 = Mounting panel		530	730	930	1130	
F2 = Distance, mounting holes		475	675	875	1075	
Doors		1	1	2	2	
Weight (lbs/kg)		114.6/52.0	143.7/65.2	175.3/79.5	199.1/90.3	

Accessories

Base/plinth SO (inches/mm)	H = 4/100	1	2865.000	2869.000	2867.000	2870.000	296
	H = 8/200	1	2875.000	2878.000	2885.000	2886.000	296

Lock systems
Standard double-bit lock insert of rod-type locking system can be exchanged for 1.06"/27 mm – Type A lock inserts, see page 942 and Ergoform-S handles, see page 939.

AP freestanding consoles

AP stainless steel freestanding consoles have the following approvals:

- UL
- CSA
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

Material:
Type 304 stainless steel
Enclosure body: 16 ga/1.5 mm
Door(s) and console cover: 14 ga/2.0 mm
Mounting panel: sheet steel 11 ga/3.0 mm

Finish:
Enclosure, door and console cover: brushed
Mounting panel: galvanized

Ratings:
NEMA 12/IP 55 per EN 60529/ 10.91

Accessories:

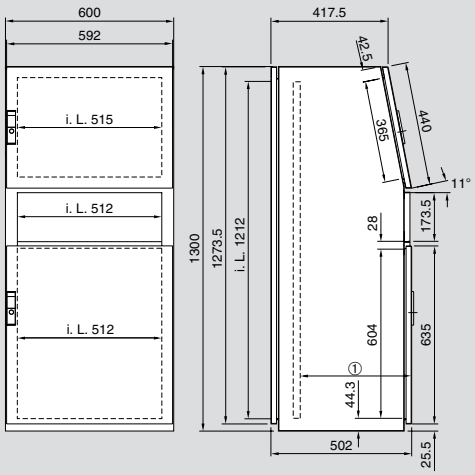
see pages 296 – 299
and pages 876/877
or keyword index.

Leveling feet
on base/plinth for uneven floors.
Details on page 296.

NEMA 6/IP 67 mouse and pad
Details on page 1004.

Stainless steel wallmount
boxes can mount to the rear wall for an additional operator housing.
Details on page 279.

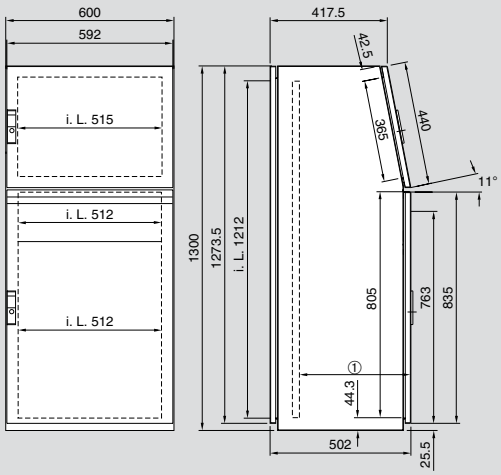
AP 2688.600 short front door



i.L. =
available space

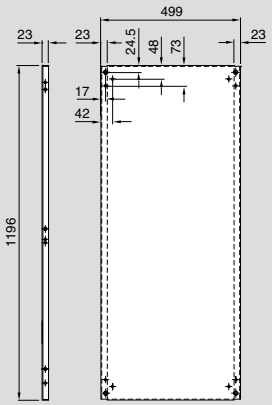
① = 4 – 8″/200 – 400 mm
adjustable along 1″/25 mm
system hole pattern

AP 2689.600 tall front door

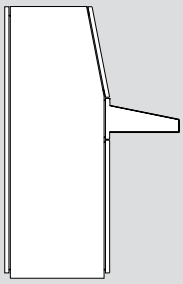


① = 4 – 8″/200 – 400 mm
adjustable along 1″/25 mm
system hole pattern

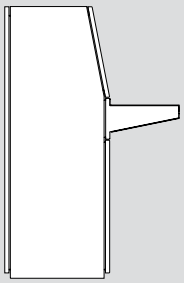
Mounting panel



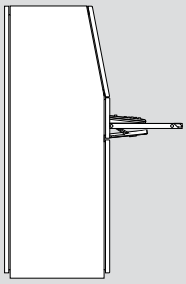
Order example



AP 2688.600
short front door
AP 2690.000
console



AP 2688.600
short front door
AP 2690.000
console



AP 2688.600
short front door
AP 2691.000
keyboard drawer

AP 2689.600
tall front door

Configuration AP 2688.600:
3-part front:
- Top door 11° tilt, hinged right.
- Available space for
  - AP 2690.000 console
  - AP 2691.000 keyboard drawer.
- Bottom door, hinged right.

Configuration AP 2689.600:
2-part front:
- Top door 11° tilt, hinged right.
- Bottom door, hinged right.

Enclosure body closed on top and sides, rear door,
cable entry plates, 3-part,
mounting panel.

	PU	Universal console		Page
		with short front door	with tall front door	
Height (inches/mm)		51/1300	51/1300	
Width (inches/mm)		24/ 600	24/ 600	
Depth (inches/mm)		20/ 500	20/ 500	
Part No. AP	1	**2688.600**	**2689.600**	
Weight (lbs/kg)		183.7/83.3	186.3/84.5	
Necessary accessories				
AP console	1	2690.000	–	298
or AP keyboard drawer	1	2691.000	–	298
Accessories for external installation				
Base/plinth SO (inches/mm) H = 4/100	1	2868.000	2868.000	296
Base/plinth SO (inches/mm) H = 8/200	1	2876.000	2876.000	296
Perforated plate for stainless steel plinth/base SO	4	2908.000	2908.000	296

Lock systems
Standard double-bit lock insert of rod-type locking system can be exchanged for 1.06″/27 mm – Type A lock inserts, see page 942 and Ergoform-S handles, see page 939.

AP universal consoles

AP stainless steel universal consoles have the following approvals:

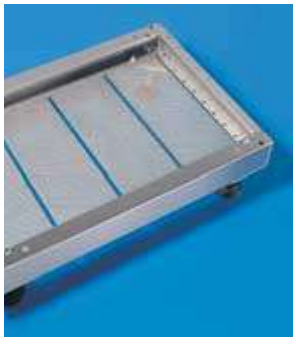
- UL
- CSA
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

Material:
Type 304 stainless steel
Enclosure body: 16 ga/1.5 mm
Door: 14 ga/2.0 mm
Mounting panel:
Sheet steel 11 ga/3.0 mm, galvanized

Finish:
Brushed

Protection ratings:
NEMA 12/IP 56 per EN 60529/10.91

Additional accessories:
see pages 296 – 299,
pages 876/877
or keyword index.

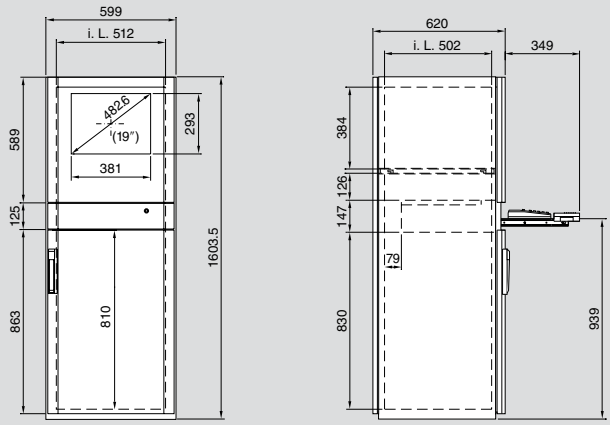


Stainless steel perforated panel for cable entry into the base/plinth when leveling feet are used.
Details on page 296.

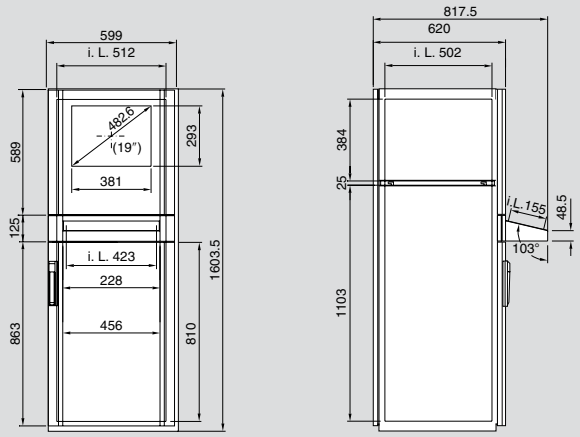
Printer carriage
for printer storage.
Details on page 994.

Mouse pad tray
for console, NEMA 6/IP 67 mouse and pad.
Details on pages 1004/1005.

PC 4650.000
with keyboard drawer



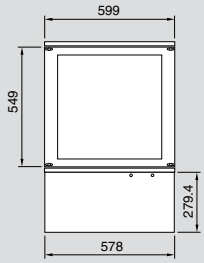
PC 4650.704
with desk console



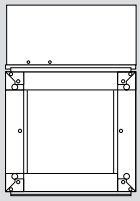
i.L. = available space

PC 4650.304 / .305

Top View

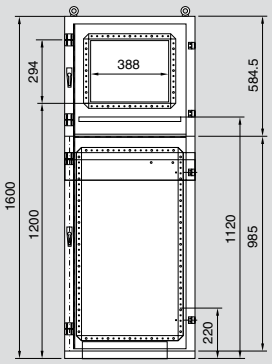


Bottom View

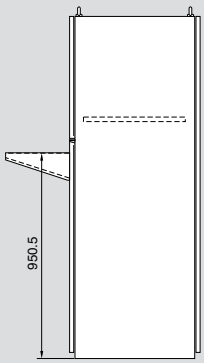


Configuration (4650.304 / .305):
Enclosure, closed on top and sides, rear door with rod-type locking doors, double-bit insert, solid bottom, monitor shelf.
Front divided into three sections:
- Top: monitor door, side hinged with polycarbonate or safety glass
- Bottom: cover with keyboard shelf attached
- Center: console desk

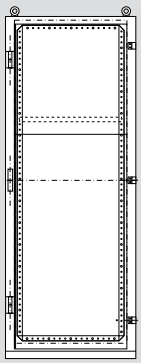
Front View



Side View



Rear View



Configuration (4650.000 / .704):
Enclosure, closed on top and sides, rear door with rod-type locking and double bit insert,
3-part cable entry plates,
monitor shelf.
Front divided into three sections:
Top: monitor door, side hinged;
Center: keyboard drawer or console desk with 3524 E safety lock.
Bottom: door right hinged, with Ergoform-S handle and double-bit lock insert.

Height (inches/mm)	PU	63/1600	63/1600	63/1600	63/1600	Page
Width (inches/mm)		24/ 600	24/ 600	24/ 600	24/ 600	
Depth (inches/mm)		24.4/620	body 24.4/620; console 32.3/820	body 24/610; shelf 35/890	body 24/610; shelf 35/890	
Viewing window		safety glass	safety glass	polycarbonate	safety glass	
Part No. PC	1	**4650.000**	**4650.704**	**4650.304** [1]	**4650.305** [1]	
Weight (lbs/kg)		253.5/115.0	271.2/123.0	271.2/123.0	271.2/123.0	
Accessories for exterior installation						
Base/plinth SO (inches/mm) H = 4/100	1	2855.000	2855.000	2855.000	2855.000	296
Base/plinth SO (inches/mm) H = 8/200	1	2877.000	2877.000	2877.000	2877.000	296
Leveling feet, 4″/100 mm high SO	1 set	2859.000	2859.000	2859.000	2859.000	296
Leveling feet SO	1 set	2889.000 / 2890.000	2889.000 / 2890.000	2889.000 / 2890.000	2889.000 / 2890.000	296
Perforated plate for stainless steel base/plinth SO	4	2913.000	2913.000	–	–	296
Accessories for interior installation						
C-rails DK	1	7095.000	7095.000	7095.000	7095.000	980
Printer carriage (letter size)	1	4635.000	4635.000	4635.000	4635.000	994
19″/482.6 mm aluminum mounting angles	4	4632.000	4632.000	4632.000	4632.000	1026
Adapter kit, 19″/482.6 mm	8	4547.000	4547.000	4547.000	4547.000	1026
Disk box SZ	1	2446.000	2446.000	2446.000	2446.000	951
Mouse pad PC	1	4614.000	–	–	–	1005

Lock systems
Standard lock has double-bit insert that can be replaced with 1.06″/27 mm – Type A lock inserts, see page 942.
Rear door accepts Ergoform-S handles, see page 939.

[1] NEMA 4x versions.

PC stainless steel enclosure systems have the following approvals:
- UL
- CSA
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

Material:
Type 304 stainless steel
Enclosure: built-in, roll-formed 10-fold frame members, 15 ga/1.8 mm
Rear door: 14 ga/2.0 mm
Cable entry plates: 16 ga/1.5 mm
Front in three sections: monitor areas with single pane safety glass for 19″/482.6 mm monitor.

Finish:
Brushed

Ratings:
NEMA 12/IP 55 (4650.000 / .704)
NEMA 4X/IP 66 (4650.304 / .305)
to EN 60529/10.91

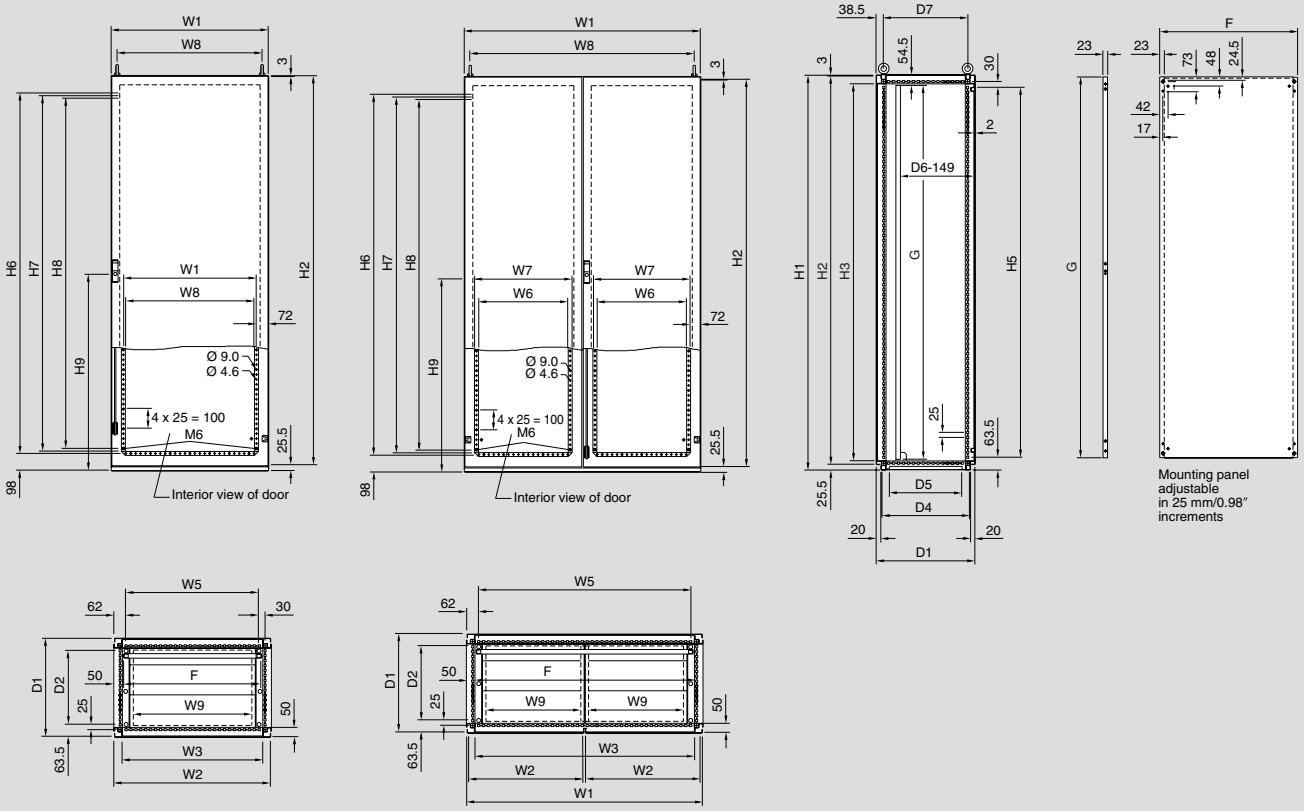
Accessories:
see pages 296 – 299, pages 876/877 or keyword index.

Leveling feet compensate for unevenness of floor and make floor cleaning easy.
Details on page 296.

PC carriage
Sufficient space for PC tower, printer and paper.
Details on page 995.

Cable entry grommet
can be opened up for keyboard, mouse or scanner cable entry.
Details on page 1004.

ES 5450.600 / ES 5451.600 / ES 5452.600 / ES 5453.600 / ES 5454.600 / ES 5455.600



Part No. ES	Height dimensions in mm									Width dimensions in mm									Depth dimensions in mm							Mounting Panel	
	H1	H2	H3	H4	H5	H6	H7	H8	H9	W1	W2	W3	W4	W5	W6	W7	W8	W9	D1	D2	D3	D4	D5	D6	D7	F	G
5450.600	1610	1575	1512	1496	1475	1450	1430	1400	798	599	592	512	499	475	455	475	535	401	402	275	–	349	269	349 – 149	325	499	1496
5451.600	1810	1775	1712	1696	1675	1605	1630	1600	898	599	592	512	499	475	455	475	535	401	502	375	–	449	369	449 – 149	425	499	1696
5452.600	1810	1775	1712	1696	1675	1605	1630	1600	898	799	792	712	699	675	655	675	735	601	502	375	–	449	369	449 – 149	425	699	1696
5454.600	1810	1775	1712	1696	1675	1605	1630	1600	898	999	992	912	899	875	355	375	935	801	402	275	–	349	269	349 – 149	325	899	1696
5453.600	2010	1975	1912	1896	1875	1850	1830	1800	998	799	792	712	699	675	655	675	735	601	602	475	–	549	469	549 – 149	525	699	1896
5455.600	2010	1975	1912	1896	1875	1850	1830	1800	998	1199	592	1112	1099	1075	455	475	1135	481	502	375	–	449	369	449 – 149	425	1099	1896

Configuration:
Enclosure body with integrated roof and sidewalls, removable rear wall, hinged right, reversible to left in all except ES 5455.600;
130° hinges,
mounting panel,
cable entry plates, 3-part.

Detailed drawings:
Pages 98 – 101.

Height inches/mm		PU	63/1600	71/1800			79/2000		Page
Width inches/mm			24/ 600	24/600	32/800	39/1000	32/800	47/1200	
Depth inches/mm			16/ 400	20/500	20/500	16/ 400	24/600	20/ 500	
Part No. ES		1	**5450.600**	**5451.600**	**5452.600**	**5454.600**	**5453.600**	**5455.600**	
Door(s)			1	1	1	1	1	2	
Mounting panel	H		1496	1696	1696	1696	1896	1896	
	W		499	499	699	899	699	1099	
Weight	lbs		213	238	288	323	339	433	
	kg		97	108	131	147	154	197	

Accessories
Stainless steel accessories: see pages 230 – 233. Additional accessories: see system accessory section following page 660 or Index (pages 824 – 832).

Lock systems
Standard lock has double-bit insert which can be exchanged for 27 mm – Type A lock inserts (see page 700)
and Ergoform-S handles (see pages 696 – 698).

ES 5000 stainless steel free-standing enclosure have the following approvals:

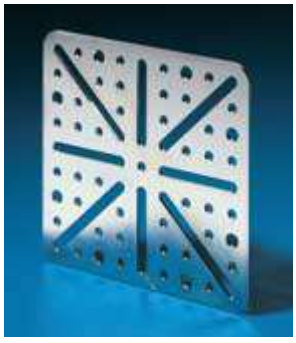
- UL
- CSA
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

Material:
Type 304 stainless steel
Enclosure: 15 ga/1.8 mm
Door: 14 ga/2.0 mm
Rear wall: 16 ga/1.5 mm
Mounting panel:
sheet steel 11 ga/3.0 mm

Finish:
Enclosure, rear wall and doors: brushed
Mounting panel: galvanized

Ratings:
NEMA 12/IP 56 per EN 60529/10.91 (single door ES),
NEMA 12/IP 55 per EN 60529/10.91 (double door ES).

Additional accessories:
see pages 296 – 299
and pages 876/877
or keyword index.

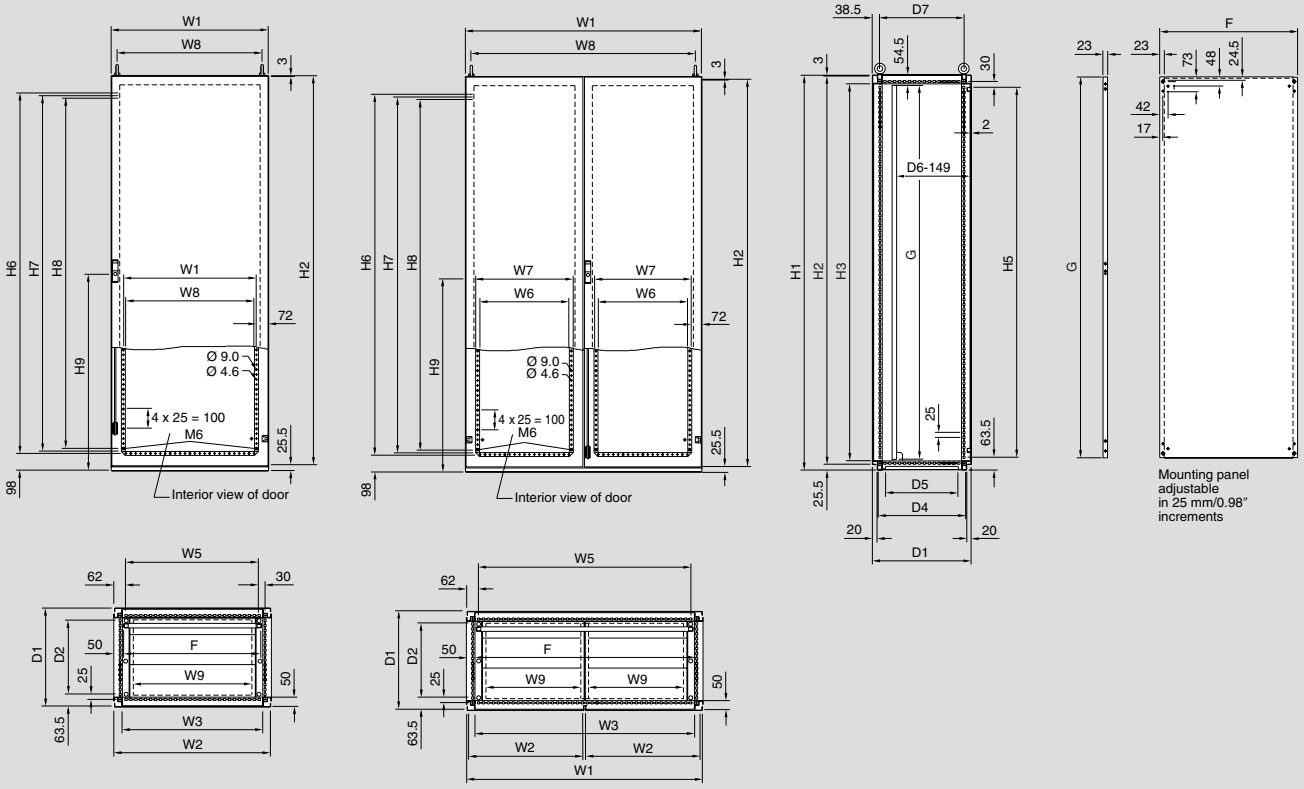


Flat mounting bracket
for components that are not installed into the system holes.
Details on page 978.

Signal lights
Easy connection with Bayonet hook-up.
Details starting on page 1000.

Stainless viewing window
Secure protection for components in a stainless steel enclosure.
Details on page 297.

PS 4454.600 / PS 4457.600 / PS 4455.600 / PS 4452.600/PS 4450.600 / PS 4456.600 / PS 4453.600 / PS 4451.600



Part No. PS	Height dimensions in mm									Width dimensions in mm									Depth dimensions in mm							Mounting Panel	
	H1	H2	H3	H4	H5	H6	H7	H8	H9	W1	W2	W3	W4	W5	W6	W7	W8	W9	D1	D2	D3	D4	D5	D6	D7	F	G
4457.600	1810	1775	1712	1696	1675	1650	1630	1600	898	599	592	512	499	475	455	475	535	401	502	375	402	449	369	449 – 149	425	499	1696
4454.600	1810	1775	1712	1696	1675	1650	1630	1600	898	799	392	712	699	675	655	675	735	601	402	275	302	349	269	349 – 149	325	699	1696
4455.600	1810	1775	1712	1696	1675	1650	1630	1600	898	799	392	712	699	675	655	675	735	601	502	375	402	449	369	449 – 149	425	699	1696
4456.600	1810	1775	1712	1696	1675	1650	1630	1600	898	1199	592	1112	1099	1075	455	475	1135	481	402	275	302	349	269	349 – 149	325	1099	1696
4453.600	1810	1775	1712	1696	1675	1605	1630	1600	898	1199	592	1112	1099	1075	455	475	1135	481	502	375	402	449	369	449 – 149	425	1099	1696
4452.600	2010	1975	1912	1896	1875	1850	1830	1800	998	599	592	512	499	475	455	475	535	401	602	475	502	549	469	549 – 149	525	499	1896
4450.600	2010	1975	1912	1896	1875	1850	1830	1800	998	799	392	712	699	675	655	675	735	601	602	475	502	549	469	549 – 149	525	699	1896
4451.600	2010	1975	1912	1896	1875	1850	1830	1800	998	1199	592	1112	1099	1075	455	475	1135	481	602	475	502	549	469	549 – 149	525	1099	1896

Configuration:

Enclosure frame with removable door(s), rear wall and roof panel; hinged right, reversible to left in all except:
PS 4456.600, PS 4453.600, PS 4451.600;

130° hinges standard,
4 eyebolts, installed,
mounting panel,
cable entry plate, 3-part
depth rail for transportation

Height (inches/mm)	PU	71/1800	71/1800	71/1800	71/1800	71/1800	79/2000	79/2000	79/2000	Page
Width (inches/mm)		24/ 600	32/ 800	32/ 800	48/1200	48/1200	24/ 600	32/ 800	48/1200	
Depth (inches/mm)		20/ 500	16/ 400	20/ 500	16/ 400	20/ 500	24/ 600	24/ 600	24/ 600	
Part No. PS	1	**4457.600**	**4454.600**	**4455.600**	**4456.600**	**4453.600**	**4452.600**	**4450.600**	**4451.600**	
Doors		1	1	1	2	2	1	1	2	
Weight (lbs/kg)		196.2/89	191.8/87	238.1/108	277.8/126	407.9/185	275.6/125	341.7/155	535.7/243	
Accessories for exterior installation										
Sidewalls	2	4465.000	4467.000	4465.000	4467.000	4465.000	4466.000	4466.000	4466.000	297
Base/plinth SO (inches/mm) H = 4/100	1	2868.000	2869.000	2866.000	2870.000	2860.000	2855.000	2856.000	2857.000	296
Base/plinth SO (inches/mm) H = 7.87/200	1	2876.000	2878.000	2879.000	2886.000	2887.000	2877.000	2880.000	2888.000	296
Perforated plates for plinth SO	1	2908.000	2907.000	2908.000	2907.000	2908.000	2913.000	2913.000	2913.000	296
Accessories for internal installation										
Divider walls	1	4385.700	4384.700	4385.700	4384.700	4385.700	4306.700	4306.700	4306.700	138
Plug walls 24 pole	1	4585.700	–	4585.700	–	4585.700	4558.700	4558.700	4558.700	138
System support rails	2	4361.000	4362.000	4362.000	4363.000	4363.000	4361.000	4362.000	4363.000	899
Cable collecting rails	2	4191.000	4192.000	4192.000	4196.000	4196.000	4191.000	4192.000	4196.000	898
Support strips	20	4596.000	4598.000	4598.000	4596.000	4596.000	4596.000	4598.000	4596.000	975
Print pockets	1	4116.000	4118.000	4118.000	4116.000	4116.000	4116.000	4118.000	4116.000	952
Baying kit	6	4580.000	4580.000	4580.000	4580.000	4580.000	4580.000	4580.000	4580.000	139

Lock systems
Standard lock has double-bit insert which can be exchanged for 27 mm – Type A lock inserts see page 942 and Ergoform-S handles, see page 939.

PS 4000 series modular enclosures

PS 4000 stainless steel modular enclosures have the following approvals:

- UL
- CSA
- TÜV
- Germanischer Lloyd
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas
- VDE

Material:
Type 304 stainless steel
Frame: 9-fold roll-formed profile
Door: 14 ga/2.0 mm
Rear wall: 16 ga/1.5 mm
Roof panel: 16 ga/1.5 mm
Cable entry panels: 16 ga/1.5 mm
Mounting panel:
sheet steel 11 ga/3.0 mm

Finish:
Door, rear wall and roof panel: brushed
Mounting panel: galvanized

Ratings:
NEMA 12/IP 55 per EN 60529/ 10.91

Additional accessories:
see pages 296 – 299
and pages 876/877
or keyword index.

Stainless viewing window
Secure protection for components built into a stainless steel enclosure.
Details on page 297.

180° stainless steel hinge
Retrofit enclosures with standard hinges (130°).
Details on page 297.

Desk panel
quickly folds down for programming equipment or for maintenance.
Details on page 951.

Stainless steel complete plinth/base

Consisting of:
front and rear panels (at 8″/200 mm height, one side has corner pieces and removable panel) and side trim panels.

Material:
Type 304 stainless steel

Finish:
Brushed

Configuration inches/mm	Height	
	4/100	8/200
Corner pieces	–	2*
Trim panels, front/rear	2	2
Trim panels, side	2	4

* Corner pieces with removable panels, may be installed in the front or rear.

Assembly parts include 4 screws and M12 cage nuts for installation on the enclosure.

Plinth for PS/ES/PC/AP universal console

For enclosures (inches/mm)		**Part No. SO**	
Width	Depth	4″/100 mm high	8″/200 mm high
24/ 600	16/400	**2865.000**	**2875.000**
24/ 600	20/500	**2868.000**	**2876.000**
24/ 600	24/600	**2855.000**	**2877.000**
32/ 800	16/400	**2869.000**	**2878.000**
32/ 800	20/500	**2866.000**	**2879.000**
32/ 800	24/600	**2856.000**	**2880.000**
40/1000	16/400	**2867.000**	**2885.000**
48/1200	16/400	**2870.000**	**2886.000**
48/1200	20/500	**2860.000**	**2887.000**
48/1200	24/600	**2857.000**	**2888.000**

Accessories:
Leveling feet,
perforated cable entry panels,
see below.

Note:
Drawing
see page 885.

Leveling feet

To be installed below the plinth.
For easy access for cleaning and to compensate for uneven floors.

Maximum static load limit:
881.83 lbs/400 kg per leveling foot

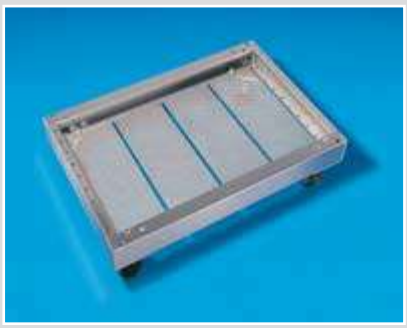
Adjustment range:
M12: 2.17 – 4.92″/55 – 125 mm
M16: 1.77 – 4.72″/45 – 120 mm

Threading	PU	**Part No. SO**
M12	1 set	**2889.000**
M16	1 set	**2890.000**

German Registered Design No. G 94 06 468

Material:
Type 304 stainless steel

Configuration:
1 set =
4 leveling feet, 4 mounting plates, including installation hardware.



Perforated cable panel

For cable entry in stainless steel plinths, when leveling feet (see above) are used.
Each panel is 6.89″/175 mm wide.
For efficient cable management. Designed to accept SZ 2597.000 cable ties, see page 1010.

Material:
Type 304 stainless steel

For enclosure depths inches/mm	Number of perforated panels necessary at a plinth width*				**Part No. SO**
	24/ 600	32/ 800	40/ 1000	48/ 1200	
16/400	3	4	5	6	**2907.000**
20/500	3	4	5	6	**2908.000**
24/600	3	4	5	6	**2913.000**

PU = 4
* For a completely closed cable entry.

Leveling feet, 4″/100 mm high

Suitable for TS, PS and ES enclosures, for easier cleaning and to compensate for ± .6″/15 mm in uneven floors.
Height: 4″/100 mm

Maximum static load limits:
771.60 lbs/350 kg per leveling foot

PU	**Part No. SO**
1 set	**2859.000**

Configuration/material:
1 set =
4 feet, brass, nickel plated,
4 threaded bolts, Type 304 stainless steel,
4 mounting plates, Type 304 stainless steel,
mounting hardware for fastening to the enclosure.

Stainless steel sidewalls for PS 4000

To complete an enclosure configuration. Simply hang and secure with 6 screws.

Material:
Type 304 stainless steel,
16 ga/1.5 mm

Configuration:
2 sidewalls, installation hardware included.

For enclosures inches/mm		PU	Part No. PS
Height	Depth		
71/1800	16/400	2	**4467.000**
71/1800	20/500	2	**4465.000**
79/2000	24/600	2	**4466.000**

Stainless steel viewing window

A perfect solution for instrument reading under extreme environmental conditions. Standard 130° hinges and continuous gasketing. Standard double-bit insert can be replaced with Type A, 27 mm lock inserts or SZ 2452.000, see page 942 and Ergoform-S handle SZ 2452.000, see page 939.

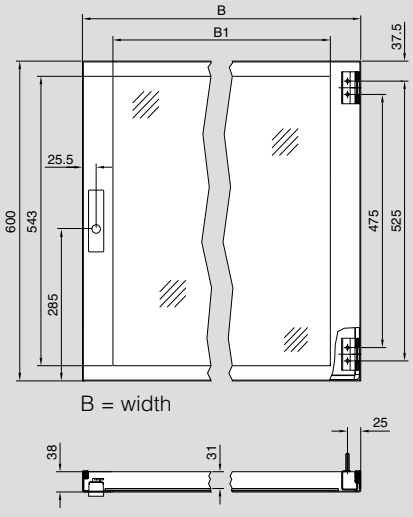
Protection ratings:
NEMA 12/
IP 54 per EN 60 529/10.91

Material:
Type 304 stainless steel
Single pane safety glass

Configuration:
Viewing window with turnbuckle lock, installation hardware.

Height inches/mm	Width inches/mm	Depth inches/mm	B1 inches/mm	Part No. FT
24/600	20.55/522	1.5/38	16/408	**2793.560**
24/600	28.43/722	1.5/38	24/608	**2793.760**

Other height or width dimensions by special request.

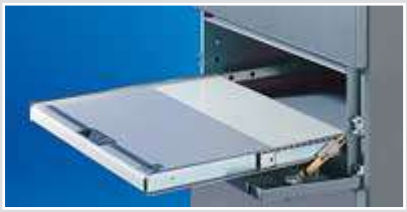


Stainless steel PS/ES 180° hinge

For retrofitting standard stainless steel doors with 130° hinges, installation hardware included.

Material:
Type 304 stainless steel

PU	Part No. PS
6	**4156.000**



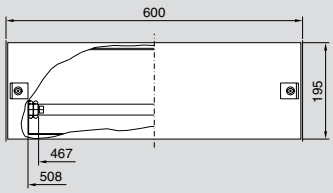
Stainless steel keyboard drawer

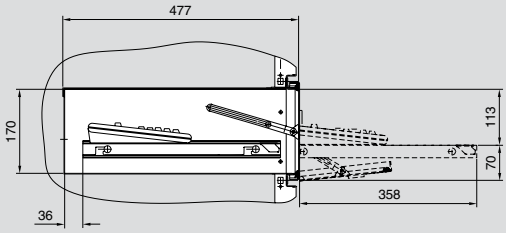
For maximum keyboard width of 20″/ 500 mm. Drawer with mouse pad in the front.
Installation hardware for mounting on AP 2688.600 universal console included.

	Part No. AP
Keyboard drawer	**2691.000**

Material:
Type 304 stainless steel

Finish:
Brushed





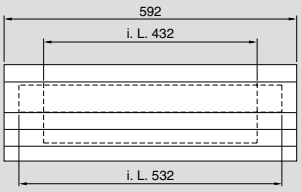
Stainless steel desk console

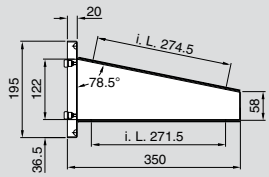
Closed front and sides, and removable cover panels on top and bottom.
Desk console can be turned 180° so that either slanted or horizontal surface can be used.
Includes installation hardware for mounting on AP 2688.600 universal console.

	Part No. AP
Desk console	**2690.000**

Material:
Type 304 stainless steel

Finish:
Brushed





i. L. = available space

Half-cylinder lock

Can be retrofitted in all stainless steel AE series enclosures with a turnbuckle lock without affecting the protection rating.
The protective lock cover can be locked with a 40 or 45 mm half-cylinder lock.

Material:
Zinc die-cast, nickel-plated (dull finish).

Configuration:
Half-cylinder lock without cylinder.

PU	Part No. SZ
1	**2534.500**

US Patent No. 5 916 282
German Patent No. 195 12 280
Japanese Patent No. 3.088.465
European Patent No. 0778 913
valid for GB, FR, IT

Lock box cover

For pad locks or multi-lock setups.
Retrofit on a single door AE series compact enclosure with turnbuckle lock.
Loop with Ø .43″/11 mm for pad locks or multi-lock setups; see page 945.

PU	Part No. SZ
1	**2493.000**

Material:
Zinc die-cast, nickel plated (dull).

Configuration:
Lock box cover

Cam, turnbuckle lock

Complete cam lock for stainless steel AE series enclosures.

Material:
Type 304 stainless steel

Configuration:
Includes installation hardware.

PU	Part No. SZ
1	**2304.000**

Stainless steel AE rain canopy

Provides ideal protection against rain. Water drains to rear. Easy to retrofit.

Material:
Type 304 stainless steel

Configuration:
Installation hardware included.

Note:
Drawings and dimensions, see page 954.

For enclosure inches/mm		Part No. SZ
W	D	
8/ 200	6/155	**2470.000**
15/ 380	6/155	**2471.000**
12/ 300	8/210	**2361.000**
15/ 380	8/210	**2472.000**
20/ 500	8/210	**2362.000**
24/ 600	8/210	**2473.000**
30/ 760	12/300	**2474.000**
32/ 800	12/300	**2475.000**
40/1000	12/300	**2363.000**

Stainless steel wallmount bracket

For mounting KL, EB, BG and AE enclosures.

Material:
Type 304 stainless steel (V2A)

Space to wall	PU	Part No. KL
.31″/8 mm	4	**1594.000**

For dimensions see drawing A

Stainless steel wallmount bracket

For mounting KL, EB, BG, AE and EL enclosures.

Material:
Type 304 stainless steel (V2A)

Space to wall	PU	Part No. SZ
Dimension A .4″/10 mm	4	**2433.000**

For dimensions see drawing B

Additional drilled holes will be needed in stainless steel enclosure because of protection and hygiene standards.

Wallmount angle

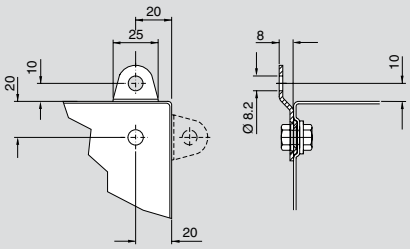
For compact enclosures (mounting holes must be drilled into the enclosure). Simple installation without for flush mounting.

Material	PU	Part No. SZ
Type 304 stainless steel (V2A)	1	**2583.000**

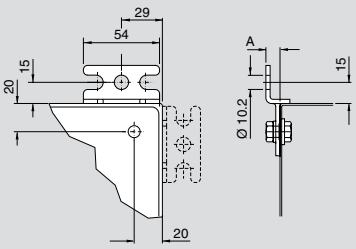
For dimensions see drawing C.

Wallmount bracket/angle

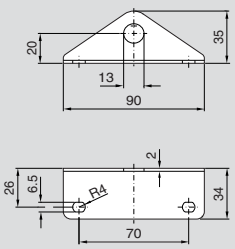
Drawing A



Drawing B



Drawing C



The Rittal EMC Concept

Rittal offers a complete program of practical EMC shielding solutions with its extensive line of standard sheet steel enclosures, special EMC shielded enclosures, and EMC accessories.

Standard sheet steel enclosures offer shielding against electrical fields to provide sufficient EMC protection in many cases.

Rittal offers solutions for every application through equipotential bonding with wire mesh screens in standard enclosures to avoid wiring-induced influences or additional shielding against high frequency electromagnetic fields.

The TS 8 Series industrial enclosures possess a "mid-range" shielding effect in their standard configuration.

Rittal's special EMC enclosures are based on a new enclosure concept: zinc-coated metal surfaces combined with self-adhesive, low potential EMC gaskets provide excellent shielding results at an incomparable cost/performance ratio.

Current European EMC standards require CE labeling only for active equipment and installations.

Empty housings are not covered by EMC guidelines because they are passive components (Par. 4, sect. 1 No. 1 EMVG) and do not require a CE label.

■ Partial protection

It is not always necessary to shield a complete enclosure. When only one particular source of interference in a system must be shielded, the "box-in-a-box" approach may be a more cost effective solution. That's why Rittal also offers a large selection of small enclosures and subracks that can be used for partial shielding in larger standard enclosures. Such combinations of large and small offer almost unlimited solutions.

■ EMC – standard protection

Standard sheet steel enclosures – because of their enclosed construction – offer a shielding level that provides sufficient EMC protection in many cases. A galvanized mounting panel offers the possibility for equipotential over a large area.

■ EMC – high protection

A high shielding level is provided by enclosures with a sheet steel housing with an aluminum/zinc surface on the inside and paint on the outside. Doors and side panels also have aluminum zinc surfaces and represent an excellent way for bonding to the enclosure via low potential, self-adhesive EMC gasketing.

■ Influence of holes and other openings

Openings in the structure can greatly diminish the damping in those areas. The amount of interference leakage depends on the type of field as well as the location, shape and dimensions of the openings. These leaks can be reduced considerably by utilizing EMC viewing windows, EMC cable entry, honeycomb inserts for filter fans, appropriate standard, perforated panels for heat dissipation, or other components.

The indicated damping values have been established – per MIL STD 285 or VG 95 373 Part 15 – by independent, accredited test centers and should be used as a guide for closed, empty enclosures without cutouts or other modifications.
Different values may result with customer specific special request orders.

■ EMC – accessories

Cable connector
EMC shielded cables/circuits, even in standard shielding level enclosures, the bonding of the cable shield at enclosure entry is very important. Rittal offers solutions for any need.

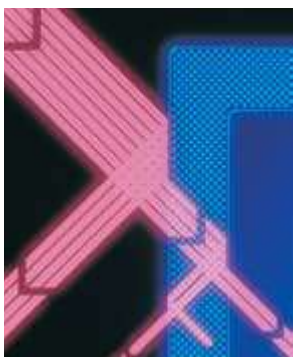
EMC filter fans, EMC viewing windows are designed to maintain a high level of shielding for enclosures with a high shielding rate, even if there are openings. Rule: EMC filter fans and EMC viewing windows are only technically meaningful in a high protection level enclosure.

How to interpret an EMC diagram

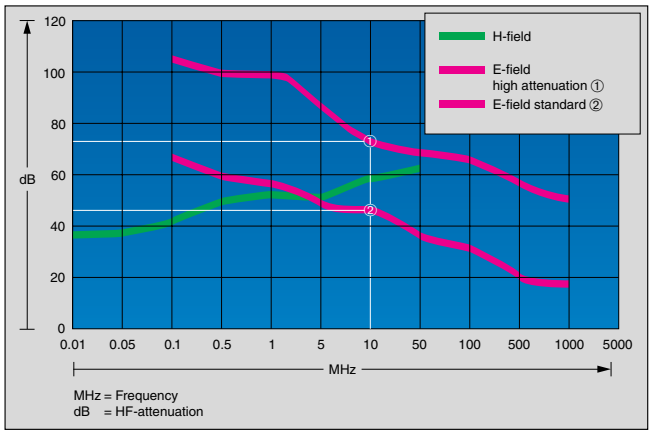
In all diagrams, the damping value of an enclosure is shown as a function of the anticipated interference frequency and the type of field: electric field E, magnetic field H, and the combined electromagnetic field.

In the diagram to the right for example, a frequency of 10 MHz results in the following damping values:

Point 1: Electrical field high attenuation: 72 dB
Point 2: Electrical field standard: 42 dB



In all diagrams, the attenuation value is expressed in the physical unit “dB” on the vertical Y-axis.
This unit represents the logarithmic ratio between the fields inside and outside an enclosure.
The frequency spectrum is expressed as a logarithmic progression on the horizontal X-axis.



The damping value “a” is determined as follows:

$a = 20 \log \frac{E_0}{E_1}$ and

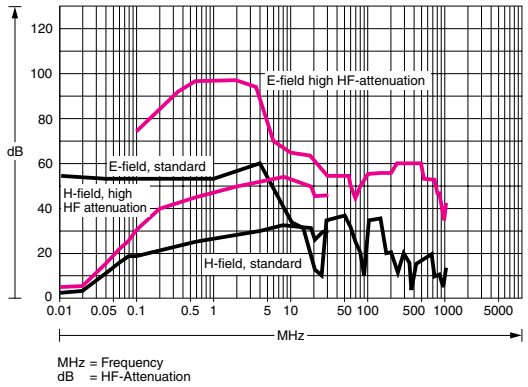
$a = 20 \log \frac{H_0}{H_1}$

with the Index
0 for unshielded,
1 for shielded values.

Example

Attenuation in dB	Ratio between inside/outside
6	1/ 2
20	1/ 10
40	1/ 100
60	1/1000

■ EMC shielded KL series junction boxes



Height inches/mm	Width inches/mm	Depth inches/mm	**Part No. KL**
12/300	12/300	4.72/120	**1507.710**

Other sizes by special request.

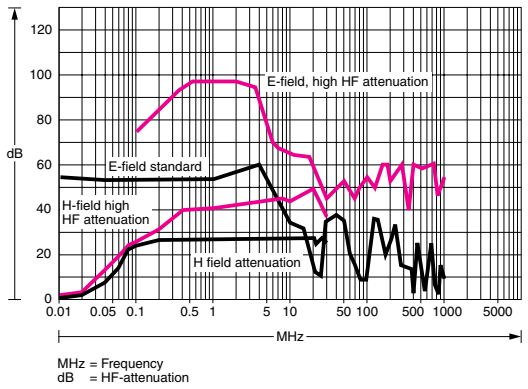
Material/finish:
Sheet steel with aluminum/zinc-coating;
powder painted exterior,
RAL 7032 pebble grey;
inside surfaces unpainted.

Configuration:
Enclosure; cover lid with special gasket;
cover screws.

Protection ratings:
NEMA 12/IP 55 per EN 60 529/10.91.
The "high HF-shielding" EMC version
has been certified by VDE.

VDE
EMV

■ EMC shielded EB series instrument enclosures



All sizes (see pages 58/59) by request.

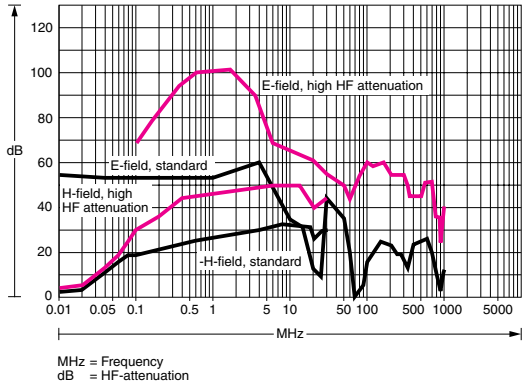
Material/finish:
Sheet steel with aluminum/zinc-coating;
powder painted exterior,
RAL 7032 pebble grey;
inside surfaces unpainted.

Configuration:
Enclosure with mounting panel;
door with 180° hinge and turnbuckle lock
with double-bit insert.

Protection ratings:
NEMA 12/IP 55 per EN 60 529/10.91.
The "high HF-shielding" EMC version
has been certified by VDE.

VDE
EMV

■ EMC shielded AE series compact enclosures



Height inches/mm	Width inches/mm	Depth inches/mm	**Part No. AE**
15/ 380	15/380	8.3/210	**1380.700**
15/ 380	24/600	8.3/210	**1039.700**
24/ 600	24/600	8.3/210	**1060.700**
40/1000	32/800	12 /300	**1180.700**

Other sizes by special request.

Material/finish:
Sheet steel with aluminum/zinc-coating;
powder painted exterior,
RAL 7032 pebble grey;
interior unpainted.

Configuration:
Enclosure with mounting panel;
door with 130° hinge and turnbuckle lock
with double-bit insert.

Protection ratings:
NEMA 12/IP 55 per EN 60 529/10.91.
The "high HF-shielding" EMC version
has been certified by VDE.

VDE
EMV

Rittal KL junction boxes, EB instrument enclosures, AE compact enclosures

Gland panels have been deliberately omitted from EMC enclosures to ensure a high shielding effect.

KL, EB and AE EMC wallmount enclosures have the following certifications:

- UL
- CSA
- TÜV
- Norske Veritas
- Lloyds Register of Shipping
- VDE

1 EB: Door opens 180°.

2 KL/EB/AE: An adhesive EMC/NEMA/IP combination gasket provides secure and durable EMC and NEMA/IP protection.

3 EB/AE: Standard double bit insert can be easily replaced with other current lock inserts.

4 KL: Roll-formed edges with system hole pattern on both sides.

5 KL: Removable cover (not painted on inside) can be fastened with standard cover screws, quick-lock screws, or locks.

6 KL/EB/AE: Installation holes in the rear wall are locked with blind rivet nuts to maintain EMC protection for wallmount enclosures.

7 KL/EB/AE: The edges of all housings are paint-free to ensure proper contact through EMC gasket to door or cover.

8 AE: Door opens 180°.

9 AE: Mounting strips with installation holes are spot welded to both sides of the door.

10 EB/AE: Zinc-coated mounting panels in all EMC enclosures reduce interference by making it possible to ground interference-emitting components over large surfaces.

Accessories:

EMC accessories, s. pages 308 – 311.

EMC filter fans, s. pages 550/551.

Ripac Vario EMC, s. pages 348 – 351.

Additional access., s. pages 876/877.

PS 4000 EMC shielded systems series/TS 8 Top Enclosure modular enclosures

The enclosure frame is made of sheet steel with an aluminum/zinc coating. All other parts also have a conductive aluminum/zinc coating. Outside surfaces of the PS 4000/TS 8 Top Enclosure, including rear wall, roof, and door are painted. On the zinc-coated inside surfaces are self-adhesive EMC/NEMA/IP combination gaskets that provide all-around bonding. Standard, zinc-coated cable entry panels rest on the same gasket to provide continuous bonding.

Material:
Sheet steel with zinc-coated surface
Frame: 9-fold roll formed
Door: 14 ga/2.0 mm
Rear wall: 16 ga/1.5 mm
Mounting panel: 11 ga/3 mm

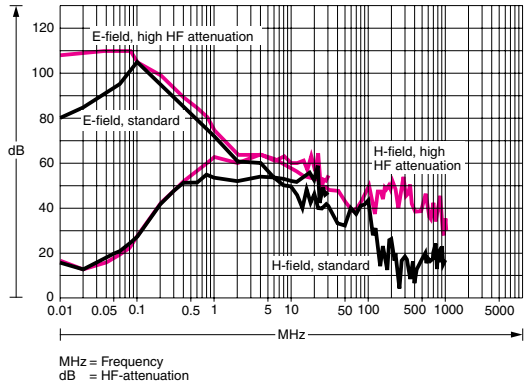
Finish:
Frame:
sheet steel with aluminum/zinc surface
Door, rear wall, and roof:
exterior painted, RAL 7032 pebble grey,
inside unpainted

Protection ratings:
NEMA 12/IP 55 per EN 60 529/10.91

Configuration:
Frame with door,
rear wall and roof are removable,
door, right hand hinged (reversible),
4 transportation eyebolts (mounted),
mounting panel,
3-part bottom cable entry panel.

The “high HF shielding”
EMC version
has been certified by VDE.

For TS 8:



Approvals (for TS 8):

For other sizes (see pages 106 – 123) and sidewalls (see page 902) by special request.

Additional parts needed:

EMC baying gasket TS 8800.690,
see page 310,
for bayed enclosures.

ES 5000 EMC shielded freestanding enclosures

The enclosure body is made of sheet steel with an aluminum/zinc coating. The door and rear wall also have a conductive aluminum/zinc coating. Outside surfaces of the ES 5000 enclosure, including rear wall and door are painted. On the zinc-coated inside surfaces are self-adhesive EMC/NEMA/IP combination gaskets that provide all-around bonding. Standard, zinc-coated cable entry panels rest on the same gasket to provide continuous bonding.

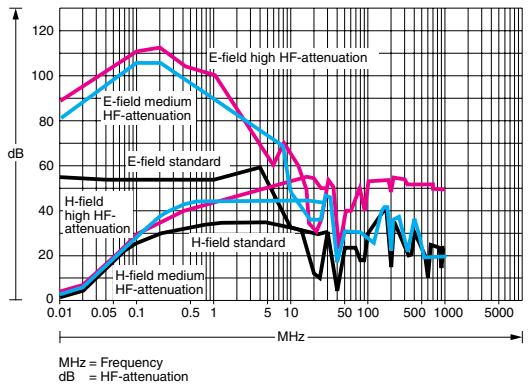
Material:
Sheet steel with zinc-coated surface
Enclosure body: 10-fold roll formed
Door: 14 ga/2.0 mm
Rear wall: 16 ga/1.5 mm
Mounting panel: 11 ga/3 mm

Finish:
Enclosure body:
sheet steel with aluminum/zinc surface
Door, rear wall, and roof:
outside painted, RAL 7032 pebble grey,
inside unpainted

Protection ratings:
NEMA 12/IP 55 per EN 60 529/10.91

Configuration:
Enclosure body with integrated roof and sidewalls,
removable rear wall,
door, right hand hinged (reversible),
4 transportation eyebolts (mounted),
mounting panel,
3-part bottom cable entry panel.

The “high HF shielding”
EMC version
has been certified by VDE.



Approvals:

All sizes (see pages 94 – 97) by special request.

Additional parts needed:

EMC contact clips to achieve the midrange attenuation level for standard enclosures.
Details on page 311.

Rittal PS 4000 Perfect System, TS 8 Top Enclosure System, ES 5000 Exclusive System

Accessories:

EMC accessories, s. pages 308 – 311.
EMC filter fans, s. pages 550/551.
Ripac Vario EMC, s. pages 348 – 351.
Additional access., s. pages 876/877.

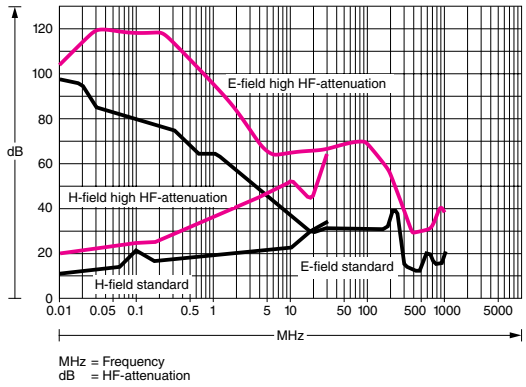
German Registered Design
No. 295 21 087
European Patent
No. 0 857 406; affecting
CH, ES, FR, GB, IT, NL, SE

To save cost, an economical alternative to EMC shielding is a complete enclosure encapsulation of sensitive components or potential sources of interference through small EMC boxes or EMC subracks.

An EMC shielded EB Series instrument box is installed on the mounting panel of a large PS enclosure.

An EMC shielded Ripac subrack is mounted in a swing frame in a standard ES enclosure.
Details on page 308.

■ EMC shielded Rittal flexRack racks



Material:
Frame: aluminum
Flat parts:
16 ga/1.5 mm sheet steel

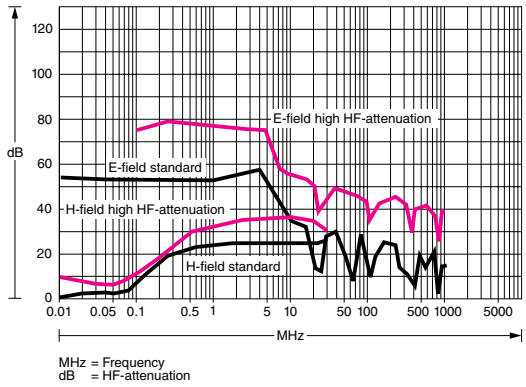
Finish:
Frame: chromated
Flat parts: interior chromated, exterior painted, RAL 7035 light grey

The "high HF shielding" EMC version has been certified by VDE.

	Width (inches/mm) 24/600		
U	Height	Depth	**Part No. FR**
33	63/1600	24/600	**2100.260**
		32/800	**2100.460**
42	79/2000		**2100.560**
		24/600	**2100.360**

Configuration:
1 frame,
1 rear door, solid,
1 front door, solid,
with Ergoform-S handle and security insert,
2 sidewalls,
1 bottom panel, solid,
1 roof panel, solid,
4 levelling feet,
EMC gasketing.

■ EMC shielded EL 3-part electronic combo systems



Material:
Rear housing module and center (swing frame) section:
16 ga/1.5 mm sheet steel with chromated inside surface
Mounting panel:
12 ga/2.75 mm sheet steel
Front door: extruded aluminum with die-cast aluminum corner pieces,
.16″/4 mm safety glass, and EMC mesh

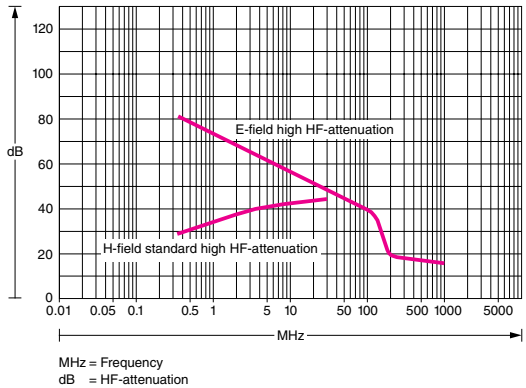
Finish:
E-coat primer, textured baked enamel
Enclosure: pebble grey RAL 7032
Door frame: mortar grey RAL 7033
Inside surfaces: zinc galvanized and chromated

Protection ratings:
NEMA 12/IP 55 to EN 60 529/ 10.91

	Width (inches/mm) 24/600		
U	Height	Depth	**Part No. EL**
3	8.35/ 212	16.34/415	**2243.700**
6	13.58/ 345		**2246.700**
9	18.82/ 478		**2249.700**
6	13.58/ 345	20.28/515	**2256.700**
9	18.82/ 478		**2259.700**
15	29.37/ 746		**2265.700**
21	39.84/1012		**2271.700**

Configuration:
1 rear housing module, solid,
2 gland panels, solid,
1 center section, hinged on 2 sides,
2 19″ rails, mounted,
1 mounting panel, zinc-coated, metallic blank, (included/not mounted),
1 front door with EMC security glass.

■ EMC shielded Vario-Case *iS* systems



Desktop housing for 19″/ 482.6 mm rackmount components and modular subracks per DIN 41 494 part 5
Width: 21.02″/534 mm

Material:
Side panels: extruded aluminum,
painted outside/chromated inside
Top/bottom covers: self-extinguishing (per UL 94-V0) plastic with vacuum aluminized inside surfaces
Rear panel: 12 ga/2 mm chromated sheet aluminum
Front panel: 12 ga/2 mm chromated sheet aluminum

Finish:
Chromated/painted, RAL 7030/7035

	HP 84		
U	H (inches/mm)	D (inches/mm)	**Part No. VC**
4	8.20/208.10	12/300	**3743.700**
3	6.44/163.65		**3733.700**
7	13.44/341.40	16/400	**3774.700**
3	6.44/163.65		**3734.700**
6	11.69/297.00		**3764.700**
6		20/500	**3765.700**
9	16.95/430.50		**3795.700**

Configuration:
2 plastic shells,
8 enclosure feet (.47 x 16″/12 x 400 mm depth),
2 sidewalls,
1 rear wall,
1 front panel,
4 19″/482.6 mm mounting flanges,
4 tapped strips,
4 untapped strips,
assembly parts included.

EMC flexRack has the following approvals:
- UL
- CSA

EMC shielded EL electronic combo system has the following approvals:
- UL – Underwriters Laboratories Inc. for USA and Canada
- TÜV
- Norske Veritas
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- VDE

1 Front door with EMC safety glass.

2 Aluminum door frame.

3 Locking system, exchangeable for Mini-Ergoform handle.

4 1″/25 mm system hole pattern around front and back perimeter.

5 Knife edge around perimeter.

6 Center piece constructed from 16 ga/1.5 mm roll formed sheet steel, chomated interior.

7 Wall element locked from the front.

8 Removable cable gland plates on the top or bottom.

9 EMC gasketing fastened with special adhesive for protection rating of NEMA 12/IP 55.

10 Aluminum extrusion sidewalls, interior chromated.

11 Plastic floor and cover shell, covered with aluminum. Bonding connection to sidewalls via HF-spring-loaded sealing system.

Accessories:

EMC accessories, s. pages 308 – 311.

EMC filter fans, s. pages 550/551.

Ripac Vario EMC, s. pages 348 – 351.

Additional access., s. pages 876/877.

12 Removable sidewalls, interior chromated.

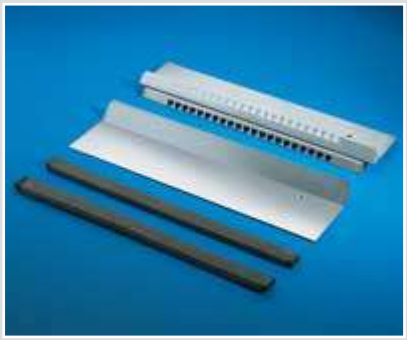
13 One piece solid roof, removable.

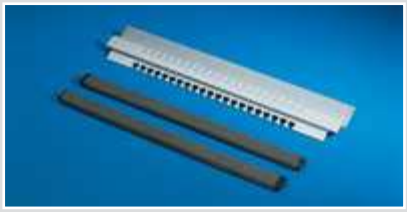
14 19″ or metric mounting rails, depth adjustable (Accessories).

15 Torsion resistant aluminum extrusion sections.

16 Removable one piece floor panel.

17 Solid front/rear door with EMC gasket and Ergoform-S handle.





EMC gland panels

for shielded cables with a maximum of .77″/20 mm diameter.
EMC cable shield contact over a conductive rubber cable clamp strip. Combined EMC/IP seal provides a low resistance contact between cable shield and gland panel. For enclosures with a depth of 16″/400 mm, 20″/500 mm, 24″/600 mm and 32″/800 mm.

German Patent No. 196 04 219

Single row version (top picture):
For one cable entry level in conjunction with standard gland panel.

Double row version (bottom picture):
May only be used in conjunction with single row EMC gland panels. Provides another cable entry level.

Configuration: (for double row version)
1 gland panel with twin hammer-head pattern, built-in sliding gland panel,
2 IP/EMC gaskets.

Width inches/ mm	Part No. TS		Part No. PS
	single row	double row	single row**
24/ 600	**8800.660**	**8800.760**	**4314.060**
32/ 800	**8800.680**	**8800.780**	**4314.080**
40/1000	**8800.600***	**8800.700***	**4314.100**
48/1200	**8800.620***	**8800.720***	**4314.120***

* For one half of the enclosure
** Build into PS, ES, PC, Universal con sole with contact clip PS 4313.000, see page 311.

Configuration: (for single row version)
1 gland panel with twin hammer head pattern,
1 sliding gland panel,
2 IP/EMC gaskets.

Metal cable ties

for 360° contacting of shielded cables to EMC bottom panel. Cable ties are not serrated to prevent injuries from shields or wire mesh.

Material:
Type 316, anti-magnetic and corrosion resistant.

Length inches/ mm	Width inches/ mm	PU = 1 pack	Part No. SZ
4.92/125	.18/4.6	50	**2598.125**
7.87/200		50	**2598.200**

Cable tie spanner

for easy tightening of SZ 2598.125 and SZ 2598.200 steel cable ties.

Material:
Handle: polypropylene
Blade: chrome/vanadium steel, tempered, nickel plated

	PU	Part No. SM
Spanner tool	1	**2585.000**

EMC cable entry bushings

ensure fast and proper EMC cable routing into all enclosures. Just clip in…ready!

Additional advantages:
- 360° contact.
- Fastens without need for second nut.
- Can be used for PG and metric holes.
- Flexible adjustment for all cable diameters.
- Contacting directly to where cable enters enclosure.
- Permanent contact pressure through spring action.
- Cable needs only to be isolated where shield is contacted.

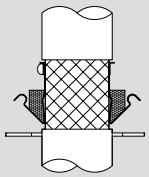
Material:
Stainless steel

Configuration:
Cable entry with bushing with cable ties.

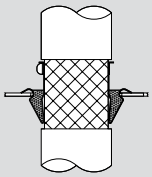
German Patent No. 197 01 959

Cable shield diameter				Hole diameter				PU	Part No. SZ
inches		mm		inches		mm			
from	to	from	to	from	to	from	to		
1.51	1.63	13	16	1.98	1.14	25	29	5	**2491.150**
1.71	1.87	18	22	1.18	1.34	30	34	5	**2491.200**
1.91	1.06	23	27	1.38	1.54	35	39	5	**2491.250**
1.10	1.26	28	32	1.57	1.73	40	44	5	**2491.300**

Installation diagram:
before engaging of the spring element



Spring element engaged, gasket compressed



EMC cable connectors

The cable sheathing may be interrupted at the connector, or it may be completely removed inside the enclosure. The cable shielding will be maintained inside the enclosure.

The jam nut (included) cuts through the paint when tightened and forms a conductive connection.

Protection ratings:
IP 68 per EN 60 529/10.91

Cable connector, PG

PG size	Cable diameter in mm	Minimum shielding diameter in mm*	PU	Part No. SZ
9	4 – 8	3	5	**2411.090**
11	5 – 10	4	5	**2411.110**
13.5	6 – 12	5	5	**2411.140**
16	10 – 14	8	5	**2411.160**
21	13 – 18	10	1	**2411.210**
29	18 – 25	15	1	**2411.290**
36	22 – 32	19	1	**2411.360**
42	30 – 38	27	1	**2411.420**

Cable connector, metric

Size	Cable diameter in mm	Minimum shielding diameter in mm*	PU	Part No. SZ
M16	4 – 8	3	5	**2843.160**
M20	6 – 12	5	5	**2843.200**
M25	10 – 14	8	5	**2843.250**
M32	13 – 18	10	1	**2843.320**
M40	18 – 25	15	1	**2843.400**
M50	22 – 32	19	1	**2843.500**
M63	34 – 44	30	1	**2843.630**

* Minimum shielding diameter = cable diameter less cable sheath

Other dimensions by special request.

EMC shield bus

EMC shield bus of chromated steel strip, .12 in^2/75 mm^2 cross section, for cable shield contact. 10 (16) connections for cable shield contact.

Configuration:
1 shield bus,
2 (3) cheese head screws M6 x 12 mm,
2 (3) M6 nuts,
4 (6) serrated lock washers,
2 (3) spacer bolts.
( ) for SZ 2413.550

Rail length inches/mm	PU	Part No. SZ
15/375	1	**2413.375**
22/550	1	**2413.550**

EMC grounding clamps

EMC grounding clamps to DIN 72 571 of sheet steel, for fastening to EMC shield bus SZ 2413.550.

Material:
Sheet steel, galvanized, chromated.

Size inches/mm	PU = 1 pack	Part No. SZ
.16/4	50	**2367.040**
.24/6		**2367.060**
.32/8		**2367.080**
.48/12		**2367.120**
.64/16		**2367.160**
.79/20	25	**2367.200***
.96/25		**2367.250***

* 2 fixing brackets

EMC grounding strap

Grounding strap, tin plated copper, with press fitted contact rings. Grounding straps have far lower resistance compared with round conductors, and also offer highly flexible connection facilities.

Accessories:
Installation hardware,
see page 310.

For	Cross section AWG/ mm^2	Length inches/ mm	PU	Part No. SZ
M6	7/10	8/200	10	**2412.210**
M8	5/16			**2412.216**
M8	3/25			**2412.225**
M6	7/10	12/300		**2412.310**
M8	5/16			**2412.316**
M8	3/25			**2412.325**

Grounding fasteners

For fastening the grounding straps to:
- Horizontal frame members
- PS system rails

using captive nuts or threaded blocks, see below.

Size	PU	Part No. SZ
M6	10 sets	**2570.000**
M8	10 sets	**2559.000**

Captive nuts/ threaded blocks

For the rectangular system hole pattern (10.5 x 12.5 mm) in:
- Horizontal TS profiles
- PS/ES/AP universal consoles
- System rails

Captive nut
The compression spring, designed as an insertion aid, guarantees a secure mechanical and electrical connection.

Thread	PU	Part No. PS
M6	1 pack	**4164.000**
M8	1 pack	**4165.000**

1 pack = 50

Clip nut
With break-off insertion tab made of zinc die-cast.

Thread	PU	Part No. PS
M6	1 pack	**4162.000**
M8	1 pack	**4163.000**

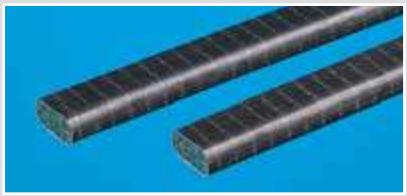
1 pack = 50

German Patent No 34 76 725
European Patent No. 0 146 072
affecting DE, IT

Cage nut
The nut is inserted from the same side as from where it is supposed to be screw fixed. This makes the use of all fixing points on level height and width across from a corner.
The spring cage facilitates electrical contact within the system hole pattern.

Thread	PU	Part No. TS
M6	1 pack	**8800.340**
M8	1 pack	**8800.350**

1 pack = 50



EMC gasketing

For bayed enclosure configurations.
Gasketing covered with electrically conductive sheathing.

For enclosures	Diameter (mm)	Part No.
TS	9.5 x 6.4	**TS 8800.690**
PS	6.4 x 3.2	**PS 4346.000**

PU = 1 set consisting of 3 pieces, 6'/ 2 m length

EMC divider wall gasket

When TS 8/PS EMC enclosures are bayed together with a galvanized divider wall, this gasket provides optimum electrical conductivity.

Material:
PU-foam with electrically conductive sheathing.

Configuration:
1 roll (.5 x .5 x 208"/12.7 x 12.7 x 5300 mm)

PU	Part No. PS
1	**4348.000**

Contact cutter

The contact cutter enables EMC compatible preparation of the contact point e.g. for grounding straps.
Plastic bound abrasive with guide pin for round system hole pattern.
With location point for drill, grinder, etc.

	Part No. SM
for frame member	**2414.000**
for ground stud*	**2414.500**

* Not necessary for TS 8

Contact paint

Contact paint prevents corrosion in otherwise unprotected contact points.

Contents:
.4 oz/12 ml

PU	Part No. SZ
1	**2415.000**

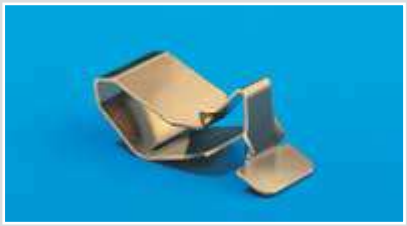
PS 4312.000
Clip for roof, sidewall and rear wall
I^2 value · T = 0.13 · $10^6 A^2$ · s

Rittal EMC contact clips

For PS 4000 modular enclosures and ES 5000 freestanding enclosures.
The easiest, fastest and most economical way to achieve grounding and EMC protection:

- Equipotential bonding of the frame and panels of switch panel combinations.
- Grounding per EN 60 439, part 1 ed. 4/94, § 7.4.3.1.5 c and VDE 0660, part 500 or IEC 439-1 panels to which no electric equipment is attached.
- Through multiple contacts, attenuation can increase up to 20 dB to a medium level.

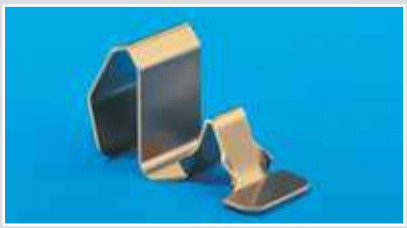
Material:
Stainless spring steel



PS 4332.000
Clip for doors with rectangular frame and conductive finish.

EMC contact clip for	Increased attenuation	Grounding (equipotential bonding)	PU	Part No. PS
Roof Sidewall Rear wall	●	●	50	**4312.000**
Door	●		50	**4332.000**
Mounting panel	●		50	**4334.000**
Bottom panel	●	●	50	**4313.000**
Interconnection of enclosures	●		50	**4337.000**

1 pack = 50



PS 4334.000
Clip for mounting panels with conductive finish and installation in the most rear position. May be retrofitted without removing mounting panel.

PS 4313.000
Clip for cable entry plates
I^2 value · T = 0.06 · $10^6 A^2$ · s

PS 4337.000
Clip for bayed configuration.

EMC viewing windows

See page 931.

Configuration

■ Type Y-Z Purge/Pressurization Systems

* Same panel can be used for both Type Y or Z systems
* Type Y system reduces the inside of the enclosure from Class I/Division 1 to Class I/Division 2
* Type Z system reduces the inside of the enclosure from Class I/Division 2 to non-hazardous
* Available for enclosure sizes ranging from 75 to 200 cubic feet
* Panels are available specifically for left, right, top, or bottom mounting
* All components mounted to a T-304 stainless steel panel
* All tubes and fitting are T-316 stainless steel
* Includes low pressure alarm output
* Filter-regulator with pressure gauge provides clean gas to the enclosure
* UL and cUL Classified
* Meets the requirements of NFPA 496 and ISA RP12.4-1996 standards
* Pressure vent is required for all systems and is available in a straight or 90° versions

■ Type X Purge/Pressurization Systems

* Type X system can be configured by combining a control unit, pressure monitor and 3-way solenoid valve package
* Type X systems enable general purpose equipment to be operated inside a hazardous area
* Available for enclosure sizes ranging from less than or greater than 15 cubic feet
* Control units are available for general purpose and hazardous areas
* Control circuits are intrinsically safe
* Control units disables power if airlock is broken
* Fully automatic purge/pressurization is controlled by cycle timers
* LED display and indicators show time remaining and purge/pressurization stages
* Can be used for both 120 V AC or 220 V AC
* Control units and pressure vent combination are UL and cUL Classified
* Meets NFPA 496 and ISA RP12.4-1996 standards for Type X purging
* Pressure monitor and solenoid valve kit are required for all systems
* Pressure monitors are available in compensation or continuous flow monitoring

Technical Specifications

■ Type Y-Z Purge/Pressurization Systems

* Panel: brushed T-304 stainless steel
* Tubes: T-316 stainless steel
* Fittings: Swagelok T-316 stainless steel
* Purging and pressurization valve: T-316 stainless steel
* Differential pressure gauge: die-cast aluminum housing with baked hammerloid epoxy finish
* Differential pressure gauge: impact resistant face
* Low pressure alarm housing: anodized cast aluminum
* Filter regulator and pressure gage: cast aluminum body with polyurethane resin (ISOPLAST 304) components
* Pressure vents: aluminum housing with 1″ NPT mounting nut and gasket

■ Type X Purge/Pressurization Systems

* Control unit/safe area: Polycarbonate housing and clear lid
* Control unit/hazardous area: Cast aluminum enclosure with viewing port
* Pressure monitor: epoxy coated aluminum housing
* Filter regulator: cast aluminum body with polyurethane resin (ISOPLAST 304) components
* Solenoid valve: epoxy coated aluminum housing
* Tubes: $^1/_4$″ or $^3/_8$″ OD nylon
* Fittings: nickel-plated brass

Certifications/Approvals

■ Type Y-Z Purge Pressurization Systems

* UL and cUL Classified
* Type Y: Class I, Div. 1 to Class I, Div. 2/ Class I, Zone 1 to Class I, Zone 2
* Type Z: Class I, Div. 2 to non-hazardous/ Class I, Zone 2 to non-hazardous
* Panels with low pressure alarm are certified for Group C-D/IIB

■ Type X Purge/Pressurization Systems

* Control units and pressure vent combination are UL and cUL Classified
* Control circuits (except solenoid): Intrinsically safe, Class I, II, Div. 1 and 2, Group A-G/Class I, Zone 1
* Pressurization system: NFPA 496 standard for Type X purging

Technical Information

■ Hazardous Area Classification

Hazardous areas are classified for purposes of defining wiring practices, electrical enclosures, protection methods and so on. The three classifications are Class, Division and Group and are explained below:
Class defines the type of hazard, designated by roman numerals:
I. Flammable gases or vapors
II. Combustible dust
III. Ignitable fibers
Division defines the condition under which the hazard is present:
1 Hazards commonly exist under normal operating conditions.
2 Hazards exist only during faulty operating conditions.
Group defines the hazardous substance:
A, B, C, D Gases
E, F, G Dusts
For more information on hazardous area classifications, refer to article 500 of NFPA 70, National Electric Code.

Types of Systems

The NFPA 496 standard recognizes three types of pressurization: X, Y and Z.
Type X systems reduce the classification of the enclosure from Division 1 to non-hazardous.
Type Y systems reduce the classification of the enclosure from Division 1 to Division 2.
Type Z systems reduce the classification of the enclosure from Division 2 to non-hazardous. For European regulations on purge systems, refer to standards IEC 79-2 and EN 50 016.

Choosing a System

The following information is an overview of how to select an X, Y or Z purge system. There are four primary factors that determine which purge system is appropriate for your application:
* Classification of the area.
* Ratings of the equipment inside the enclosure.

Certifications/Approvals
* Enclosure size, position of doors, windows and any accessories.
* Power requirement to the enclosure (Type X systems).

Area Classification

The area classification determines the type of purge system needed. For Division 1 areas, the equipment inside the enclosure determines whether a Type X system (equipment rated for general purpose) or a Type Y system (equipment rated for Division 2) can be used.

Equipment Ratings

The rating on the equipment inside the enclosure becomes important in evaluating which purge system to use in a Division 1 area. If the Division 1 area contains at least one general purpose component, a Type X system is required. If all devices in the enclosure are rated for Division 2, then a Type Y system can be used. Special conditions exist for enclosures such as gas analyzers and chromatographs that contain a flammable gas. Refer to NFPA 496 1998 for more information.

Enclosure Size

The size of the enclosure determines the size of the purge system. How the system is mounted depends on the position of doors, windows and cable entrances.

Power Requirement

For Type X systems, the control unit operates the power disconnect to the enclosure. If the power requirement for the enclosure exceeds the contact ratings on the control unit, a control relay must be added. If the control relay is located in the hazardous area, it must be rated for that hazardous location. As power increases inside the enclosure, high temperatures become a problem. Refer to NFPA 496 1998 for more information.

PURGE/PRESSURIZATION SYSTEMS

Available for Type X, Y and Z purge/pressurization applications, Rittal's new purge systems are the ideal fit for these types of hazardous areas. The units, which meet Class/Division standards as well as Zone classification for North America, are designed for enclosures up to 200 cubic feet (larger volume systems upon request).

The purge/pressurization components are UL and cUL classified and are recommended for Rittal enclosures rated NEMA Type 4 and 12.

Y-Z Purge/Pressurization Systems:

Part No.	Reclassification certification (from/to)		Cubic feet capacity*	Panel mounting configuration	Pressure vent		Exact dimensions					
							inches			mm		
	Type Y	Type Z			Straight	90° angle	H	W	D	H	W	D
9968221	Class I/Div. 1 to Div. 2	Class I/Div. 2 to non-hazardous	< 75 ft³	Left	9968229	9968230	15.0	11.5	6.3	381.0	292.1	158.8
9968222	Class I/Div. 1 to Div. 2	Class I/Div. 2 to non-hazardous	< 75 ft³	Right	9968229	9968230	15.0	11.5	6.3	381.0	292.1	158.8
9968223	Class I/Div. 1 to Div. 2	Class I/Div. 2 to non-hazardous	< 75 ft³	Top	9968229	9968230	12.0	15.3	6.3	304.8	388.6	158.8
9968224	Class I/Div. 1 to Div. 2	Class I/Div. 2 to non-hazardous	< 75 ft³	Bottom	9968229	9968230	12.0	15.3	6.3	304.8	388.6	158.8
9968225	Class I/Div. 1 to Div. 2	Class I/Div. 2 to non-hazardous	< 200 ft³	Left	9968231	9968232	16.3	13.5	8.0	412.8	342.9	203.2
9968226	Class I/Div. 1 to Div. 2	Class I/Div. 2 to non-hazardous	< 200 ft³	Right	9968231	9968232	16.3	13.5	8.0	412.8	342.9	203.2
9968227	Class I/Div. 1 to Div. 2	Class I/Div. 2 to non-hazardous	< 200 ft³	Top	9968231	9968232	12.0	16.8	8.0	304.8	425.5	203.2
9968228	Class I/Div. 1 to Div. 2	Class I/Div. 2 to non-hazardous	< 200 ft³	Bottom	9968231	9968232	12.0	16.8	8.0	304.8	425.5	203.2

* Calculation of cubic feet capacity = height (ft) x width (ft) x depth (ft) of enclosure. For bayed enclosures you must add the cubic feet of each enclosure.

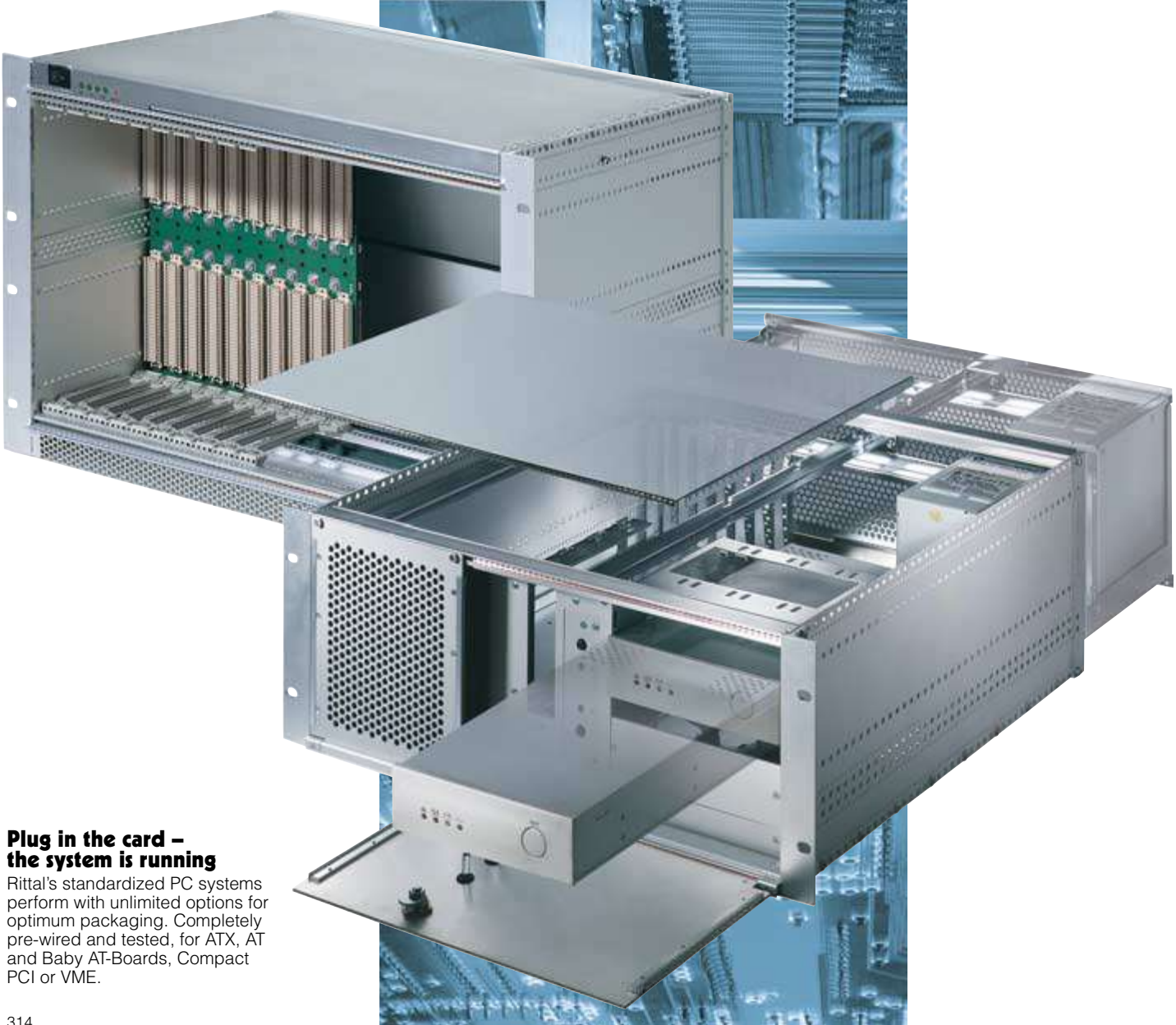
X Purge/Pressurization Systems:

Part No.	Configuration	Reclassification certification (from/to)	Cubic feet capacity*	Installation location of control unit	Flow monitor type	Solenoid valve kit	Exact dimensions					
							inches			mm		
		Type X					H	W	D	H	W	D
9968240	Control unit	Class I – II/Div. 1 to non hazardous	–	Safe area	–	–	9.1	4.8	3.8	229.9	121.9	96.5
9968241	Control unit	Class I – II/Div. 1 to non hazardous	–	Hazardous area	–	–	11.8	9.8	6.4	298.5	247.7	163.6
9968242	Pressure motor	–	< 15 cubic feet	–	Compensation	9968244	4.7	4.7	3.5	118.9	119.9	89.9
9968243	Pressure motor	–	< 15 cubic feet	–	Continuous	9968244	4.7	4.7	3.5	118.9	119.9	89.9
9968245	Pressure motor	–	< 15 cubic feet	–	Compensation	9968247	4.7	4.7	3.5	118.9	119.9	89.9
9968246	Pressure motor	–	< 15 cubic feet	–	Continuous	9968247	4.7	4.7	3.5	118.9	119.9	89.9

* Calculation of cubic feet capacity = height (ft) x width (ft) x depth (ft) of enclosure. For bayed enclosures you must add the cubic feet of each enclosure.

Rittal Electronic Systems – offering complete know-how

Strong performing electronics demand strong performing packaging solutions.
Rittal continually offers new ideas to markets worldwide. Ideas focused on perfection and safety for high-tech electronics.



Plug in the card – the system is running

Rittal's standardized PC systems perform with unlimited options for optimum packaging. Completely pre-wired and tested, for ATX, AT and Baby AT-Boards, Compact PCI or VME.

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Rittal 19″ electronic components

Swinging in the train
The Ripac Vario Mobile passed the shock and movement protection test for the high demands of rail traffic industry with flying colors.

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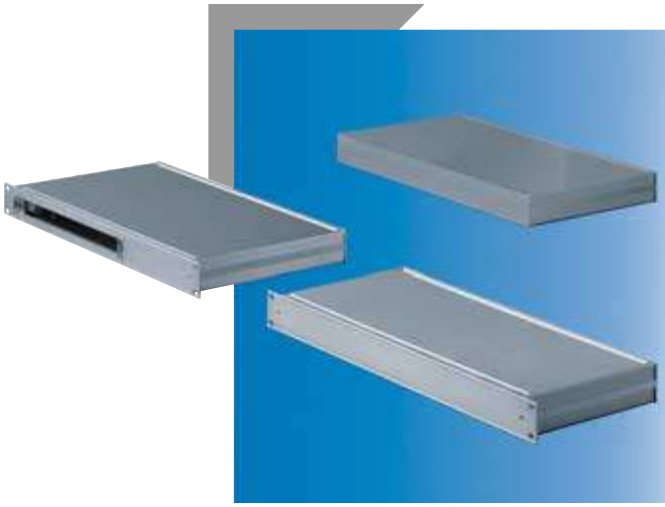
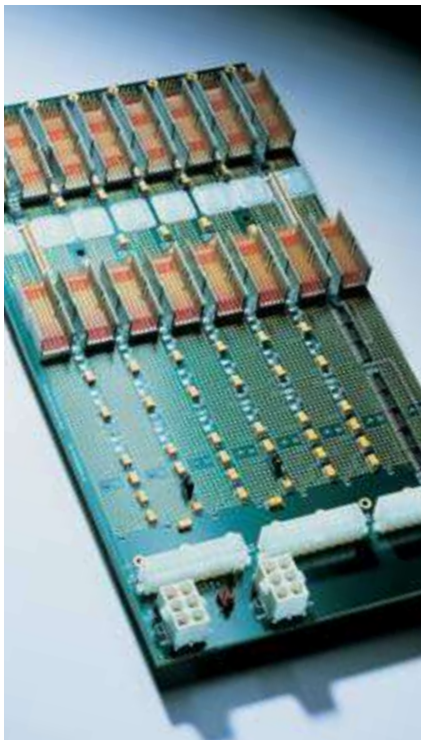


Simply RiBox
The RiBox is a quick and easy solution for bridges, routers, hubs, electronic patch-panels, modems, etc. – it is available in a convenient 1 U height.

Our superior customer service provides constant communication for our customer's convenience.

We feel that expert advice right from the beginning brings about customer satisfaction in the end. We set up user consultations very early in the project development process. And we offer our customers access to a variety of information that assists in determining the best packaging solution.

Expertise is built into each of our products. And this becomes especially apparent in the details.



Backplanes
Rittal offers a complete line of "high speed" backplanes for VMEbus and CompactPCI applications.

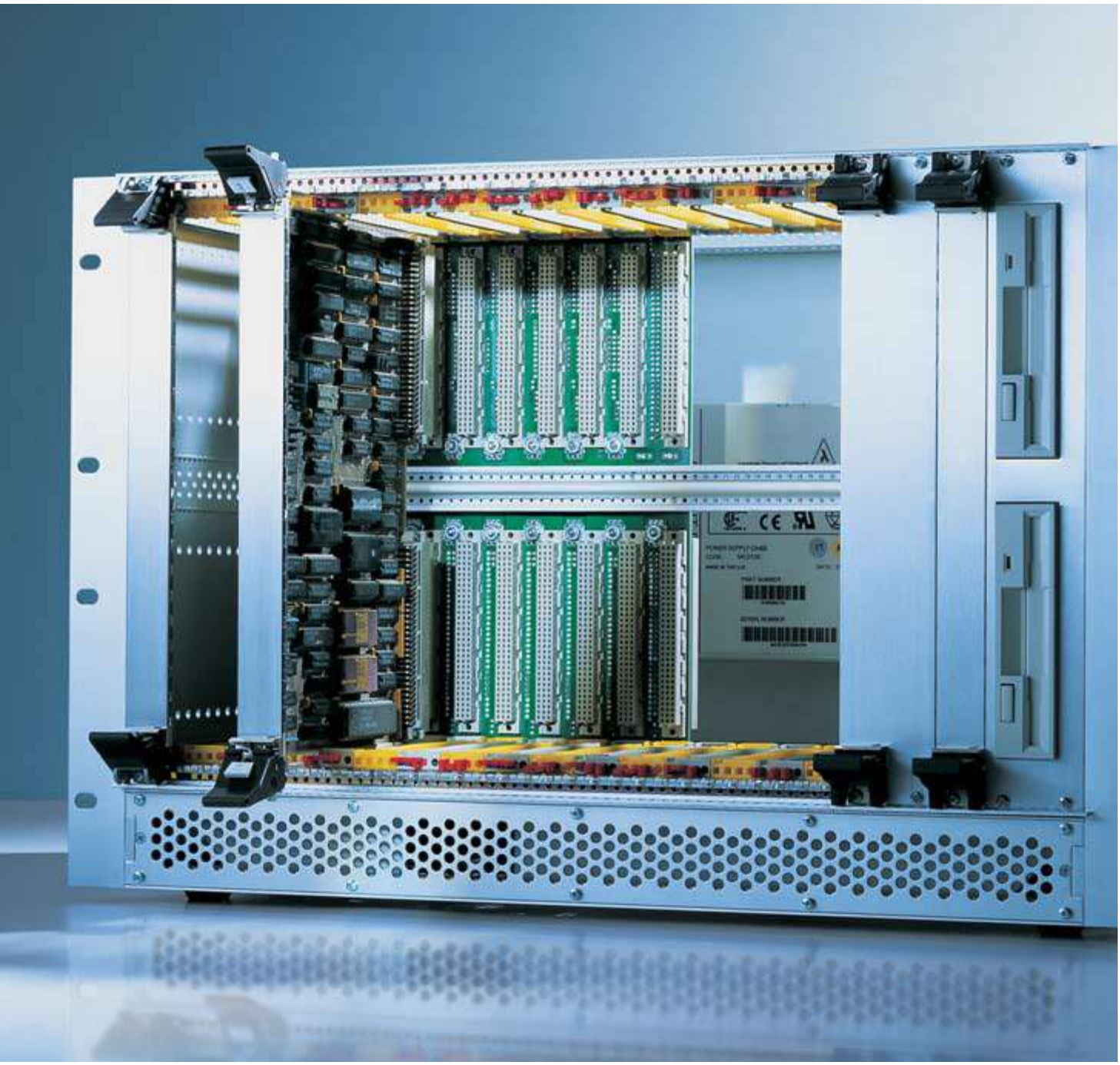
Climate control
Increasingly dense population of the circuit boards and the resulting heat loss can endanger the flawless function of the delicate components; a system may completely break down because of it. High performance "flat pack" fans guarantee optimum heat dissipation in only 1 U of space.

Injector/extractor handles
Special injector/extractor handles facilitate separate functions like injecting, extracting, locking and switching. High injection or extraction forces can be mastered without any problem.

RITTAL ELECTRONICS

Electronics means concentrating on the essentials: perfection.

With the founding of Rittal Electronic Systems, Rittal plans to concentrate its efforts even more on the market demands of “electronic packaging”. And on the special requirements of these customers for integrated “plug and play” solutions.



We produce highly complex system solutions.
Their efficiency depends on the system components chosen.
Our components are designed for excellence in the smallest detail.
The mission is total precision – like clockwork.

ELECTRONICS

The ideal answer for your packaging challenges

■ Systems for VMEbus

Ripac VME/VME64x

Applications

Rackmount systems for the configuration of industrial computer systems according to VME specifications.
Prepared to accept VMEbus cards and drives.

Completely pre-assembled, pre-wired and tested, including backplane and power supply.

Design features

- 19″/482.6 mm Ripac rackmount system with aluminum sidewalls, anodized (conductive)
- Wrap-around EMC gaskets
- Choice of VME or VME64x configuration.

- Directional air routing, vertical or diagonal
- Programmable card guides (for VME64x)
- In accordance with IEC 60 297-3 as well as IEEE 1101.1 and 1101.10 as well as VMEbus specifications.

User benefits

Construction
To IEC 60 297-3 as well as IEEE 1101.1 and 1101.10.
Backplanes
To VMEbus specifications IEEE 1014 or IEC 821.
Power supply
Open frame or pluggable.
EMC
Clear chromated surfaces/ EMC gaskets.
Handling
Handles as well as injector/ extractor handles for optimum leverage for pluggable connectors with a large number of pins.
ESD contacts
To discharge static loads.
Microswitch
For “hot-swap” applications.

Climate control
Individualized ventilation concepts. Maximum airflow between connector rails.

For additional information, please refer to our complete subrack and MPS packaging catalog.

Systems for CPCI

Ripac CPCI

Rackmount systems for the configuration of computer systems according to CPCI specifications.
Prepared to accept CPCI cards and drives.

Completely pre-assembled, pre-wired and tested, including backplanes and power supplies.

- 19″/482.6 mm Ripac rackmount system, aluminum sidewalls, clear chromate.
- Wrap-around EMC gaskets.
- Directional air routing, vertical or horizontal.

- Programmable card guides.
- Front connector rails with .4″/10 mm extension.
- To IEC 60 297-3, IEEE 1101.1 and 1101.10 as well as CPCI standard (PICMG).

Construction
to IEC 60 297-3, IEEE 1101.1 and 1101.10 as well as CPCI standards (PICMG).
Backplanes
To CPCI specifications.
Power supply
N +1 hot pluggable.
EMC
Clear chromate surfaces/ EMC gaskets.
Injector/extractor handles
For pluggable connectors with a large number of pins.
ESD clips
To discharge static loads.
Microswitch
For “hot-swap” applications.
Maximum air flow
Between the connector rails.

Keying
More than 4000 possibilities.
PCB cover
To cover the printed circuit board/EMC gaskets.

ELECTRONICS

The ideal answer for your packaging challenges

	■ VME 64x	■ VME J1/J2 Monolithic
Applications	■ "High speed" VME backplane ■ 6 U monolithic (J1 + J2) ■ According to VME 64x specifications as well as ANSI/VITA 1101.10	■ "High speed" VME backplane ■ 6 U monolithic (J1 + J2) ■ According to VME backplane specifications ANSI/IEEE 1014 and IEC 821
Design features	 ■ Base material: epoxy-glass substrate EPGC 02 (FR 4) per UL 94-V0 ■ 10 layer ■ Wave impedance level > 50 Ω ± 5% ■ Additional blocking capacitors for the reduction of interference voltage ■ 5 row pluggable connector per DIN 41 612 ■ P0 plug optional	 ■ Base material: epoxy-glass substrate EPGC 02 (FR 4) per UL 94-V0 ■ 8/4 layer ■ Wave impedance level 50 Ω ± 5% ■ Additional blocking capacitors for the reduction of interference voltage ■ Pluggable connectors DIN 41 612
User benefits	■ Manual daisy-chaining ■ Active termination ■ High power connectors for power supply ■ Minimized GND shift	■ Automatic daisy-chaining (switch plug) ■ Active/passive termination ■ High power connectors (conductor rails and M6 threaded connectors) ■ "Autobahn" capable ■ Grounding surfaces for direct contact to the subrack ■ Power feed-in via M6 threaded connectors

VME J1 System bus/ VME J2 Expansion bus

- "High speed" VME backplane
- According to VMEbus specification ANSI/IEEE 1014 and IEC 821

VME J1

- 3 U system bus (top) with 16 data and 24 address lines

VME J2

- "High speed" system bus expansion to 32 bit

- Base material: epoxy-glass substrate EPGC 02 (FR 4) per UL 94-V0
- 6 layer
- Wave impedance level 60 Ω ± 5%
- Additional blocking capacitors for the reduction of interference voltage
- Pluggable connectors DIN 41 612

VME J1

- Automatic daisy-chaining
- Passive termination
- Grounding surfaces for direct contact to the subrack
- Power feed-in via double-Faston with M4-thread

VME J2

- Rear populated with blanks, optional ejector with locking function
- Passive termination
- Power feed-in via double Faston with M4 thread

VSB bus

- VSB backplanes are designed for rapid data transmission between the plug-in cards without loading down the system bus
- According to VSB specification IEC 822

- Base material: epoxy-glass substrate EPGC 02 (FR 4) per UL 94-V0
- 4 layer
- Wave impedance level 60 Ω ± 5%
- Pluggable onto rear plug-in connectors VME P2

- Power supply via P2-plug
- Additional Faston connections for VCC and GND
- Passive termination

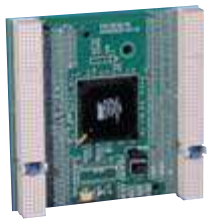
Backplanes for CompactPCI

- "High speed" CPCI backplanes
- With H.110 bus option
- To CompactPCI specification (PICMG) 2.0R2.1;2.1.R10
- PICMG 2.1 are 1.0 CompactPCI hot-swap compliant
- 2.16 switch fabric

- Base material: epoxy-glass substrate EPGC 02 (FR 4) per UL 94-V0
- Completely populated with metric plug-in connectors
- Modular configuration, which makes expansion of up to a maximum of 21 slots possible
- 8 layer
- Feed-in via ATX compatible plug
- Additional 2 x 3 mate-n-lock connector for H.110 backplanes
- System slot right or left
- 32 and 64 bit versions

- Power feed-in via ATX plug-in connector
- Modular installation makes expansion possible up to 21 slots

CPCI Bridges



- Pluggable rear CPCI bridges for bus extensions and an unlimited number of plug-in places
- To CompactPCI specifications PICMG 1.0 and PICMG CompactPCI specification
- Low profile < .64″ thick
- Passive H.110 bridge

- Base material: epoxy-glass substrate EPGC 02 (FR 4) per UL 94-V0
- 64 bit "high performance" Intel 21 154
- Pluggable in the rear onto CPCI backplanes
- Connects CPCI backplanes from right to left, i.e. the left plug-in connector takes up the host board or optional left to right

- May be used with all Ripac CPCI backplanes and H.110 bus
- Expansion possibilities up to a maximum of 7 slots
- Supports the 64 bit PCI bus
- Rear bridge mounting; no front/rear space required

ELECTRONICS

The ideal answer for your packaging challenges

	■ **Open frame 270 Watts/400 Watts 600 Watts/750 Watts**	■ **Pluggable 3 U, 6 U**
Applications	Power supply for VMEbus systems with automatic range change switch (270 Watts power pack) or wide range intake (400 Watts power pack). Available with VME signaling (750 Watts power pack). Approval: EN 60 950, UL 1950, IEC 950 and CSA 22.2 Nr. 234. CE	Pluggable power supply for VMEbus systems with integrated VMEbus signaling. Automatic switching 115/230 V AC. Approval: EN 60 950, VDE 0805 and IEC 950. CE
Design features	■ Open frame version ■ Installation on mounting base or enclosure rear wall ■ Convection cooling or external fan (for 270 Watts) ■ Integrated fan (for 400 Watts) ■ 3 outputs ■ Aluminum enclosure body ■ Including PFC	■ 19″/482.6 mm partial rack-mount component per DIN 41 494, part 5 ■ Installation depth 6.30″/160 mm ■ Installation in the enclosure assisted with card guides ■ Connection via pluggable connector H15, DIN 41 612 ■ 3 outputs ■ Including PFC
User benefits	■ Minimum space requirements for high output ■ Universal applications	■ 19″/482.6 mm compatible ■ Easily switchable

Open Frame AT/ATX 300/250 Watts

PS/2 power supply for AT/ATX and CPCI systems. Connector cable for 5 1/4″ – 3 1/2″ drives, hard drive and motherboard.
Approvals: CSA

CE

- Open frame version
- Installation on mounting base or enclosure rear wall
- Built-in fan
- Sheet steel option
- Optional redundant version
- Including active PFC

- Usable as open frame version or with front panel
- Optional redundant power supply

USV

Uninterrupted power supply for installation in 5 1/4″ slot. Guarantees the power supply even during power outage (6 min.)
Approvals: EN 60 950

CE

- Installation of 1 or 2 standard floppy-disc drives 5 1/4″
- Built-in batteries

- Minimum space requirements (5 1/4″)

CompactPCI Open Frame 200 – 650 Watts

Power supplies for CPCI systems with wide-range intake.
Approvals: EN 60 950, UL 1950, IEC 950 and CSA 22.2 No. 234

CE

- Open frame version
- Installation on mounting base or enclosure rear wall
- Built-in fan
- 4 outputs
- Including PFC

- Minimum space requirement with high output rate

CompactPCI pluggable, 150 – 500 Watts

Pluggable power supply CPCI systems. Automatic switching 120/230 V AC. DC input for NEBS requirements.
Approvals: EN 60 950, VDE 0805-SELV

CE

- 19″/482.6 mm partial rackmount component per DIN 41 494, part 5
- Installation depth 6.30″/160 mm
- Installation in the enclosure body with the aid of card guides
- Connection via pluggable connector M24/8, DIN 41 612
- 4 outputs
- Including PFC

- 19″/482.6 mm compatible
- Easily exchangeable

For additional electronic housings and enclosures, check the data communications section, pages 694/695.

A swing frame turns the TS 8 top enclosure into an electronic enclosure.

■ 19″/482.6 mm wallmount enclosures

EL enclosures

Applications

- Wallmount electronic enclosures
- Distribution enclosures
- Wallmount distribution enclosures
- Floor distributors
- Areas of higher protection demands
- Automation technology

- Wallmount electronic enclosures
- Distribution enclosures
- Wallmount distribution enclosures
- Floor distributors
- Areas of higher protection demands
- Automation technology

Design features

- 3-part enclosure body
- Depth adjustable 19″ rails
- Hinged center section
- Viewing door, RAL 5018, designed from aluminum profiles
- Robust construction and high protection rating
- Wrap-around system hole pattern

Available options:

Stainless steel EL enclosures, see pages 284/285.

- Depth adjustable 19″ rails
- Built-in swing frame
- Robust construction and high protection rating

User benefits

- Pre-assembled solutions off-the-shelf
- Flexible access via swing design components while maintaining a high protection rating
- Built-in passive ventilation
- Built-in cable collecting rails
- Extensive possibilities for interior installations offered with our vast line of accessories
- May be used as a mobile enclosure with the mobile plinth
- Maximum protection rating of NEMA 12/IP 54
- Swing design of enclosure parts makes access easy

- Pre-assembled solutions off-the-shelf
- Flexible access via swing design components while maintaining a high protection rating
- Built-in passive ventilation
- Built-in cable collecting rails
- Extensive possibilities for interior installations offered with our vast line of accessories
- May be used as a mobile enclosure with the mobile plinth
- Maximum protection rating of NEMA 12/IP 55
- Swing design of enclosure parts makes access easy

Pages 790 – 799

Pages 790/791

Racks and enclosures for 19″/482.6 mm configurations

QuickBox

- Wallmount electronic enclosures
- Wallmount distribution enclosures
- Floor distributors
- Office distributors

- Built-in passive ventilation
- Wallmount support arm system
- Removable front shell
- Depth adjustable interior installation

- Complete accessibility for interior installation with our shell design
- Convenient cable entry across brush inserts
- Large variety of enclosure sizes

Pages 802/803

flexRack

- Data distribution enclosures
- Electronic enclosures
- Equipment enclosures

- Pre-assembled modular frame
- 19″ or metric interior installation
- Reversible hinging
- Multi-functional aluminum profile
- Continuous and system hole installation of component parts

- Deluxe and safe packaging of valuable components
- Quick mount
- Maximum usable interior space
- 16 mounting levels for interior installation
- Pre-assembled models off-the-shelf

Pages 708 – 713

QuickRack

- Flat-pack distribution concept
- Data distribution enclosures
- Electronic enclosures
- Equipment enclosures

- Multiple fold vertical profiles
- Modular roof and floor construction
- Frame easily disassembled, fastened with just 8 screws
- 19″ as well as metric interior configuration
- Reversible hinging

- Quick mount
- Passive ventilation is already built-in, can easily be expanded with active components
- Especially economical complete system
- Minimum storage space required with the Flat-Pack model
- 232 standard models possible with our modular components
- Adjustable width with our adaptor hood
- Pre-assembled models directly off-the-shelf

Pages 732 – 743

TS 8

- Electronic enclosures for 19″ rackmount technology
- Data distribution enclosures
- Equipment enclosures
- Telecommunications
- Security technology

- Systematic assembly
- Two mounting levels
- 4-point locking system
- Reversible hinging
- 16-fold vertical profile
- Welded frame rack

- High stability
- 15% more enclosure volume
- Innovative climate control concepts
- Bayable on all levels
- Modular solutions with our large range of system accessories
- Pre-assembled models directly off-the-shelf
- Innovative cable management
- Adjustable width and depth via the adaptor hood
- High safety factor with 4-point locking system

Pages 124/125

■ Systems for ATX

Ripac ATX

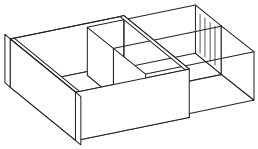
Rittal ATX Economy

Applications

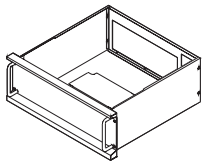
- 19″/482.6 mm rackmount system for the construction of industrial PCs for ATX and Mini-ATX boards.
- Fully assembled and pre-wired including ATX power pack and fan. After installing the boards and drives, the system is ready to use.

- 19″/482.6 mm rackmount system for the construction of industrial PCs for ATX and Mini-ATX boards.
- Fully assembled and pre-wired including ATX power pack and fan. After installing the boards and drives, the system is ready to use.

Design features



- 19″/482.6 mm case in clear chromated aluminum, including power pack, fan and air filter, 4 U, 19″/482.6 mm, 440 mm deep, pull-out inner housing, 7-slot version with EMC protection, space to install three 5 1/4″ drives and one 3 1/2″ drive, allows external population.



- 19″/482.6 mm case in sheet steel, painted zinc-plated, including power pack, fan and air filter, 4 U, 19″/482.6 mm, 430 mm deep, 7-slot version. Installation space to install three 5 1/4″ drives and one 3 1/2″ drive, allows external population. Prepared for the installation of telescopic slides and front handles.

User benefits

- Accessibility
  Pull-out interior case, horizontally hinged front panel for rapid access to drives and control components.
- EMC
  EMC gaskets all-round and on slot cutouts. Conductive attachment of the mother-board.
- Security
  Integral electronics for automatic restart following a main failure, with LED and PC speaker. Lockable front panel. Card retainer for varying card heights.

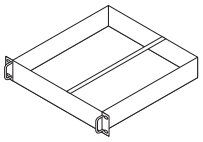
- Stability
  1.2 mm sheet steel case guarantees a high level of stability, even under extreme conditions.
- Handles
  Front handles ensure a firm grip when installing and removing the system.
- Drive module (may be dismantled) for the external mounting of drives.
- Security
  Lockable front panel provides protection from unauthorized access. Variable keyboard connection at the front or rear. Card retainer for various card heights.
- EMC
  Good attenuation properties up to 200 MHz.

Pages 328/329

Pages 330/331

Rittal ATX 1 U and 2 U

- 19″/482.6 mm rackmount system for the construction of industrial PCs for ATX and Mini-ATX boards
- Fully assembled and pre-wired including ATX power pack and fan. After installing the boards and drives, the system is ready to use.



- 19″/482.6 mm case in sheet steel, painted zinc-plated, including power pack, fan and air filter, 4 U, 19″/482.6 mm, 530 mm deep, 1 or 2 slot version, installation space to install one 5 1/4″ and one 3 1/2″ drive, allows external population.
  Riser card for 1 or 2 slots.
  The 2 U enclosures are prepared for the installation of telescopic slides and front handles.

- Minimum space requirements
- Drive module (may be dismantled) for the external mounting of drives
- Stability
  1.2 mm sheet steel case guarantees a high level of stability, even under extreme conditions.

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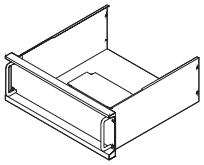
■ Modular system for AT/ATX

Rittal AT/ATX Vario

- 19″/482.6 mm rackmount, modular design;
  versatile upgrade options for AT or ATX applications
- For self-assembly.
- Available fully assembled and wired.



- 19″/482.6 mm case in sheet steel, painted zinc-plated, 4 U, 19″/482.6 mm, 430 mm deep, optional rear panels, front trim panels and power packs in various designs. Installation space to install three 5 1/4″ drives and one 3 1/2″ drive, allows external population. Prepared for the installation of telescopic slides and front handles.

- Variable applications
- Modular principle permits individual installation for AT or ATX
- Stability
  1.2 mm sheet steel case guarantees a high level of stability, even under extreme conditions.
- Handles
  Front handles ensure a firm grip when installing and removing the system.
- Drive module (may be dismantled) for the external mounting of drives.
- Security
  Lockable front panel protects against unauthorized access. Variable keyboard connection at the front or rear.
  Card retainer for various card heights.

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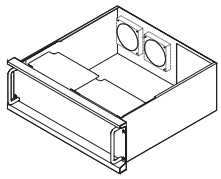
■ Systems for storage devices

Rittal RAID subrack

- 19″/482.6 mm rackmount for the installation of six 5 1/4″ drives.
- Fully assembled.
- Power packs optional.



- 19″/482.6 mm case from spray finished/zinc-plated sheet steel. Including two 80 mm fans on the rear and two modules to accommodate three 5 1/4″ drives. 4 U, 19″/482.6 mm, 430 mm deep.

- Accessibility
  Drive modules may be dismantled for external component mounting.
- Security
  Lockable front panel. Fans in the rear panel provide adequate cooling.
- Stability
  1.2 mm sheet steel case guarantees a high level of stability, even under extreme conditions.

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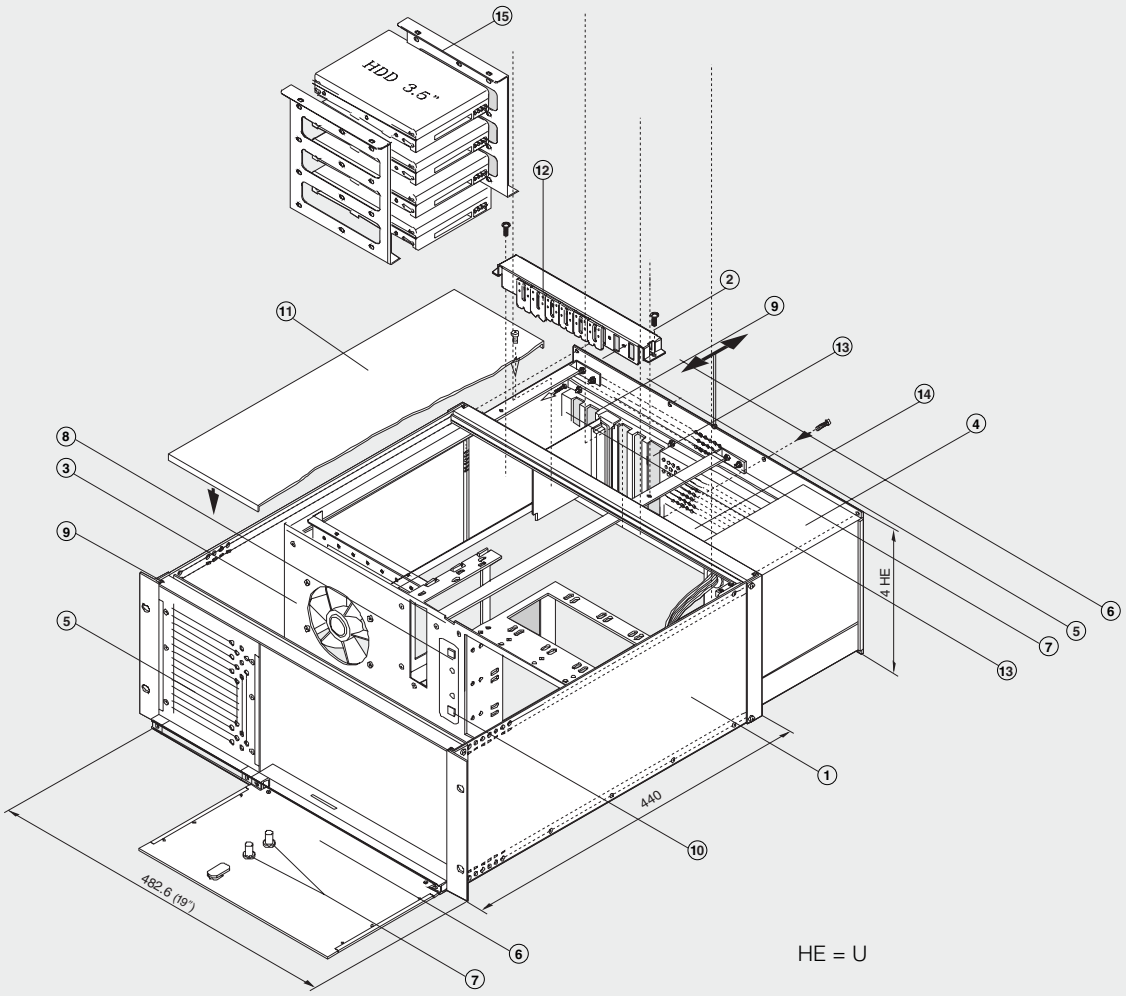
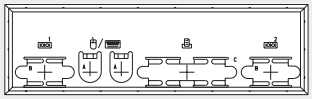
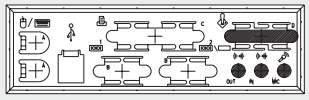


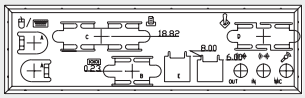
Configuration:

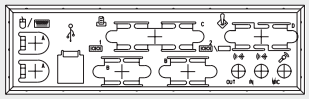
① Rackmount system 4 U, 440 mm deep, 19″/ 482.6 mm wide, including drive chassis
② PC rackmount frame
③ 1 fan with filter
④ 250 W power pack[1)], PFC active
⑤ Front door, horizontally hinged
⑥ Front door, horizontally hinged, lockable
⑦ LED displays
⑧ Reset button
⑨ EMC gaskets
⑩ On/Off switch with electronics for automatic restart following a main failure (activation/deactivation of the electronics via jumper)
⑪ Cover plates

[1)] **Output of power pack:**
250 W maximum
3.3 V/16.0 A
5.0 V/25.0 A
12.0 V/13.0 A
12.0 V/ 0.8 A


Type “Aurora Marl”


Type “Venus”


Type “Providence”


Type “Tucson”

	Ripac ATX	Material	PU	Part No. RP	Page
	Height: 6.89″/175.0 mm				
	Width: 19″ /482.6 mm				
	Depth: 17.32″/440.0 mm				
①	**Part No. RP Basic system**	Aluminum/sheet steel, clear chromated/galvanized	1	**3659.000**	
	Accessories				
⑫	Card retainer	Plastic	7 set	3659.010	337
⑬	Slot cover	Sheet steel, yellow chromated	5	3659.030	336
⑭	ATX I/O cover* Type “Aurora Marl” Type “Tucson”/“Venus” Type “Providence”	Sheet steel	1	3659.040 3659.130 3659.140	
	Cover for 5 1/4″ drive	Aluminum, anodized	1	3659.050	
⑮	Drive holder	Sheet steel, yellow chromated	2	3659.060	337
	Spare filter mat		1	3659.070	
	UPS (41.5 x 146 x 248 mm)		1	3659.080	336

* Other versions available on request; please specify the type of main board.

Technical data:
Ripac 19″/482.6 mm rackmount system for ATX/Mini-ATX boards.
Height: 4 U
Width: 19″/482.6 mm
Depth: 17.32″/440 mm to DIN 41 494, part 5, IEC 60 297-3 as well as ATX specification 2.01

Material:
Sidewalls: aluminum, chromated
Front panels: aluminum, chromated
Cover panels: 1.0 mm aluminum, chromated
PC rackmount frame: sheet steel, galvanized

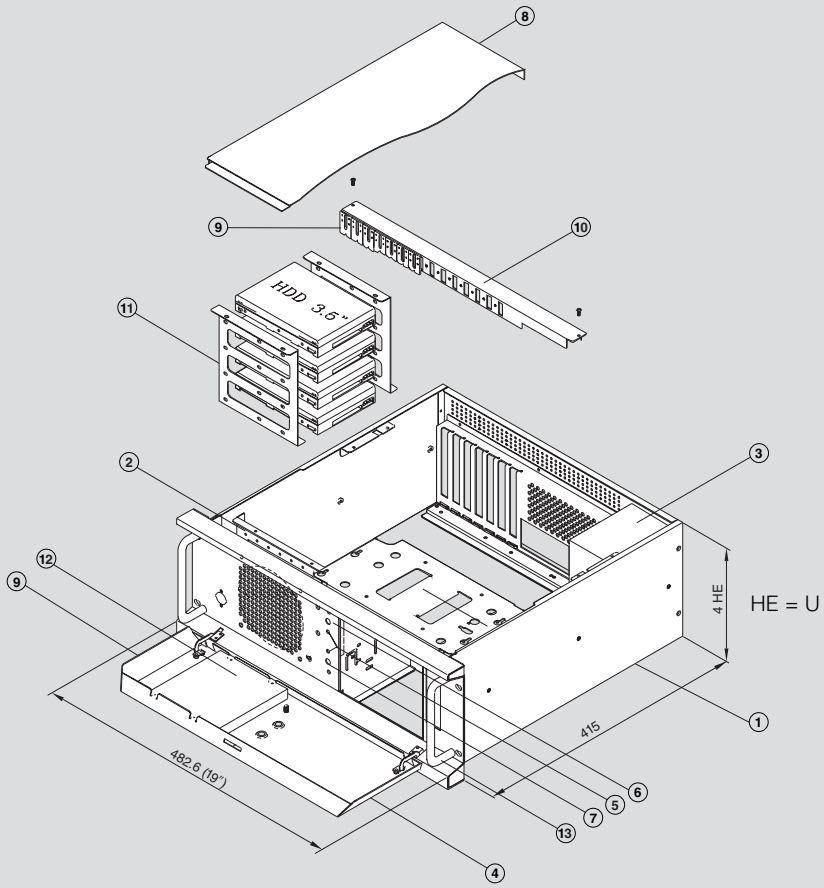
UPS technical specifications:
Output: 300 VA/180 W
Input/output voltages: 220, 230, 240 V AC ±15%
Input frequency: 50 Hz ± 5%
Output frequency: 50 Hz ± 1 Hz
Switch-over time: < 4 ms
Charging time: 6 – 8 hours (to 90% capacity)
Operating environment: Temp. 0° C – 40° C, Humidity 0 – 90%
Status display: LED for mains operation, back-up, low battery, over-temperature
Acoustic alarms: Mains interruption (signal sounds every 5 sec.), low battery (signal sounds every sec.)
Test function: Test switch on the front panel to check the UPS function
Approvals: CE, EN 60 950 tested (LVD/EMC)
Storage time: 6 min.

Accessories:
see pages 336/337.

● **Special sizes and designs available on request.**

Drive holder
Holder for mounting up to 4 additional hard drives behind the fan.
Part No. RP 3659.060

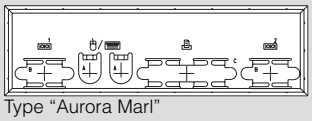
Uninterrupted power supply
Guarantees a continuous supply of power even in the event of a mains failure.
Part No. RP 3659.080

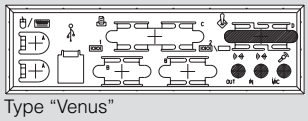


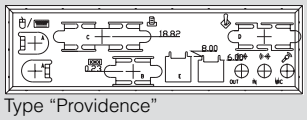
Configuration:

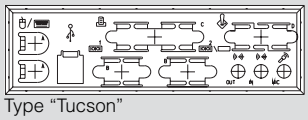
① Rackmount system 4 U, 430 mm deep, 19″/482.6 mm wide, including drive chassis
② 1 fan
③ 250 W power pack[1)], PFC active, with switch
④ Front door, horizontally hinged, lockable
⑤ LED displays, speakers
⑥ Reset button
⑦ On/Off switch
⑧ Cover panel

[1)] **Output of power pack:**
250 W maximum
3.3 V/14.0 A
5.0 V/30.0 A
12.0 V/15.0 A
12.0 V/ 0.5 A


Type “Aurora Marl”


Type “Venus”


Type “Providence”


Type “Tucson”

	Rittal ATX Economy	Material	PU	**Part No. RP**	Page
	Height: 6.96″/177.0 mm				
	Width: 19″ /482.6 mm				
	Depth: 16.93″/430.0 mm				
①	**Part No. RP Basic system**	Sheet steel, galvanized, chromated, painted in RAL 7035 light grey	1	**3659.100**	
	Accessories				
⑨	Card retainer	Plastic	7 sets	3659.010	337
⑩	Mounting bar for card retainer	Sheet steel, galvanized, chromated		3659.090	337
	Slot cover	Stainless steel		3659.030	336
	ATX I/O cover* Type “Aurora Marl” Type “Tucson”/“Venus” Type “Providence”	Sheet steel	1	 3659.040 3659.130 3659.140	
	Covers for $5^1/_4$″ drives	Sheet steel, painted	1 set	3659.110	336
	Covers for $3^1/_2$″ drives	Sheet steel, painted	1 set	3659.410	336
⑪	Drive holder	Sheet steel, galvanized	2	3659.230	337
⑫	Spare filter mat		1	3659.120	
	UPS		1	3659.080	336
	Telescopic slides for 24″/600 mm enclosure depth Telescopic slides for 24″/800 mm enclosure depth	Sheet steel, painted	1 set 1 set	3659.180 3659.190	337
⑬	Front handles		2	3659.240	339

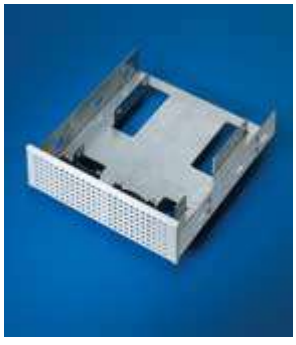
* Other versions available on request; please specify the type of main board.

Accessories:
see pages 336/337.

● **Special sizes and designs available on request.**

Technical data:
19″/482.6 mm rackmount system for the installation of ATX/ Mini-ATX or Micro-ATX boards.
Height: 4 U (177.0 mm)
Width: 19″/482.6 mm
Overall depth: 16.93″/430 mm, complies with DIN 41 494, part 5, IEC 60 297-3 as well as ATX specification 2.01

Material/finish:
Case: 1.2 mm sheet steel, galvanized
Cover plate: 1.2 mm sheet steel, zinc-plated
Front door: 1.2 mm sheet steel, painted in RAL 7035 light grey

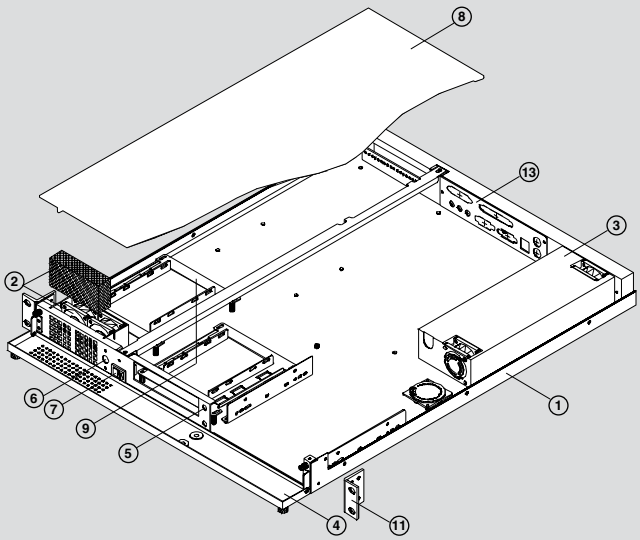


Adaptor
for the installation of 3 1/2″ hard drives in 5 1/4″.
Part No. see page 337.

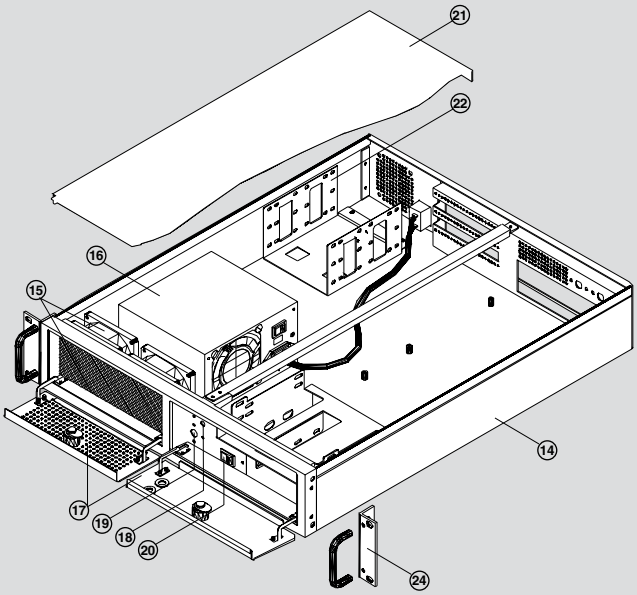
Height adjustable card retainer
to hold the slot cards securely.
Part No. RP 3659.010

Rear panel
Prepared for mounting an additional two fans, 2.36″/60 mm.
Part No. RP 3659.250

ATX 1 U



ATX 2 U



Configuration ATX 1 U:

① Rackmount system 1 U, 20.87″/ 530 mm deep, 19″/482.6 mm wide including drive chassis for the installation of 1 x 5 1/4″ and 1 x 3 1/2″ drives
② 2 fans 1.57″/40 mm and filter mat
③ ATX power pack 200 W, PFC active
④ Front door, horizontal hinge
⑤ LED displays, speakers
⑥ Reset button
⑦ On/off switch
⑧ Cover panels
⑨ Drive holder for one 3 1/2″ hard drive
⑩ 1 riser card for 1 slot
⑪ 19″/482.6 mm flanges
⑫ Bus and data connection cable
⑬ Rear wall with integral I/O shield, Type Venus

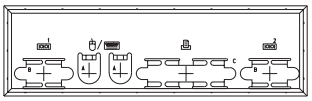
Configuration ATX 2 U:

⑭ Rackmount system 2 U, 20.87″/ 530 mm deep, 19″/482.6 mm wide including drive chassis for the installation of 1 x 5 1/4″ and 1 x 3 1/2″ drives
⑮ 2 fans 3.15″/80 mm and filter mat
⑯ ATX power pack 300 W with main cable, PFC active
⑰ Front door, horizontal hinge, lockable
⑱ LED displays, speakers
⑲ Reset button
⑳ On/off switch
㉑ Cover panels
㉒ Drive holder for three 3 1/2″ hard drives
㉓ 1 riser card for 2 slots
㉔ 19″/482.6 mm flanges
㉕ Bus and data connection cable

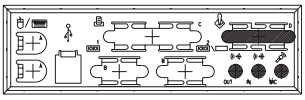
Rittal ATX	Material	PU	**Part No. RP**		Page
			1 U	2 U	
Height: 1 U and 2 U					
Width: 19″/482.6 mm					
Depth: 20.87″/530.0 mm					
Part No. RP ① **Basic system**	Sheet steel, galvanized/painted in RAL 7035 light grey	1	**3659.500**	**3659.600**	
Accessories					
Slot cover	Stainless steel	5	3659.030	3659.030	336
ATX I/O cover* Type “Aurora Marl” Type “Tucson”/“Venus” Type “Providence”	Sheet steel	1		3659.040 3659.130 3659.140	
Covers for 5 1/4″ drives	Sheet steel, painted	1 set	3659.110	3659.110	336
Covers for 3 1/2″ drives	Sheet steel, painted	1 set	3659.410	3659.410	336
UPS		1	3659.080	3659.080	336
Telescopic slides for 24″/600 mm enclosure depth Telescopic slides for 32″/800 mm enclosure depth		1 set 1 set		3659.180 3659.190	337
Front handles for ATX 2 U		2		3659.020	
Fan 12 V DC, 60 mm for the rear wall		2		3659.250	337

* Other versions available on request; please specify the type of main board.

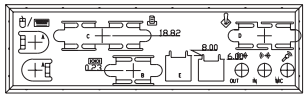
1 U and 2 U



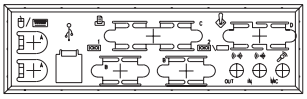
Type “Aurora Marl”



Type “Venus”



Type “Providence”



Type “Tucson”

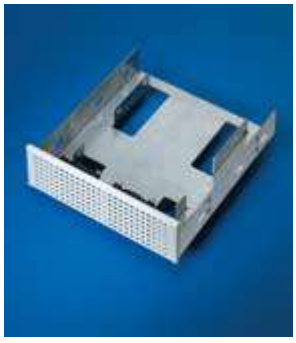
Technical data:
19″/482.6 mm rackmount system for the installation of ATX/ Mini-ATX or Micro-ATX boards.
Width: 19″/482.6 mm
Height: 1 U and 2 U
Overall depth: 20.87″/530 mm, complies with DIN 41 494, part 5, IEC 60 297-3 as well as ATX specification 2.01

Material/finish:
Case: 1.2 mm sheet steel, zinc-plated/painted in RAL 7035 light grey
Cover panel: 1.2 mm sheet steel, zinc-plated/painted in RAL 7035 light grey
Front door: 1.2 mm sheet steel, painted in RAL 7035 light grey

Accessories:

see pages 336/337.

- **Special sizes and designs available on request.**

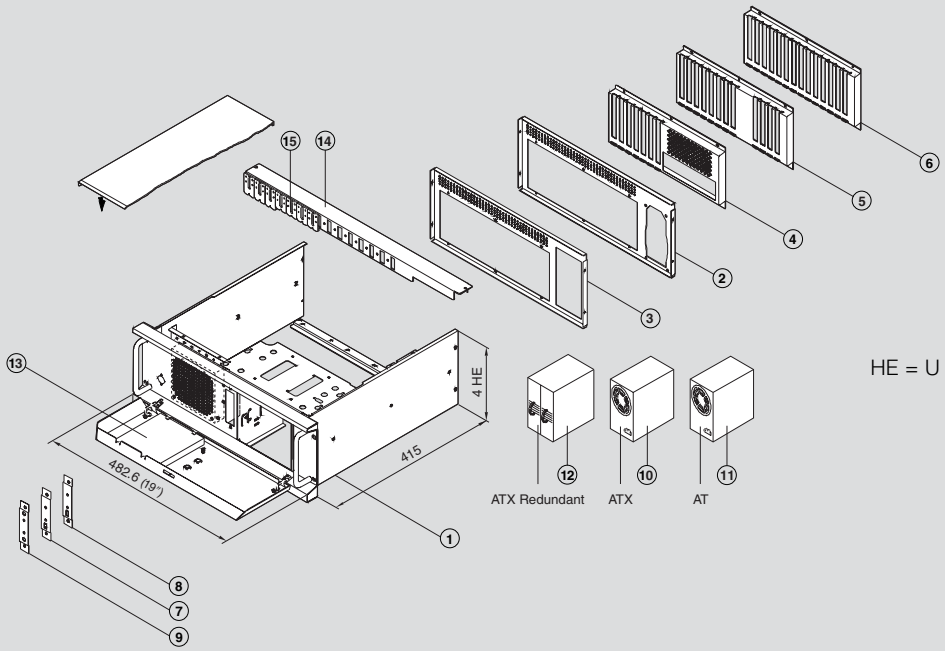


Adaptor
for the installation of 3 1/2″ hard drives in 5 1/4″.
Part No. RP 3659.270

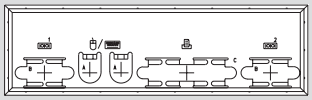
Telescopic slides
The 2 U ATX enclosures are prepared for the installation of telescopic slides.

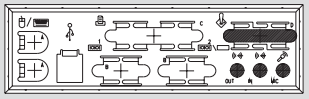
Rear wall
The 2 U ATX enclosures are prepared for the installation of an additional 60 mm fan.
Part No. RP 3659.250

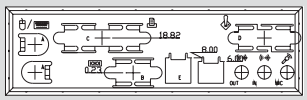
The modular principle of AT/ATX Vario facilitates population in line with individual requirements. The basic subrack can be equipped with a corresponding selection of rear walls, power supply units and front trim panels for both AT and ATX applications. Normally supplied for self-assembly; also available fully assembled and wired on request.

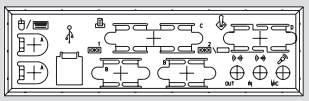


① **Basic enclosure configuration:**
4 U subrack, 16.93″/430 mm deep,
installation hardware included,
cover panels,
drive chassis,
fan,
front door, horizontally hinged,
air filter.


Type “Aurora Marl”


Type “Venus”


Type “Providence”


Type “Tucson”

	PU	PC for AT/ATX power pack (PS/2)			PC for redundant power pack (PS/2)			Page
		ATX	AT 8 + 4 slots	AT 14 slots	ATX	AT 8 + 4 slots	AT 14 slots	
① **Basic enclosure**	1	**3659.400**	**3659.400**	**3659.400**	**3659.400**	**3659.400**	**3659.400**	
Rear								
② Rear wall for AT/ATX power supply	1	3659.290	3659.290	3659.290				335
③ Rear wall for redundant power supply	1				3659.310	3659.310	3659.310	335
④ Slotted rear wall for ATX, 7 slots	1	3659.320			3659.320			335
⑤ Slotted rear wall, 8 + 4 slots for AT	1		3659.330			3659.330		335
⑥ Slotted rear wall, 14 slots for AT	1			3659.340			3659.340	335
Front								
⑦ Front trim panel ATX with 2 x LED, reset, switch	1 set	3659.350			3659.350			335
⑧ Front trim panel AT with 2 x LED, reset, switch	1 set		3659.360	3659.360		3659.360	3659.360	335
⑨ Front trim panel ATX with automatic restart, 2 x LED, reset, Power On switch	1 set	3659.370			3659.370			335
Power supplies								
⑩ ATX power supply 250 W, active PFC	1	3688.121						336
ATX power supply 300 W with switch connection cable, PFC	1	3687.793						
⑪ ATX power supply 300 W, active PFC	1		3688.118	3688.118				336
⑫ Redundant power supply (PS/2)	1				3688.120	3688.120	3688.120	336
Fan 12 V DC, 60 mm, with 2 connectors (for the rear wall)	2	3659.250	3659.250	3659.250	3659.250	3659.250	3659.250	337
⑬ Spare filter mat	1	3659.120	3659.120	3659.120	3659.120	3659.120	3659.120	
Accessories								
⑭ Mounting bar for card retainers	1	3659.090	3659.090	3659.090	3659.090	3659.090	3659.090	337
⑮ Card retainer	7	3659.010	3659.010	3659.010	3659.010	3659.010	3659.010	337
Slot covers	5	3659.030	3659.030	3659.030	3659.030	3659.030	3659.030	336
Drive holder	1 set	3659.230	3659.230	3659.230	3659.230	3659.230	3659.230	337
I/O shield “Aurora Marl”	1	3659.040	3659.040	3659.040	3659.040	3659.040	3659.040	
I/O shield “Tucson”/“Venus”	1	3659.130	3659.130	3659.130	3659.130	3659.130	3659.130	
I/O shield “Providence”	1	3659.140	3659.140	3659.140	3659.140	3659.140	3659.140	
Telescopic slides for 24″/600 mm enclosure depth	1 set	3659.180	3659.180	3659.180	3659.180	3659.180	3659.180	337
Telescopic slides for 32″/800 mm enclosure depth	1 set	3659.190	3659.190	3659.190	3659.190	3659.190	3659.190	337
Covers for 5 1/4″ drives	1	3659.110	3659.110	3659.110	3659.110	3659.110	3659.110	336
Covers for 3 1/2″ drives	1	3659.410	3659.410	3659.410	3659.410	3659.410	3659.410	336
UPS	1	3659.080	3659.080	3659.080	3659.080	3659.080	3659.080	336
Adaptor for installing 3 1/2″ floppy drives in 5 1/4″	1	3659.280	3659.280	3659.280	3659.280	3659.280	3659.280	337
Adaptor for installing 3 1/2″ hard drives in 5 1/4″	1	3659.270	3659.270	3659.270	3659.270	3659.270	3659.270	337
Front handles	2	3659.240	3659.240	3659.240	3659.240	3659.240	3659.240	339

Accessories:
see pages 336/337.

● **Special sizes and designs available on request.**

Technical data:
19″/482.6 mm rackmount system for the installation of ATX/ Mini-ATX, Micro-ATX boards as well as AT/Baby-AT boards.
Height: 4 U (177.0 mm)
Width: 19″/482.6 mm
Overall depth: 16.93″/430 mm complies with DIN 41 494, part 5 IEC 60 297-3 as well as ATX specification 2.01

Material/finish:
Case: 1.2 mm sheet steel, zinc-plated
Cover panel: 1.2 mm, sheet steel, zinc-plated
Front door: 1.2 mm sheet steel, painted

Slot rear walls
for AT 8 + 4 or 14 slots and ATX 7 slots.

Front trim panels
for AT or ATX version. Optionally with electronics for automatic restart.

Rear walls
for AT, ATX or redundant power in the PS/2 design.

AT/ATX power supply unit

- PS/2 model
- Built-in fan
- Short circuit-protected
- CSA approved
- On/off switch
- Active PFC

Configuration:
1 power supply unit with connection cable.

Version	PU	Part No. RP
AT version	1	**3688.118**
ATX version	1	**3688.121**

Technical data:

ATX
250 W maximum
3.3 V/14.0 A
5.0 V/30.0 A
– 5.0 V/ 0.5 A
12.0 V/15.0 A
0.5 A
– 12.0 V/ 0.5 A

AT
300 W maximum
5.0 V/26.0 A
– 5.0 V/ 0.5 A
12.0 V/ 9.0 A
– 12.0 V/

CE

ATX redundant power supply

- PS/2 model, 2 switches, 2 connectors
- Built-in fan
- Hot-swap version
- 90 – 264 V AC
- 47 – 63 Hz

Configuration:
1 power supply unit with connection cable.

Version	PU	Part No. RP
ATX version	1	**3688.120**

Technical data:
2 x 300 W
3.3 V/ 18.0 A
5.0 V/ 26.0 A
– 5.0 V/ 0.3 A
5.0 V/SB/1.2 A
12.0 V/ 16.0 A, maximum 20 A
– 12.0 V/ 1.0 A

* + 5 V, 3.3 V and 12 V
* maximum 285 W, active PFC

CE

Uninterrupted power supply unit

- Guarantees a continuous supply of power even in the event of a main failure
- May be installed in one or two standard 5 1/4″ floppy drive slots
- Floating contacts (DB-9) for UPS communication indicate the following operating states:
  main OK/main failure/battery flat/input for UPS deactivation signal

PU	Part No. RP
1	**3659.080**

- Integral, maintenance-free batteries
- CE-certified, tested to EN 60 950 (LVD/EMC)

Technical data:
see page 329.

Configuration:
1 power supply unit

CE

Slot cover

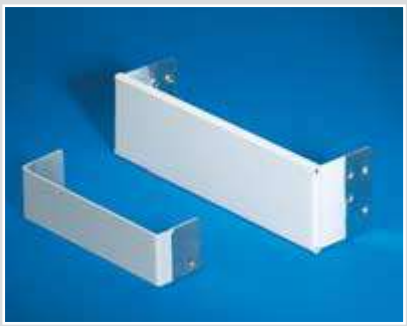
Screw-on cover to conceal any slot cutouts which are not required.

Material:
Sheet steel

Finish:
Galvanized, chromated

Configuration:
5 slot covers, installation hardware.

PU	Part No. RP
5	**3659.030**



Covers for drives

To cover 3 1/2″ or 5 1/4″ drive slots.

Material:
Sheet steel, galvanized/painted in RAL 7035 light grey

Configuration:
1 drive cover, installation hardware.

Version	PU	Part No. RP
3 1/2″	1	**3659.410**
5 1/4″	1	**3659.110**

Telescopic slides

These guarantee optimum access to enclosures, even when built-in. The telescopic slides are suitable for installation in 24″/600 mm and 32″/800 mm deep enclosures. Only in conjunction with L-shaped 19″/482.6 mm mounting rails.

Material:
Sheet steel

Load capacity:
66.14 lbs/30 kg

Depth inches/mm	PU	Part No. RP
24/600	1 set	**3659.180**
32/800	1 set	**3659.190**

Maximum pull-out:
20.13″/ 511.2 mm; 24.48″/596.4 mm

Configuration:
1 pair of telescopic slides, installation kit, installation hardware.

Drive holder

Drive holders are used to accommodate up to four additional 3 1/2″ hard drives. They are fitted in the enclosure behind the fan.

Material:
Sheet steel, galvanized

Configuration:
1 set of drive holders, installation hardware.

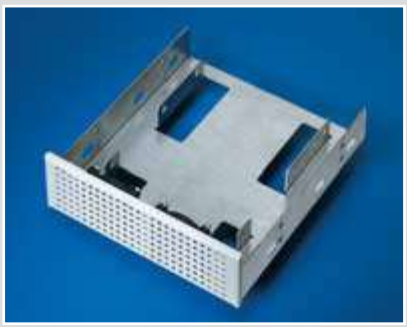
PU	Part No. RP
1	**3659.230**

Card retainer

For reliable securing and stabilizing of slot cards, even under vibration. The card retainers are height-adjustable, which means that even cards of different heights can be reliably secured. A mounting bar is required in order to mount the card retainers.

Material:
Plastic: card retainer

	PU	Part No. RP
Card retainer	7	**3659.010**
Mounting bar	1	**3659.090**



Adaptor

For the installation of 3 1/2″ hard or floppy drives in 5 1/4″ slots.

Material:
Sheet steel, galvanized, chromated, front trim panel painted in RAL 7035 light grey

Mounting bar:
sheet steel, galvanized

Configuration:
1 adaptor, installation hardware.

Version	PU	Part No. RP
for 3 1/2″ hard drives	1	**3659.270**
for 3 1/2″ floppy drives	1	**3659.280**

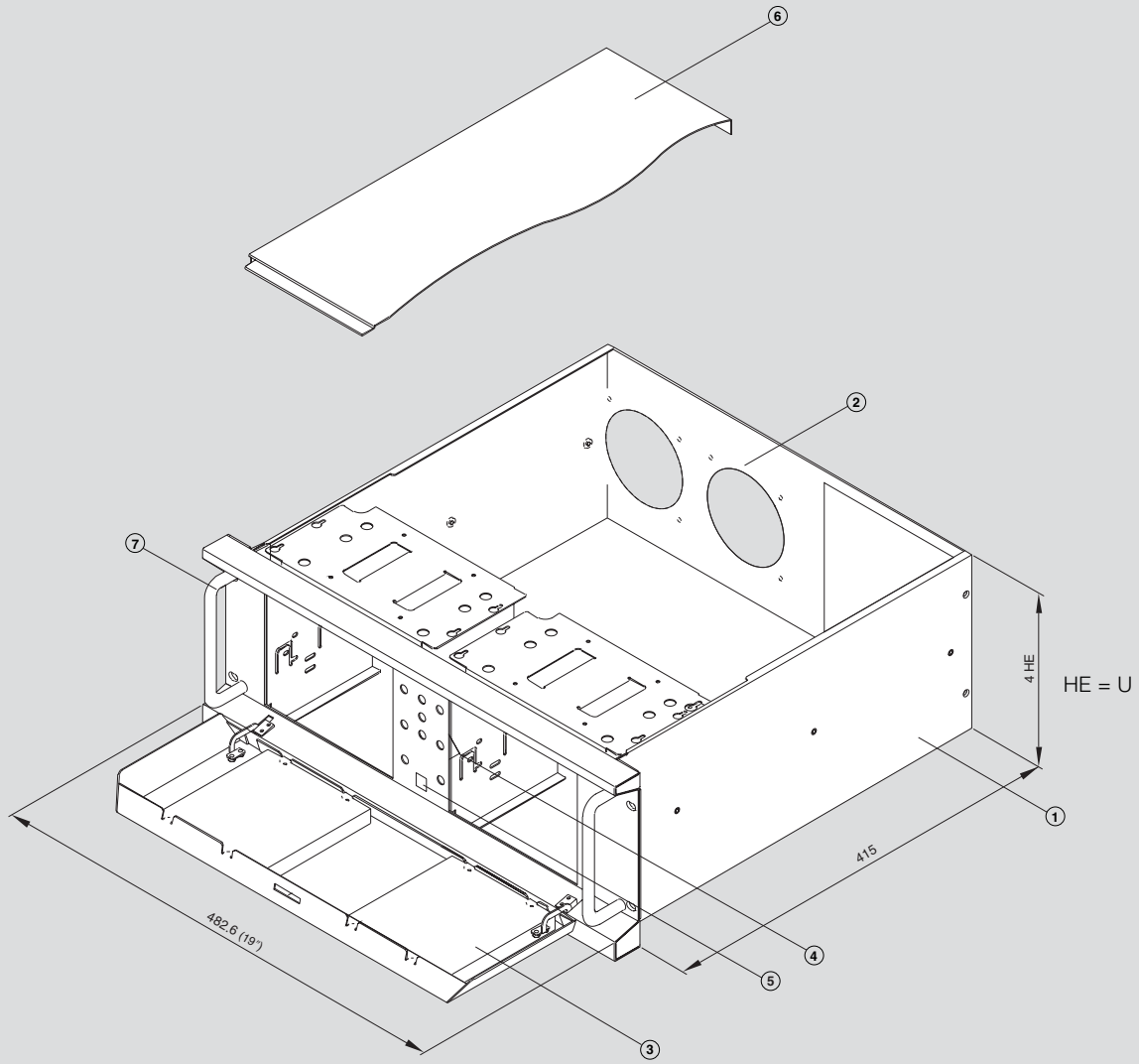
DC fan for rear wall

Fan 12 V DC, 60 mm, for mounting on the rear wall, including two 4-pole connectors with supply cable.

Configuration:
2 fans with supply cable, installation hardware.

PU	Part No. RP
2	**3659.250**

CE



Configuration:

① Rackmount system 4 U, 16.92″/430 mm deep, 19″/482.6 mm wide, including drive chassis
② 2 fans
③ Front door, horizontally hinged, lockable
④ LED displays
⑤ On/Off switch
⑥ Cover panels

	Rittal 19″/482.6 mm RAID subrack	Material	PU	**Part No. RP**	Page
	Height: 6.97″/177.0 mm				
	Width: 19″ /482.6 mm				
	Depth: 16.93″/430.0 mm				
①	**Part No. RP** **Basic system**	Sheet steel, galvanized, chromated/ painted in RAL 7035 light grey	1	**3659.300**	
	Accessories				
⑦	Front handles	Steel, plated	2	3659.240	
	Power supply unit AT (300 W), active PFC		1	3688.118	336
	Power supply unit AT for RAID (300 W), active PFC		1	3688.119	
	Telescopic slides for 24″/600 mm enclosure depth	Sheet steel	1 set	3659.180	337
	Telescopic slides for 32″/800 mm enclosure depth	Sheet steel	1 set	3659.190	337
	Adaptor for installation of $3^1/_2$″ hard drive in $5^1/_4$″	Sheet steel, galvanized, chromated	1	3659.270	337
	Adaptor for installation of $3^1/_2$″ floppy drive in $5^1/_4$″	Sheet steel, galvanized, chromated	1	3659.280	337
	Covers for $5^1/_4$″ drives	Sheet steel, painted	1	3659.110	336

Accessories:
see pages 336/337.

Technical data:
19″/482.6 mm rackmount system for the installation of 5 ¼″ or 3 ½″ drives.
Height: 4 U (177.0 mm)
Width: 19″/482.6 mm
Overall depth: 16.93″/430 mm
complies with DIN 41 494, part 5, and IEC 60 297-3

Material/finish:
Case: 1.2 mm sheet steel, zinc-plated
Cover plate: 1.2 mm sheet steel, zinc-plated
Front door: 1.2 mm sheet steel, painted

Front handles
Flanges with attachment holes for the attachment of front handles (accessory).
Part No. RP 3659.240

Power supply
in a PS/2 variant (accessory).
Part No. see page 336.

Telescopic slides
for rapid access to the subracks, even when installed (accessory).
Part No. see page 337.

■ Ripac Economy

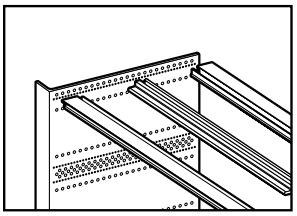
■ Ripac Vario

Applications

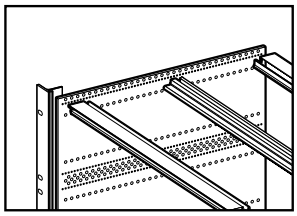
- 19″/482.6 mm subrack system
- Installation of PCBs and plug-in assemblies 6.30″/160 mm and 8.66″/220 mm deep
- For plug-in connectors or backplane installation

- 19″/482.6 mm subrack system
- Installation of circuit boards and plug-in assemblies up to 15.75″/400 mm deep
- For plug-in connectors or backplane installation

Design features



- Single piece sidewall T- front flange aluminum extrusion
- Rear connector rails with groove for easy slide-in of cover
- EMC upgradeable
- .39″/10 mm system hole pattern
- 3 U and 6 U standard for circuit board depths of 6.30″/160 mm and 8.66″/220 mm
- According to IEC 60 297-3



- Sidewalls of aluminum panels
- Separate 19″ flange, ready to accept EMC gaskets (accessories)
- .39″/10 mm system hole pattern for flexible system installation
- Standard of 3, 4, 6, 7 and 9 U circuit board depths of 6.30″/160 mm – 15.75″/400 mm
- Upgradeable to EMC version
- Installation choice of plug-in connectors or backplanes according to IEC 60 297-3.

User benefits

- Economy model
- EMC upgradeable
- Slide-in covers

- Flexibility
  57 standard models.
- Accessories
  extensive Ripac accessories for maximum installation flexibility.
- EMC
  with additional EMC gaskets upgradeable to a EMC version.
- Safety
  shock and vibration tested per DIN IEC 68-2-6 test Fc,
  DIN IEC 68-2-27 test Ea.

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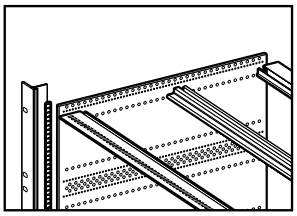
Pages 344 – 347

Ripac Vario EMC

- 19″/482.6 mm subrack system
- EMC version
- Installation of circuit boards and plug-in assemblies up to 15.75″/400 mm deep
- For plug-in connectors or backplane installation
- Front cross rail with .39″/10 mm roof and IEEE 1101.10 system hole pattern options for the installation of injector/extractor handles



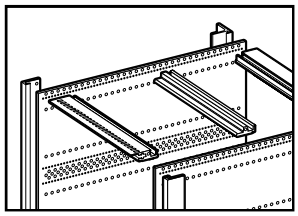
- Sidewalls of aluminum panels
- Separate 19″ flange, EMC gaskets included
- .39″/10 mm system hole pattern for flexible system installation
- Standard of 3, 4, 6, 7 and 9 U circuit board depths of 6.30″/160 mm – 15.75″/400 mm
- Covers and EMC gaskets included in standard configuration
- According to IEC 60 297-3 as well as IEEE 1101.1 and 1101.10

- Flexibility
  54 standard models.
- Accessories
  extensive Ripac accessories for maximum installation flexibility.
- EMC
  chromated surface together with EMC gaskets guarantee optimum EMC protection.
- Safety
  shock and vibration tested per DIN IEC 68-2-6 test Fc,
  DIN IEC 68-2-27 test Ea.

Pages 348 – 351

Ripac Compact

- Subrack system in 21 HP or 42 HP with the installation of individual circuit boards in the European or European double format
- Ready for direct mount on mounting panels or top hat rails
- Subrack system $^1/_2$ or $^1/_4$ 19″



- Sidewalls of aluminum panels
- Separate 19″ flange, EMC gaskets included
- .39″/10 mm system hole pattern
- EMC/non-EMC models
- Standard in 3 U and 6 U/ 21 HP and 42 HP
- Installation on mounting panel or top hat rail
- According to IEC 60 297-3 as well as IEEE 1101.1 and 1101.10

- Handling
  easy installation on mounting panels or top hat rails.
- Cable entry
  variable cable entry options from the bottom or from the side.
- EMC
  chromated surfaces facilitate excellent conductivity. Upgradeable to an EMC version with additional EMC gaskets (accessories).

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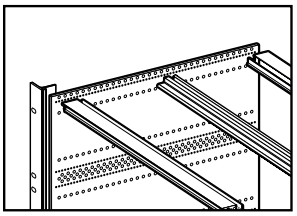
Ripac Vario Mobile (for rail industries)

- 19″/482.6 mm subrack system for use in mobile applications. Tested according to DIN EN 50 155 (electronic applications in the rail industry)



- Sidewalls of aluminum panels
- Separate 19″ flange, for EMC gaskets
- .39″/10 mm system hole pattern
- EMC/non-EMC models
- Standard in 3 U and 6 U/ for circuit board depths of 6.30″/160 mm – 15.75″/400 mm
- According to IEC 60 297-3 as well as DIN EN 50 155

- Safety
  shock and vibration tested according to DIN EN 50 155.
- Completely assembled.
- Designed for use in mobile applications.

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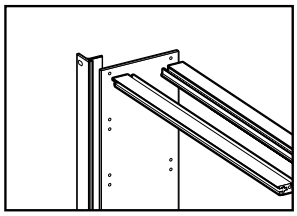
Ripac Vario for disk drive modules

- 19″/482.6 mm subrack system for installation of commercial 3 $^1/_2$″ or 5 $^1/_4$″ mass storage systems
- 19″/482.6 mm subrack system



- Sidewalls are aluminum extrusions
- Separate 19″ flange, ready to accept EMC gaskets (accessories)
- Standard in 2, 4 and 6 U for the installation of horizontal and vertical disk drive modules
- Upgradeable to EMC version
- According to IEC 60 297-3

- Handling
  vertical or horizontal installation of disk drives or CD-ROM drives.
- EMC
  chromated surfaces facilitate excellent conductivity. Upgradeable to an EMC version with additional EMC gaskets (accessories).

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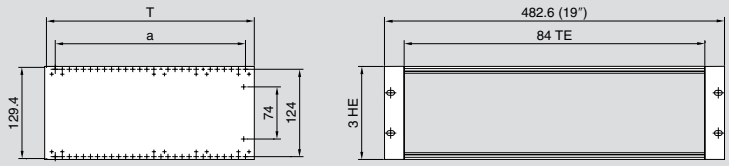
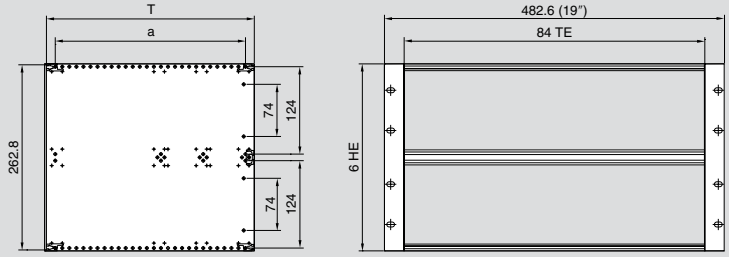
3 U



6 U



TE = HP
HE = U

Technical data:
- Total depth dimensions: 6.89″/175 mm, 9.25″/235 mm.
- Installation width: 84 HP.
- Height: 3 U, 6 U.
- EMC upgradeable.
- Designed for pluggable connectors or backplanes.
- For circuit board depths of 6.30″/160 mm and 8.66″/220 mm.

Material:
Sidewalls:
aluminum extruded
Flange/cross rails:
aluminum extrusion, chromated

Finish:
Clear chromated.

Vibration and shock tested according to:
DIN IEC 68-2-6 test Fc
DIN IEC 68-2-27 test Ea.

Ripac subracks are based on the system dimensions according to DIN 41 494, part 5 as well as IEC 60 297-3.

Please order isolating strips or Z-rails separately.

			Part No. BGT Ripac Economy	**Part No. sidewalls**	**Part No. BGT Ripac Economy**	**Part No. sidewalls**	Page
U			3	3	6	6	
Sidewall depth (T) inches/mm	a inches/mm	Maximum card depth inches/mm					
6.88/175	5.91/150	6.30/160	**3684.004**	3688.100	**3684.502**	3684.502	
9.25/235	8.27/210	8.66/220	**3684.005**	3688.101	**3684.504**	3684.503	

Subrack configuration (unassembled)

U			3		6		Page
		Part No.	number				
Sidewalls		see top	2		2		359
Flange 3 U		3688.110	2		–		359
Flange 6 U		3688.111	–		2		359
Cross rails, front		3684.562	2		2		363
Cross rails, rear		3688.104	2		2		363
Cross rail, rear, center		3684.582	–		1		365
Tapped strip		3684.610	4		4		367
Fixing screws M4 x 12		3684.881	8		10		

Accessories for additional installation (order separately)

U			3		6		Page
		Part No.	required number				
Trim strip rear 3 U		3688.112	2		–		362
Trim strip rear 6 U		3688.113	–		2		362
Z-rail		3684.602	2		4		367
Isolating strip		3684.611	8		16		366
Tapped strip		3684.610	2		2		367

3 U, 6 U subracks

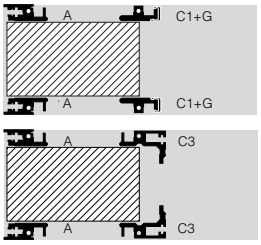
Cross rail configurations
The bill of materials for each individual configuration is listed in the table on the opposite page.

Accessories:

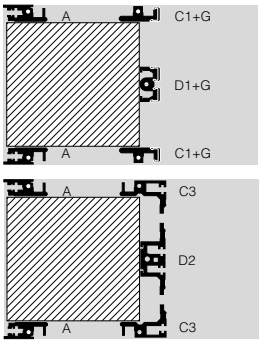
EMC accessories,
see page 358.

Handles/front panels/pluggable connectors,
see page 384.

Inside installation/climate control,
see page 368.



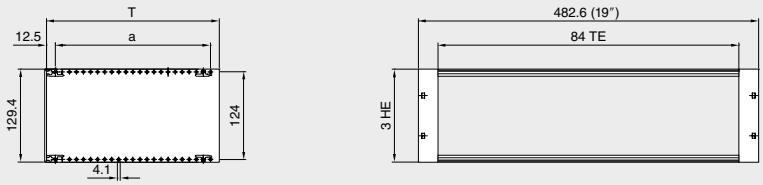
Ripac Economy 3 U
Top: for backplane
Bottom: for pluggable connector



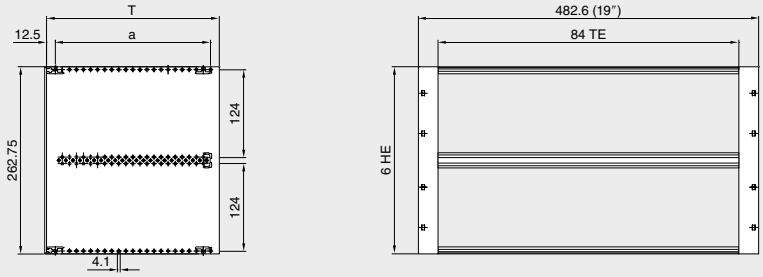
Ripac Economy 6 U
Top: for backplane
Bottom: for pluggable connector

Easy cover installation.

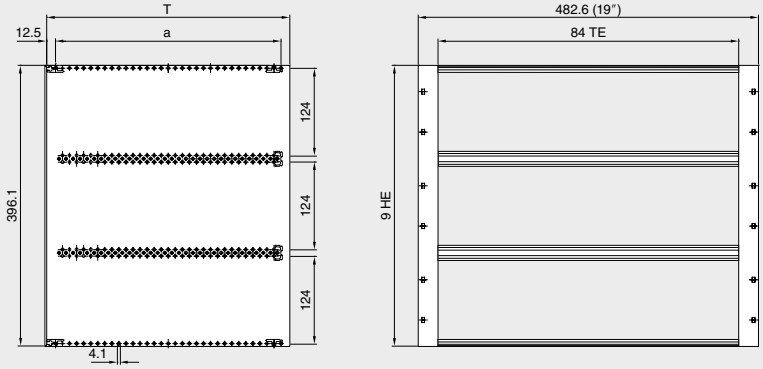
3 U



6 U



9 U



TE = HP
HE = U

Technical data:

- Total depth dimensions: 7.28, 8.86, 9.65, 11.22, 12.01, 13.58, 14.37, 15.94, 18.30, 20.67″/ 185, 225, 245, 285, 305, 345, 365, 405, 465, 525, 585 mm.
- Installation width: 84 HP.
- Height: 3 U, 6 U, 9 U.

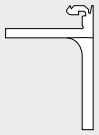
Material:
Sidewalls:
.1″/2.5 mm aluminum
19″/482.6 mm flange
Cross rails:
aluminum extrusion

Finish:
Chromated
Vibration and shock tested according to: DIN IEC 68-2-6 test Fc and DIN IEC 68-2-27 test Ea.

Upgradeable to an EMC version with additional EMC gaskets.

Ripac subracks are based on system dimensions according to DIN 41494, part 5 as well as IEC 60 297-3.

Mounting flange



			Part No. subrack Ripac Vario		Part No. sidewalls	**Part No. subrack Ripac Vario**		Part No. sidewalls	**Part No. subrack Ripac Vario**		Part No. sidewalls	Page
U			3	3	3	6	6	6	9	9	9	
Side-wall depths (T) mm	a inches/mm	Maximum card depths mm	For backplane	For pluggable connectors DIN 41 612	For subrack Ripac Vario	For backplane	For pluggable connectors DIN 41 612	For subrack Ripac Vario	For backplane	For pluggable connectors DIN 41 612	For subrack Ripac Vario	
185	6.30/160	160	**3684.020**	**3684.034**	3684.511	**3684.043**	**3684.056**	3684.529	**–**	**–**	–	
225	7.87/200	160	**3684.021**	**3684.035**	3684.512	**3684.044**	**3684.057**	3684.530	**–**	**–**	–	
245	8.66/220	220	**3684.022**	**3684.036**	3684.513	**3684.045**	**3684.058**	3684.531	**–**	**–**	–	
285	10.23/260	220	**3684.023**	**3685.281**	3684.514	**3684.046**	**–**	3684.532	**–**	**–**	–	
305	11.02/280	280	**3685.231**	**3685.233**	3684.515	**3685.238**	**3685.240**	3684.533	**–**	**–**	–	
345	12.59/320	280	**3684.024**	**–**	3684.516	**3684.047**	**–**	3684.534	**3684.051**	**3684.059**	3684.547	
365	13.39/340	340	**3685.232**	**3685.234**	3684.517	**3685.239**	**–**	3684.535	**–**	**–**	–	
405	14.96/380	340	**3684.025**	**–**	3684.518	**3684.048**	**–**	3684.536	**3684.052**	**3684.060**	3684.548	
465	17.32/440	400	**3684.026**	**–**	3684.520	**3684.049**	**–**	3684.538	**3684.053**	**3684.061**	3684.549	
525	19.69/500	400	**3684.027**	**–**	3684.521	**3684.050**	**–**	3684.539	**3684.054**	**–**	3684.550	
585	22.05/560	400	**–**	**–**	3684.522	**–**	**–**	3684.540	**3684.055**	**–**	3684.551	

Subrack configuration (unassembled)

U		3	3	3	6	6	6	9	9	9	Page
		For back-planes	For pluggable connectors	Part No. flange	For backplanes	For pluggable connectors	Part No. flange	For backplanes	For pluggable connectors	Part No. flange	
	Part No.	number									
Flange	–	2	2	3684.615	2	2	3684.617	2	2	3684.619	360
Sidewall	see above	2	2		2	2		2	2		358
Cross rails, front	3684.562	2	2		2	2		2	2		363
Tapped strip	3684.610	2	2		2	2		2	2		367
Cross rails, rear	3684.572	2	–		2	–		2	–		364
Cross rails, rear, center	3684.582	–	–		1	–		2	–		365
Isolating strip 21 HP	3684.611	8	–		16	–		24	–		366
Cross rail, rear with built-in Z-rails	3686.159	–	2		–	2		–	2		364
Cross rail, rear, with built-in Z-rails	3687.602	–	–		–	1		–	2		365
Fixing screws, M4 x 12	3684.881	8	8		10	10		12	12		

3 U, 6 U, 9 U subracks

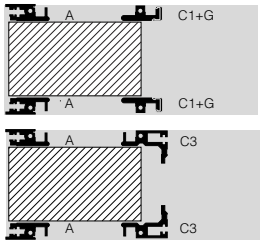
Cross rail configurations:
The bill of materials for each individual configuration is listed in the table on the opposite page.

Accessories:

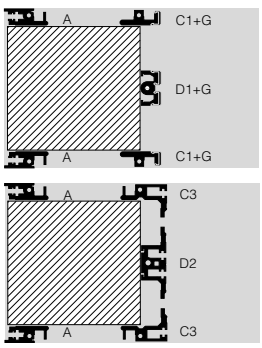
EMC accessories,
see page 358.

Handles/front panels/
pluggable connectors,
see page 384.

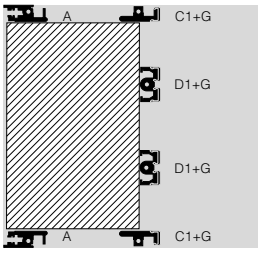
Inside installation/climate control,
see page 368.



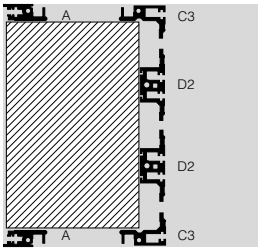
Ripac Vario 3 U
Top: for backplane
Bottom: for pluggable connector



Ripac Vario 6 U
Top: for backplane
Bottom: for pluggable connector

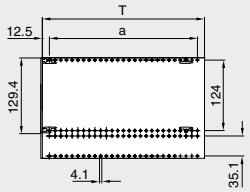


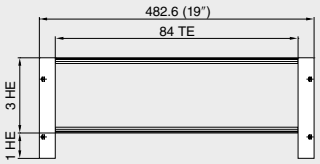
Ripac Vario 9 U
for backplanes



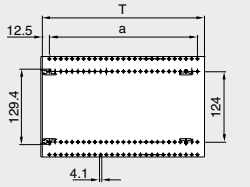
Ripac Vario 9 U
for pluggable connectors

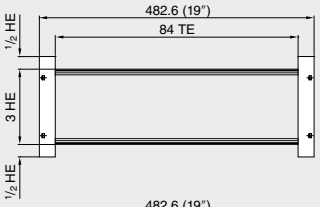
Version 1:
4 U
(3 U + 1 U)



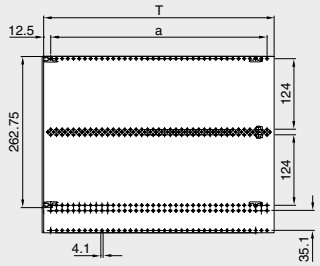


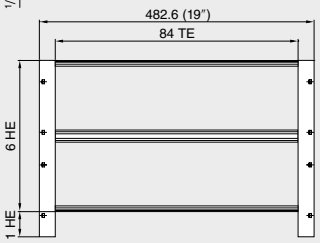
Version 2:
4 U
(3 U + 2 x ½ U)



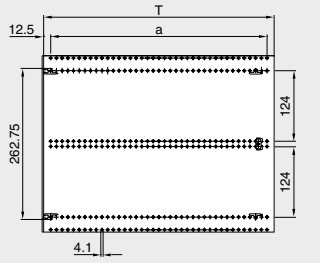


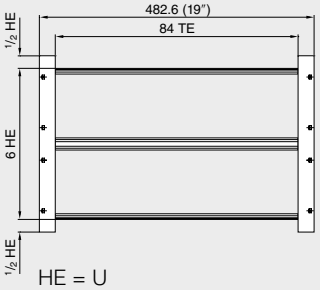
Version 3:
7 U
(6 U + 1 U)





Version 4:
7 U
(6 U + 2 x ½ U)





HE = U
TE = HP

Technical data:
- Total depth dimensions: 9.65, 11.22, 12.01, 13.58, 14.37, 15.94, 18.30″/ 245, 285, 305, 345, 365, 405, 465 mm.
- Installation width: 84 HP.
- Height: 4 U, 7 U.

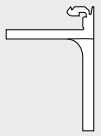
Material:
Sidewalls:
.1″/2.5 mm aluminum
19″/482.6 mm flange
Cross rails:
aluminum extrusion

Finish:
Chromated
Vibration and shock tested according to: DIN IEC 68-2-6 test Fc and DIN IEC 68-2-27 test Ea.

Upgradeable to an EMC version with additional EMC gaskets.

Ripac subracks are based on system dimensions according to DIN 41494, part 5 as well as IEC 60 297-3.

Mounting flange



			Part No. subrack Ripac Vario		Part No. sidewalls	**Part No. subrack Ripac Vario**		Part No. sidewalls	**Part No. subrack Ripac Vario**	Part No. sidewalls	**Part No. subrack Ripac Vario**	Part No. sidewalls	Page
U			4 (3+1)	4 (3+1)	4 (3+1)	4 (3+2x½)	4 (3+2x½)	4 (3+2x½)	7 (6+1)	7 (6+1)	7 (6+2x½)	7 (6+2x½)	
Side-wall depth (T) mm	a inches/mm	Maximum card depths mm	For backplane	For pluggable connectors DIN 41 612	For subrack Ripac Vario	For backplane	For pluggable connectors DIN 41 612	For subrack Ripac Vario	For backplane	For subrack Ripac Vario	For backplane	For subrack Ripac Vario	
245	8.66/220	220	**3685.235**	**–**	3685.850	**–**	**–**	3685.891	**–**	3685.897	**–**	3685.894	
285	10.23/260	220	**3684.028**	**3684.037**	3684.523	**3684.031**	**3684.040**	3684.526	**–**	3685.743	**–**	3685.895	
305	11.02/280	280	**3685.236**	**–**	3685.794	**–**	**–**	–	**–**	–	**–**	–	
345	12.59/320	280	**3684.029**	**3684.038**	3684.524	**3684.032**	**3684.041**	3684.527	**–**	3685.744	**–**	3685.745	
365	13.39/340	340	**3685.237**	**–**	3685.795	**–**	**–**	–	**–**	–	**–**	–	
405	14.96/380	340	**3684.030**	**3684.039**	3684.525	**3684.033**	**3684.042**	3684.528	**3684.064**	3684.541	**3684.062**	3684.543	
465	17.32/440	400	**–**	**–**	3685.796	**–**	**–**	3685.892	**3684.065**	3684.542	**3684.063**	3684.544	

Subrack configuration (unassembled)

U		4 (3+1)	4 (3+1)	4 (3+1)	4 (3+2x½)	4 (3+2x½)	4 (3+2x½)	7 (6+1)	7 (6+1)	7 (6+2x½)	7 (6+2x½)	Page
		For backplane	For pluggable connectors	Part No. flange	For backplane	For pluggable connectors	Part No. flange	For backplane	Part No. flange	For backplane	Part No. flange	
	Part No.	number										
Flange	–	2	2	3684.616	2	2	3684.616	2	3684.618	2	3684.618	360
Sidewalls	above	2	2		2	2		2		2		358
Cross rails, front	3684.562	2	2		2	2		2		2		363
Tapped rails	3684.610	2	2		2	2		2		2		367
Cross rails, rear	3684.572	2	–		2	–		2		2		364
Cross rails, rear, center	3684.582	–	–		–	–		1		1		365
Isolating strip 21 HP	3684.611	8	–		8	–		16		16		366
Cross rails, rear with built-in Z-rail	3686.159	–	2		–	2		–		–		364
Cross rails, rear, center with built-in Z-rail	3687.602	–	–		–	–		–		–		365
Fixing screws M4 x 12	3684.881	8	8		8	8		10		10		

4 U, 7 U subracks

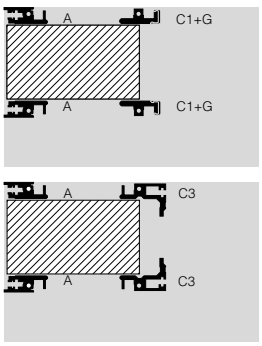
Accessories:

EMC accessories,
see page 358.

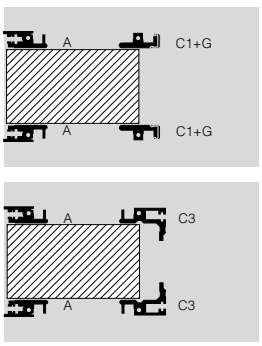
Handles/front panels/
pluggable connectors,
see page 384.

Inside installation/climate control,
see page 368.

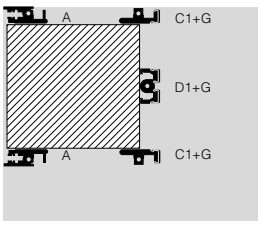
Cross rail configurations:
The bill of materials for each individual configuration is listed in the table on the opposite page.



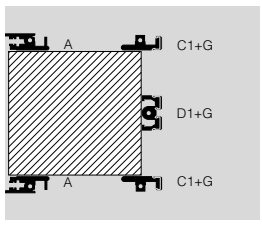
Ripac Vario 4 U
(3 U + 1 U)
Top: for backplane
Bottom: for pluggable connector



Ripac Vario 4 U
(3 U + 2 x $^1/_2$ U)
Top: for backplane
Bottom: for pluggable connector

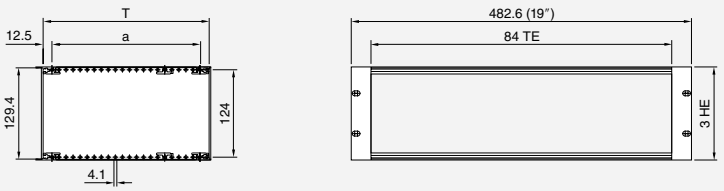


Ripac Vario 7 U
(6 U + 1 U)
for backplanes

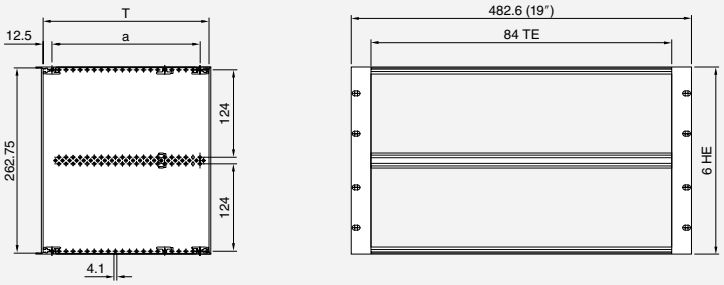


Ripac Vario 7 U
(6 U + 2 x $^1/_2$ U)
for backplanes

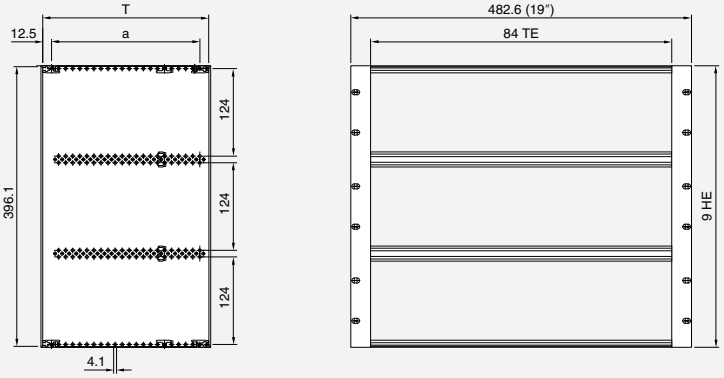
3 U



6 U



9 U



HE = U
TE = HP

Technical data:
- Total depth dimensions: 9.65, 11.22, 12.01, 13.58, 15.94, 18.30, 20.67, 23.03″/245, 285, 305, 345, 405, 465, 525, 585 mm.
- Installation width: 84 HP.
- Height: 3 U, 6 U, 9 U.

Material:
Sidewalls:
.1″/2.5 mm aluminum
19″/482.6 mm flange
Cross rails:
aluminum extrusion
Shield panels: aluminum

Finish:
Chromated

Vibration and shock tested according to: DIN IEC 68-2-6 test Fc and DIN IEC 68-2-27 test Ea.

Ripac subracks are based on system dimensions according to DIN 41494, part 5 as well as IEC 60297-3.

Mounting flange/ trim strip

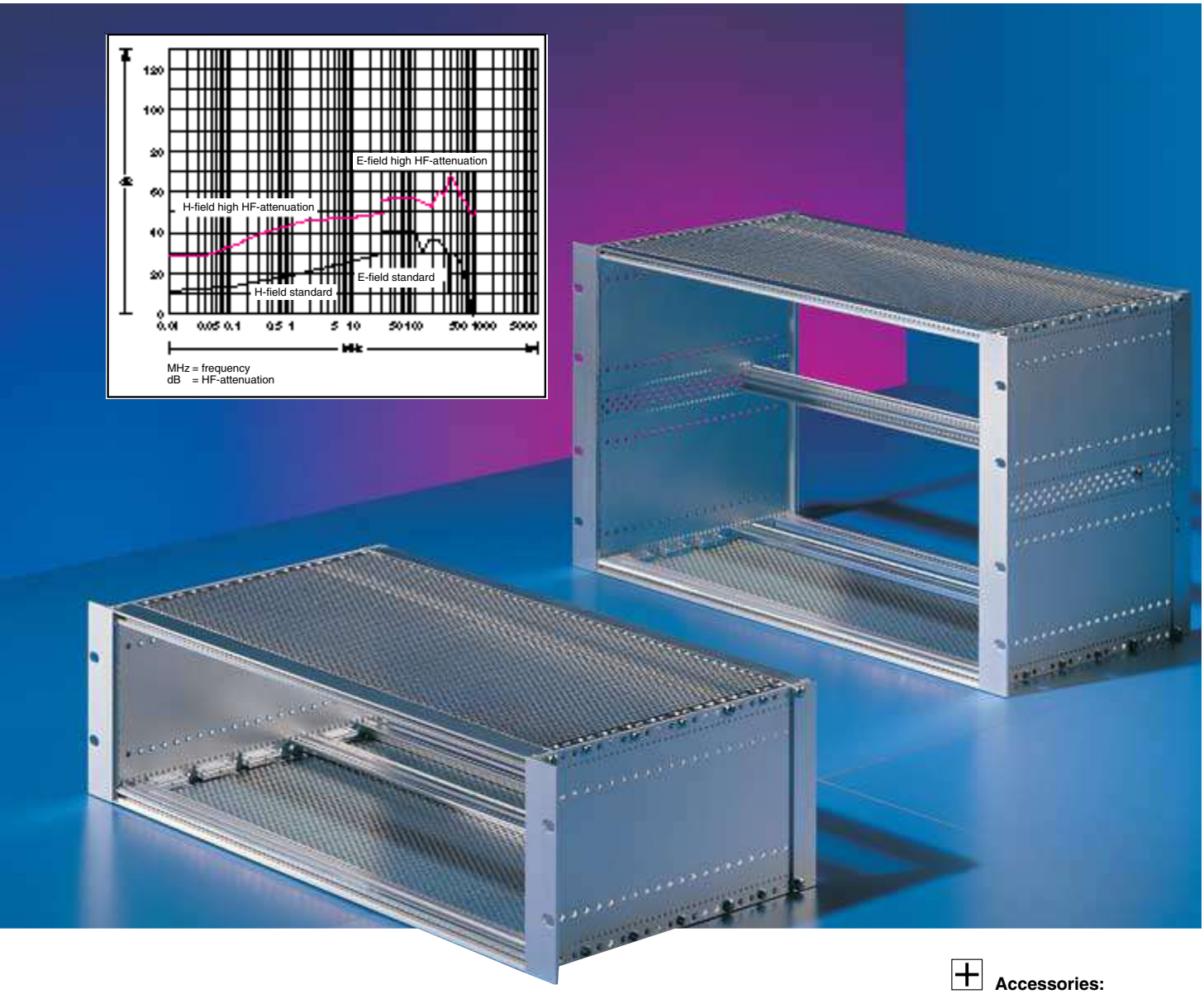
			Part No. subrack Ripac Vario EMC		Part No. sidewalls	**Part No. subrack Ripac Vario EMC**		Part No. sidewalls	**Part No. subrack Ripac Vario EMC**		Part No. sidewalls	Page
U			3	3	3	6	6	6	9	9	9	
Sidewall depths (T) mm	a inches/mm	Maximum card depths mm	For backplane	For backplane*	For subrack Ripac Vario EMC	For backplane	For backplane*	For subrack Ripac Vario EMC	For backplane	For backplane*	For subrack Ripac Vario EMC	
245	8.66/220	160	**3684.128**	**3684.142**	3684.513	**3684.156**	**3684.169**	3684.531	**–**	**–**	–	
285	10.23/260	220	**3684.129**	**3684.143**	3684.514	**3684.157**	**3684.170**	3684.532	**–**	**–**	–	
305	11.02/280	220	**3685.241**	**3685.243**	3684.515	**3685.242**	**3685.244**	3684.533	**–**	**–**	–	
345	12.59/320	280	**3684.130**	**3684.144**	3684.516	**3684.158**	**3684.171**	3684.534	**3684.162**	**3684.175**	3684.547	
405	14.96/380	340	**3684.131**	**3684.145**	3684.518	**3684.159**	**3684.172**	3684.536	**3684.163**	**3684.176**	3684.548	
465	17.32/440	400	**3684.132**	**3684.146**	3684.520	**3684.160**	**3684.173**	3684.538	**3684.164**	**3684.177**	3684.549	
525	19.69/500	400	**3684.133**	**3684.147**	3684.521	**3684.161**	**3684.174**	3684.539	**3684.165**	**3684.178**	3684.550	
585	22.05/560	400	**–**	**–**	3684.522	**–**	**–**	3684.540	**3684.166**	**3684.179**	3684.551	

* Front cross rails with .39″/10 mm roof for injector/extractor handles, Type IV or VII.

Subrack configuration (unassembled)

U		3	3	3	6	6	6	9	9	9	Page
		For backplane	For backplane*	Part No. flange/EMC gasket	For backplane	For backplane*	Part No. flange/EMC gasket	For backplane	For backplane*	Part No. flange/EMC gasket	
	Part No.	number									
Flange	–	2	2	3684.615	2	–	3684.617	2	–	3684.619	360
Trim strips	–	2	2	3684.634	2	–	3684.636	2	–	3684.638	362
Sidewalls	see above	2	2		2	2		2	2		358
EMC gaskets, vertical	–	4	4	3686.975	4	4	3686.977	4	4	3686.979	360
Covers, perforated	–	2	2		2	2		2	2		375
Mounting blocks	3684.884	depending on depth									376
EMC gaskets for cover	3684.807	4	4		4	4		4	4		374
Cross rails, front	3684.562	4	3		4	2		4	2		363
Tapped strips	3684.610	4	4		4	4		4	4		367
Cross rails, front for injector/extractor handles Type IV or VII	3684.567	–	1		–	2		–	2		363
Cross rails, rear	3684.572	2	2		2	2		2	2		364
Cross rails, rear, center	3684.582	–	–		1	–		2	–		365
Isolating strip 21HP	3684.611	8	8		16	16		24	24		366
Fixing screws M4 x 12	3684.881	12	12		14	14		16	16		

3 U, 6 U, 9 U subracks

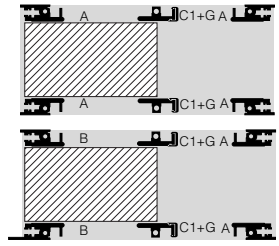


Cross rail configurations:
The bill of materials for each individual configuration is listed in the table on the opposite page.

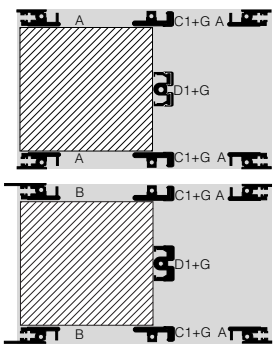
Accessories:

Handles/front panels/ pluggable connectors,
see page 384.

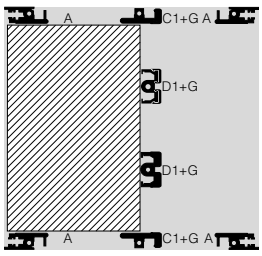
Inside installation/climate control,
see page 368.



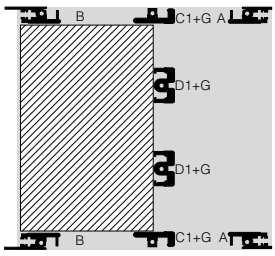
Ripac Vario EMC 3 U
Top: for backplane
Bottom: for backplanes/front cross rail with .39″/10 mm roof



Ripac Vario EMC 6 U
Top: for backplane
Bottom: for backplanes/front cross rail with .39″/10 mm roof

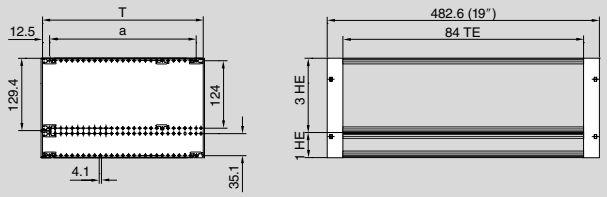


Ripac Vario EMC 9 U
for backplanes

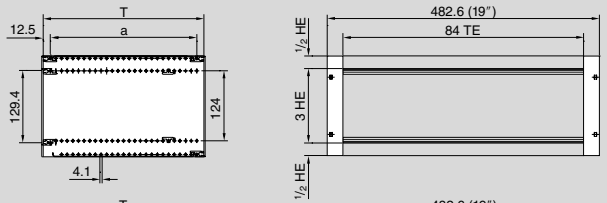


Ripac Vario EMC 9 U
for backplanes/front cross rail with .39″/10 mm roof

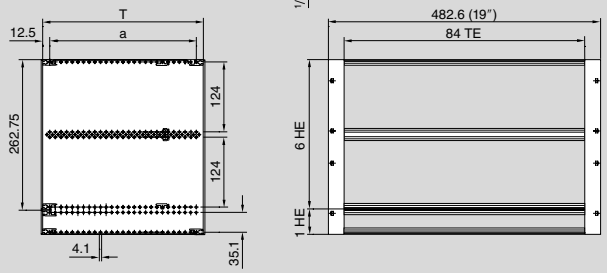
Version 1:
4 U
(3 U + 1 U)



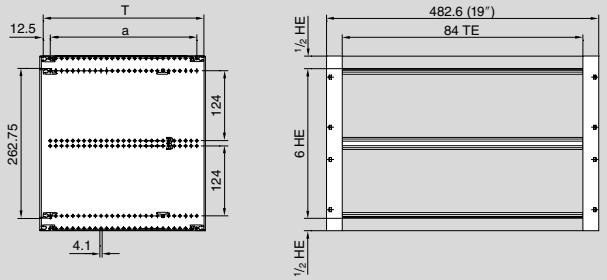
Version 2:
4 U
(3 U + 2 x ½ U)



Version 3:
7 U
(6 U + 1 U)



Version 4:
7 U
(6 U + 2 x ½ U)



HE = U
TE = HP

Technical data:
- Total depth: 11.22, 13.58, 18.30″/ 285, 345, 465 mm.
- Installation width: 84 HP.
- Height: 4 U, 7 U.

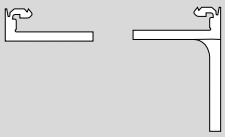
Material:
Sidewalls:
.1″/2.5 mm aluminum
19″/482.6 mm flange
Cross rails:
aluminum extrusion
Shield panels: aluminum

Finish:
Chromated

Vibration and shock tested according to: DIN IEC 68-2-6 test Fc and DIN IEC 68-2-27 test Ea.

Ripac subracks are based on system dimensions according to DIN 41494, part 5 as well as IEC 60 297-3.

Mounting flange/ trim strip

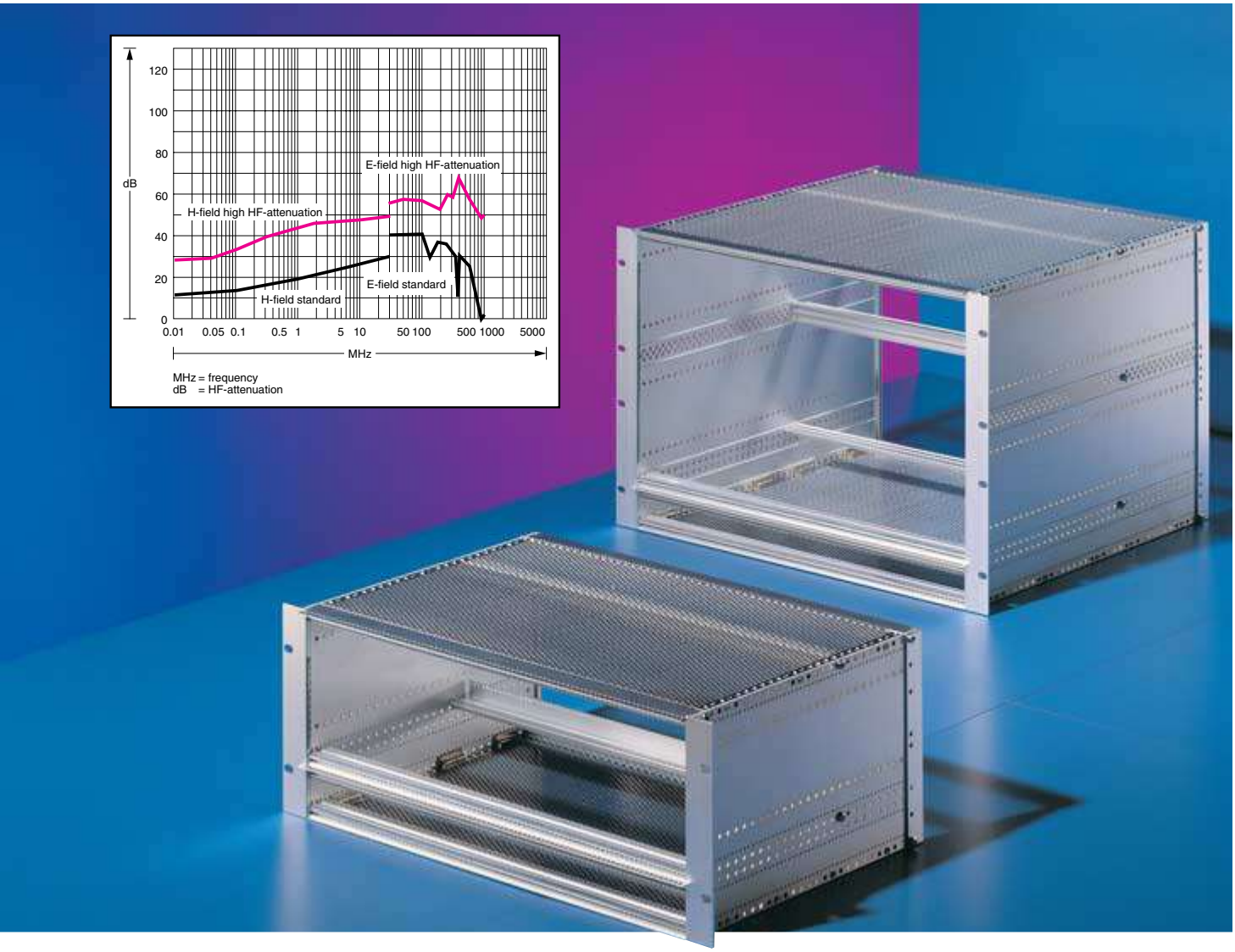


			Part No. subrack Ripac Vario EMC		Part No. subrack Ripac Vario EMC		Part No. subrack Ripac Vario EMC		Part No. subrack Ripac Vario EMC		Page
U			4 (3+1)	4 (3+1)	4 (3+2x½)	4 (3+2x½)	7 (6+1)	7 (6+1)	7 (6+2x½)	7 (6+2x½)	
Sidewall depths (T) mm	a inches/mm	Maximum card depths mm	For back-plane	For back-plane*	For back-plane	For back-plane*	For back-plane	For back-plane*	For back-plane	For back-plane*	
285	10.23/260	220	**3684.134**	**3684.148**	**3684.137**	**3684.151**	**3684.187**	**3684.192**	**–**	**–**	
345	12.59/320	280	**3684.135**	**3684.149**	**3684.138**	**3684.152**	**3684.188**	**3684.193**	**3684.189**	**3684.196**	
405	14.96/380	340	**3684.136**	**3684.150**	**3684.139**	**3684.153**	**3684.180**	**3684.194**	**3684.190**	**3684.197**	
465	17.32/440	400	**–**	**–**	**–**	**–**	**3684.181**	**3684.195**	**3684.191**	**3684.198**	

* Front cross rails with .39″/10 mm roof for injector/extractor handles, Type IV or VII.

Subrack configuration (unassembled)

U		4 (3+1)	4 (3+1)	4 (3+2x½)	4 (3+2x½)	7 (6+1)	7 (6+1)	7 (6+2x½)	7 (6+2x½)	Page
		For back-plane	For back-plane*	For back-plane	For back-plane*	For back-plane	For back-plane*	For back-plane	For back-plane*	
	Part No.									
2 flanges		3684.616				3684.618				360
2 trim strips, rear		3684.635				3684.637				362
2 sidewalls, 11.22″/285 mm deep		3684.523		3684.526		3685.743		3685.895		358
2 sidewalls, 13.58″/345 mm deep		3684.524		3684.527		3685.744		3685.745		358
2 sidewalls, 15.94″/405 mm deep		3684.525		3684.528		3684.541		3684.543		358
2 sidewalls, 18.30″/465 mm deep		3685.796		3685.892		3684.542		3684.544		358
		number								
EMC gaskets, vertical		4	4	3	3	4	4	3	3	360
Covers flat, perforated		2	2	–	–	2	2	–	–	374
Cover L-shaped, ½ U, solid top, bottom, perforated front (1 set)		–	–	2	2	–	–	2	2	376
Mounting blocks	3684.884	depending on depth								376
EMC gaskets for covers	3684.807	4	4	2	2	4	4	2	2	374
Cross rails, front	3684.562	6	5	4	3	6	4	4	2	363
Tapped strip	3684.610	6	6	4	4	6	6	4	4	367
Cross rails, front for injector/extractor handles Type IV or VII	3684.567	–	1	–	1	–	2	–	2	363
Cross rails, rear	3684.572	2	2	2	2	2	2	2	2	364
Cross rails, rear, center	3684.582	–	–	–	–	1	1	1	1	365
Isolating strip 21 HP	3684.611	8	8	8	8	16	16	16	16	366
Fixing screws M4 x 12	3684.881	16	16	12	12	18	18	14	14	



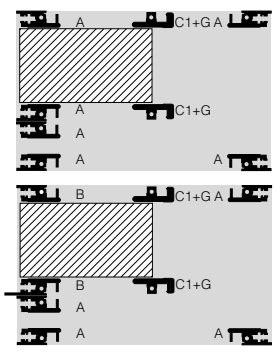
Cross rail configurations:
The bill of materials for each individual configuration is listed in the table on the opposite page.

Accessories:

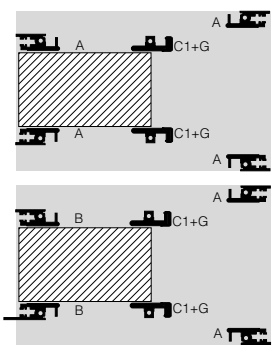
Handles/front panels/ connectors, from page 384.

Backplanes/power supplies, see pages 320/321.

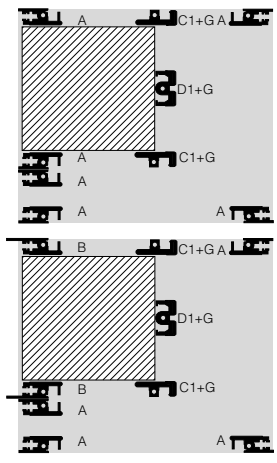
Inside installation/climate control, see page 368.



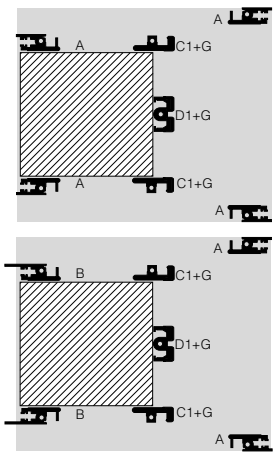
4 U (3 U + 1 U)
Top: for backplane
Bottom: for backplanes/front cross rail with .39″/10 mm roof



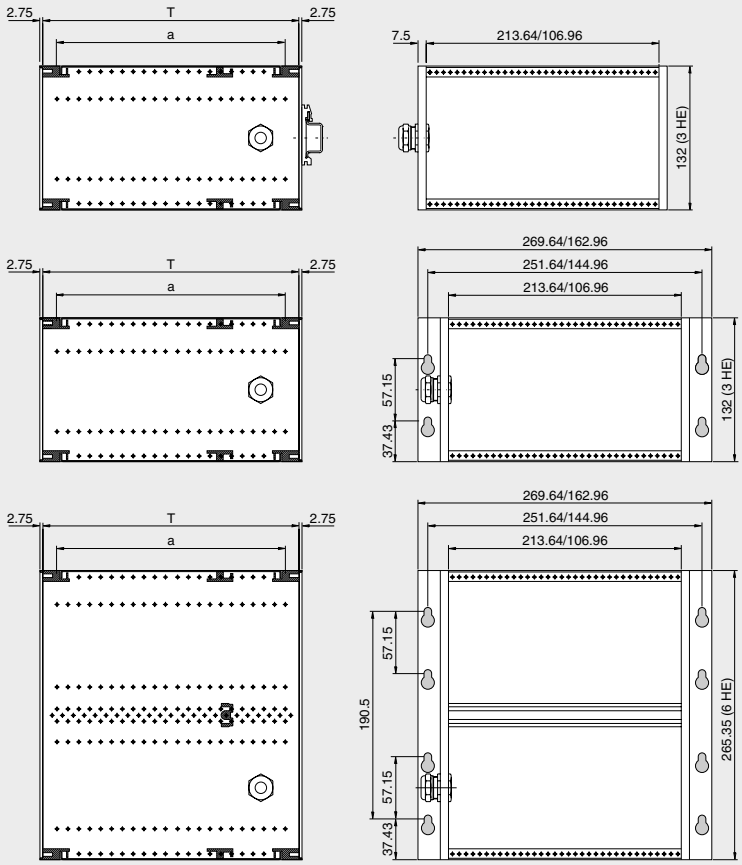
4 U (3 U + 2 x ½ U)
Top: for backplane
Bottom: for backplanes/front cross rail with .39″/10 mm roof



7 U (6 U + 1 U)
Top: for backplane
Bottom: for backplanes/front cross rail with .39″/10 mm roof



7 U (6 U + 2 x ½ U)
Top: for backplane
Bottom: for backplanes/front cross rail with .39″/10 mm roof



HE = U

Ripac Compact
Subracks for installation in an electrical enclosure. Choice of installation on a top-hat rail with an adaptor, or directly on the mounting panel via 19″/482.6 mm flanges equipped with key holes. Equipment for the installation of backplanes is standard. Additional Z-rails DIN 41 612 may be ordered for pluggable connectors.

Cable bushing:
- EMC version: side cable entry via EMC PG-connectors in the sidewall.
- Non-EMC version: cable entry from the top or bottom.

Ripac subracks are based on the system dimensions of DIN 41 494, part 5 as well as IEC 60 297-3, IEEE 1101.1 and 1101.10.

Technical data:
- Total depth: 8.86, 11.22″/225, 285 mm
- For circuit board depth: 6.30″/160 mm
- Installation depths: 21 HP and 42 HP
- Height: 3 U, 6 U

Material:
Sidewalls: 1″/2.5 mm aluminum
Flange and cross rails:
aluminum extrusions

Vibration and shock tested according to:
DIN IEC 68-2-6 test Fc
DIN IEC 68-2-27 test Ea.

			Part No. subrack					**Part No. EMC subrack**					Page
U			3	3	3	3	6	3	3	3	3	6	
HP			21	21	42	42	42	21	21	42	42	42	
Mount			Top-hat rail	Mounting panel	Top-hat rail	Mounting panel	Mounting panel	Top-hat rail	Mounting panel	Top-hat rail	Mounting panel	Mounting panel	
Sidewall depths (T) mm	a inches/mm	Maximum card depths mm	For back-plane	For back-plane	For back-plane	For back-plane	For back-plane	For back-plane	For back-plane	For back-plane	For back-plane	For back-plane	
225	7.87/200	160	**3687.667**	**3687.669**	**3687.671**	**3687.673**	**3687.680**	**3687.682**	**3687.684**	**3687.686**	**3687.688**	**3687.690**	
285	10.24/260	220	**3687.668**	**3687.670**	**3687.672**	**3687.674**	**3687.681**	**3687.683**	**3687.685**	**3687.687**	**3687.689**	**3687.691**	

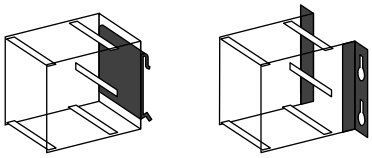
Subrack configuration (unassembled)

Sidewalls		2	2	2	2	2	1	1	1	1	1	358
Sidewalls for cable entry		–	–	–	–	–	1	1	1	1	1	–
EMC PG connectors		–	–	–	–	–	1	1	1	1	1	–
Trim strips		4	2	4	2	2	4	2	4	2	2	362
Flange with key hole		–	2	–	2	2	–	2	–	2	2	–
EMC front/rear panels		–	–	–	–	–	1	1	1	1	1	394
EMC rear panel for top hat adaptor		–	–	–	–	–	1	–	1	–	–	–
Rear panel for top-hat adaptor		1	–	1	–	–	–	–	–	–	–	–
Top hat adaptor		1	–	1	–	–	1	–	1	–	–	–
EMC gaskets, vertical		–	–	–	–	–	X	X	X	X	X	360
Vented covers		–	–	–	–	–	2	2	2	2	2	374
Cross rails, front		4	2	4	2	2	4	4	4	4	4	363
Cross rails, rear		2	2	2	2	2	2	2	2	2	2	364
Tapped rails		4	2	4	2	2	4	4	4	4	4	367
Isolating strips 21HP		2	2	4	4	8	2	2	4	4	8	366
Cross rails, rear, center		–	–	–	–	1	–	–	–	–	1	365

Accessories

Card guides		see pages 370 – 373										
Covers, ventilated for 160 LP		3687.675	3687.675	3687.676	3687.676	3687.676	included in configuration					377
Covers, ventilated for 220 LP		3687.692	3687.692	3687.677	3687.677	3687.677	included in configuration					377
Z-rails DIN 41 612		3684.599	3684.599	3684.600	3684.600	3684.600	3684.599	3684.599	3684.600	3684.600	3684.600	367
Covers, ventilated		–	–	–	–	–	2	2	2	2	2	374

Cross rail configurations:
The bill of materials for each individual configuration is listed in the table on the opposite page.

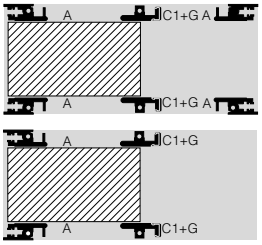


Accessories:

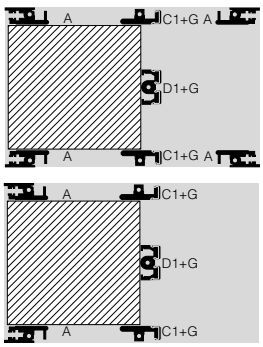
Handles/front panels/ pluggable connectors, see page 384.

Backplanes/ power supplies, see pages 320/321.

Inside installation/climate control, see page 368.



Ripac Vario Mobile 3 U
top: for top-hat rail.
EMC version
bottom: for mounting panel

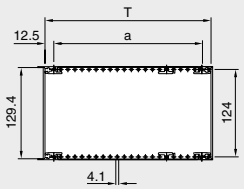


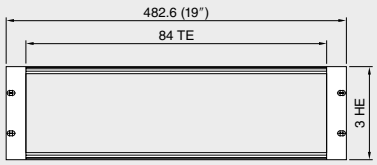
Ripac Vario Mobile 6 U
top: for top-hat rail.
EMC version
bottom: for mounting panel

Top-hat rail installation
Easy snap-in installation onto the top-hat rails is possible with the adaptor.

Mounting panel installation
via flanges with keyholes.

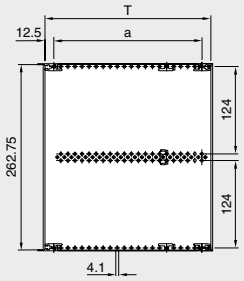
3 U (EMC version)

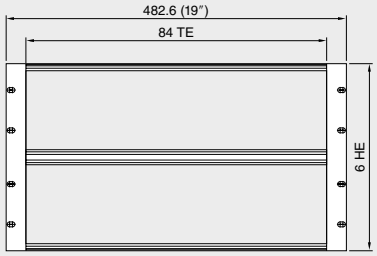




Mounting flange/ trim strip

6 U (EMC version)





Technical data:
- Total depth: 9.65″/245 mm.
- Installation depth: 84 HP.
- Height: 3 U, 6 U.

Material:
Sidewalls:
.1″/2.5 mm aluminum panels
19″/482.6 mm flange and cross rails:
aluminum extrusion
Shield panels: aluminum

Finish:
Chromated

Standards/norms:
Ripac subracks are based on system dimensions according to DIN 41494, part 5 as well as IEC 60297-3.

Testing:
Vibration and shock tested according to:
DIN IEC 68-2-6 test Fc and
DIN IEC 68-2-27 test Ea.
The subrack has been tested for use with the German railroad. The tests were done according to norm EN 50155 (electronic devices for rail vehicles). The design of the subracks tested is according to IEC 48D.

			Part No. subrack Ripac Vario Mobile		Part No. sidewalls	**Part No. subrack Ripac Vario Mobile EMC**	**Part No. subrack Ripac Vario Mobile**		Part No. sidewalls	**Part No. subrack Ripac Vario Mobile EMC**	Page
U			3	3	3	3	6	6	6	6	
Sidewall depth (T) mm	a inches/mm	Maximum card depths mm	For back-planes	For pluggable connectors DIN 41612	For subrack Ripac Vario	For back-planes	For back-planes	For pluggable connectors DIN 41612	For subrack Ripac Vario	For back-planes	
245	8.66/220	220	**3687.782**	**3687.780**	3684.513	**3687.784**	**3687.783**	**3687.781**	3684.531	**3687.785**	

Subrack configuration (pre-assembled)

U		3	3	3	3	6	6	6	6	
		For back-planes	For pluggable connectors		For back-planes	For back-planes	For pluggable connectors		For back-planes	
	Part No.	number								
Flange	–	2	2	3684.615	2	2	2	3684.617	2	360
Trim strip	–	–	–	3684.634	2	–	–	3684.636	2	362
Sidewalls	–	2	2	–	2	2	2	–	2	358
EMC gaskets, vertical	–	–	–	3686.975	2	–	–	3686.977	2	360
Covers, perforated	3684.695	–	–	–	2	–	–	–	2	374
Mounting blocks	3684.884	–	–	–	20	–	–	–	20	376
EMC gaskets for cover	3684.807	–	–	–	4	–	–	–	4	374
Cross rails, front	3684.562	4	4	–	4	4	4	–	4	363
Tapped strips	3684.610	4	4	–	4	4	4	–	4	367
Cross rails, rear	3684.572	2	–	–	2	2	–	–	2	364
Cross rails, rear, center	3684.582	–	–	–	–	1	–	–	1	365
Isolating strip 21HP	3684.611	8	–	–	8	16	–	–	16	366
Cross rail, rear, with built-in Z-rails	3686.159	–	2	–	–	–	2	–	–	364
Cross rail, rear, center, with built-in Z-rails	3687.602	–	–	–	–	–	1	–	–	365
Fixing screws M4 x 12/ 1 PU = 100	3654.300	12	12	–	12	14	14	–	14	
Fixing screws M3 x 6/ 1 PU = 100	3684.233	–	–	–	60	–	–	–	60	

3 U, 6 U subracks

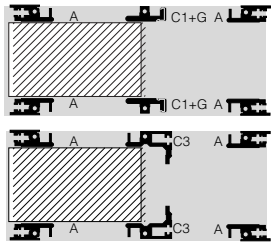
Accessories:

EMC accessories,
see page 358.

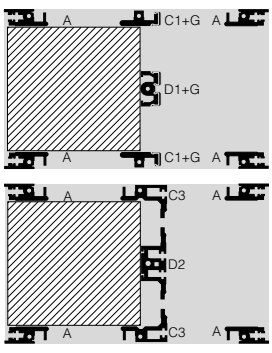
Handles/front panels/
pluggable connectors,
see page 384.

Inside installation/climate
control,
see page 368.

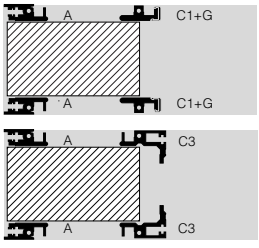
Cross rail configurations:
The bill of materials for each individual configuration is listed in the table on the opposite page.



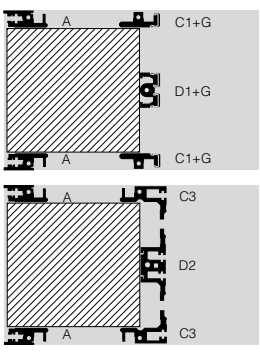
Ripac Vario Mobile EMC 3 U
Top: for backplane
Bottom: for pluggable connector



Ripac Vario Mobile EMC 6 U
Top: for backplane
Bottom: for pluggable connector



Ripac Vario Mobile 3 U
Top: for backplane
Bottom: for pluggable connector



Ripac Vario Mobile 6 U
Top: for backplane
Bottom: for pluggable connector

Ripac Vario for drive modules
Ripac Vario for disk drives has been designed for commercial mass storage units. Drive models make the installation of 3 1/2″–5 1/4″ disk drives or CD-ROMs possible in a horizontal or vertical configuration.

Technical data:
- Installation width: 84 HP.
- Height: 2 U, 4 U, 6 U per IEC 60 297-3.

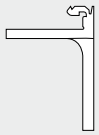
Material:
Sidewalls:
aluminum extrusions
Cross rails:
aluminum extrusions

Finish:
Chromated

Vibration and shock tested according to: DIN IEC 68-2-6 test Fc and DIN IEC 68-2-27 test Ea.

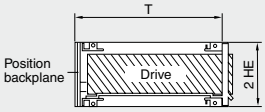
Ripac subracks are based on system dimensions according to DIN 41494, part 5 as well as IEC 60 297-3.

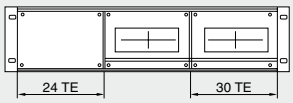
Mounting flange

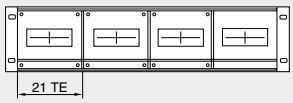


Subracks for horizontal drive modules

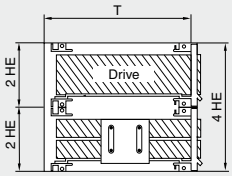
Installation options for Ripac Vario, 4 U
- 4 x 3 1/2″ horizontal drives
- 2 x 5 1/4″ horizontal drives

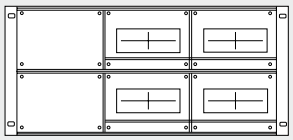


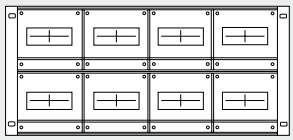




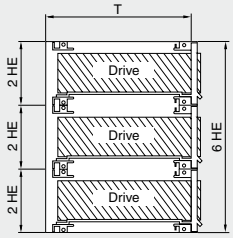
Installation options for Ripac Vario, 4 U
- 8 x 3 1/2″ horizontal drives
- 4 x 5 1/4″ horizontal drives

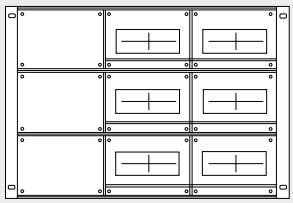


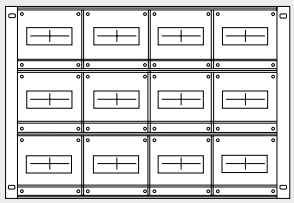




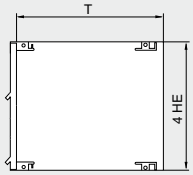
Installation options for Ripac Vario, 6 U
- 12 x 3 1/2″ horizontal drives
- 6 x 5 1/4″ horizontal drives

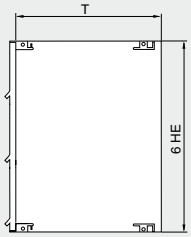


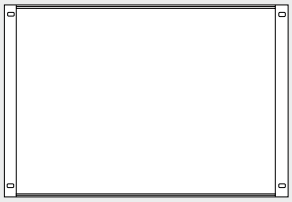




Subracks for vertical drive modules







HE = U
TE = HP

			Part No. RP subrack for the installation of drive modules					Page
U			2	4	6	4	6	
Sidewall depth (T) mm			Horizontal	Horizontal	Horizontal	Vertical	Vertical	
5.85″/148.7 mm			**3684.115**	**3684.116**	**3684.117**	**3685.296**	**3685.297**	

Front panels to cover blanks see page 384 – 386.

Subrack configuration

U		2	4	6	4	6	
		Horizontal	Horizontal	Horizontal	Vertical	Vertical	
		Part No.					
2 flanges		3684.614	3684.616	3684.617	3684.616	3684.617	360
2 sidewalls		3684.555	3684.556	3684.557	3684.556	3684.557	359
	Part No.	number					
Cross rails, front	3684.562	2	4	6	2	2	363
Tapped strips	3684.610	2	4	6	2	2	367
Cross rails, rear	3684.572	2	4	6	2	2	364
Installation screws M4 x 12/1 PU = 100	3654.300	8	16	24	8	8	

For 3½″- 5¼″ and CD-ROM drives

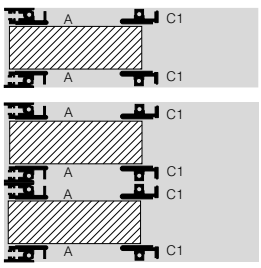
Accessories:

EMC accessories,
see page 358.

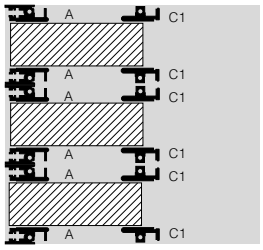
Handles/front panels/
pluggable connectors,
see page 384.

Inside installation/
climate control,
see page 368.

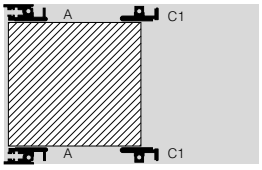
Cross rail configurations:
The bill of materials for each individual configuration is listed in the table on the opposite page.



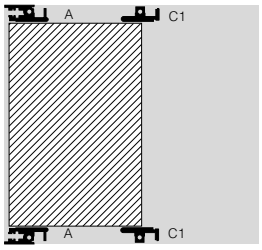
2 U horizontal
4 U horizontal



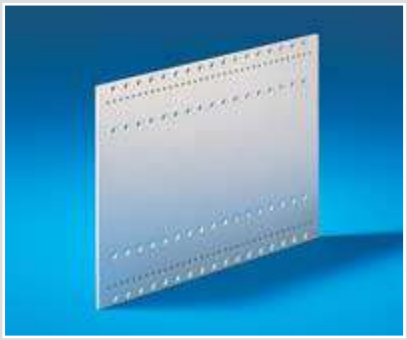
6 U horizontal



4 U vertical



6 U vertical



Sidewalls for Ripac Vario, Ripac Vario EMC and Ripac Compact

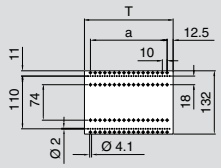
without mounting flange.
Mounting holes and anti-twist half shears in .39″/10 mm increments.

Material:
.1″/2.5 mm aluminum walls

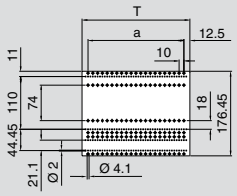
Finish:
Chromated

Accessories:
mounting flange,
see pages 360/361.

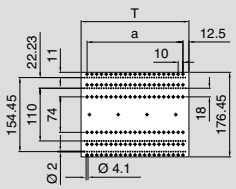
3 U



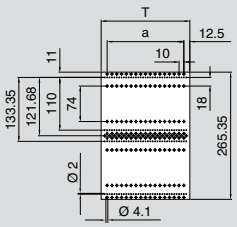
4 U Version 1 (3 U + 1 U)



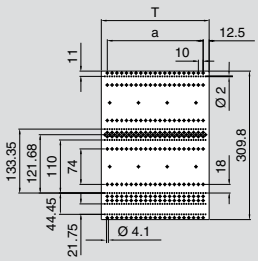
4 U Version 2 (3 U + 2 x ½ U)



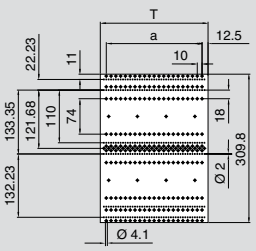
6 U



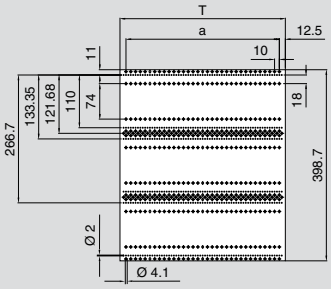
7 U Version 3 (6 U + 1 U)



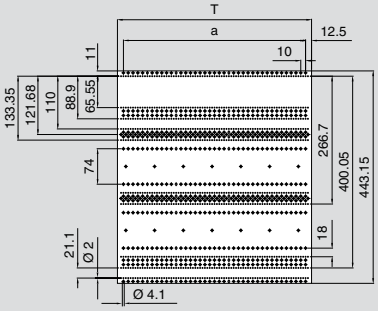
7 U Version 4 (6 U + 2 x ½ U)



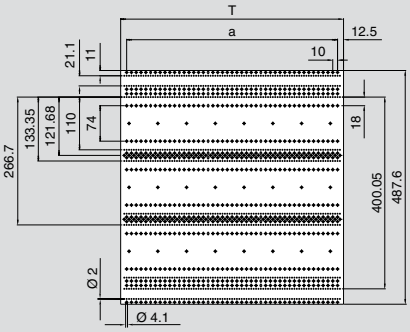
9 U



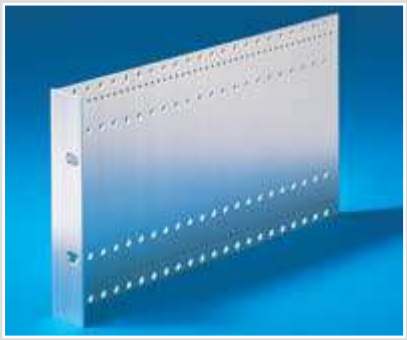
10 U



11 U



T inches/ mm	a inches/ mm	PU	Height (U) **Part No. RP**								
			3	4 (3 + 1)	4 (3 + 2 x ½)	6	7 (6 + 1)	7 (6 + 2 x ½)	9	10	11
7.28/185	6.30/160	1	**3684.511**	–	–	**3684.529**	–	–	–	–	–
8.85/225	7.87/200	1	**3684.512**	**3685.793**	**3685.890**	**3684.530**	**3685.896**	**3685.893**	**3685.797**	–	–
9.65/245	8.66/220	1	**3684.513**	**3685.850**	**3685.891**	**3684.531**	**3685.897**	**3685.894**	–	–	–
11.22/285	10.23/260	1	**3684.514**	**3684.523**	**3684.526**	**3684.532**	**3685.743**	**3685.895**	–	–	–
12.00/305	11.02/280	1	**3684.515**	**3685.794**	–	**3684.533**	–	–	**3685.798**	–	–
13.58/345	12.60/320	1	**3684.516**	**3684.524**	**3684.527**	**3684.534**	**3685.744**	**3685.745**	**3684.547**	–	–
14.37/365	13.39/340	1	**3684.517**	**3685.795**	–	**3684.535**	–	–	**3685.799**	–	–
15.94/405	14.96/380	1	**3684.518**	**3684.525**	**3684.528**	**3684.536**	**3684.541**	**3684.543**	**3684.548**	**3684.545**	–
16.73/425	15.74/400	1	**3684.519**	–	–	**3684.537**	–	–	–	–	–
18.30/465	17.32/440	1	**3684.520**	**3685.796**	**3685.892**	**3684.538**	**3684.542**	**3684.544**	**3684.549**	**3684.546**	**3684.552**
20.67/525	19.69/500	1	**3684.521**	–	–	**3684.539**	**3685.898**	**3685.959**	**3684.550**	**3685.899**	**3684.553**
23.03/585	22.05/560	1	**3684.522**	–	–	**3684.540**	–	–	**3684.551**	–	**3684.554**



Sidewalls for Ripac Economy

with 19″ flanges.
Installation holes and anti-rotation stops at 10 mm intervals.

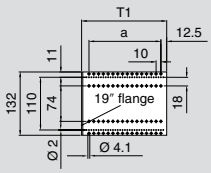
Material:
.1″/2.5 mm aluminum plate

Finish:
Chromated

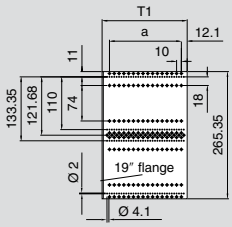
Configuration:
1 sidewall

T1 inches/mm	a inches/mm	Max. PCB depth inches/mm	Height (U) **Part No. RP**		
			3	6	9
7.09/180	6.10/155	6.30/160	**3684.502**	**3684.505**	**3684.508**
9.45/240	8.46/215	8.66/220	**3684.503**	**3684.506**	**3684.509**
11.81/300	10.83/275	11.02/280	**3684.504**	**3684.507**	**3684.510**

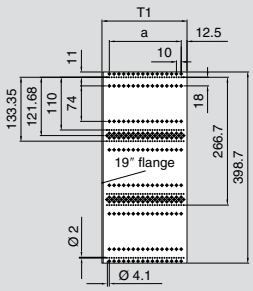
3 U



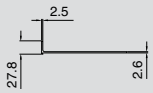
6 U



9 U



Top view of side plate



Sidewalls for Ripac Vario for disk drives

without mounting flange.

Material:
.1″/2.5 mm aluminum walls

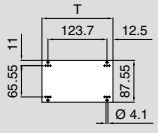
Finish:
Chromated

Configuration:
1 sidewall

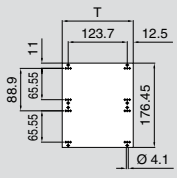
Accessories:
Mounting flange,
see pages 360/361.

Depth (T) inches/mm	For drive chassis	Height (U) **Part No. RP**		
		2	4	6
5.91/150	3½″ – 5¼″	**3684.555**	**3684.556**	**3684.557**

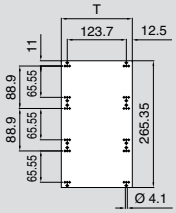
2 U



4 U



6 U



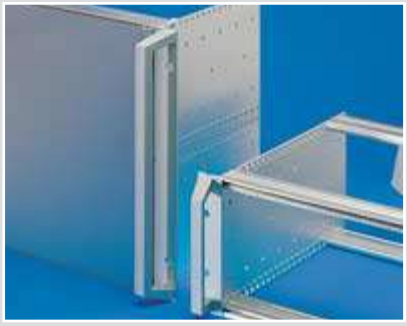
EMC gaskets, vertical

to guarantee EMC protection between subracks and front/rear panels.

Assembly designed for:
- 19″/482.6 mm flange
- Trim strip, rear
- EMC contact strip
- U-shaped front panel
- Trim panels for Ripac Vario module
- Mounting flange for Ripac Vario module

Material:
Stainless steel

U	**Part No. RP** PU = 1
1	**3686.973**
2	**3688.610**
3	**3688.611**
4	**3688.612**
6	**3688.614**
7	**3688.615**
9	**3688.616**
10	**3688.609**
11	**3688.633**



Handles for subracks

for the installation of subrack flange with handle mounting holes.

Material:
Zinc die-cast

Finish:
Painted, silver-grey

Configuration:
2 handles, installation hardware

For U	PU	**Part No. UV**
3	2	**3636.010**
4	2	**3636.010**
6	2	**3666.010**
7	2	**3666.010**

19″/482.6 mm mounting flange

for subracks.

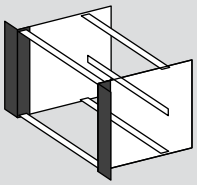
Material:
Aluminum extrusion

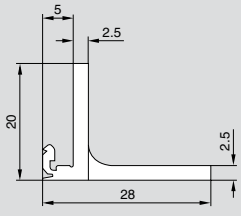
Finish:
Chromated

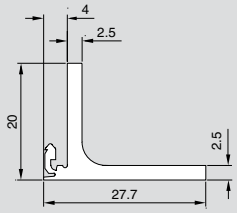
Configuration:
1 flange

For subrack Ripac Vario, Ripac Vario EMC and Ripac Vario for disk drives

U	PU	**Part No. RP with handle mounting holes**	**Part No. RP without handle mounting holes**
2	1	–	**3684.614**
3	1	**3684.622**	**3684.615**
4	1	**3684.623**	**3684.616**
6	1	**3684.624**	**3684.617**
7	1	**3684.625**	**3684.618**
9	1	–	**3684.619**
10	1	–	**3684.620**
11	1	–	**3684.621**







19″/482.6 mm mounting flange with T-groove

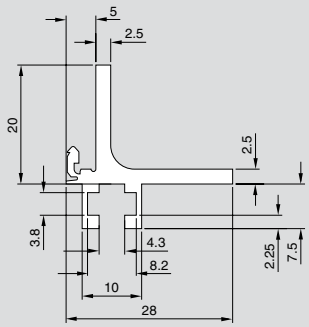
for all Ripac Vario subracks.
19″/482.6 mm flange with additional grooves, e.g. for cable entry, mounting of components or strain relieve. To install model EMC gaskets.

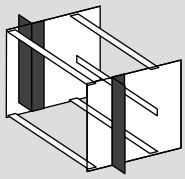
Material:
Aluminum extrusion

Finish:
Chromated

Configuration:
1 flange

U	PU	Part No. RP
3	1	**3686.192**
6	1	**3686.193**
9	1	**3686.194**





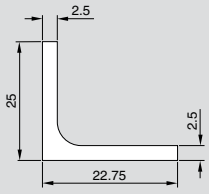
19″/482.6 mm mounting flange, off-set

for subrack Ripac Vario, Ripac Vario EMC and Ripac Vario for disk drives.

Material:
Aluminum extrusion

Finish:
Chromated

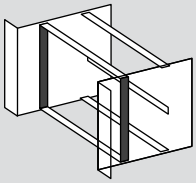
Configuration:
1 flange



U	PU	Part No. RP
3	1	**3684.626**
4	1	**3684.627**
6	1	**3684.628**
7	1	**3684.629**
9	1	**3684.630**
10	1	**3684.631**
11	1	**3684.632**

Note:
Please order fixing screws, nuts and washers separately.

PU	Part No. RP
4 sets	**3687.015**



EMC contact strip

to guarantee EMC protection with off-set connector rails. Integral groove for vertical EMC gaskets. 2 strips are necessary per subrack.

Material:
Aluminum extrusion

Finish:
Chromated

Configuration:
1 contact strip

U	PU	Part No. RP
3	1	**3684.643**
6	1	**3684.644**
9	1	**3684.645**

Note:
Please order fixing screws separately.

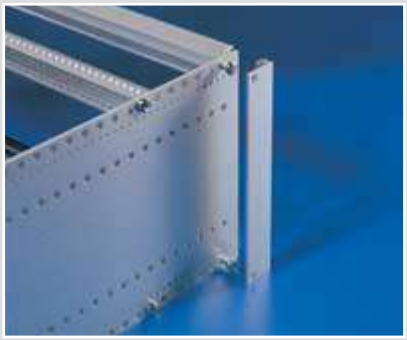
	PU	Part No. RP
M3 x 6	1 pack	**3684.233**

1 pack = 100 pieces

Additional parts needed:

EMC gaskets, vertical,
see page 360.

Trim strips



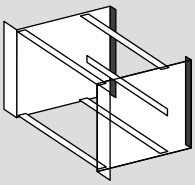
Trim strip, rear

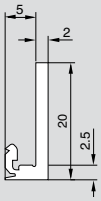
guarantees the 84 HP trim at the rear of the subrack. Built-in groove for EMC gaskets.

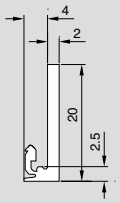
Material:
Aluminum extrusion

Finish:
Chromated

Configuration:
1 (2) trim strip(s)







For Ripac Vario, Ripac Vario EMC and Ripac Vario for disk drives subracks.

U	Part No. RP PU = 1	Part No. RP PU = 2
2	**3684.633**	–
3	**3684.634**	**3685.276**
4	**3684.635**	–
6	**3684.636**	**3685.277**
7	**3684.637**	–
9	**3684.638**	–
10	**3684.639**	–
11	**3684.640**	–

For Ripac Economy subracks.

U	Part No. RP PU = 1	Part No. RP PU = 2
3	**3688.112**	–
6	**3688.113**	–

Accessories:

EMC gaskets, vertical,
see page 360.

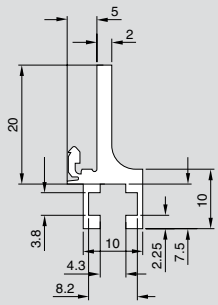
Trim strip, rear, with T-groove

guarantees the 84 HP trim at the rear of the subrack. Additional T-grooves are designed for cable routing, mounting of components or strain relief. EMC gaskets may be installed for the EMC version.

Material:
Aluminum extrusion

Finish:
Chromated

Configuration:
1 trim strip



U	PU	Part No. RP
3	1	**3686.195**
6	1	**3686.196**
9	1	**3686.197**

Accessories:

EMC gaskets, vertical,
see page 360.

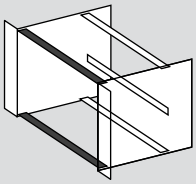
Cross rail, front

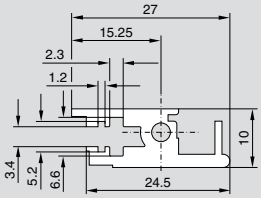
for accepting card guides and for mounting front panels.

- System hole pattern for the exact mounting of card guides in the HP increments.
- M4 threading face side.
- Continuous core.

Material:
Aluminum extrusion

Finish:
Chromated





Useful width (HP)	PU	Part No. RP
4 (left)	1	**3684.592**
4 (right)	1	**3684.955**
8 (left)	1	**3684.593**
8 (right)	1	**3684.956**
12	1	**3684.594**
16	1	**3684.595**
20	1	**3684.596**
21	1	**3685.985**
40	1	**3684.960**
42	1	**3684.560**
63	1	**3684.561**
84	1	**3684.562**
84	2	**3685.267***
192	1	**3688.000**

***** Includes four installation screws.

Note:
Please order fixing screws separately.

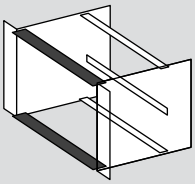
	PU	Part No. RP
M4 x 12	1 pack	**3654.300**

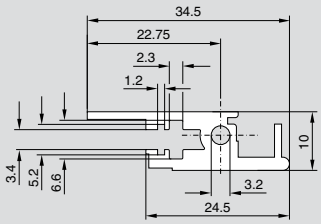
1 pack = 100 pieces

Cross rails, front, with .39″/10 mm roof for injector/extractor handles Type IV and VII

to accept card guides and mounting of front panels.

- Front overhang and system hole pattern according to IEEE 1101.10, for the installation of injector/extractor handles.
- System hole pattern for the precise mounting of card guides in HP increments.
- M4 threading face side.
- Continuous core.





Useful width (HP)	PU	Part No. RP
40	1	**3684.961**
42	1	**3684.565**
63	1	**3684.566**
84	1	**3684.567**
84	2	**3685.269***
192	1	**3688.001**

***** Includes four installation screws.

Material:
Aluminum extrusion

Finish:
Chromated

Note:
Please order fixing screws separately.

	PU	Part No. RP
M4 x 12	1 pack	**3654.300**

1 pack = 100 pieces

Cross rails, rear, with groove (for Ripac Economy)

accepts card guides and mounts Z-rails, isolating and contact strips.

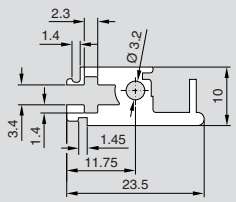
- System hole pattern for the precise mounting of card guides in HP increments.
- Groove for installation of covers.
- Installation of backplanes/Z-rails require tapped rails (RP 3684.610).
- M4 threading face side.
- Continuous core.
- May not be closed off with covers.

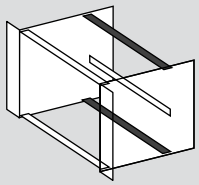
Material:
Aluminum extrusions

Useful width (HP)	PU	Part No. RP
84	1	**3688.104**

Finish:
Chromated

Note:
Please order M4 x 12 fixing screws separately, see above.





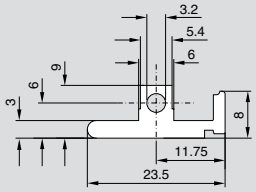
Cross rails, rear

accepts card guides and mounts Z-rails, isolating and contact strips.

- System hole pattern for the precise mounting of card guides in HP increments.
- M2.5 tapped holes, mounts Z-rails, isolating and contact strips.
- M4 threading face side.
- Continuous core.

Material:
Aluminum extrusion

Finish:
Chromated



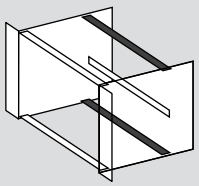
Useful width (HP)	PU	Part No. RP
21	1	**3685.991**
40	1	**3684.962**
42	1	**3684.570**
63	1	**3684.571**
84	1	**3684.572**
84	2	**3685.268***
192	1	**3688.002**

***** Includes four installation screws.

Note:
Please order fixing screws separately.

	PU	Part No. RP
M 4 x 12	1 pack	**3654.300**

1 pack = 100 pieces

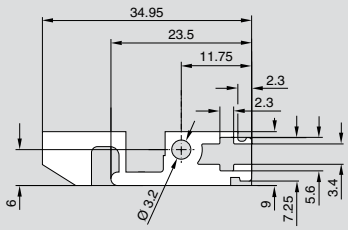


Cross rail, rear, reinforced model

for high static loads.

Material:
Aluminum extrusion

Finish:
Chromated



Useful width (HP)	PU	Part No. RP
42	1	**3687.604**
63	1	**3687.605**
84	1	**3687.606**
192	1	**3688.004**

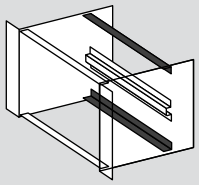
Note:
Please order fixing screws separately.

	PU	Part No. RP
M 4 x 12	1 pack	**3654.300**

1 pack = 100 pieces

Tapped strips for reinforced version

Useful width (HP)	PU	Part No. RP
42	1	**3687.616**
63	1	**3687.617**
84	1	**3687.725**



Cross rails, rear with integral Z-rails

to accept card guides. Integral z-rails for the mounting of pluggable connectors DIN 41612.

- System hole pattern for the precise mounting of card guides in HP increments.
- 84 tapped holes M2.5 for the installation of pluggable connectors.
- M4 threading face side.
- Continuous core.

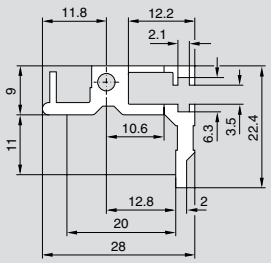
Material:
Aluminum extrusion

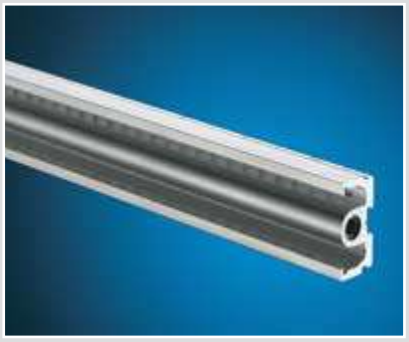
Finish:
Chromated

Useful width (HP)	PU	Part No. RP
42	1	**3686.191**
63	1	**3686.919**
84	1	**3686.159**

Note:
Please order fixing screws separately (1 pack = 100 pieces).

	PU	Part No. RP
M 4 x 12	1 pack	**3654.300**





Cross rail, rear, center

for the use of 6 U circuit boards or modules. Mounting option for Z-rails, isolating or contact strips.

- 84 tapped holes M2.5.
- M4 threading face side.
- Continuous core.

Material:
Aluminum extrusion

Finish:
Chromated

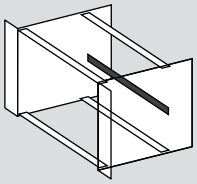
Useful width (HP)	PU	Part No. RP
40	1	**3684.963**
42	1	**3684.580**
63	1	**3684.581**
84	1	**3684.582**
84	1	**3685.270***
858.5 mm	1	**3684.579**

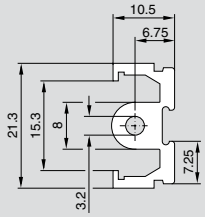
***** Includes four installation screws.

Note:
Please order M4 x 12 fixing screws separately.

	PU	Part No. RP
M 4 x 12	1 pack	**3654.300**

1 pack = 100 pieces





Connector rail, rear, center with integral Z-rail

for the use of 6 U circuit boards or modules. Integral Z-rail for the installation of pluggable connectors.

- 84 tapped holes M2.5.
- M4 threading face side.
- Continuous core.

Material:
Aluminum extrusion

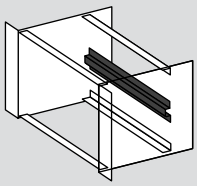
Finish:
Chromated

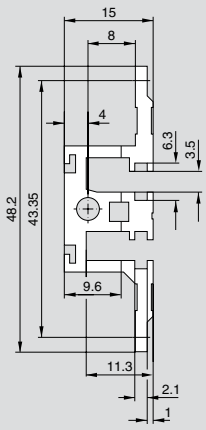
Useful width (HP)	PU	Part No. RP
42	1	**3687.600**
63	1	**3687.601**
84	1	**3687.602**
858.5 mm	1	**3687.603**

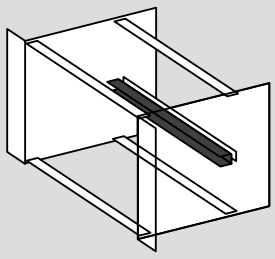
Note:
Please order fixing screws separately.

	PU	Part No. RP
M 4 x 12	1 pack	**3654.300**

1 pack = 100 pieces







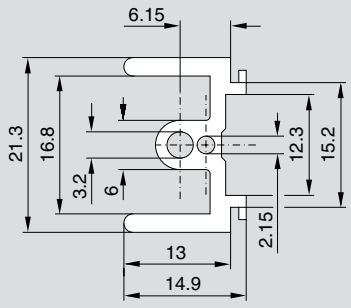
Adaptor rails, rear, center

When subdividing, for instance a 6 U into a 2 x 3 U, the adaptor rail mounts on the center rail and accepts the card guides.

- System hole pattern for the precise mounting of card guides in HP increments.
- M4 and M2.5 threading face side.
- Continuous core.

Material:
Aluminum extrusion

Finish:
Chromated



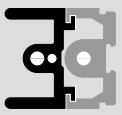
Useful width (HP)	PU	Part No. RP
12	1	**3684.587**
16	1	**3684.588**
20	1	**3684.589**
40	1	**3684.964**
42	1	**3684.590**
63	1	**3686.005**
84	1	**3684.591**
84	1	**3685.272***
858.5 mm	1	**3684.584**

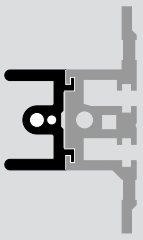
***** Includes two installation screws.

Note:
Please order fixing screws separately.

	PU	Part No. RP
M4 x 12	1 pack	**3654.300**

1 pack = 100 pieces





Contact strips

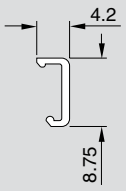
for conducting installation of backplanes.

- 84 HP length.
- Mountable rear cross rails.

Material:
Aluminum

Finish:
Chromated

Useful width (HP)	PU	Part No. RP
84	1	**3684.612**
84	2	**3685.273**



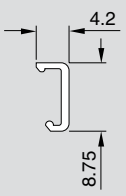
Isolating strips

For isolating installation of backplanes.

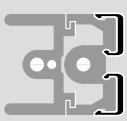
- 21 HP length.
- Mountable to rear cross rails.

Material:
Plastic, self extinguishing per UL 94-V0.

Useful width (HP)	PU	Part No. RP
21	1	**3684.611**
21	8	**3685.274**



Rear cross rail is equipped with isolating strip (top) and contact strip (bottom).

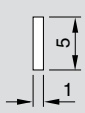


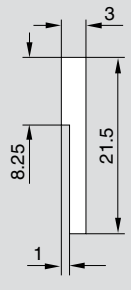
Punched strip

Material:
Aluminum

Finish:
Chromated

Useful width (HP)	PU	Part No. RP
84	2	**3685.275**





Z-rail for pluggable connectors DIN 41 612

with 84 x M2.5 threading.

Material:
Aluminum extrusion

Finish:
Chromated

Useful width (HP)	PU	Part No. RP
4	1	**3684.597**
8	1	**3684.598**
20	1	**3684.599**
40	1	**3684.965**
42	1	**3684.600**
63	1	**3684.601**
84	1	**3684.602**
84	2	**3685.271**

Note:
Please order fixing screws separately:
(1 pack = 100 pieces).

	PU	Part No. RP
M2.5x 6	1 pack	**3654.340**

Threaded inserts

with M2.5 tapped holes in 1 HP increments. For sliding into the front cross rail.

Material:
Steel

Finish:
Galvanized

Note:
The tapped rails are not usable with the reinforced rear cross rails (see page 364).

Useful width (HP)	PU	Part No. RP
4	1	**3684.603**
8	1	**3684.604**
12	1	**3684.605**
16	1	**3684.606**
20	1	**3684.607**
21	1	**3686.149**
40	1	**3684.966**
42	1	**3684.608**
63	1	**3684.609**
84	1	**3684.610**

EMC gaskets, horizontal

for horizontal EMC protection. Snap onto the front cross rails.

Material:
Stainless steel

Useful width (HP)	PU	Part No. RP
For top/bottom cross rails		
40	1	**3684.974**
84	1	**3684.808**
84	10	**3684.246**
Dividing 6 U into 2 x 3 U, between two cross rails.		
84	1	**3685.789**
84	10	**3685.229**

Identification strip

to number the installation slots on the subrack, self-adhesive.

The following versions are available:
- 4 mm width:
  for identification strips and cross rails.
- 4 mm width:
  for rear cross rails.
- 2 mm width:
  for front connector rails
  (facing groove).

Width	PU	Identification	Part No. RP
4 mm	2	1...84	**3656.540***
4 mm	2	1...168	**3656.560***
4 mm	2	84...1	**3650.600**
2 mm	2	1...84	**3656.550***

* Lead times upon request.

Mounting kit

For European cards and Euro double cards in 6 U subracks and 9 U subracks.

Material:
Aluminum, chromated

Finish:
Chromated

Configuration:
2 cross rails, front,
1 adaptor rail,
2 tapped strip,
1 vertical brace (from 12 HP),
installation hardware.

6 U (2 x 3 U)

HP (6 U)	HP (2 x 3 U)	Part No. RP
68	14	**3684.220**
61	21	**3684.221**
54	28	**3684.222**
42	40	**3684.223**
40	42	**3684.224**

9 U (1 x 6 U + 1 x 3 U)

HP (9 U)	HP (1 x 6/1 x 3 U)	Part No. RP
80	4	**3684.225**
76	8	**3684.226**
70	12	**3684.227**
66	16	**3684.228**
62	20	**3684.229**

Accessories:

Front panel, see below.

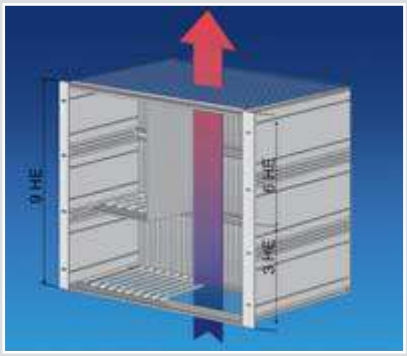
Mounting kit including card guides

For European and Euro double cards in 6 U subracks.

Configuration:
2 cross rails, front,
1 adaptor rails,
2 tapped strips,
1 vertical brace (from 12 HP),
2 card guides/slots.

6 U (2 x 3 U)

HP (6 U)	HP (2 x 3 U)	Number of slots 3 U	Part No. RP	Part No. RP VME 64 extension
80	4	1	**3685.037**	**3685.137**
76	8	2	**3685.038**	**3685.138**
70	12	3	**3685.039**	**3685.139**
66	16	4	**3685.040**	**3685.140**
62	20	5	**3685.041**	**3685.141**



HE = U

Mounting kit offset

For the rear offset installation of 6 U circuit boards in a 9 U subrack.

Configuration:
2 cross rails, front,
1 divider wall,
2 tapped strips,
2 card guides/slots,
installation hardware.

9 U (6 U offset)

HP (9 U)	HP (1 x 6/ 1 x 3 U)	Number of slots 6 U	Part No. RP	Part No. RP VME 64 extension
80	4	1	**3685.058**	**3685.158**
76	8	2	**3685.059**	**3685.159**
70	12	3	**3685.060**	**3685.160**
66	16	4	**3685.061**	**3685.161**
62	20	5	**3685.062**	**3685.162**

Accessories:

EMC gaskets for EMC configuration,
see pages 360, 367.

Front panel

To cover the vertical diverter rails of the mounting kit; has to be ordered separately for the mounting kit of European and double Euro cards.

Material:
Aluminum

Finish:
Chromated

U	HP	PU	Part No. RP
6	2	1	**3685.176**
9	2	1	**3685.286**

EMC

U	HP	PU	Part No. RP
6	4	1	**3685.298**
9	4	1	**3685.299**

Configuration:
1 front panel,
1 vertical EMC gaskets (for EMC),
installation hardware.

Brace, vertical

Necessary for the combination installation of single, double and triple Euro cards (100, 233.35 and 366.7 mm) into a subrack.

Material:
Aluminum extrusion

U	PU	Part No. RP
6	1	**3684.678**
9	1	**3684.679**

Finish:
Chromated

Horizontal mounting kit

For the horizontal installation of 6 U/9 U circuit boards in 3 U/4 U subracks.
Installation space:
- 6 U/9 U circuit boards:
  3 U: 20 HP (5 slots)
  4 U: 28 HP (7 slots)
- European cards (only 6 U circuit boards):
  53 U without trim frame
  56 U with trim frame

Material:
Aluminum, chromated

Configuration:
2 cross rails, front,
2 cross rails, rear,
1/2 cross rail rear, center,
2 tapped rails,
4/6 isolating strip,
4 connector pieces,
installation hardware.

Horizontal mounting kits for backplane installation, standard cross rails in front.

	3 U vertical Part No. RP	4 U vertical Part No. RP
6 U horizontal	**3684.206**	**3684.208**
9 U horizontal	**3684.207**	**3684.209**

Horizontal mounting kits for backplane installation with 64 extension cross rails.

	3 U vertical Part No. RP	4 U vertical Part No. RP
6 U horizontal	**3684.210**	**3684.212**
9 U horizontal	**3684.211**	**3684.213**

Accessories:
Trim panel, see below.

Trim frame for the horizontal mounting kit

Technical description:
to cover the front rails of the mounting kits RP 3684.206 – RP 3684.210; required in addition to the horizontal mounting kit.

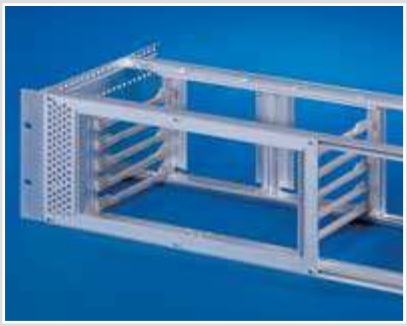
Material: Aluminum

Finish: Anodized

Configuration: 1 trim frame

U horizontal	HP	3 U vertical Part No. RP	4 U vertical Part No. RP
6	56	**3685.783**	**3685.785**
9	84	**3685.784**	**3685.786**

Note:
Captive screws and plastic nipples ordered separately.
Part No. RP 3658.160,
1 pack = 100 piece (slotted).
Part No. RP 3684.084,
1 pack = 100 pieces (Phillips head).

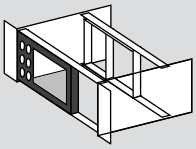


Trim frame, vented, for the horizontal mounting kit

Material:
Aluminum

Finish:
Anodized,
chromated (EMC version).

Configuration:
1 trim panel,
EMC accessories (for EMC version).



U hori-zontal	HP	For 3U subrack Part No. RP	For 4U subrack Part No. RP
6	63	**3685.787**	**3685.788**

Note:
Captive screws and plastic nipples ordered separately (1 pack = 100).

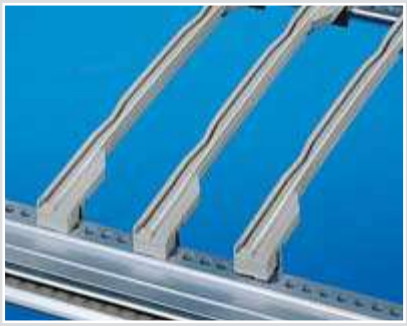
Model	PU	Part No. RP
Slotted	1 pack	**3658.160**
Phillips head	1 pack	**3684.084**

EMC trim frame:

EMC

U hori-zontal	HP	For 3U subrack Part No. RP	For 4U subrack Part No. RP
6	63	**3685.291**	**3685.292**

Centering screws ordered separately:
Part No. RP 3687.050 (slotted),
Part No. RP 3687.051 (Phillips head),
1 pack = 100 pieces.



Card guides (plastic)

For 6.30, 8.66 and 11.02″/160, 220 and 280 mm circuit boards up to .08″/2 mm rated strength.
2 versions are available:
- Snap-on and screw-on.
- Snap-on.

Material:
Fiberglass-reinforced polycarbonate (UL 94-V1), RAL 7032.

Circuit board depths inches/mm	PU	Part No. RP snap-on/ screw-on*	Part No. RP snap-on
6.30/160	1	**3684.657**	**3684.654**
8.66/220	1	**3684.658**	**3684.655**
11.02/280	1	**3684.659**	**3684.656**

*** Note:**
Order fixing screws separately (PU = 100).

PU	Part No. RP
1 pack	**3654.360**

Card guides (plastic) for installation of contact springs

For 6.30, 8.66 and 11.02″/160, 220 and 280 mm circuit boards up to .08″/2 mm rated strength. Installation of contact springs creates a conductive connection between circuit board and sub assembly.

Material:
Fiberglass-reinforced polycarbonate (UL 94-V1), RAL 7032.

Circuit board depths inches/mm	PU	Part No. RP
6.30/160	1	**3684.660**
8.66/220	1	**3684.661**
11.02/280	1	**3684.662**

Contact guides

For card guides Part No. RP 3684.660 – RP 3684.662 for the electrical connection between circuit board and subrack or to discharge electrostatic loads of the circuit board.

PU	Part No. RP
10	**3687.726**

Card guides (aluminum)

For extremely high mechanical loads. Suitable for circuit boards with a rated strength of .06″/1.6 mm. Two options are available, card guides with or without end pieces. The card guides without end pieces are screwed directly onto the cross rails.

Material:
Aluminum

Circuit board depths inches/mm	PU	Part No. RP for end pieces
6.30/160	1	**3684.663**
8.66/220	1	**3684.664**
11.02/280	1	**3684.665**
39.37/1 Meter	1	**–**

* **Note:**
Please order installation hardware separately.

		PU = 1 pack	Part No. RP
Screws	M2.5 x 6	100	**3654.340**
Nuts	M2.5	100	**3654.370**
Retainer	M2.5	50	**3656.600**

End pieces for card guides (aluminum)

Metal contact gaskets Part No. RP 3687.726 may be used to discharge electrostatic loads.

Material:
Fiberglass-reinforced polycarbonate UL 94-V1.

	PU	Part No. RP
End pieces	10	**3651.040**

	PU	Part No. RP
Contact gasket	1 pack	**3687.726**

1 pack = 10 pieces

Keyable card guides (plastic)

Card guides 4 HP, keyable, for .06″/1.6 mm – .07″/2.0 mm rated strength in compliance with IEEE 1101.10.

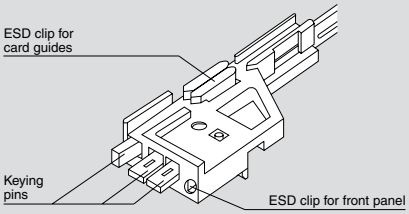
- Keying chambers for the installation of keying pins (see page 373).
- Option of installing ESD clips for discharging electrostatic loads (see page 373).
- Narrow construction for maximum airflow.
- Different colors to identify the slots:
  – red for CPU,
  – green for power supply,
  – yellow/grey for plug-in assemblies.

Usable only with injector/extractor handles Type IV, Type VII (see page 388).

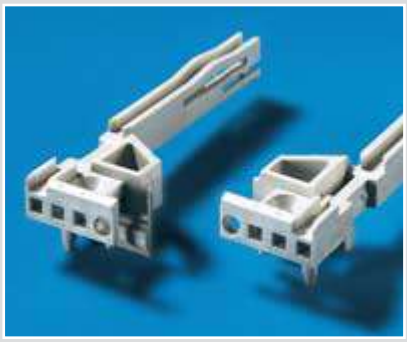
Material:
Plastic, self-extinguishing per UL 94-V0.

Card guide 3.15″/80 mm, 6.30″/160 mm for rear plug-in by request.

* With 1/2 HP offset.



For circuit board depths inches/mm	PU	Grey	Red	Green	Yellow
		Part No. RP	**Part No. RP**	**Part No. RP**	**Part No. RP**
6.30/160	10	**3685.257**	–	–	–
8.66/220	10	**3685.258**	–	–	–
11.02/280	10	**3685.259**	–	–	–
6.30/160	1	**3684.669**	**3686.063**	**3688.055***	**3689.089**
8.66/220	1	**3684.953**	–	–	**3689.091**
11.02/280	1	**3684.954**	–	–	**3689.093**
6.30/160 w/PCB ESD L/H	1	**3687.905**	**9807.838**	–	–
6.30/160 w/PCB ESD R/H	1	**3687.835**	**3689.039**	**9883.314**	–
6.30/160 w/PCB & FP ESD L/H	1	**3687.910**	**3689.040**	**3689.066**	–
6.30/160 w/PCB & FP ESD R/H	1	**3687.909**	**3689.041**	**3689.065**	**3689.156**
6.30/160 w/PCB & FP ESD LH/RH	1	**3689.144**	–	–	–
8.66/220 w/PCB & FP ESD L/H	1	**3689.082**	–	–	–
8.66/220 w/PCB & FP ESD R/H	1	**3689.083**	–	–	–
11.02/280 w/PCB & FP ESD L/H	1	**9808.306**	–	–	–
11.02/280 w/PCB & FP ESD R/H	1	**9808.305**	–	–	–



Keyable card guides for rear I/O subracks

Card guides 4 HP, keyable, for .06″/1.6 mm – .07″/2.0 mm rated strength.
Ready to accept a ground contact for the installation of a pluggable earthing/grounding connection.

- For 3.15″/80 mm deep circuit boards.
- Keying chambers for the installation of keying pins (see page 373).
- Option of installing ESD clips for discharging electrostatic loads (see page 373).
- Narrow construction for maximum airflow.
- For CPCI or VME applications.

For circuit board depths 2.95″/75 mm	Grey	Yellow
	Part No.	**Part No.**
L/H	**3687.936**	**3689.097**
R/H	**3687.937**	**3689.098**
w/PCB ESD & Screw L/H	**3689.171**	**3689.173**
w/PCB ESD & Screw R/H	**3689.170**	**3689.175**
w/PCB ESD GND & Screw L/H	**3689.169**	**3689.172**
w/PCB ESD GND & Screw R/H	**3689.168**	**3689.174**

Only with injector/extractor handles Type IV, Type VII (see page 388).

Material:
Plastic, self-extinguishing per UL 94-V0.

Earth/grounding connections

CPCI Specifications

- PICMG 2.0 (3.6 1 a)

Material:

- Handle/PCB holders with earth/ground pin: zinc alloy die-casting, nickel plated (not part of the delivery).
- Earth/ground receptacle: zinc alloy die-casting, tin plated.
- Earth/ground contact: beryllium copper, silver plated.
- Assembly screw: M3 x 10 hardened steel, chromated.

Note:
This screw has a Torx feature and requires a Torx T-10 compatible drive bit.

Description	PU	Part No.
Earth/ground contact and receptacle	50	**3687.951**
Retention screw	50	**3684.109**
Retention screw	1	**3687.938**
Guide rail adaptor for 160 mm	1	**3684.110**

Note:
Typically the earth/ground contact is only necessary in the bottom position of the subrack/module. This requires one bottom guide I/O rail, one earth/ground contact and receptacle and one retention screw. The upper subrack/module position typically requires only one top I/O guide rail and one retention screw. The 160 mm guide rail adaptor is only being used if earth/ground contact is required for system front mounted (160 mm deep) CPCI modules.

Keyable card guides, with offset (Telecom)

Card guides with 1/2 U offset guide piece, for use with Telecom applications. Facilitates double-sided population of circuit boards.

- For circuit boards of .06″/1.6 mm – .07″/2.0 mm strength.
- 4 U x 6.30 – 8.66″/160 – 220 mm.
- Narrow construction for maximized air flow.
- Keying chambers for the installation of keying pins (see page 373).
- Option of installing ESD clips for discharging electrostatic loads (see page 373).

Usable only with extractor handles Type VII (see page 388).

Material:
Plastic, self-extinguishing per UL 94-V0.

Configuration:
1 card guide

Circuit board depths (inches/mm)	PU	Part No. RP (grey)	Part No. RP (green)	Part No. RP (yellow)
6.30/160	1	**3686.137**	**3687.832**	**3689.090**
8.66/220	1	**3686.136**	**3689.092**	**3689.092**
11.02/280	1	**3686.000**	**3689.094**	**3689.094**
6.30/160 w/PCB & FP ESD L/H	1	**9807.909**	**3689.077**	**3689.155**
6.30/160 w/PCB & FP ESD R/H	1	**9807.908**	**3689.078**	**3689.157**
8.66/220 w/PCB & FP ESD L/H	1	**3689.086**	–	–
8.66/220 w/PCB & FP ESD R/H	1	**3689.087**	–	–
11.02/280 w/FP ESD R/H	1	**3689.042**	–	–
11.02/280 w/PCB & FP ESD L/H	1	**3689.043**	–	–
11.02/280 w/PCB & FP ESD R/H	1	**9802.954**	–	–

Three-part card guides (aluminum) keyable

Card guides, keyable, with aluminum center piece, for high mechanical loads. Suitable for .06″/1.6 mm – .07″/2.0 mm strength.

The following individual components make up a card guide:
2 end pieces, 1 aluminum center piece, isolating center piece(s).

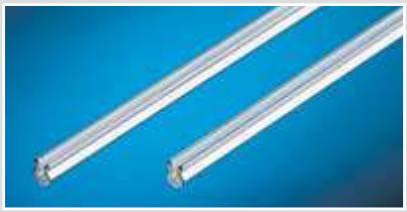
End pieces for three-part guides

For circuit boards of .06″/1.6 mm – .07″/2.0 mm strength.
Mount on the aluminum center rails.

Material:
Plastic, self-extinguishing per UL 94-V0.

Note:
For individual orders, one front and one rear end piece is necessary per card guide.

Guide rail end pieces	Part No. grey	Part No. yellow
L/H	**3685.790**	**3689.095**
R/H	**3684.670**	**3689.096**
w/PCB ESD L/H	**9802.493**	–
w/PCB & FP ESD L/H	**9807.715**	**9808.115**
w/PCB ESD & FP R/H	**9807.714**	**9808.116**



Aluminum center rail for three-part card guides

For circuit boards of .06″/1.6 mm – .07″/2.0 mm strength.

Material: Aluminum

Finish: Chromated

For circuit board depths inches/mm	Part No. RP PU = 1
8.66/ 220	**3684.673**
11.02/ 280	**3684.674**
13.39/ 340	**3684.675**
15.75/ 400	**3684.676**
39.38/1000	**3684.672**

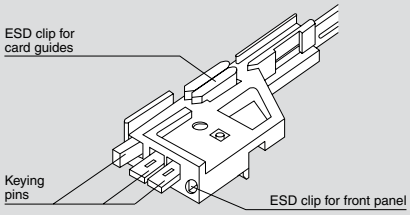
Isolating center piece for three-part card guides

The isolating centerpiece mounts on the aluminum center rail.
Length: 2.36″/60 mm

Material:
Plastic, self-extinguishing per UL 94-V0.

PU	Part No. RP
1	**3684.677**
10	**3685.264**

For circuit board depths inches/mm	Number of isolating rails required
8.66/220	2
11.02/280	3
13.39/340	4
15.75/400	5



ESD clip

For keyable card guides.
To dissipate electrostatic charges.

- **ESD clip for card guide**
  for permanent discharge via the circuit board before bonding.
- **ESD clip for front panel**
  for discharge of electrostatic load in conjunction with the ESD pin.
  Inserts into the end of the card guide.

May only be used with extractor handles with ESD pins (Type IV, Type VII).

PU	Part No. RP ESD clip for card guides	Part No. RP ESD clip for front panel
50	**3684.204**	**3684.205**
1	**3684.978**	**3684.979**

Material:
Stainless steel

Configuration:
50 ESD clips

Keying pins

For keying plug-in assemblies from the front. Die insert into the chambers of the keyable card guides as well as the injector/extractor handles Type IV and VII.

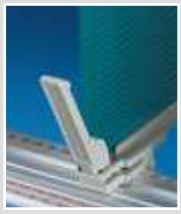
Material:
Plastic, self-extinguishing per UL 94-V0.

Configuration:
100 keying pins

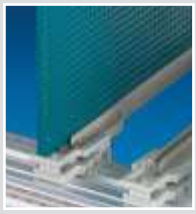
Color	PU	Part No. RP
Grey	100	**3684.325**
Red	100	**3684.326**

Accessories:

Keying tool for easy installation of up to three keying pins.
Part No. RP 3687.956



Card ejector/
PCB retainer



PCB retainer

Card ejector/PCB retainer

To secure and extract assemblies without a front panel. Fastens to the assembly. In this way it is possible to combine front systems with and without a front panel side-by-side. The base section can be used on its own as a PCB retainer.

Material:
Fiberglass-reinforced polycarbonate (UL 94-V0), RAL 7032.

PU	Part No. RP card ejector/ PCB retainer	Part No. RP PCB retainer
10	**3687.014**	**3687.052**

Card guides for disk drive modules

Card guide for guiding the vertical disk drive module. Two card guides are needed per disk drive modules.

Material:
Aluminum

Configuration:
1 card guide,
installation hardware.

Installation depth inches/mm	PU	Part No. RP
6.30/160	1	**3686.989**

Note:
Please order fixing screws separately.
Flat head screws M 2.5 x 6,
Part No. RP 3654.340,
1 pack = 100 pieces.

Card guides for modules of Type I and II

For .06″/1.6 mm circuit boards.
Are used with slotted module covers.
Part No. see page 398.

Material:
Noryl

Configuration:
10 card guides

For circuit board depths inches/mm	PU	Part No. RP
6.30/160	10	**3606.140**
8.66/220	10	**3606.200**

Cover panels, version 1

Cover for the total depth of the subrack (EMC version) or plug protection.

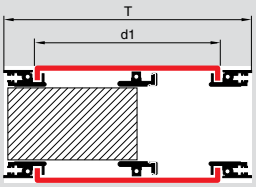
- Flat version, top and bottom.
- Choice of vented or solid.
- Mounts on the subrack sidewall with mounting blocks. The EMC version requires additional mounting blocks across the total depth of the subrack.

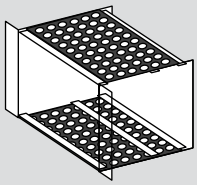
Material:
.04″/1.0 mm aluminum; hole diameter .16″/4 mm for vented version.

Finish:
Blank metal

Configuration:
2 cover panels,
8 mounting blocks, 1.12″/28.5 mm each,
24 fixing screws.

Configuration component:
1 cover panel





			Single component		Set	
HP	For sidewall depth T (inches/mm)	Cover depth d1 (inches/mm)	Part No. RP		Part No. RP	
			Vented	Solid	Vented	Solid
21	8.86/225	7.56/192	**3687.618***	**3687.620***	–	–
	11.22/285	9.82/252	**3687.619***	**3687.621***	–	–
42	6.89/175[1)]	5.60/142[2)]	**3687.622***	**3687.626***	–	–
	8.86/225	7.56/192	**3687.623***	**3687.627***	–	–
	9.65/245	8.35/212	**3684.958***	**3687.628***	–	–
	11.22/285	9.92/252	**3685.642***	**3687.629***	–	–
84	6.89/175[1)]	5.59/142[2)]	**3684.681***	**3684.680***	**3685.245**	**3685.250**
	8.86/225	7.56/192	**3684.694***	**3684.683***	–	–
	9.25/235[1)]	7.95/202	**3685.851***	**3685.813***	–	–
	9.65/245	8.35/212	**3684.695***	**3684.684***	**3685.246**	**3685.251**
	11.22/285	9.92/252	**3684.696***	**3684.685***	–	–
	11.61/295[1)]	10.31/262	**3685.855***	**3685.814***	–	–
	12.00/305	10.71/272	**3685.852***	**3684.686***	**3685.247**	**3685.252**
	13.58/345	12.28/312	**3684.698***	**3684.687***	–	–
	14.37/365	13.07/332	**3685.853***	**3684.688***	**3685.248**	**3685.253**
	15.95/405	14.65/372	**3684.700***	**3684.689***	**3685.249**	**3685.254**
	18.31/465	17.00/432	**3684.701***	**3684.691***	–	–
	20.67/525	19.37/492	**3684.702***	**3684.692***	–	–
	23.03/585	21.73/552	**3684.703***	**3684.693***	–	–

[1)] Ripac Economy sidewall.
[2)] Only applies for circuit board depths up to 3.94″/100 mm.

*** Additional parts needed:**

	PU	Part No. RP
Mounting blocks	10	**3684.234**
Mounting screws	1 pack	**3684.233**

1 pack = 100 pieces

EMC gaskets for cover panels

For EMC shielding between cross rails and cover panels.

Material:
Stainless steel

HP	PU	Part No. RP
84	10	**3684.245**

Cover panels, version 2

Covering of circuit board depth.

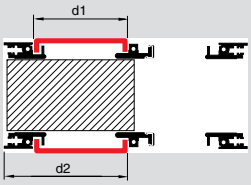
- Flat version top and bottom.
- Choice of vented or solid.
- Installation on subrack sidewall with mounting blocks.

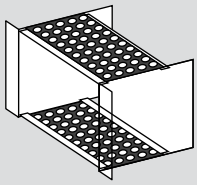
Material:
.04″/1.0 mm aluminum, hole diameter .16″/4 mm for the vented version.

Finish:
Blank metal

Configuration set:
2 cover panels,
8 mounting blocks 1.22″/28.5 mm each,
24 fixing screws.

Configuration component:
1 cover panel





HP	For guide cards depth d2 inches/mm	Cover panel depth d1 inches/mm	Single component Part No. RP Vented	Single component Part No. RP Solid	Set Part No. RP Vented	Set Part No. RP Solid
21	6.30/160	5.59/142	**3687.630***	**3687.634***	–	–
	8.66/220	7.95/202	**3687.631***	**3687.635***	–	–
42	6.30/160	5.59/142	**3684.957***	**3687.636***	–	–
	8.66/220	7.95/202	**3687.633***	**3687.637***	–	–
	11.02/280	10.31/262	**3687.638***	**3687.639***	–	–
84	6.30/160	5.59/142	**3684.681***	**3684.680***	**3685.245**	**3685.250**
	8.66/220	7.95/202	**3685.851***	**3685.813***	–	–
	11.02/280	10.31/262	**3685.855***	**3685.814***	–	–
	13.38/340	12.68/322	**3685.856***	–	–	–
	15.75/400	15.04/382	**3685.857***	–	–	–

*** Additional parts needed:**

	PU	Part No. RP
Mounting blocks	10	**3684.234**
Fixing screws	1 pack	**3684.233**

1 pack = 100 pieces

Cover panels, version 3

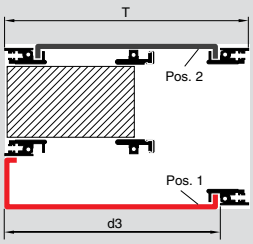
Covering of the total subrack depth (EMC version).

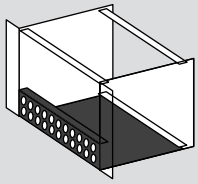
- Cover with 1 U edge (Pos. 1), to cover the 1 U space in the subrack.
- In addition a flat cover is needed (Pos. 2).
- Choice of vented or solid front.
- Designed for 4 U (3 + 1), 7 U (6 + 1) subracks.
- Installation on the subrack sidewall with mounting blocks.
  The EMC version requires mounting blocks across the entire width of the subrack.

Material:
.04″/1 mm aluminum, hole diameter .16″/4 mm for the vented version.

Finish:
Blank metal

Configuration component:
1 cover with 1 U edge.



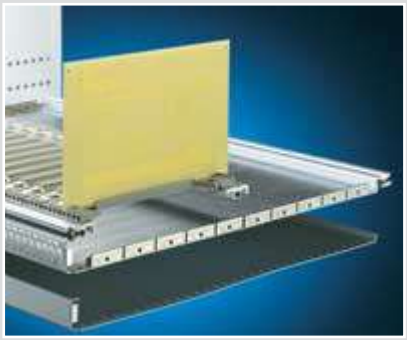


HP	For sidewall depth T inches/mm	Cover depth d3 inches/mm	Single component Part No. RP Vented	Single component Part No. RP Solid
84	11.22/285	10.63/270	**3684.720***	**3684.714***
	13.58/345	12.99/330	**3684.721***	**3684.715***
	15.95/405	15.35/390	**3684.722***	**3684.716***
	18.31/465	17.72/450	**3684.723***	**3684.717***
	20.67/525	20.08/510	**3684.724***	**3684.718***
	23.03/585	22.44/570	**3684.725***	**3684.719***

*** Additional parts needed:**

	PU	Part No. RP
Mounting blocks	10	**3684.234**
Fixing screws	1 pack	**3684.233**

1 pack = 100 pieces



Cover panels, version 4

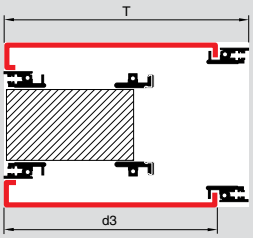
Covering of the total subrack depth.

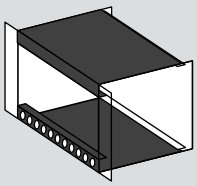
- Cover top/bottom with 1/2 U edge to cover the 1/2 U area in the subrack.
- Front is available in a vented or solid version.
- Designed for 4 U (3 + 2 x 1/2), 7 U (6 + 2 x 1/2) subracks.
- Installation on the sidewalls of the subrack with the help of installation blocks. For EMC version requires mounting blocks across the entire depth of the subrack.

Material:
.04″/1.0 mm aluminum; hole diameter .16″/4 mm for vented version.

Finish:
Chromated

Configuration component:
1 cover with 1/2 U edge.





HP	For sidewall depth T inches/mm	Cover depth d3 inches/mm	Single component Part No. RP Vented	Single component Part No. RP Solid
84	11.22/285	10.63/270	**3684.732***	**3684.726***
	13.58/345	12.99/330	**3684.733***	**3684.727***
	15.94/405	15.35/390	**3684.734***	**3684.728***
	18.30/465	17.72/450	**3684.735***	**3684.729***
	20.67/525	20.08/510	**3684.736***	**3684.730***
	23.03/585	22.45/570	**3684.737***	**3684.731***

*** Additional parts needed:**

	PU	Part No. RP
Mounting blocks	10	**3684.234**
Fixing screws	1 pack	**3684.233**

1 pack = 100 pieces

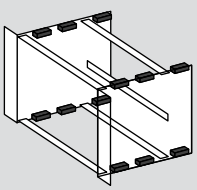
Mounting blocks

For the installation of 1 – 4 on the subrack. For the EMC version the installation of mounting blocks across the entire depth of the subrack is required.

Material:
Die-cast

Finish:
Chromated

EMC



Check the table to the right for the required number of mounting blocks for an EMC shielding of one (1) cover.

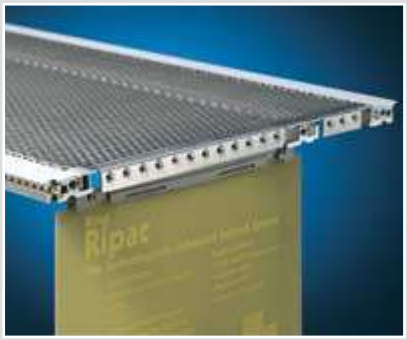
	PU	Part No. RP
Mounting blocks, each 1.12″/28.5 mm	10	**3684.234**

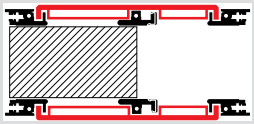
Please order separately:

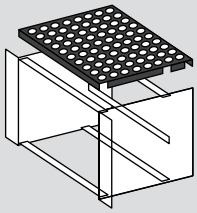
	PU	Part No. RP
Fixing screws M3 x 6	1 pack	**3684.233**

1 pack = 100 pieces

Number of mounting blocks for maximum EMC protection	Multi-level screening plate inches/mm
4	5.59/142
8	7.56/192
10	8.35/212
12	9.92/252
14	10.71/272
16	12.28/312
18	13.07/332
20	14.65/372
24	17.00/432
28	19.38/492
32	21.73/552







Covers (snap-on), version 5

Covering of the subrack or the circuit board depth.
Easy installation:

- Side edge fold with half shears facilitates fast assembly (without mounting blocks) by simply snapping on.
- Side notches for the installation of cross rails at depths of 6.30, 8.66 or 11.02″; 160, 220 or 280 mm.
- Choice of solid or vented.

Material:
.04″/1.0 mm aluminum; hole diameter .16″/4 mm for vented version.

Finish:
Chromated

Configuration:
1 cover,
2 springs.

Cover for the total subrack depth (EMC)
Notches for cross rail positions at 6.30, 8.66 or 11.02″; 160, 220 or 280 mm.

HP	For circuit board depths notched at inches/mm	For sidewall depth inches/mm	Part No. RP	
			Vented	Solid
21	6.30/160	6.89/7.28; 175/185	**3687.624**	–
42			**3687.625**	–
		9.25/9.65; 235/245	**3687.640**	–
84		6.89/7.28; 175/185	**3687.641**	**3687.647**
		9.25/9.65; 235/245	**3687.642**	**3687.648**
	6.30/8.66; 160/220		**3687.643**	**3687.649**
		11.22/285	**3687.644**	**3687.650**
		12.01/305	**3687.645**	**3687.651**
	6.30/8.66/11.02; 160/220/280	13.58/345	**3687.646**	**3687.652**

Cover for the circuit board depth

HP	Circuit board depths/cover depths inches/mm	Part No. RP	
		Vented	Solid
21	6.30/160	**3687.624**	–
	8.66/220	**3687.692**	–
42	6.30/160	**3687.625**	–
	8.66/220	**3687.677**	–
84	6.30/160	**3687.641**	–
	8.66/220	**3687.643**	–

Covers

For Ripac Economy subracks.
Covering of the entire subrack depth.

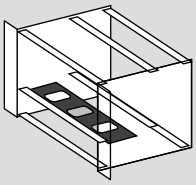
- Choice of vented or solid.
- Panels slide into the cross rails and are fastened on the sides.

Material:
Sheet steel

Finish:
Galvanized

Configuration:
1 cover, mounting clips.

HP	For sidewall depths inches/mm	Part No. RP	
		Vented	Solid
84	6.89/175	**3688.105**	**3688.107**
	9.25/235	**3688.106**	**3688.108**



Fan tray

For the installation of 4.72″/120 mm fans into 4 U/7 U subracks.
Installation onto the subrack sidewalls.

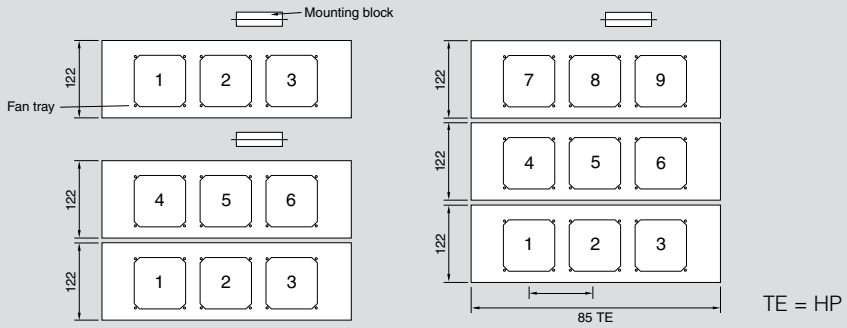
Material:
.06″/1.5 mm aluminum

Finish:
Anodized

Configuration:
1 fan tray

U	For circuit board depths inches/mm	Number of fan trays required	HP	**Part No. RP fan tray**	**Part No. RP mounting block**
1	6.30/160	1	85	**3684.317**	**3686.805**
	8.66/220	1			
	11.02/280	2			
	13.39/340	2			
	15.75/400	3			

Note:
In addition, 1 mounting block (Part No. RP 3686.805) per subrack is required.



TE = HP

Air deflector

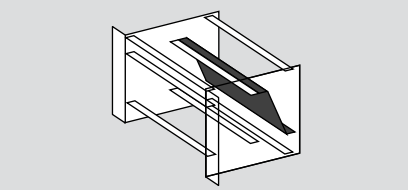
For precise air routing in 7 U subracks.
Installs with mounting blocks to the subrack sidewalls.

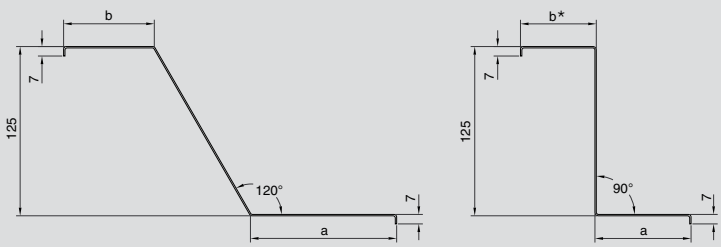
Material:
.04″/1 mm aluminum

Finish:
Anodized

Configuration:
1 air deflector, installation hardware.

Subrack depths inches/ mm	Depths inches/ mm	a mm	b mm	**Part No. RP**
11.22/ 285	3.54/ 90	71	56*	**3685.302**
13.58/ 345	5.91/ 150	48	67	**3685.303**
15.94/ 405	8.27/ 210	108	67	**3684.320**
18.30/ 465	10.63/ 270	168	67	**3684.321**
20.67/ 525	12.99/ 330	228	67	**3684.322**





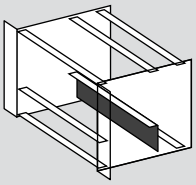
Vented partition wall

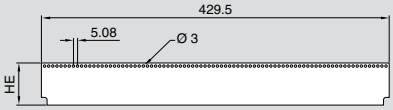
For precise air routing within the subrack. The partition walls are screwed onto the cross rails together with the backplanes. Fixing screws and washers, Part No. RP 3684.019, 1 pack = 100 pieces

Material:
Anodized

Configuration:
1 vented partition wall

U	Part No. RP
1/2	**3684.870**
1	**3684.871**
3	**3684.872**





HE = U

Air blocker for slots

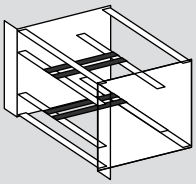
To cover unused slots to prevent air circuit scatter losses. Simply snaps between the card guides.

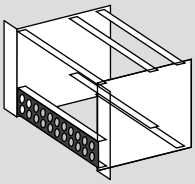
Material:
Self-extinguishing polycarbonate per UL 94-V0.

Color:
Blue

For card guides inches/mm	PU	Part No. RP
6.30/160	1	**3687.924**

Air blocker version standard as blue.





Front/rear panels for ventilation

Material:
.09″/2.5 mm aluminum

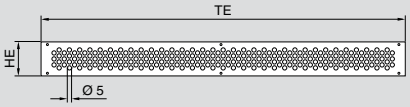
Finish:
Anodized

Configuration:
1 front panel

U	HP	Part No. RP
1	84	**3684.812**
2		**3684.813**
3		**3684.814**

Note:
Please order shoulder screws and plastic nipples separately.

Version	PU	Part No. RP
Slotted	100 sets	**3658.160**
Phillips head	100 sets	**3684.084**



HE = U
TE = HP

EMC front/rear panels for ventilation

Material:
.09″/2.5 mm aluminum

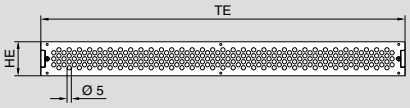
Finish:
Chromated

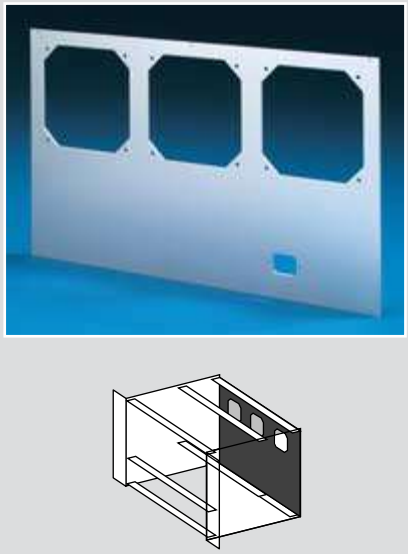
Configuration:
1 front panel, 1 contact rail,
1 spring rail, 1 vertical EMC gasket.

U	HP	Part No. RP
1	84	**3684.281**
2		**3684.282**
3		**3684.283**

Note:
Please order centering screws separately.

Version	PU	Part No. RP
Slotted	100	**3687.050**
Phillips head	100	**3687.051**





Rear panels for fan installation

Material:
.09″/2.5 mm aluminum

Finish:
Anodized

Configuration:
1 rear panel

U	HP	For fans inches/mm	Part No. RP
3	85	3.15/ 80	**3684.839**
4			**3684.840**
6		4.72/120	**3684.841**
7			**3684.842**
9			**3684.843**
10			**3684.844**
11			**3684.845**

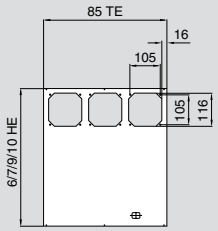
Note:
Please order shoulder screws and plastic nipples separately.

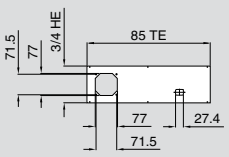
Version	PU	Part No. RP
Slotted	1 pack	**3658.160**
Phillips head	1 pack	**3684.084**

1 pack = 100 pieces

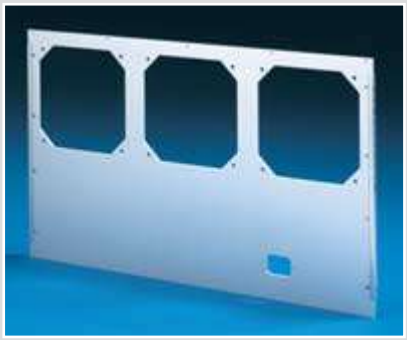
Accessories:

Fans,
see page 382.





HE = U
TE = HP

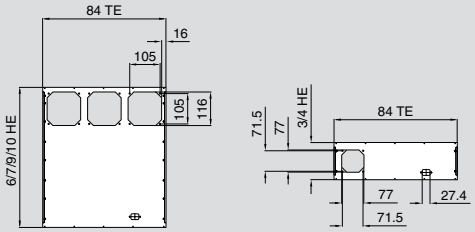


EMC rear panels for mounting of fans

Material:
.09″/2.5 mm aluminum

Finish:
Chromated

Configuration:
1 rear panel,
1 contact rail,
1 gasket rail,
1 vertical EMC gasket.



U	HP	For fans inches/mm	Part No. RP
3	84	3.15/ 80	**3684.284**
4			**3684.285**
6		4.72/120	**3684.286**
7			**3684.287**
9			**3684.288**
10			**3684.289**
11			**3684.290**

Note:
Please order centering screw separately.

Version	PU	Part No. RP
Slotted	1 pack	**3687.050**
Phillips head	1 pack	**3687.051**

1 pack = 100 pieces

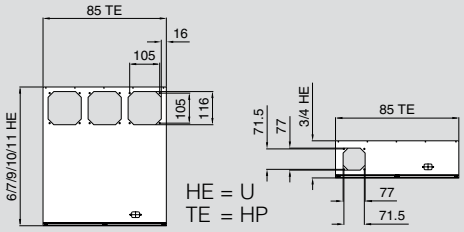
HE = U
TE = HP

Rear panels, folding for fan installation

Material:
.09″/2.5 mm aluminum

Finish:
Anodized

Configuration:
1 rear panel,
1 set hinges.



HE = U
TE = HP

U	HP	For fans inches/mm	Part No. RP
3	85	3.15/ 80	**3684.304**
4			**3684.305**
6		4.72/120	**3684.306**
7			**3684.307**
9			**3684.308**
10			**3684.309**
11			**3684.310**

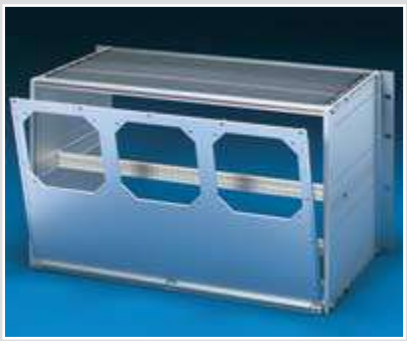
Note:
Please order shoulder screws and plastic nipples separately.

Version	PU	Part No. RP
Slotted	1 pack	**3658.160**
Phillips head	1 pack	**3684.084**

1 pack = 100 pieces

Accessories:

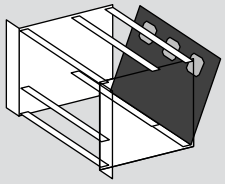
Fans, see page 382.

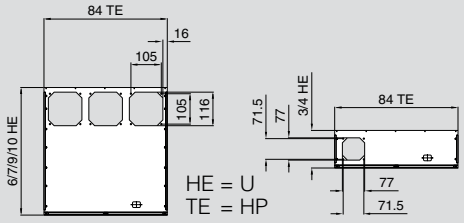


EMC rear panels, folding for fan installation

Material:
.09″/2.5 mm aluminum

Finish:
Chromated





HE = U
TE = HP

U	HP	For fans inches/mm	Part No. RP
3	84	3.15/ 80	**3684.311**
4			**3684.312**
6		4.72/120	**3684.313**
7			**3684.314**
9			**3684.315**
10			**3684.316**

Note:
Please order centering screws separately.

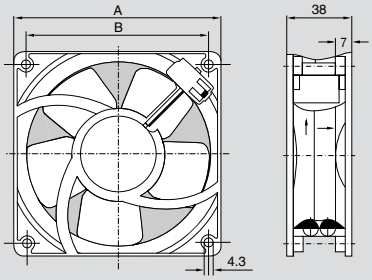
Version	PU	Part No. RP
Slotted	1 pack	**3687.050**
Phillips head	1 pack	**3687.051**

1 pack = 100 pieces

Configuration:
1 rear panel,
1 contact rail,
1 gasket rail,
1 vertical EMC gaskets,
1 set of hinges.

AC fan

For subracks and microcomputer system configurations.



Connection

Cable length inches/mm	PU	Part No. RP
24 / 610 (UL)	1	**3686.658**
39.38/1000	1	**3686.659**

Configuration:
1 fan without power cable.

Note:
Please order installation hardware separately.
Part No. RP 3685.197,
PU = 1 set (4 fixing screws).

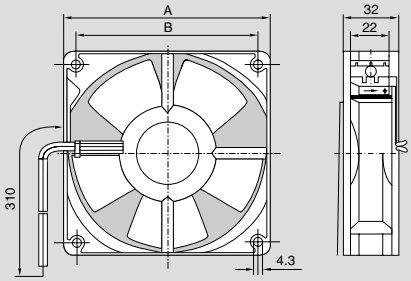
CE

AC fan

Fan dimensions inches/mm	A	B	Method of bearing	Rated voltage V(AC)/Hz	Output Watts	Noise level dB (A)	Temperature range °F/°C	Volume flow cfm/m³ / h	PU	Part No. RP
3.15/ 80	3.13/ 79.5	2.81/ 71.5	ball bearings	115/60	11	42	– 40...203/– 40...+ 95	33.55/ 57	1	**3686.645**
				230/50	12	37	– 40...194/– 40...+ 90	28.25/ 48	1	**3686.646**
4.72/ 120	4.69/ 119.0	4.13/ 105.0		115/60	18	51		105.94/180	1	**3686.643**
				230/50	19	47	– 40...185/– 40...+ 85	94.17/160	1	**3686.644**

DC fan

Includes temperature controlled speed control via additional temperature sensor.



Configuration:
1 fan with power cable (12.20″/310 mm).

Note:
Please order installation hardware separately.
Part No. RP 3685.197,
PU = 1 set (4 fixing screws).

CE

DC fan with speed control and alarm signal

Fan dimensions inches/mm	A	B	Method of bearing	Rated voltage V(DC)	Voltage range Volt	Output Watt	Noise level dB (A)	Temperature range °F/°C	Maximum °F/°C	Volume flow cfm/m³ / h	PU	Part No. RP
3.15/ 80	3.13/ 79.5	2.81/ 71.5	ball bearings	12	8 – 14	2.2	34	– 4...149/ – 20...+ 65	149/ 65	28.25/48	1	**3686.649**
				24	21.6 – 26.4	2.4	36			31.78/54	1	**3686.650**
4.72/ 120	4.69/ 119.0	4.13/ 104.8		12	8.0 – 12.6	5.4	45			100.06/ 170	1	**3686.647**
				24	21.0 – 27.0	5.4	45				1	**3686.648**

DC fan without speed control, with alarm signal

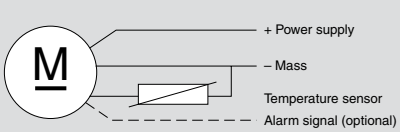
Fan dimensions inches/mm	A	B	Method of bearing	Rated voltage V(DC)	Voltage range Volt	Output Watts	Noise level dB (A)	Temperature range °F/°C	Maximum °F/°C	Volume flow cfm/m³ / h	PU	Part No. RP
3.15/ 80	3.13/ 79.5	2.81/ 71.5	ball bearings	12	6 – 15	1.8	34	– 4...167/ – 20...+ 75	167/ 75	25.25/ 48	1	**3686.649**
				24	12 – 28	2.1	34				1	**3686.650**
4.72/ 120	4.69/ 119.0	4.13/ 104.8		12	6 – 15	2.6	39			82.40/ 140	1	**3686.647**
				24	12 – 28	2.6	39				1	**3686.648**

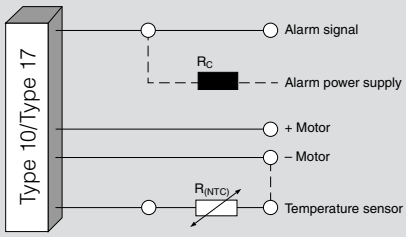
Temperature sensor

For DC fans with speed sensor.

Configuration:
1 temperature sensor

Voltage	PU	Part No. RP
12 V (DC)	1	**3686.657**
24 V (DC)	1	**3686.657**





Finger guard

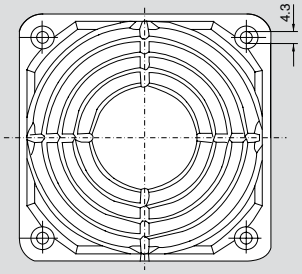
For AC/DC fans.

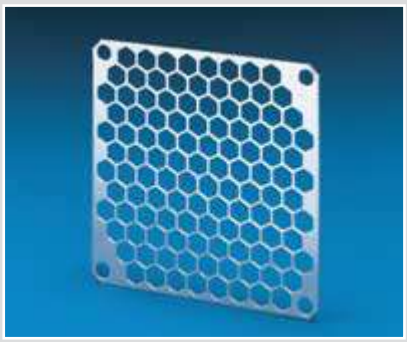
Material:
Polyamide, self-extinguishing per UL 94-V0.

Color:
Black

Configuration:
1 finger guard

For fans inches/mm	PU	Part No. RP
3.15/ 80	1	**3686.656**
4.72/120	1	**3686.655**





EMC shield

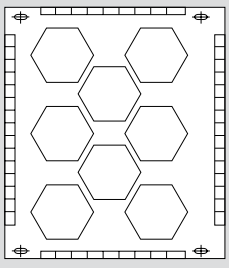
For AC/DC fans.

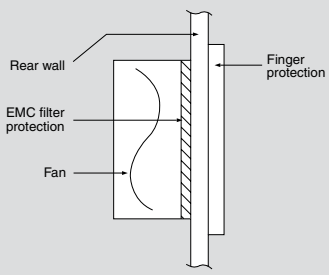
Material:
.04″/1 mm aluminum

Finish:
Chromated

Configuration:
1 EMC shield

For fans inches/mm	PU	Part No. RP
3.15/ 80	1	**3686.359**
4.72/120	1	**3686.329**





Flat front panel with extractor handle Type I or II

Material:
Front panel: .09″/2.5 mm aluminum
Handle: plastic

Finish front panel:
Anodized

Configuration:
1 front panel,
2 (1 for 3 U) handles, black,
1 accessory bag,
1 card holder (for 3 U).

Non-EMC front panel kits				
U	HP	a inches/mm	Flat front panels with extractor handles	
			Part No. RP Type I	**Part No. RP Type II**
3	4	.79/20.0	**3684.330**	**3684.358**
3	5	.99/25.1	**3684.331**	**3684.359**
3	6	1.19/30.2	**3684.332**	**3684.360**
3	7	1.39/35.3	**3684.333**	**3684.361**
3	8	1.59/40.3	**3684.334**	**3684.362**
3	10	1.99/50.5	**3684.335**	**3684.363**
3	12	2.39/60.7	**3684.336**	**3684.364**
6	4	.79/20.0	**3684.337**	**3684.365**
6	5	.99/25.1	**3684.338**	**3684.366**
6	6	1.19/30.2	**3684.339**	**3684.367**
6	7	1.39/35.3	**3684.340**	**3684.368**
6	8	1.59/40.3	**3684.341**	**3684.369**
6	10	1.99/50.5	**3684.342**	**3684.370**
6	12	2.39/60.7	**3684.343**	**3684.371**
9	4	.79/20.0	**–**	**3684.372**
9	8	1.59/40.3	**–**	**3684.373**

U shaped front panel with extractor handle Type I, II or injector/extractor Type IV

EMC

Material:
Front panel: aluminum extrusion
Handle: plastic

Finish front panel:
Chromated

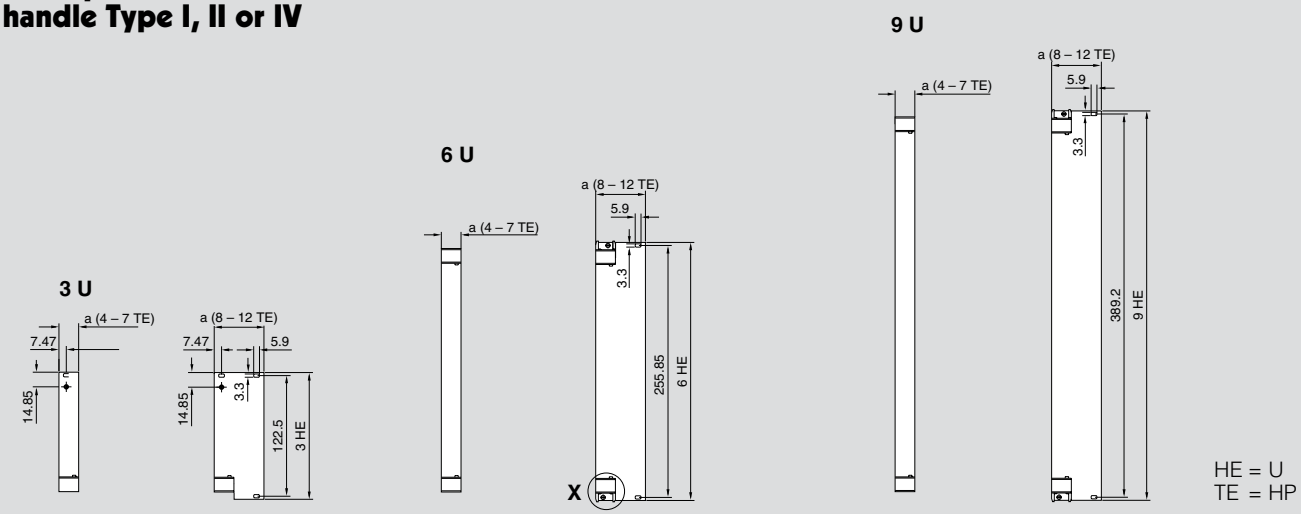
Configuration:
1 front panel,
2 (1 for 3 U) handles, black,
1 EMC gaskets, vertical,
1 accessory bag,
1 card holder (for 3 U).

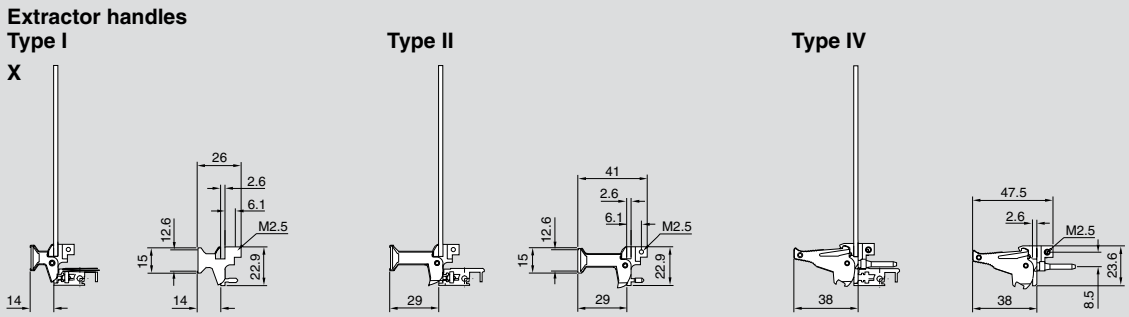
EMC front panel kits					
U	HP	a inches/mm	U shaped front panels with adaptor handle		
			Part No. RP Type I	**Part No. RP Type II**	**Part No. RP Type IV***
3	4	.79/20.0	**3684.344**	**3684.374**	**3684.413**
3	5	.99/25.1	**3684.345**	**3684.375**	**3684.414**
3	6	1.19/30.2	**3684.346**	**3684.376**	**3684.415**
3	7	1.39/35.3	**3684.347**	**3684.377**	**3684.416**
3	8	1.59/40.3	**3684.348**	**3684.378**	**3684.417**
3	10	1.99/50.5	**3684.349**	**3684.379**	**3684.418**
3	12	2.39/60.7	**3684.350**	**3684.380**	**3684.419**
6	4	.79/20.0	**3684.351**	**3684.381**	**3684.420**
6	5	.99/25.1	**3684.352**	**3684.382**	**3684.421**
6	6	1.19/30.2	**3684.353**	**3684.383**	**3684.422**
6	7	1.39/35.3	**3684.354**	**3684.384**	**3684.423**
6	8	1.59/40.3	**3684.355**	**3684.385**	**3684.424**
6	10	1.99/50.5	**3684.356**	**3684.386**	**3684.425**
6	12	2.39/60.7	**3684.357**	**3684.387**	**3684.426**
9	4	.79/20.0	**–**	**3684.388**	**3684.427**
9	5	.99/25.1	**–**	**–**	**3684.428**
9	6	1.19/30.2	**–**	**–**	**3684.429**
9	7	1.39/35.3	**–**	**–**	**3684.430**
9	8	1.59/40.3	**–**	**3684.389**	**3684.431**
9	10	1.99/50.5	**–**	**–**	**3684.432**
9	12	2.39/60.7	**–**	**–**	**3684.433**

* Only in conjunction with cross rails with .4″/10 mm roof IEC 60 297-3.

Complete sets: 3, 6, 9 U with extractor handle

Dimensional drawings for complete sets
Front panels with extractor handle Type I, II or IV



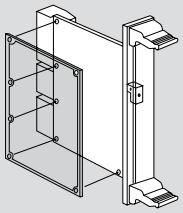


Identification strip

Identification strip for extractor handles Type I, II and IV, 4 HP.

PU	Part No. RP
1 pack	**3684.328**

1 pack = 100 pieces



Solder side covers UL 94-V0 and anti-static

Two types of CPCI solder side covers – solid and vented. Mounted to the backside of the CPCI module PCB at the front panel end with the existing PCB to front panel mounting screw and on the connector side with the plastic (removable) retention clip.

Configuration:
- Pentastat SC660/050C
- UL 94-V0
- Anti-static
- Surface resistivity of 1x 10^{10} Ω /□
- Thickness .019″/0.5 mm
- Clear color
- Maximum temperature: 162° F/+72° C

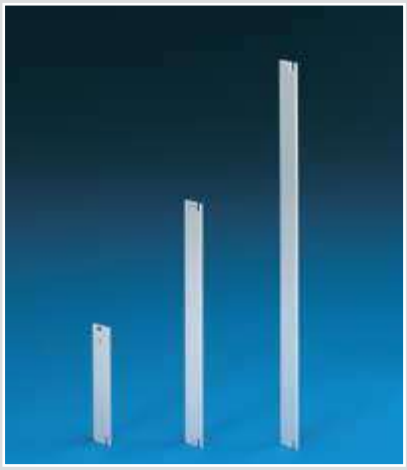
Ratings:
- IEEE 1101.10, and .11 Annex A
- PICMG 2.0, and 2.1
- UL 94-V0 (meets or exceeds MIL-B-81705-C)
- Yellow card QMFZ 8; E 17348 and E 171348B.

CPCI solder side covers – solid			
Description	For PCB size	PU	**Part No. RP**
Solder side cover – solid	6 U x 160 mm	1	**3686.574**
Solder side cover – solid	6 U x 80 mm	1	**3686.573**
Solder side cover – solid	3 U x 160 mm	1	**3686.572**
Retention clip	–	100	**3687.955**

Perforated covers

CPCI solder side covers – perforated with 2 mm holes			
Description	For PCB size	PU	**Part No. RP**
Solder side cover – perforated	6 U x 160 mm	1	**3687.934**
Solder side cover – perforated	6 U x 80 mm	1	**3687.933**
Solder side cover – perforated	3 U x 160 mm	1	**3687.932**
Retention clip	–	100	**3687.955**

For Type I, II, IV, VII handles



Flat front panels for Type I, II, IV or VII handles

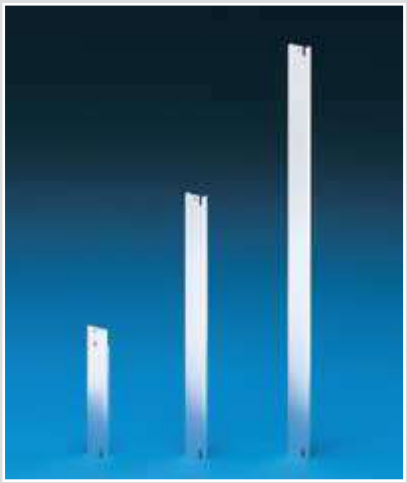
Material:
1″/2.5 mm aluminum

Finish:
Anodized

Configuration:
1 front panel

See below for installation hardware.

HP	a inches/mm	Flat front panel		
		Part No. RP 3 U	**Part No. RP 6 U**	**Part No. RP 9 U**
4	.79/20.0	**3685.500**	**3685.508**	**3685.516**
5	.99/25.1	**3685.501**	**3685.509**	**3685.517**
6	1.19/30.2	**3685.502**	**3685.510**	**3685.518**
7	1.39/35.3	**3685.503**	**3685.511**	**3685.519**
8	1.59/40.3	**3685.504**	**3685.512**	**3685.520**
10	1.99/50.5	**3685.505**	**3685.513**	**3685.521**
12	2.39/60.7	**3685.506**	**3685.514**	**3685.522**



U-shaped front panels for Type I, II, IV or VII handles

Material:
1″/2.5 mm aluminum

Finish:
Chromated

Configuration:
1 front panel

Starting from 3 U/4 HP and 6 U/7 HP.
Order installation hardware separately.
For flat front panels:
shoulder screws and plastic nipples.

Version	PU	Part No. RP
Slotted	1 pack*	**3658.160**
Phillips head	1 pack*	**3684.084**

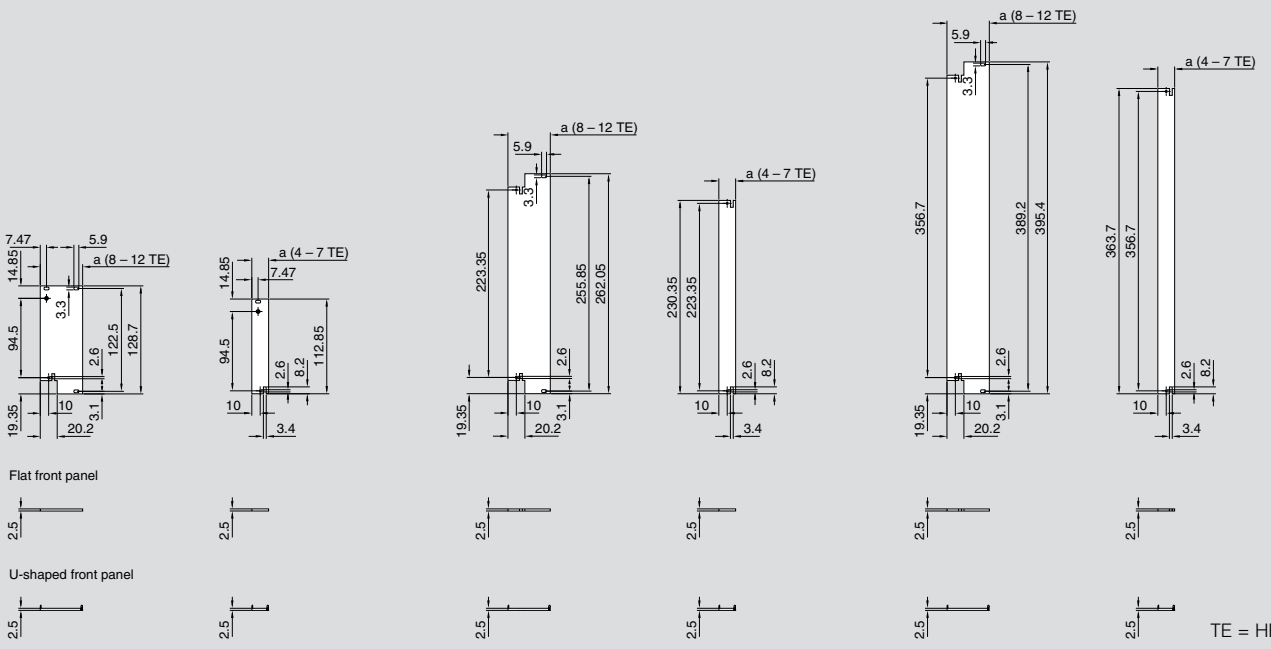
For U-shaped front panels:
centering screws.

Version	PU	Part No. RP
Slotted	1 pack*	**3687.050**
Phillips head	1 pack*	**3687.051**

* 1 pack = 100 pieces

HP	a inches/mm	U-shaped front panels		
		Part No. RP 3 U	**Part No. RP 6U**	**Part No. RP 9U**
4	.79/20.0	**3685.524**	**3685.532**	**3685.540**
5	.99/25.1	**3685.525**	**3685.533**	**3685.541**
6	1.19/30.2	**3685.526**	**3685.534**	**3685.542**
7	1.39/35.3	**3685.527**	**3685.535**	**3685.543**
8	1.59/40.3	**3685.528**	**3685.536**	**3685.544**
10	1.99/50.5	**3685.529**	**3685.537**	**3685.545**
12	2.39/60.7	**3685.530**	**3685.538**	**3685.546**

3 U **6 U** **9 U**

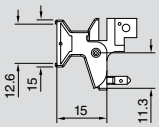


Extractor handles Type I and Type II

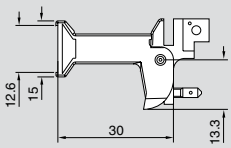
Designed for all flat front panels and U-shaped front panels.
Also in combination with cross rails with .4″/10 mm roof.

Configuration:
1 extractor handle,
installation hardware.

Extractor handle Type I



Extractor handle Type II



Extractor handle Type I, .59″/15 mm

Color	PU	Part No. RP
Black	1	**3685.589***

Extractor handle Type II, 1.18″/30 mm

Color	PU	Part No. RP
Black	1	**3685.590***

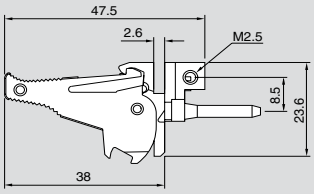
* For 3 U unit, only one extractor handle is required.

Identification strips
for Type I and II, 4 HP handles.
Part No. RP 3684.328
PU = 100 pieces (see page 385).

Injector/extractor handle Type IV

With microswitch
injector/extractor handle for **inserting and ejecting** high density pluggable connectors. Only usable with front cross rails with .39″/10 mm roof and system holes according to IEEE 1101.10 (see page 363).

- Choice of integral microswitch for “live insertion” applications.
- Microswitch self activates during injection/extraction.
- ESD pin to discharge electrostatic loads before connecting pluggable connectors; also locates the precise location of plug-in assemblies.
- Keying chamber for keying pins (see page 389).
- Built-in circuit board mount.
- Mounting holes for adding additional injector/extractor handles.
- Optimum handling.



Configuration:
1 extractor handle,
1 microswitch,
installation hardware.

Color	Installation	PU	Part No. RP
Black	Top	1	**3686.907**
Black	Bottom	1	**3686.906**

For 3 U front panels, only one extractor handle is necessary.

Embedded microswitch cable assembly

May be inserted into both the CompactPCI and the Telecom handle.
Microswitch assembly includes:

- Microswitch
- 3 wires, 25 mm x #32 AWG
- Plug
- Retention clip

Part No. RP 3686.536 (1 assembly)

The PCB mounted header may be a through hole mounted header or a surface mounted header.

Through hole mounted header
Part No. RP 3686.537 1 piece.

Surface mounted header
Part No. RP 3686.541 1 piece.

Note:
Minimum quantity is 10 pieces.

Injector/extractor handle Type IV, 8 HP

Suitable for two joined Ripac 4 HP front panels.

Configuration:
1 injector/extractor handle (two part), completely pre-assembled.

Color	Installation	PU	Part No. RP
Black	Bottom	1	**3686.908**
Black	Top	1	**3686.909**

Superior performance *CompactPCI* Type IVs handles

Technical description:

- Capacity of injecting/extracting 3 U, 6 U, and 9 U *CPCI* modules with almost unlimited cycles.
- Compliance with *CPCI*, VME64x and VIPA.
- Full *CPCI* module front panel I/O space.
- Integral PCB attachment.
- Keying chambers.
- Positive lock for hot swap.
- Snap lock for non-hot swap, VME64x and VIPA.
- Alignment pin for ESD protection and 30A GND connection (UL recognized).
- Microswitch option.
- Multiple handle tying/ganging pin option.

Configuration:

- Module retention screw.
- Microswitch.
- Handle tying/ganging pin for double/triple wide modules.
- Front panels and front panel service (please inquire).

***CompactPCI* IVs Handles**				
Version	Color	Position	PU	**Part No. RP**
I	Black	Top	1	**3688.617**
I	Black	Bottom	1	**3688.618**
II	Black	Top	1	**3688.619**
II	Black	Bottom	1	**3688.620**

Material:
Metal handle insert with plastic cover/ snap lock.
Plastic positive lock device.
Metal holder.

Version I:

- Standard PCU position.

Version II:

- Offset PCU position.

Color:
Black with grey positive locking device.

Injector/extractor handles, Type VII (Telecom)

Injector/extractor handle for inserting and ejecting high density pluggable connectors. The handle was specially designed for Telecom applications.
Only usable with front cross rails with .39″/10 mm roof and system holes according to IEEE 1101.10 (see page 363).
Two application options:

1. Circuit board installation with spacer (only for 6 U, 9 U front panels): card placement in standard HP increments.
2. Card placement with 1/2 HP offset, plastic (Telecom). Only with staggered card placement for additional space on the component side 2 (Part No. see page 372).
3. Suitable for both standard and offset PCB mounting.

Color	Installation	PU	**Part No. RP**
Black	Top	1	**3686.134**
Black	Bottom	1	**3686.135**

Version one: plastic

- Minimum space requirements with fold-up handle.
- Installation option for keying pins (for keyable card guides).
- Choice of integral micro switch for “live insertion” applications.
- ESD pin to discharge electrostatic loads before connecting pluggable connectors; also locates the precise location of plug-in assemblies.
- Large labeling area on the front.
- Optimum handling of high pole pluggable connectors via the injector/extractor function.

Injector/extractor handles, Type VIIx (Telecom)

Injector/extractor handle for inserting and ejecting high density pluggable connectors (up to 815N). The handle was specially designed for Telecom applications.

Only usable with front cross rails with .39″/10 mm roof (see page 363).

Material:
Zinc die-cast

Configuration:
Injector/extractor handle, installation hardware.

Installation	PU	**Part No. RP**
Top	1	**3687.927**
Bottom	1	**3687.928**

Version two: metal

- Optimum function with 1/2 HP groove offset.
- Keying pin option.
- Choice of integral microswitch for “live insertion” applications.
- ESD pin to discharge electrostatic loads.
- Metal version for use in aggressive environments.

Keying pins

To key plug-in assemblies from the front.
Only in conjunction with
- keyable card guides (see page 371)

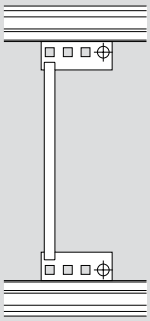
and
- injector/extractor handles Type IV/VII.

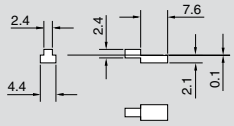
Material:
Plastic, self-extinguishing per UL 94-V0.

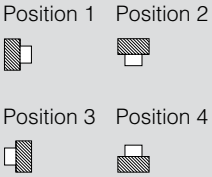
Accessories:
Keying tool for the easy installation of up to 3 keying pins.
Part No. RP 3687.956

Color	PU	Part No. RP
Grey	1 pack	**3684.325**
Red	1 pack	**3684.326**

1 pack = 100 pieces







Microswitch

For “live insertion” applications.
May be retrofitted in Type IV, Type IVx and VII injector/extractor handles.

PU	Part No. RP
10	**3684.410**

Microswitch mount

Clip for the installation of microswitches in the handles.

PU	Part No. RP
10	**3684.411**

EMC gaskets, vertical

To guarantee EMC protection between U-shaped front panels and the subrack sidewall.

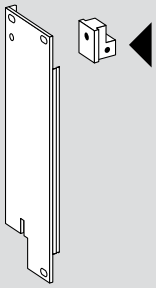
Material:
Stainless steel

U	Part No. RP PU = 1
1	**3686.973**
2	**3688.610**
3	**3688.611**
4	**3688.612**
6	**3688.614**
7	**3688.615**
9	**3688.616**
10	**3688.609**
11	**3688.633**

Card retainer set

For fastening circuit boards.
Only necessary at the top of 3 U front panels.

Material:
Die-cast



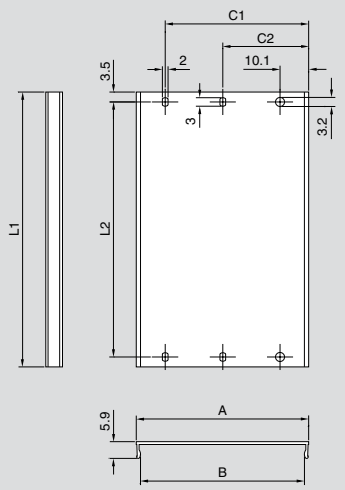
PU	Part No. RP
10	**3685.198**

Please order fixing screws separately.

For fixing	PU	Part No. RP
circuit boards to card retainers	1 pack	**3654.320**
circuit boards to card retainers	1 pack	**3685.282**

1 pack = 100 pieces

Extractor handle Type III



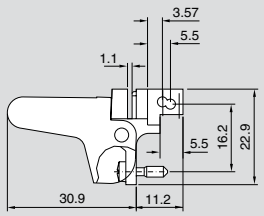
Front panels for extractor handles, Type III

Material:
.08″/2.0 mm aluminum extrusion.

Finish:
Natural

Configuration:
1 front panel

HP	A mm	B mm	C1 mm	C2 mm	Part No. RP 3 U	Part No. RP 6 U	Part No. RP 9 U
3	15.20	12.20			**3685.548**	**3685.555**	**–**
4	20.22	17.20			**3685.549**	**3685.556**	**3685.562**
5	25.28	22.28		22.68	**3685.550**	**3685.557**	**3685.563**
6	30.36	27.36		25.22	**3685.551**	**3685.558**	**3685.564**
8	40.52	37.52		30.30	**3685.552**	**3685.559**	**3685.566**
10	50.68	47.68	40.46	25.22	**3685.553**	**3685.560**	**3685.567**
12	60.84	57.84	50.62	30.30	**3685.554**	**3685.561**	**3685.568**
L1	mm				97.00	230.35	363.70
L2	mm				90.00	223.35	356.70



Extractor handles, Type III

Material:
Fiberglass-reinforced polycarbonate
Bottom: ABS nickel plated

Color:
Grey

HP	PU	Part No. RP
3	1	**3685.591**
4	1	**3685.592**

Configuration:
1 extractor handle

Cover for side blank space

Material:
Fiberglass-reinforced polycarbonate

Configuration:
2 covers

HP	W mm	PU	Part No. RP
1	5	1	**3687.529**
2	10.08	1	**3687.530**
4	20.24	1	**3687.531**

Universal retainer

Material:
Plastic, nickel plated

Configuration:
2 universal retainers

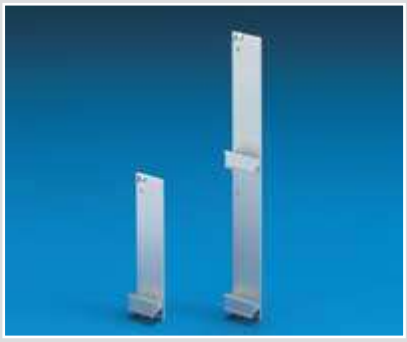
HP	PU	Part No. RP retainer for front panel brace	Part No. RP retainer for sub-miniature plug-in connector
3	2	**3654.500**	**3654.510**
4	2	**3654.520**	**3654.540**

Retainer for front panels

Material:
Plastic

Configuration:
2 retainers

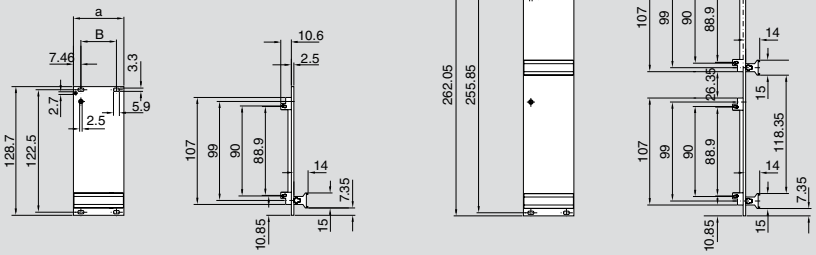
HP	PU	Part No. RP
4	1	**3687.547**



Flat front panels with handle Type V and card holders

Complete kits.

Material:
Front panel:
.1″/2.5 mm aluminum, natural anodized
Handle: aluminum, natural anodized
Card holder: polycarbonate RAL 7032 pebble grey

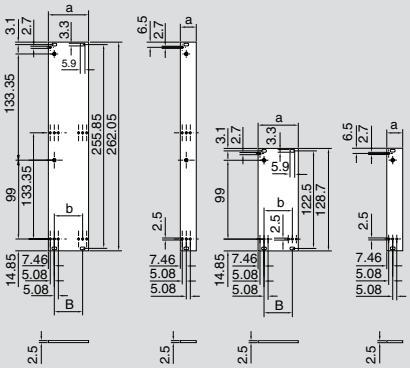


Configuration:
1 front panel,
1 (2) handle(s),
1 (2) card holders,
installation hardware.

HP	a mm	B mm	Part No. RP 3U H = 128.7	Part No. RP 6U H = 262.05
3	14.9	–	**3652.000**	**3652.200**
4	20.0	–	**3652.010**	**3652.210**
5	25.1	–	**3652.020**	**3652.220**
6	30.1	–	**3652.030**	**3652.230**
7	35.2	–	**3652.040**	**3652.240**
8	40.3	–	**3652.050**	**3652.250**
10	50.5	35.6	**3652.060**	**3652.260**
12	60.6	45.7	**3652.070**	**3652.270**
14	70.8	55.9	**3652.080**	**3652.280**

Accessories:

Labeling space for handles,
see page 392.



Flat front panels for handle Type V and VI

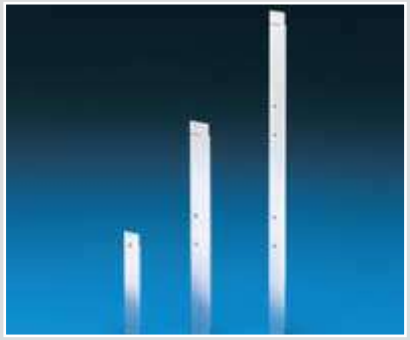
Material:
.1″/2.5 mm aluminum

Finish:
Anodized

Configuration:
1 front panel

HP	a mm	B mm	b mm	PU	Part No. RP 3 U	Part No. RP 6 U
3	14.9	–	–	1	**3685.569**	**3685.578**
4	20.0	–	–	1	**3685.570**	**3685.579**
5	25.1	–	–	1	**3685.571**	**3685.580**
6	30.2	–	15.2	1	**3685.572**	**3685.581**
7	35.2	–	20.3	1	**3685.573**	**3685.582**
8	40.3	–	25.4	1	**3685.574**	**3685.583**
10	50.5	35.6	35.6	1	**3685.575**	**3685.584**
12	60.6	45.7	45.7	1	**3685.576**	**3685.585**
14	70.8	55.9	55.9	1	**3685.577**	**3685.586**

Note: In addition order shoulder screws and plastic nipples separately please.
Part No. RP 3658.160 (slotted), 1 pack = 100 pieces.
Part No. RP 3684.084 (phillips head), 1 pack = 100 pieces.



U-shaped front panel for Type V and VI handle

Material:
.1″/2.5 mm aluminum

Finish:
Clear chromated

Configuration:
1 front panel,
1 vertical EMC gasket.

HP	a mm	W mm	PU	Part No. RP 3 U	Part No. RP 6 U
4	20.0	–	1	**3687.655**	**3687.660**
6	30.2	–	1	**3687.656**	**3687.661**
8	40.3	–	1	**3687.657**	**3687.662**
10	50.5	35.6	1	**3687.658**	**3687.663**
12	60.6	45.7	1	**3687.659**	**3687.664**

Note:
Centering screws should be ordered separately.
Part No. RP 3687.050 (slotted), PU = 100 pieces.
Part No. RP 3687.051 (Posidrive), PU = 100 pieces.

Handle, Type V, plastic

For pulling front panels or modules.
Available in black or grey.

Material:
Plastic

Configuration:
1 handle

Note:
Assembly kit should be ordered separately.
Part No. RP 3687.519, packs of 1 set.
Identification strip, self-adhesive,
Part No. RP 3687.693, packs of 1, 0.5 m.

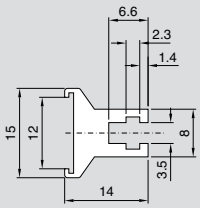
HP	Color	PU	Part No. RP
3	Grey	1	**3685.490**
4	Grey	1	**3685.491**
8	Grey	1	**3685.492**
12	Grey	1	**3685.493**
21	Grey	1	**3685.494**
3	Black	1	**3685.495**
4	Black	1	**3685.496**
8	Black	1	**3685.497**
12	Black	1	**3685.498**
21	Black	1	**3685.499**

Handle, Type V, aluminum

Material:
Aluminum

Finish:
Anodized

Configuration:
1 handle



HP	Part No. RP	HP	Part No. RP
3	**3685.595**	8	**3685.600**
4	**3685.596**	10	**3685.601**
5	**3685.597**	12	**3685.602**
6	**3685.598**	14	**3685.603**
7	**3685.599**	1 m	**3685.604**

Note:
Please order installation kit separately.
Part No. RP 3687.146, PU = 1 set
(1 positioning piece, 1 square nut,
1 cylinder screw).
Two packs are necessary from 6 HP up.

Identification strips for Type V handles, aluminum

Material:
.02″/0.5 mm aluminum

Finish:
Anodized

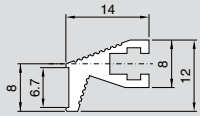
HP	PU	Part No. RP
3	1	**3685.746**
4	1	**3685.747**
5	1	**3685.748**
6	1	**3685.749**
7	1	**3685.750**
8	1	**3685.751**
10	1	**3685.752**
12	1	**3685.753**
14	1	**3685.754**
1 m	1	**3685.758**

Handle, Type VI, aluminum

Material:
Aluminum

Finish:
Anodized

Configuration:
1 handle



HP	Part No. RP	HP	Part No. RP
3	**3685.605**	12	**3685.612**
4	**3685.606**	14	**3685.613**
5	**3685.607**	21	**3685.614**
6	**3685.608**	28	**3685.615**
7	**3685.609**	42	**3685.616**
8	**3685.610**	84	**3685.617**
10	**3685.611**	1 m	**3685.618**

Note:
Please order installation kit separately.
Part No. RP 3687.146
see handle Type V, aluminum.

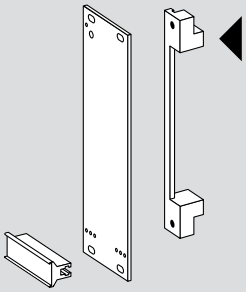
Card retainer on front panels

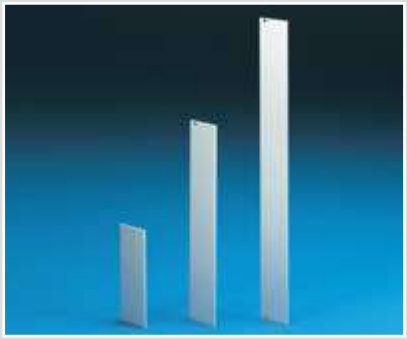
For fastening circuit boards onto aluminum front panels.

Material:
Noryl

Configuration:
Card retainer, installation hardware.

PU	Part No. RP
10	**3606.330**



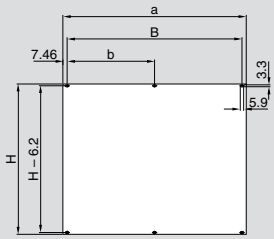


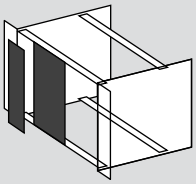
Front panels, flat, as blank covers

Material:
Front panels .1″/2.5 mm aluminum, natural anodized.

Configuration:
1 front panel

Note:
Please order shoulder screws and plastic nipples separately.
Part No. RP 3658.160 (slotted),
1 pack = 100 pieces.
Part No. RP 3684.084 (phillips head),
1 pack = 100 pieces.





HP	a mm	Width (B) mm	b mm	Part No. RP 1 U H = 1.57″/ 39.8 mm	Part No. RP 2 U H = 3.33″/ 84.25 mm	Part No. RP 3 U H = 5.07″/ 128.7 mm	Part No. RP 4 U H = 6.82″/ 173.15 mm	Part No. RP 6 U H = 10.32″/ 262.05 mm	Part No. RP 7 U H = 12.07″/ 306.5 mm	Part No. RP 9 U H = 15.57″/ 395.4 mm	Part No. RP 10 U H = 17.31″/ 439.85 mm	Part No. RP 11 U H = 19.07″/ 484.3 mm
2	9.8	–	–	–	–	**3684.889**	–	**3684.911**	–	**3684.738**	–	–
3	14.9	–	–	–	–	**3684.890**	–	**3684.912**	–	–	–	–
4	20.0	–	–	–	–	**3684.891**	–	**3684.913**	–	**3684.739**	–	–
5	25.1	–	–	–	–	**3684.892**	–	**3684.914**	–	–	–	–
6	30.1	–	–	–	–	**3684.893**	–	**3684.915**	–	–	–	–
7	35.2	–	–	–	–	**3684.894**	–	**3684.916**	–	–	–	–
8	40.3	–	–	–	–	**3684.895**	–	**3684.917**	–	**3684.740**	–	–
10	50.5	35.6	–	–	–	**3684.896**	–	**3684.918**	–	–	–	–
12	60.6	45.7	–	–	–	**3684.897**	–	**3684.919**	–	**3684.741**	–	–
14	70.8	55.9	–	–	–	**3684.898**	–	**3684.920**	–	–	–	–
20	101.3	86.4	–	–	–	**3684.899**	–	**3684.921**	–	–	–	–
21	106.4	91.4	–	–	**3685.350**	**3684.900**	–	**3684.922**	–	–	–	–
24	121.7	106.7	–	–	**3685.429**	–	–	–	–	–	–	–
27	136.8	121.9	–	–	–	**3684.901**	–	**3684.923**	–	–	–	–
28	141.9	127.0	–	–	–	**3684.902**	–	**3684.924**	–	–	–	–
40	202.9	188.0	–	–	–	**3684.903**	–	**3684.976**	–	**3684.977**	–	–
42	213.0	198.1	–	**3684.885**	**3684.887**	**3684.904**	**3684.908**	**3684.925**	**3684.928**	**3684.742**	**3684.753**	**3684.754**
60	304.5	289.6	–	–	–	**3684.905**	–	–	–	–	–	–
63	319.7	304.8	152.4	–	–	**3684.906**	**3684.909**	**3684.926**	**3684.929**	–	–	–
84	426.4	411.5	203.2	**3684.886**	**3684.888**	**3684.907**	**3684.910**	**3684.927**	**3684.930**	**3684.743**	**3684.751**	**3684.752**
85	431.5	411.5	203.2	–	–	**3684.744**	**3684.745**	**3684.746**	**3684.747**	**3684.748**	**3684.749**	**3684.750**

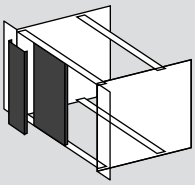
Front panels, U-shaped as blank covers

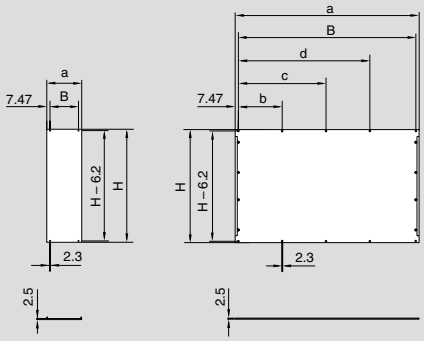
Material:
.1″/2.5 mm aluminum

Finish:
Chromated

Configuration:
1 front panel, one part or three part,
1 vertical EMC gasket,
1 contact strip (only three-part),
1 spring strip (only three-part).

Note:
Please order centering screws separately.
Part No. RP 3687.050 (slotted),
RP 3687.051 (Phillips head),
PU = 100 pieces.





HP	a mm	Width (B) mm	b mm	c mm	d mm	Part No. RP 1 U H = 1.57″/ 39.8 mm	Part No. RP 2 U H = 3.33″/ 84.25 mm	Part No. RP 3 U H = 5.07″/ 128.7 mm	Part No. RP 4 U H = 6.82″/ 173.15 mm	Part No. RP 6 U H = 10.32″/ 262.05 mm	Part No. RP 7 U H = 12.07″/ 306.5 mm	Part No. RP 9 U H = 15.57″/ 395.4 mm	Part No. RP 10 U H = 17.31″/ 439.85 mm	Part No. RP 11 U H = 19.07″/ 484.3 mm
2	9.8	–	–	–	–	–	–	3685.177	–	3685.185	–	3685.193	–	–
3	14.9	–	–	–	–	–	–	3686.138	–	3686.139	–	3686.140	–	–
4	20.0	–	–	–	–	–	–	3685.178	–	3685.186	–	3685.194	–	–
5	25.1	–	–	–	–	–	–	3685.179	–	3685.187	–	–	–	–
6	30.1	–	–	–	–	–	–	3685.180	–	3685.188	–	–	–	–
7	35.2	–	–	–	–	–	–	3685.181	–	3685.189	–	–	–	–
8	40.3	25.4	–	–	–	–	–	3685.182	–	3685.190	–	3685.195	–	–
10	50.5	35.6	–	–	–	–	–	3685.183	–	3685.191	–	–	–	–
12	60.6	45.7	–	–	–	–	–	3685.184	–	3685.192	–	3685.196	–	–
14	70.8	55.9	–	–	–	–	–	3684.249	–	3684.258	–	3684.278	–	–
20	101.3	86.4	–	–	–	–	–	3684.250	–	3684.259	–	3684.279	–	–
21	106.4	91.4	–	–	–	–	–	3684.272	–	3684.275	–	–	–	–
27	136.8	121.9	61.0	–	–	–	–	–	–	–	–	–	–	–
28	141.9	127.0	61.0	–	–	–	–	3684.251	–	3684.260	–	–	–	–
40	202.9	188.0	91.5	–	–	–	–	3684.273	–	3684.276	–	3684.280	–	–
42	213.0	198.1	96.5	–	–	–	–	3684.252	3684.255	3684.261	3684.264	3684.267	–	–
60	304.5	289.6	96.5	193.0	–	–	–	3684.274	–	3684.277	–	–	–	–
63	319.7	304.8	101.6	203.2	–	–	–	3684.253	3684.256	3684.262	3684.265	3684.268	–	–
84	426.4	411.5	101.6	203.2	304.8	3684.247	3684.248	3684.254	3684.257	3684.263	3684.266	3684.269	3684.270	3684.271

2 – 14 HP versions, one-part kit, > 14 HP versions, three-part kit.

Front panels, hinged

Material:
.1″/2.5 mm aluminum

Finish:
Anodized

Configuration:
1 front panel, 1 set hinges, installation hardware.

* **Note:**
When installing the 42 HP and 84 HP front panel on the rear, flanges have to be added.

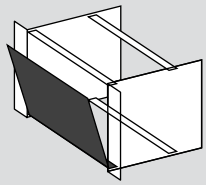
U	HP	Part No. RP hinged	Part No. RP folding
3	42*	**3652.600**	**3652.500**
3	84*	**3652.610**	**3652.510**
3	85	–	**3684.291**
4	85	–	**3684.292**
6	42*	**3652.620**	**3652.520**
6	84*	**3652.630**	**3652.530**
6	85	–	**3684.293**
7	85	–	**3684.294**
9	85	–	**3684.295**
10	85	–	**3684.296**
11	85	–	**3684.297**

EMC front panels, hinged

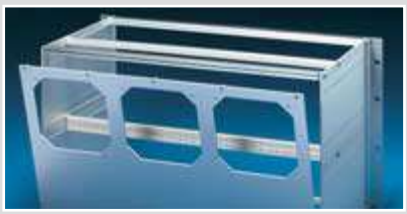
Material:
.1″/2.5 mm aluminum

Finish:
Chromated

Configuration:
1 front panel, 1 set hinges, 1 contact strip, 1 spring strip, 1 vertical EMC gasket, installation hardware.



U	HP	Part No. RP folding
3	84	**3684.298**
4	84	**3684.299**
6	84	**3684.300**
7	84	**3684.301**
9	84	**3684.302**
10	84	**3684.303**



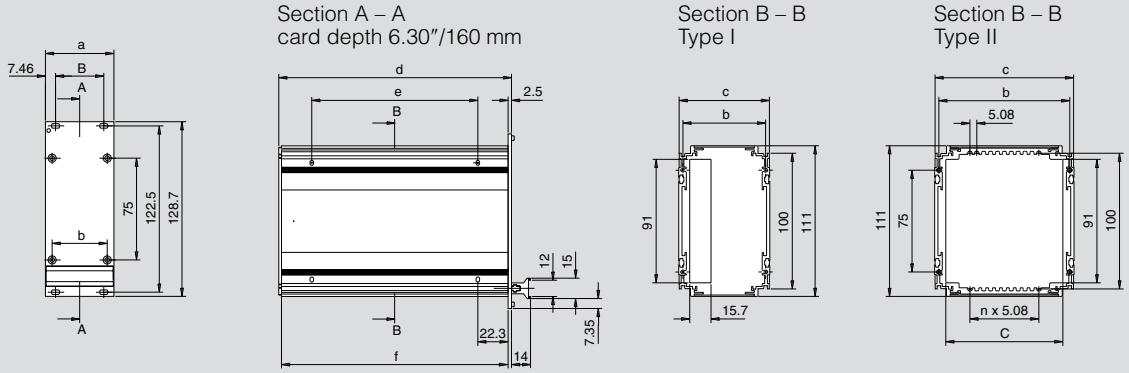
Note:
Rear panels, for fan installation

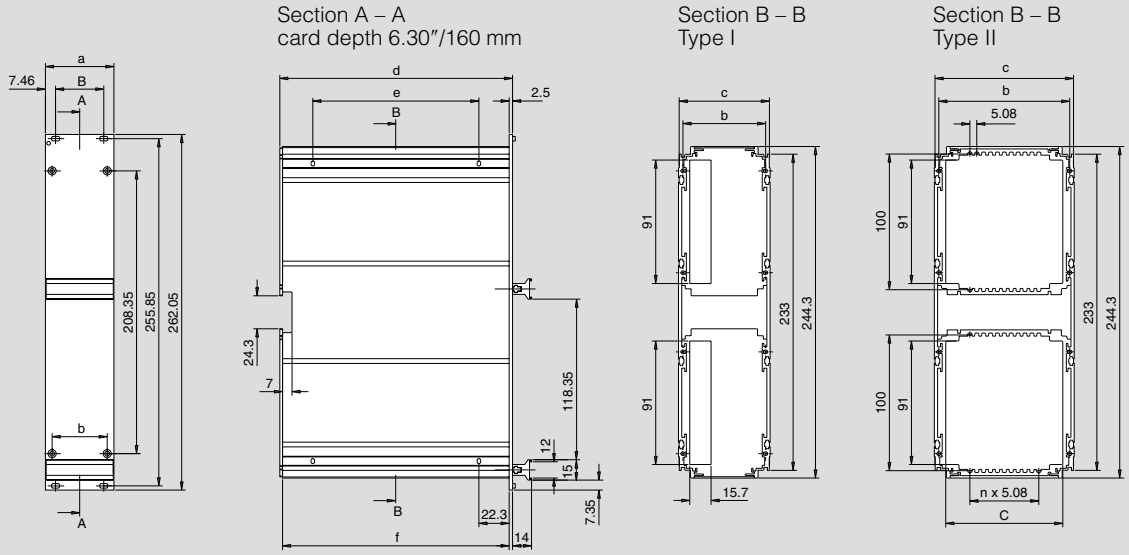
see pages 380/381.

Front/rear panels, for ventilation

see page 380.

Ripac modules Type I and II





HP	a mm	Width (B) mm	b mm	c mm	C mm	d (mm) Type I	d (mm) Type II	e mm	f mm	n mm	Part No. RP Type I, 3 U	Part No. RP Type II, 3 U	Part No. RP Type I, 6 U	Part No. RP Type II, 6 U	Page
Card depth 6.30″/160 mm															
6	32.2	–	20.3	27.5	–	171.5	–	122	167	–	**3653.000***	**–**	**–**	**–**	
8	40.3	–	30.5	36.0	–	171.5	–	122	167	–	**3653.010**	**–**	**–**	**–**	
10	50.5	35.6	40.6	46.2	–	171.5	–	122	167	–	**3653.020**	**–**	**3653.100**	**–**	
12	60.6	45.7	50.8	56.4	–	171.5	–	122	167	–	**3653.030**	**–**	**3653.110**	**–**	
14	70.8	55.9	60.9	66.5	–	171.5	–	122	167	–	**3653.040**	**–**	**3653.120**	**–**	
21	106.3	91.4	96.4	102.0	86.3	171.5	170.5	122	167	10	**3653.050**	**3653.400**	**3653.130**	**3653.430**	
28	141.9	127.0	132.0	137.6	121.8	171.5	170.5	122	167	17	**3653.060**	**3653.410**	**3653.140**	**3653.440**	
42	213.1	198.1	203.2	208.8	193.0	171.5	170.5	122	167	31	**3653.070**	**3653.420**	**3653.150**	**3653.450**	
Card depth 8.66″/220 mm															
10	50.5	35.6	40.6	46.2	–	231.5	230.5	182	227	–	**3653.200**	**–**	**3653.300**	**–**	
12	60.6	45.7	50.8	56.4	–	231.5	230.5	182	227	–	**3653.210**	**–**	**3653.310**	**–**	
14	70.8	55.9	60.9	66.5	–	231.5	230.5	182	227	–	**3653.220**	**–**	**3653.320**	**–**	
21	106.3	91.4	96.4	102.0	86.3	231.5	230.5	182	227	10	**3653.230**	**3653.460**	**3653.330**	**3653.490**	
28	141.9	127.0	132.0	137.6	121.8	231.5	230.5	182	227	17	**3653.240**	**3653.470**	**3653.340**	**3653.500**	
42	213.1	198.1	203.2	208.8	193.0	231.5	230.5	182	227	31	**3653.250**	**3653.480**	**3653.350**	**3653.510**	

Configuration

	* only 3 U/6 HP	3 U	6 U	
Front panel	1	1	1	
Handle	1	1	2	
Sidewalls	1	2	2	
Cover cap including rear wall	1	–	–	
Rear wall	–	1	2	
Card holder	2	2	2	
Installation hardware (kit)	1	1	1	

Accessories

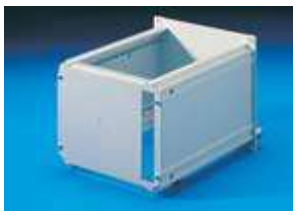
Circuit board mount (Type II)		3603.050	–	3603.050	399
Cover panels					398
Card guides					398
Tapped strips					398

Type I and II

Technical specifications:
Installation depth: 6.30 and 8.66″/160 and 220 mm
Height: 3 U and 6 U
per DIN 41 494, part 5
Rear wall accepts single (Type I) or multiple (Type II) rack connectors.

Material:
Front panel:
.1″/2.5 mm aluminum, natural anodized
Type I rear wall:
.08″/2 mm aluminum natural finish
Type II rear wall:
.04″/1 mm sheet steel, chromated
Module rail:
aluminum extrusion, natural anodized
Handle:
aluminum, natural anodized
Card holder:
plastic

- **Special dimensions, printing or modifications, as well as EMC versions are available upon request.**



Type I module
Standard rear wall with cutout for pass through of rack connector.

Type II module
Specially designed rear wall for the installation of several rack connectors per DIN 41 612.

Cover panels (accessories)
for vented or solid modules, slide-in or screw-on type.
Details see page 398.

EMC module
with EMC front panel.
Upon request.

Circuit board mount
for fastening the female or male multipoint connector on the rear wall of the module (Type II).
Details see page 399.

Card holder
for fastening circuit boards.
Details on page 399.

Cover panel – slide-in version

Cover panel – screw-on version

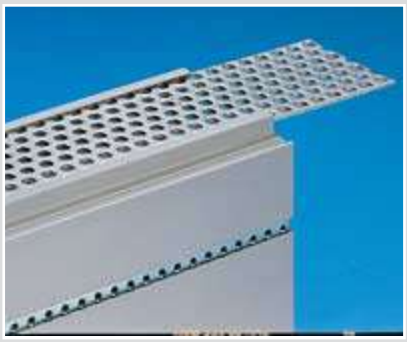
Cover panels for modules Type I and II

Slide-in or screw-on, with or without ventilation slot(s).
The cover panels with ventilation slots are suited for the installation of card guides.

Material:
.04″/1 mm aluminum

Configuration:
2 cover panels,
installation hardware.

Module width	PU	Part No. RP with ventilation slots	Part No. RP without ventilation slots
Card depth 6.30″/160 mm			
8 HP	1	–	**3687.555**
10 HP	1	**3687.556**	**3685.689**
12 HP	1	**3687.557**	**3685.690**
14 HP	1	**3687.558**	**3685.691**
21 HP	1	**3687.559**	**3685.692**
28 HP	1	**3687.560**	**3685.693**
42 HP	1	**3687.561**	**3685.694**
Card depth 8.66″/220 mm			
8 HP	1	–	**3687.562**
10 HP	1	**3687.563**	**3685.701**
12 HP	1	**3687.564**	**3685.702**
14 HP	1	**3687.565**	**3685.703**
21 HP	1	**3687.566**	**3685.704**
28 HP	1	**3687.567**	**3685.705**
42 HP	1	**3687.568**	**3685.706**



Cover panels for modules Type I and II

Slide-in, with ventilation holes (EMC).

Material:
.04″/1 mm aluminum

Configuration:
2 cover panels,
installation hardware.

Module width	PU	Part No. RP 160 mm	Part No. RP 220 mm
8 HP	1	**3687.585**	–
10 HP	1	**3685.683**	**3685.695**
12 HP	1	**3685.684**	**3685.696**
14 HP	1	**3685.685**	**3685.697**
21 HP	1	**3685.686**	**3685.698**
28 HP	1	**3685.687**	**3685.699**
42 HP	1	**3685.688**	**3685.700**

Card guides for modules Type I and II

for guiding several circuit boards within one module. May be installed in cover panels with ventilation slots.

Material:
Noryl

For circuit board strengths .06″/1.6 mm	PU	Part No. RP
6.33″/160 mm	10	**3606.140**
8.66″/220 mm	10	**3606.200**

Tapped strips for modules Type I, II, V, VI

To fasten accessories to the outside of the module sidewall. The tapped strips slide into the side extrusion. M2.5 threaded fasteners secure the subrack.
Part No. RP 3687.020.

Material:
Sheet steel

Finish:
Chromated

Module depth inches/mm	PU	Part No. RP
6.30/160	4	**3653.600**
8.66/220	4	**3653.610**

Card guides in modules Type I, II, V, VI

To fasten circuit boards in modules.

Material:
PBT (Pocan 4235)

PU	Part No. RP
2 + installation screws	**3606.321**

Circuit board mount for Type II modules

Serves to install the female or male multi-point connector.

2 applications with one mount.

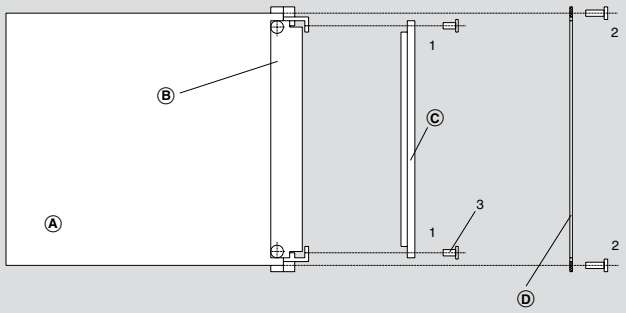
Application 1:
The female multi-point connectors fasten to the module rear wall with circuit board mounts. Wires are attached to the female multi-point connectors. A male multi-point connector completes the connection to the system (one transfer point).

Application 2:
All circuit boards install with their male multi-point connectors fitting into a BUS system female multi-point connector, when a module is plugged in (several transfer points).

Material:
Plastic

Configuration:
Circuit board mounts top/bottom, installation hardware.

PU	Part No. RP
5 sets	**3603.050**



Ⓐ circuit board
Ⓑ male multi-point connector
Ⓒ female multi-point connector
Ⓓ module rear wall
position 1 + position 2 for application 2
position 1 + position 3 for application 1

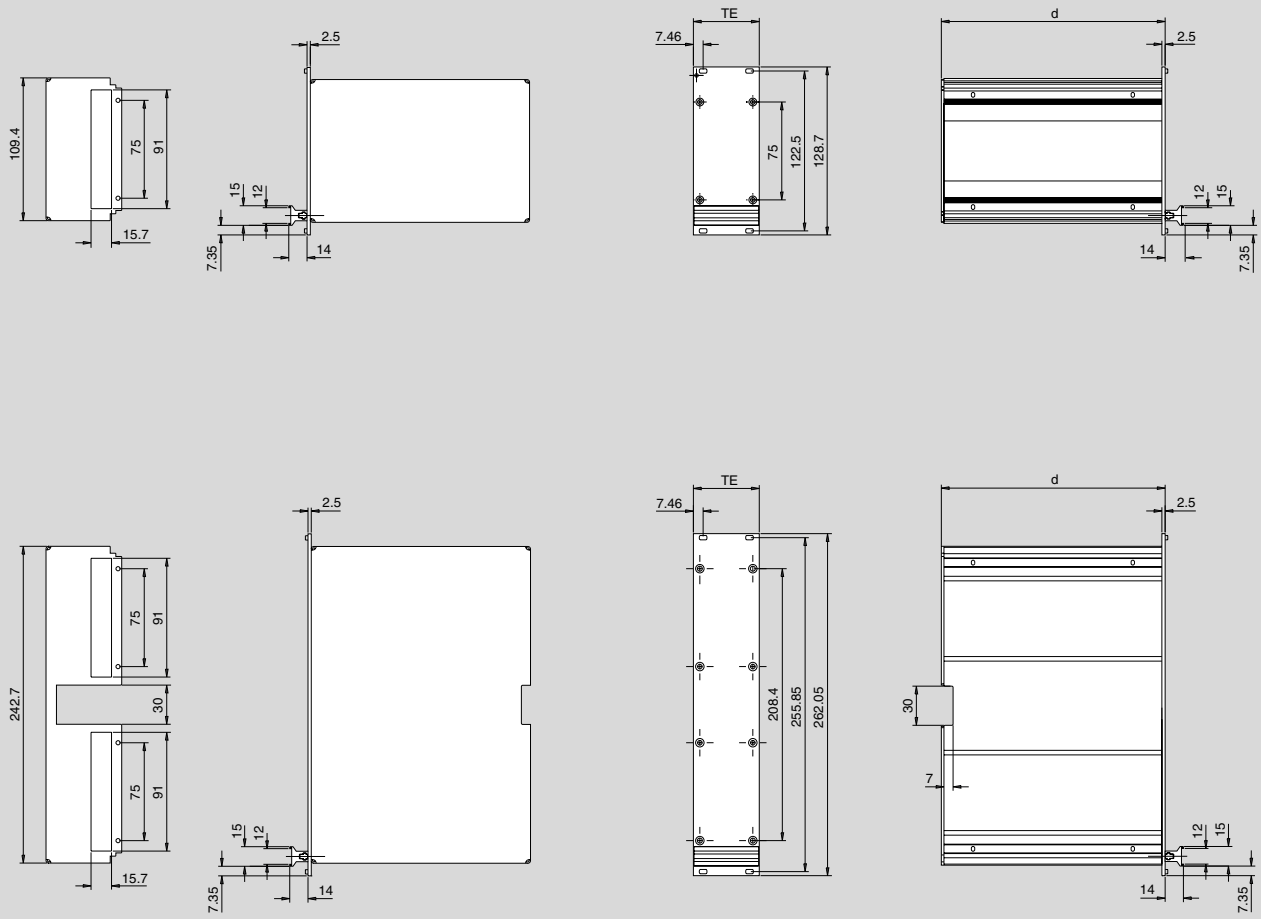
Identification strips for module handles Type I, II, V, VI

Material:
0.06″/1.4 mm aluminum

Finish:
Anodized

HP	PU	Part No. RP
3	1	**3685.746**
4	1	**3685.747**
5	1	**3685.748**
6	1	**3685.749**
7	1	**3685.750**
8	1	**3685.751**
10	1	**3685.752**
12	1	**3685.753**
14	1	**3685.754**
39.37″/1 m	1	**3685.758**
19.69″/.5 m	5	**3606.300**

Ripac modules Type V and VI



TE = HP

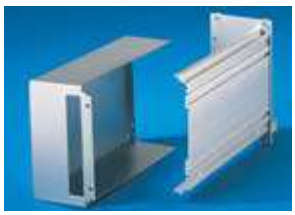
HP	d inches/mm	Part No. RP Type V, 3 U (solid)	Part No. RP Type VI, 3 U (vented)	Part No. RP Type V, 6 U (solid)	Part No. RP Type VI, 6 U (vented)
Card depth 6.30″/160 mm					
7	6.71/170.5	**3684.436**	**3684.444**	**3684.452**	**3684.460**
10	6.71/170.5	**3684.437**	**3684.445**	**3684.453**	**3684.461**
12	6.71/170.5	**3684.438**	**3684.446**	**3684.454**	**3684.462**
14	6.71/170.5	**3684.439**	**3684.447**	**3684.455**	**3684.463**
Card depth 8.66″/220 mm					
7	9.07/230.5	**3684.440**	**3684.448**	**3684.456**	**3684.464**
10	9.07/230.5	**3684.441**	**3684.449**	**3684.457**	**3684.465**
12	9.07/230.5	**3684.442**	**3684.450**	**3684.458**	**3684.466**
14	9.07/230.5	**3684.443**	**3684.451**	**3684.459**	**3684.467**
Configuration					
Front panel		1	1	1	1
Sidewall		1	1	1	1
Cover shell		1	1	1	1
Handle		1	1	1	1
Card holder		2	2	2	2
Handle identification strip		1	1	1	1
Installation hardware (set)		1	1	1	1

Type V and VI

Technical specifications:
Installation depth: 6.30 and 8.66″/160 and 220 mm
Height: 3 U and 6 U
per DIN 41 494, part 5
Rear wall accepts single rack connectors.

Material:
Front panel:
.1″/2.5 mm aluminum, natural anodized
Cover shell:
.04″/1 mm aluminum, chromated
Sidewall:
aluminum extrusion, anodized
Handle:
aluminum extrusion, natural anodized
Card holder:
plastic

● **Special dimensions, printing or modifications, as well as EMC versions are available upon request.**



Cover shell (1) consists of cover panels, (vented/solid) as well as one piece rear wall.

Modules available in (Type V solid) or vented (Type VI). Hole diameter .16″/4 mm.

Tapped strips
in modules for fastening of subracks.
Details on page 398.

Card holder
to fasten circuit boards.

Details on page 399.

Vertical drive modules

For the installation of drive modules or CD-ROMs. Fits all Ripac subracks for drive modules (see pages 356/357).

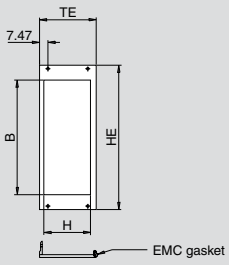
- Choice of EMC or non EMC ready.
- Installation options of 3½″ or 5¼″ drives or CD-ROM, vertical.
- Front and base panel are one unit.

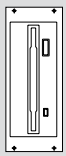
Material:
Front panel: .1″/2.5 mm aluminum
Base panel: aluminum

Finish:
Chromated

Configuration:
1 front panel with base panel,
1 EMC gaskets (for EMC modules),
installation hardware.

Disk drives installed	Front panels		Approximate depth of disk drive inches/mm	Front panel cutout		Part No. RP	
	U (HE)	HP (TE)		H inches/mm	Width (B) inches/mm	EMC	Non EMC
1 x 3½″	3	8	6.30/160	.79/20	4.02/102	**3684.468**	**3685.077**
	3	8		1.02/26		**3684.469**	**3685.078**
	3	8		1.22/31		**3684.470**	**3685.079**
	3	10		1.63/41.5		**3684.471**	**3685.080**
1 x 3½″	4	8		1.63/20		**3684.472**	**3685.081**
	4	8		1.02/26		**3684.473**	**3685.082**
	4	8		1.22/31		**3684.474**	**3685.083**
	4	10		1.63/41.5		**3684.475**	**3685.084**
1 x 5¼″	4	10	8.66/220	1.63/41.5	5.79/147	**3684.476**	**3685.085**
2 x 3½″	6	8	6.30/160	2 x .79/20	4.02/102	**3684.477**	**3685.086**
	6	8		2 x 1.02/26		**3684.478**	**3685.087**
	6	8		2 x 1.22/31		**3684.479**	**3685.088**
	6	10		2 x 1.61/41		**3684.480**	**3685.089**
1 x 5¼″	6	10	8.66/220	1.63/41.5	5.79/147	**3684.481**	**3685.090**
1 x 3½″	3	8	6.30/160	–	–	**–**	**3685.091**
	3	10		–	–	**–**	**3685.092**
1 x 3½″	4	8		–	–	**–**	**3685.093**
	4	10		–	–	**–**	**3685.094**
2 x 3½″	6	8		–	–	**–**	**3685.095**
	6	10		–	–	**–**	**3685.096**




1 x 3½″

1 x 5¼″

2 x 3½″

Card guide for disk drive modules

Card guides for the management of disk drive modules in the Ripac Vario subrack for disk drive modules. Two card guides are required per disk drive module.

Configuration:
1 card guide including push-in pin.

For installation depths	PU	Part No. RP
6.30″/160 mm	1	**3686.989**

Note:
Please order installation screws
(2 per card guide) separately.
Part No. 3654.340, 1 pack = 100 pieces.

Horizontal disk drive module

for installation in 2 U, 4 U and 6 U Ripac Vario subracks for disk drive modules (see pages 356/357).

- Choice of installation options of 3½″ or 5¼″ disk drives or CD-ROMs, horizontal.
- Backplane ready for connecting 3½″ disk drives.
- Front and base panel are one unit.

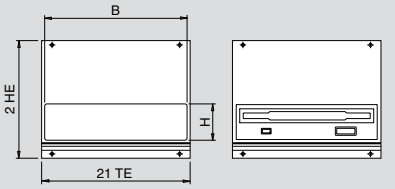
Material:
Front panel with base plate: aluminum extrusion

Finish:
Chromated

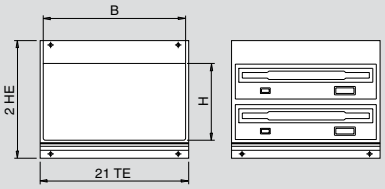
Configuration:
1 front panel with base plate, installation hardware.

Disk drives installed	Front panel				Part No. RP
	U (HP)	HP (TE)	H inches/mm	Width (B) inches/mm	
1 x 3½″	2	21	.79/20	4.02/102	**3684.118**
	2	21	1.02/26		**3684.119**
	2	21	1.22/31		**3684.120**
	2	21	1.63/41.5		**3684.121**
2 x 3½″	2	21	1.69/43		**3684.122**
	2	21	2.16/55		**3684.123**
1 x 5¼″	2	30	1.65/42	5.77/146.5	**3684.124**

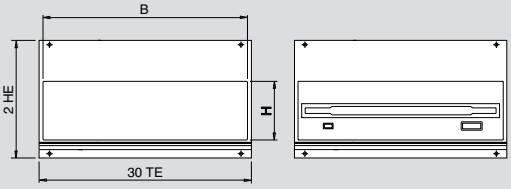
1 x 3½″



2 x 3½″



1 x 5¼″



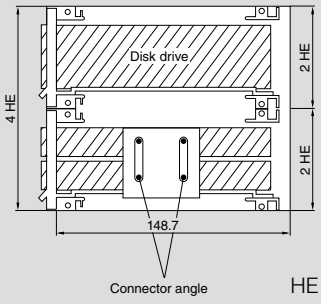
Connector angle for disk drive modules

For baying two horizontal disk drive modules.

Material:
Aluminum

Finish:
Chromated

PU	Part No. RP
2	**3684.125**



HE = U

Front panel as blank cover

To cover blank spaces in the subrack, when horizontal disk drive modules are installed.

Material:
Aluminum

Finish:
Chromated

U	HP	Part No. RP
2	21	**3685.350**
2	24	**3685.429**

Specifications of rack connectors per DIN 41 612

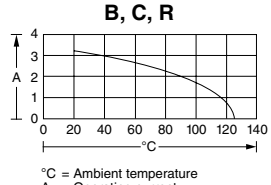
Male and female multi-point connectors per DIN 41 612 and IEC 630-2

	Type B	Type C
Molded body	Polyester GV, grey, self-extinguishing (UL 94-V0)	
Contacts	Male multi-point CuZn, female multi-point $CuSn_6$ or $CuSn_8$ choice of Au over 2 µm Ni	
Connectors	$CuNi_9Sn_2$, nickel plated, choice of tin plating, terminal surface, selective Au over Ni	
Testing class	55/125/56 (per DIN 40 045)	
Temperature range	– 67°F … + 257°F/– 55°C … +125°C	
Total mating force	32 pin ≤ 30 N, 64 pin ≤ 60 N	32 pin ≤ 30 N, 48 pin ≤ 45 N, 64 pin ≤ 60 N, 96 pin ≤ 90 N
Single draw force	≥ 0.15 N with test meter 0.56 mm	
Mechanical lifetime (mating cycles/quality class)	400 ≙ quality class II	
Insertion force	80 N (maximum 150 N)	
Pin holding power	minimum 30 N	
Operating current per derating curve	32 pin: 20°C: 3.2 A/70°C: 1.5 A/100°C: 1.0A 64 pin: 20°C: 2.0 A/70°C: 1.0 A/100°C: 0.5A	
Dielectric strength	1.0 kV, 50 Hz (at 1″/2.54 mm)	
Operating voltage	250 V ~ (at 1″/2.54 mm) VDE 0110, Isolation group A	
Creepage/air gap minimum	1.2 mm (row population) 1.3 mm (contact → contact)	2.5 mm (row population a + c) 1.2 mm (row population) 3.0 mm (row population a + c) 1.3 mm (contact → contact)
Volume resistivity	≤ 20 mΩ (maximum 2 mΩ deviation from standard value)	
Isolation resistance	≥ 10^{12} Ω (minimum 10^9Ω per climatic stress)	
Capacity	approximately 0.5 – 1 pF (contact → contact)	

	Type F	Type H	Type R
Molded body	Polycarbonate GV/Polyester GV, grey, self-extinguishing (UL 94-V0)		
Male and female multi-point contacts	Male multi-point CuZn, female multi-point $CuSn_6$ or $CuSn_8$ choice of Au over 2 µm Ni	Male and female multi-point copper based alloy, hard silver plated	Male multi-point CuZn, female multi-point $CuSn_6$ or $CuSn_8$ choice of Au over 2 µm Ni
Connectors	$CuNi_9Sn_2$, nickel plated, choice of tin plating, terminal surface, selective Au over Ni	Tin plated	$CuNi_9Sn_2$, nickel plated, choice of tin plating, terminal surface, selective Au over Ni
Testing class	55/125/56 (per DIN 40 045)		55/125/56 (per DIN 40 045)
Temperature range	– 67°F … + 257°F/– 55°C … +125°C	– 85°F … + 257°F/– 65°C … +125°C	– 67°F … + 257°F/– 55°C … +125°C
Total mating force	32 pin ≤ 30 N, 64 pin ≤ 60 N	max. 90 N	32 pin < 30 N, 48 pin < 45 N, 64 pin < 60 N, 96 pin < 90 N
Single draw force	≥ 0.15 N with test meter 0.56 mm		≥ 0.15 N with test meter 0.56 mm
Mechanical lifetime (mating cycles/quality class)	400 ≙ quality class II		400 ≙ quality class II
Insertion force			80 N (maximum 150 N)
Pin holding power			minimum 30 N
Operating current per derating curve	32-/48 pin: 20°C: 6.0 A 70°C: 4.0 A 100°C: 2.5 A	20°C: 15 A 70°C: 12 A 100°C: 8 A	32-/48 pin: 20°C: 3.2A/70°C: 1.5 A 100°C: 1.0 A 64-/96 pin: 20°C: 2.0A/70°C: 1.0 A 100°C: 0.5 A
Dielectric strength	1.55 kV (at b, z), 3.0 kV (at d, z)	3.0 kV, 50 Hz	1.0 kV, 50 Hz (at 1″/2.54 mm)
Operating voltage	125 V ~ (b, z), 250 V ~ (d, z)	500 V, VDE 0110 group C	250 V ~ (at 1″/2.54 mm) VDE 0110, Isolation group A
Creepage/air gap minimum	≥ 1.6 mm (≥ 3 mm for row population d + z); ≥ 3.0 mm (≥ 5 mm for row population d + z)	≥ 4.5 mm; ≥ 8.0 mm	2.5 mm (row population a + c) 1.2 mm (row population) 3.0 mm (row population a + c) 1.3 mm (contact → contact)
Volume resistivity	≤ 15 mΩ (maximum 2 mΩ deviation from standard value)	≤ 15 mΩ	≤ 20 mΩ (maximum 2 mΩ deviation from standard value)
Isolation resistance	≥ 10^{12}Ω	≥ 10^{12} Ω	≥ 10^{12}Ω (minimum 10^9Ω per climatic stress)
Capacity	approx. 2.5 pF (1.5 pF for population d, z)		approx. 0.5 – 1 pF (contact → contact)

Derating curves

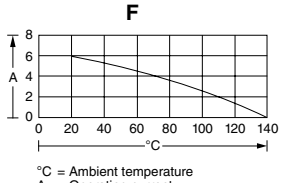
B, C, R



°C = Ambient temperature
A = Operating current

Series B, C, R
68°F/ 20°C – 3.20 A
158°F/ 70°C – 2.45 A
212°F/100°C – 1.65 A

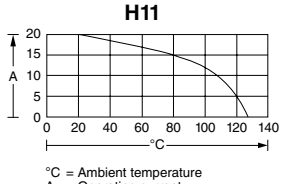
F



°C = Ambient temperature
A = Operating current

Series F
68°F/ 20°C – 6.0 A
158°F/ 70°C – 4.0 A
212°F/100°C – 2.5 A

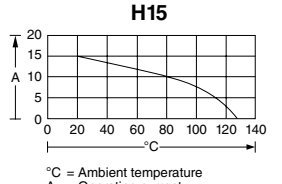
H11



°C = Ambient temperature
A = Operating current

Series H11
68°F/ 20°C – 20.0 A
158°F/ 70°C – 16.0 A
212°F/100°C – 2.2 A

H15

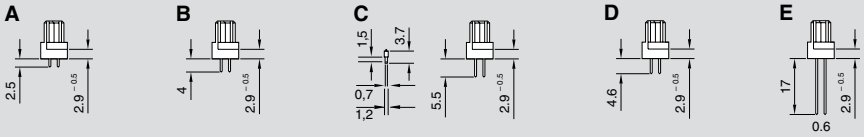


°C = Ambient temperature
A = Operating current

Series H15
68°F/ 20°C – 15 A
158°F/ 70°C – 11 A
212°F/100°C – 8 A

Female multi-point connector Type B, DIN 41 612

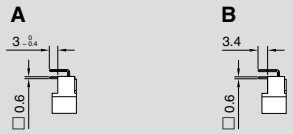
- 3.2 A/pin (at an ambient temperature of 68°F/20°C).
- Soldered or press-in.



Type of connection		Part No. RP					
		Soldering pin (A)	Soldering pin (B)	Soldering lug (C)	Fit pin (D)	Fit pin (E)	Number of contacts
Population	Row a / 1, 2, 3…	**3686.700**	**3686.703**	**3686.706**	**3686.709**	**3686.712**	32
Population	Row a + b / PIN 2,4,6…32	**3686.701**	**3686.704**	**3686.707**	**3686.710**	**3686.713**	32
Population	Row a + b / 1, 2, 3…	**3686.702**	**3686.705**	**3686.708**	**3686.711**	**3686.714**	64
Hole diameter “a”		$1^{\pm 0,1}$	$1^{\pm 0,1}$	$1^{\pm 0,1}$	$1^{+0,009}_{-0,006}$	$1^{+0,009}_{-0,006}$	

Male multi-point connector Type B, DIN 41 612

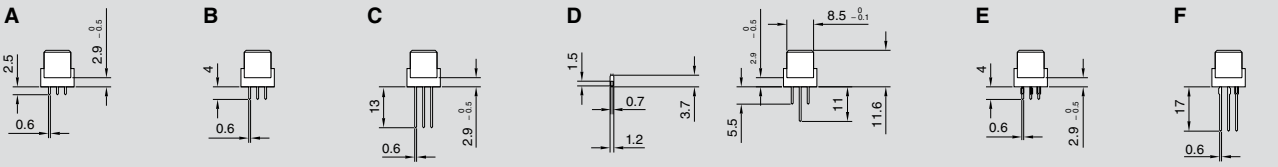
- 3.2 A/Pin (at an ambient temperature of 68°F/20°C).
- Soldered or press-in.



Type of connection		Part No. RP		
		Soldering pin (A)	Fit pin (B)	Number of contacts
Population	Row a / 1, 2, 3…	**3686.715**	**3686.718**	32
Population	Row a + b / PIN 2,4,6…32	**3686.716**	**3686.719**	32
Population	Row a + b / 1, 2, 3…	**3686.717**	**3686.720**	64
Hole diameter “a”		$1^{\pm 0,1}$	$1^{+0,009}_{-0,006}$	

Female multi-point connector Type C, DIN 41 612

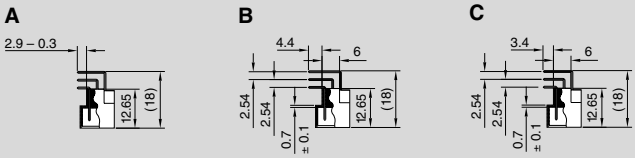
- 3.2 A/pin (at an ambient temperature of 68 °F/20 °C).
- Soldered or press-in.



Type of connection		Part No. RP						
		Soldering pin (A)	Soldering pin (B)	Wrap post (C)	Soldering lug (D)	Fit pin (E)	Fit pin (F)	Number of contacts
Population	Row a + c / PIN 2,4,6…32	**3686.721**	**3686.725**	**3686.729**	**3686.733**	**3686.737**	**3686.741**	32
Population	Row a + b + c / PIN 2,4,6…32	**3686.722**	**3686.726**	**3686.730**	**3686.734**	**3686.738**	**3686.742**	48
Population	Row a + c	**3686.723**	**3686.727**	**3686.731**	**3686.735**	**3686.739**	**3686.743**	64
Population	Row a + b + c	**3686.724**	**3686.728**	**3686.732**	**3686.736**	**3686.740**	**3686.744**	96
Hole diameter “a”		$1^{\pm 0,1}$	$1^{\pm 0,1}$	$1^{\pm 0,1}$	$1^{\pm 0,1}$	$1^{+0,009}_{-0,006}$	$1^{+0,009}_{-0,006}$	

Male connector version C, DIN 41 612

- 3.2 A/pin
  (at 68°F/20°C ambient temperature).
- Soldering or press-in technique.



Type of connection		Part No. RP			
		Soldering pin (A)	Soldering pin (B)	Press-in pin (C)	Number of contacts
Population	Rows a + c Pin 2,4,6…32	**3686.745**	**3686.749**	**3686.753**	32
Population	Rows a + b + c Pin 2,4,6…32	**3686.746**	**3686.750**	**3686.754**	48
Population	Rows a + c	**3686.747**	**3686.751**	**3686.755**	64
Population	Rows a + b + c	**3686.748**	**3686.752**	**3686.756**	96
Hole diameter “a”		$1^{\pm 0.1}$	$1^{\pm 0.1}$	$1^{+0.009}_{-0.006}$	

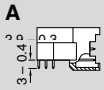
Female connector version F, DIN 41 612

- 5.6 A/pin
  (at 68°F/20°C ambient temperature).
- Soldering technique.

Type of connection		Part No. RP		
		Soldering pin (A)	Wrap post (B)	Number of contacts
Population	Rows b, z Pin 2,4,6…32	**3686.814**	**3686.820**	32
Population	Rows d, z Pin 2,4,6…32	**3686.815**	**3686.821**	32
Population	Rows d, b, z Pin 2,4,6…32	**3686.816**	**3686.822**	48
Hole diameter “a”		$1.6^{\pm 0.1}$	$1.6^{+0.009}_{-0.006}$	

Male connector version F, DIN 41 612

- 5.6 A/pin
  (at 68°F/20°C ambient temperature).
- Soldering technique.

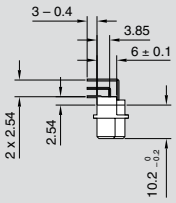


Type of connection		Part No. RP	
		Soldering pin (A)	Number of contacts
Population	Rows b, z Pin 2,4,6…32	**3686.817**	32
Population	Rows d, z Pin 2,4,6…32	**3686.818**	32
Population	Rows d, b, z Pin 2,4,6…32	**3686.819**	48
Hole diameter “a”		$1^{\pm 0.1}$	

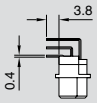
Female connector version R, DIN 41 612

- 3.2 A/pin (at 68°F/20°C ambient temperature).
- Soldering or press-in technique.

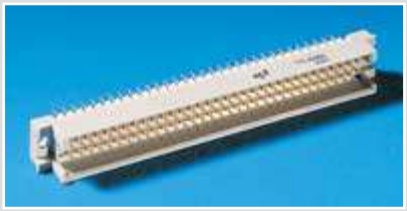
A



B



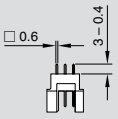
Type of connection		Part No. RP		
		Soldering pin (A)	Press-in pin (B)	Number of contacts
Population	Rows a + c / Pin 2,4,6…32	**3686.757**	–	32
Population	Rows a + b + c / Pin 2,4,6…32	**3686.758**	–	48
Population	Rows a + c	**3686.759**	**3686.761**	64
Population	Rows a + b + c	**3686.760**	**3686.762**	96
Hole diameter "a"		$1^{\pm 0.1}$	$1^{+0.009}_{-0.006}$	



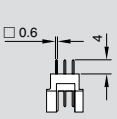
Male connector version R, DIN 41 612

- 3.2 A/pin (at 68°F/20°C ambient temperature).
- Soldering or press-in technique.

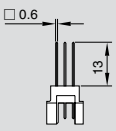
A



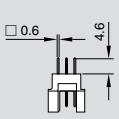
B



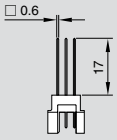
C



D



E

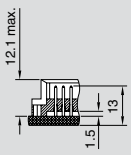


Type of connection		Part No. RP					
		Soldering pin (A)	Soldering pin (B)	Wrap post (C)	Press-in pin (D)	Press-in pin (E)	Number of contacts
Population	Rows a + c / Pin 2,4,6…32	**3686.763**	**3686.767**	**3686.771**	**3686.775**	**3686.779**	32
Population	Rows a + b + c / Pin 2,4,6…32	**3686.764**	**3686.768**	**3686.772**	**3686.776**	**3686.780**	48
Population	Rows a + c	**3686.765**	**3686.769**	**3686.773**	**3686.777**	**3686.781**	64
Population	Rows a + b + c	**3686.766**	**3686.770**	**3686.774**	**3686.778**	**3686.782**	96
Hole diameter "a"		$1^{\pm 0.1}$	$1^{\pm 0.1}$	$1^{\pm 0.1}$	$1^{+0.009}_{-0.006}$	$1^{+0.009}_{-0.006}$	

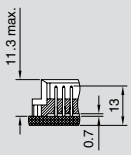
Male connector shroud type R, DIN 41 612

- For adaptor connectors.

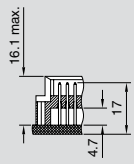
A



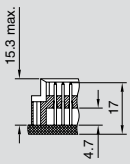
B



C



D



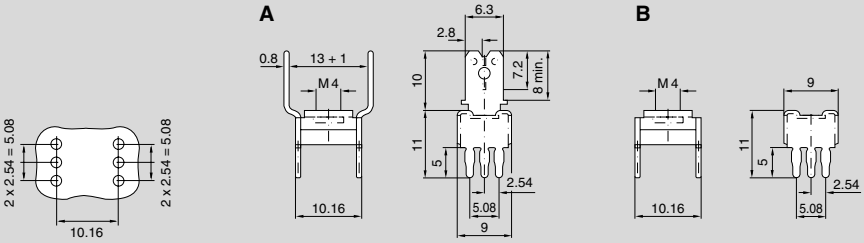
Type of connection	Part No. RP			
	A	B	C	D
Population 96 pins	**3686.783**	**3686.784**	**3686.807**	**3686.808**

Power bugs screw-on/press fit connectors

Press-in.

- With 6 pins.
- Maximum 30 A current rating.

Type	Pins	Part No. RP
A	6	**3686.801**
B	6	**3686.802**



Spade terminals (Faston)

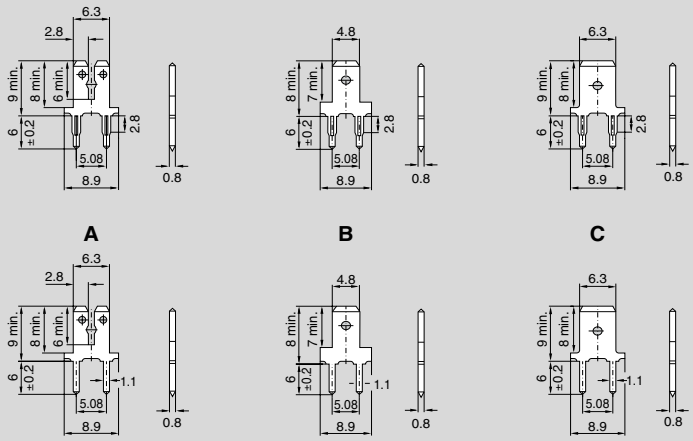
Press-in and soldered.

Technical specifications:

Material	$CuSn_6$
Plating	minimum 2 µm SnPb
Press-in force	maximum 132 lbs/60 kg
Retention force	minimum 26.45 lbs/12 kg
Drill size	.07″/1.75 mm
Hole	1.6 ± .9 mm

Press-in

Soldered



Type	Part No. RP	
	Fit pin	Soldering pin
A	**3686.795**	**3686.798**
B	**3686.796**	**3686.799**
C	**3686.797**	**3686.800**

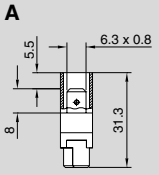
Installation hardware

For fastening	Dimensions	Description	PU	Part No. RP
Rack connectors to Z-rails	M 2.5 x 6	Phillips head screw	1 pack	**3654.340**
Rack connectors to PCBs	M 2.5 x 12	Phillips head screw	1 pack	**3654.350**

1 pack = 100 pieces

Female multi-point connector Type H11, DIN 41 612

- 15 A/Pin (at an ambient temperature of 68°F/20°C).
- Flat plug quick connect.

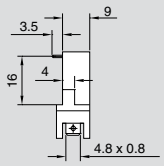


Type of connection	Part No. RP
	Faston (A)
Population 11 pin	**3686.788**

Male multi-point connector Type B, DIN 41 612

- 15 A/pin (at an ambient temperature of 68°F/20°C).
- Soldered.

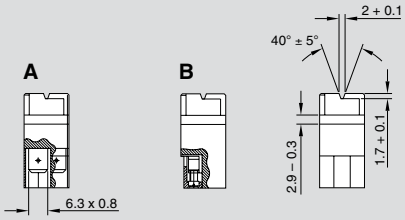
A



Type of connection	Part No. RP
	Soldering pin (A)
Population 11 pin	**3686.785**
Population 10 + 1 pin	**3686.786**
Population 9 + 2 pin	**3686.787**

Female multi-point connector Type H15, DIN 41 612

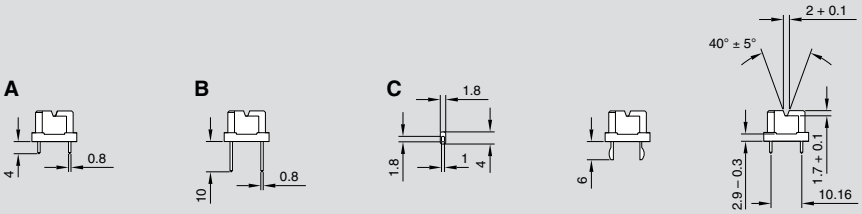
- 15 A/pin (at an ambient temperature of 68°F/20°C).
- Flat plug or screw connect.



Type of connection	Part No. RP	
	Faston (A)	Screw-on (B)
Population 15 pin	**3686.789**	**3686.790**

Female multi-point connector Type H15, DIN 41 612

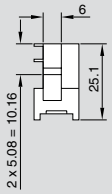
- 15 A/pin (at an ambient temperature of 68°F/20°C).
- Soldered.



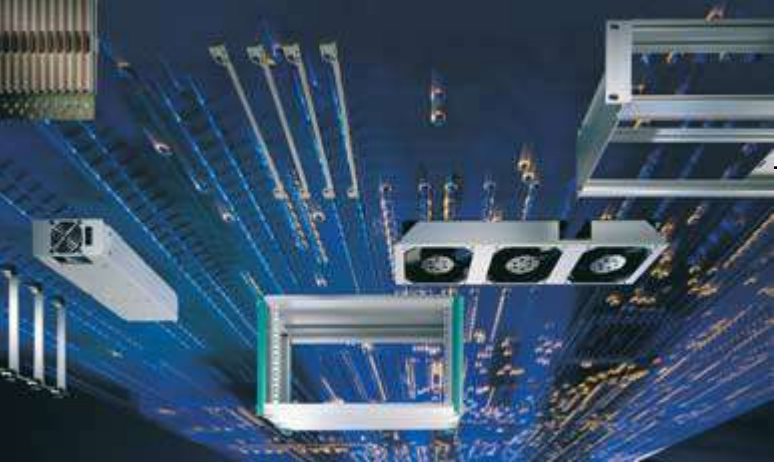
Type of connection	Part No. RP		
	Soldering pin (A)	Soldering pin (B)	Soldering lug (C)
Population 15 pin	**3686.791**	**3686.792**	**3686.793**

Male multi-point connector Type H15, DIN 41 612

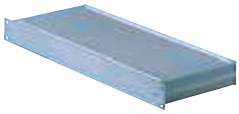
- 15 A/pin (at an ambient temperature of 68°F/20°C).
- Soldered.



Type of connection	Part No. RP
	Soldering pin
Population 15 pin	**3686.794**



RiBox system enclosures



Vario Case *iS* desktop enclosures

Applications

1 U system housing for the installation of single circuit boards, hubs or routers. RiBox is suitable as a desktop or 19″ rackmount case. 2 U system housing may be used for 2 or 3 slot CompactPCI while the 1 U provides mounting for 1 slot CompactPCI front and rear.

Desktop housing (plastic/metal) for the installation of ½ 19″/269.2 mm and 19″/482.6 mm modules. Rittal Vario Case *iS* offers many excellent technical application possibilities aside from its tried and proven basic design. It is suitable for rackmount applications as well as modular subracks and circuit boards per DIN 41 494, part 5. A combination of both applications also offers possibilities.

Design features

- Sidewalls are aluminum extrusions, natural.
- Floor/cover shells and front and rear panels are aluminum, chromated.
- Choice of desktop or rackmount configuration.
- EMC expandable.
- Available with installation kit for a double European card.

- Sidewalls are aluminum extrusions, cover shells are plastic UL 94-V0.
- Symmetrical assembly for population on both sides.
- Option of 19″/482.6 mm rackmount units or direct mount of plug-in assemblies.
- Depth adjustable installation.
- Built-in enclosure feet for safe stacking.
- Installation dimensions per DIN 41 494, part 5 as well as IEC 60 297-3.

User benefits

- Suitable for desktop or rackmount applications.
- Simple installation with just 4 screws.
- Maximizes interior space.
- EMC expandable.
- Minimal space requirements.

- For push-in assemblies or modular units and circuit boards.
- Flexible installation options because of the .5″/12.5 mm notch increments.
- Safely stackable.
- Safe transportation possible because of the all-around handle groove.

Pages 412/413

Pages 434 – 445

RiCase desktop enclosures

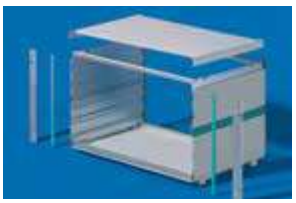
Desktop housing (all metal) for the installation of 1/2 19″/ 269.2 mm and 19″/482.6 mm components.
Especially designed for the perfect "human electronics interface", suitable for stationary and mobile applications.
The all-metal housing is appealing because of its form and custom colors. It offers basic EMC protection and safe, practical packaging for sensitive, high tech micro electronics.

A special advantage is the versatility made possible by its modular design.
The carrying handle, support stand and tower all have a highly ergonomic design and make the RiCase extremely user friendly.

- Enclosure body is aluminum extrusion, painted (3 standard colors are offered).
- Symmetrical installation for population from both sides.
- Capable of carrying high loads through its torsion resistant construction.
- Expandable to basic EMC protection.

- Installation is depth adjustable.
- Corner caps guarantee secure stand and protection against sliding.
- Installation dimensions according to DIN 41 494, part 5 as well as IEC 60 297-3.

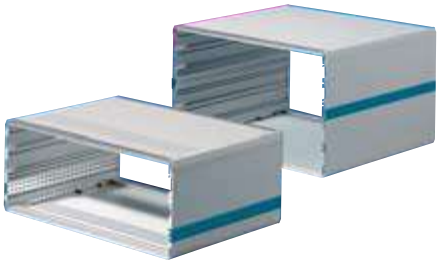
- Ready for 19″/482.6 mm rackmount units.
- Safe packaging for highly sensitive electronic equipment.
- Flexibility through depth adjustable installation.
- Safety through maximum mechanical protection and the realization of high EMC requirements.
- Ergonomic construction for stationary, mobile or tower configurations.
- 3 standard colors.



- Numerous door, sidewall and roof application options, e.g. as keyboard lid.
- Passive as well as active climate control is possible.
- 3 standard colors are offered.

Pages 424 – 433

Ripac Vario Module system enclosures



The Ripac Vario Module can be used as a desktop as well as a 19″ rackmount housing. Corner trim pieces or mounting flanges adapt the enclosure to the appropriate applications. The all-metal housing provides an automatic basic EMC protection. The Ripac Vario Module is fully compatible with the entire Ripac subrack program which makes a full EMC expansion easily possible.

Ripac Vario Module's highly functional design presents the optimal packaging for expensive electronic equipment. It is ideal for micro-computer configurations.

- Sidewall made of aluminum extrusions, painted, with bare metal contact points.
- Corner trim pieces or flanges for a desktop configuration or as a rackmount housing.

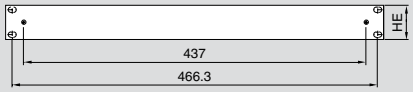
- Depth installation in .39″/ 10 mm system hole pattern.
- Outside dimensions per DIN 41 494, part 1. Inside dimensions per DIN 41 494, part 5, IEC 60 297-3 as well as IEEE 1101.1 and 1101.10.

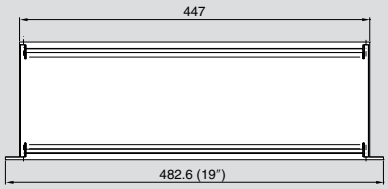
- Suitable for desktop as well as rackmount applications.
- Inside assembly as well as installation rails from the Ripac system.
- EMC version and EMC gaskets are available (accessories).
- Optional front cross rail with 0.39″/10 mm roof for injector/ extractor handles.

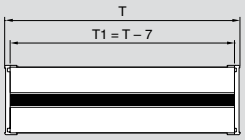
- Keyable subracks option.
- ESD protection.
- May be configured as a micro-computer system.
- Configuration according to IEEE 1101.1 and 1101.10.

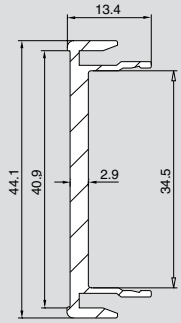
Pages 414 – 423

19″/482.6 mm rackmount

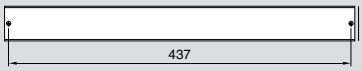


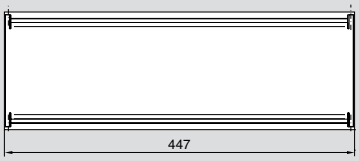


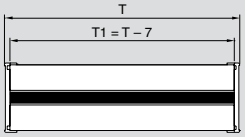




Desktop enclosure







Technical specifications:
- System housing 1 U and 2 U with 6/8/10/12 or 14″ (150/200/250/300 or 350 mm) depth
- Easy installation with only 4 screws
- Choice of desktop or rackmount applications
- Front panel accepts a cover foil or simply covers the screws
- Maximum available internal space
- Optional EMC expandable with additional EMC gaskets
- Front panel
- Installation option of 1 U = 1 VME or CPCI board, horizontal
- Installation option of 2 U = 3 VME or 3 CPCI boards.

Material/finish:
Sidewalls:
aluminum extrusions, untreated
Bottom/cover shell:
aluminum, chromated
Front/rear wall:
aluminum extrusion, chromated
Mounting panel:
sheet steel

System housing 1 U, per IEC 60 297-1.
Choice of rackmount or desktop configurations.

Individual application:
- Bridges
- Routers
- Hubs
- Electronic patch panels
- Modems
- Port Main Switches
- Remote monitoring

	Part No. 19″ rackmount					**Part No. 19″ rackmount mounting kit for double Euro cards**				
U (HE)	1	1	1	1	1	2	2	2	2	2
Width inches/mm	69/482.6	19/482.6	19/482.6	19/482.6	19/482.6	19/482.6	19/482.6	19/482.6	19/482.6	19/482.6
Depth (T) inches/mm	6/150	8/200	10/250	12/300	14/350	6/150	8/200	10/250	12/350	14/350
Part No.	**3687.814**	**3687.815**	**3687.816**	**3687.817**	**3687.818**	**3689.044**	**3689.045**	**3689.046**	**3689.047**	**3689.048**
Configuration										
Sidewall	2	2	2	2	2	2	2	2	2	2
Front panel	1	1	1	1	1	1	1	1	1	1
Rear wall	1	1	1	1	1	1	1	1	1	1
Bottom/cover shell	2	2	2	2	2	2	2	2	2	2
Mounting kit	–	–	–	–	–	1	1	1	1	1

	Part No. desktop enclosure									
U	1	1	1	1	1	–	–	–	–	–
Width inches/mm	18/447	18/447	18/447	18/447	18/447	–	–	–	–	–
Depth (T) inches/mm	6/150	8/200	10/250	12/300	14/350	–	–	–	–	–
Part No.	**3687.819**	**3687.820**	**3687.821**	**3687.822**	**3687.823**	**–**	**–**	**–**	**–**	**–**
Configuration										
Sidewall	2	2	2	2	2	–	–	–	–	–
Front panel	1	1	1	1	1	–	–	–	–	–
Rear wall	1	1	1	1	1	–	–	–	–	–
Bottom/cover shell	2	2	2	2	2	–	**–**	**–**	**–**	**–**
Accessories										
EMC set	**3684.080**	**3684.080**	**3684.080**	**3684.080**	**3684.080**	**3684.080**	**3684.080**	**3684.080**	**3684.080**	**3684.080**
Mounting panel	**3684.074**	**3684.075**	**3684.076**	**3684.077**	**3684.078**	**–**	**–**	**–**	**–**	**–**

The RiBox enclosure system was designed for the horizontal installation of an individual circuit board, plug-in assembly or for housing routers, hubs or modems.

- Minimum space requirements of only 1 U
- Configuration as a desktop or rackmount housing
- Custom modifications available
- Simple installation with only 4 screws
- EMC upgradeable

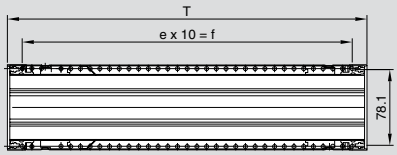
Mounting panel made of sheet steel for individualized installation.
Part No. see table to the left.

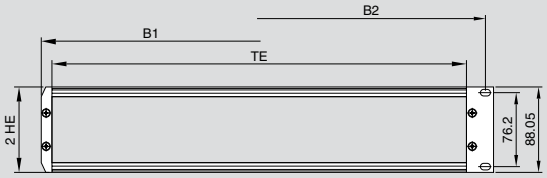
EMC set
Part No. see table to the left.

Installation options for horizontal cards.

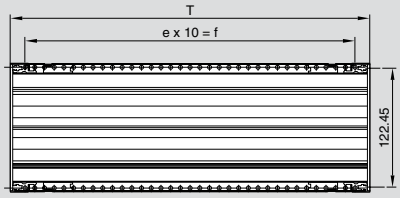
Section B – B

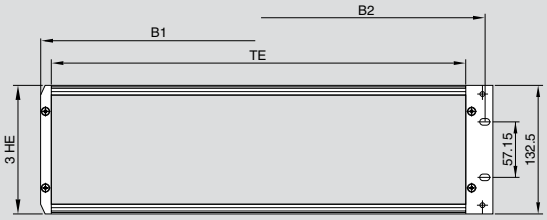
2 U





3 U





HE = U
TE = HP

Mounting flange/corner trim pieces with groove for EMC gaskets.

Ripac Vario Module	PU	2 U		3 U				Page
Installation depth HP		42	42	42	42	63	63	
Depth (T) inches/mm		9.86/250.4	12.22/310.4	9.86/250.4	12.22/310.4	9.86/250.4	12.22/310.4	
Enclosure Part No. VM **without ventilation** **with ventilation holes**	1 1	**3981.000** **–**	**3981.020** **–**	**–** **3981.040**	**–** **3981.070**	**–** **3981.050**	**–** **3981.080**	
e		22	28	22	28	22	28	
B1 (mm)		235.6	253.6	235.6	235.6	342.3	342.3	
B2 (mm)		251.6	251.6	251.6	251.6	358.3	358.3	
Mounting accessories								
Corner trim pieces for the installation of desktop enclosures	2	3981.300	3981.300	3981.310	3981.310	3981.310	3981.310	422
Flange front for rackmount installation – without handle mounting holes – with handle mounting holes	 2 2	 3981.200 –	 3981.200 –	 3981.210 3981.260	 3981.210 3981.260	 3981.210 3981.260	 3981.210 3981.260	 422 422
Cross rails, front	1	3684.560	3684.560	3684.560	3684.560	3684.561	3684.561	363
Cross rails, front with .39″/10 mm roof for injector/extractor handles	1	3684.565	3684.565	3684.565	3684.565	3684.566	3684.566	363
Cross rails, rear	1	3684.570	3684.570	3684.570	3684.570	3684.571	3684.571	364
Z-rails DIN 41 612	1	3684.600	3684.600	3684.600	3684.600	3684.601	3684.601	367
Isolation strip (21 HP)	1	3684.611	3684.611	3684.611	3684.611	3684.611	3684.611	366
Contact strips (84 HP)	1	3684.612	3684.612	3684.612	3684.612	3684.612	3684.612	366
Tapped strips	1	3684.608	3684.608	3684.608	3684.608	3684.609	3684.609	367
EMC configuration								
EMC gaskets, horizontal – top/bottom connector rail – between 2 cross rails	 1 1	 3684.974 3685.789	 3684.974 3685.789	 3684.974 3685.789	 3684.974 3685.789	 3684.808 3685.789	 3684.808 3685.789	 367 367
EMC gaskets, vertical	1	3686.974	3686.974	3686.975	3686.975	3686.975	3686.975	360
Front/rear EMC panels		see pages 384 – 395						
Accessories for external mounting								
Front/rear panels		see pages 384 – 395						
Carrying handles	2	3981.350	3981.360	3981.350	3981.360	3981.350	3981.360	423
Front handles*	2	–	–	3636.010	3636.010	3636.010	3636.010	422
Front door, acrylic glass	1	–	–	3981.420	3981.420	3981.430	3981.430	423
Rear support feet	4	3901.000	3901.000	3901.000	3901.000	3901.000	3901.000	423

* Only with mounting flanges with handle mounting holes.

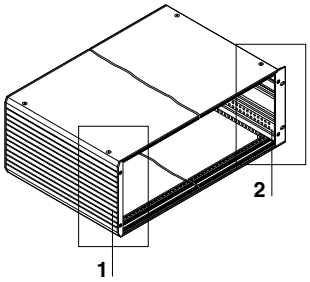
2 U, 3 U/42 HP, 63 HP

Technical specifications:
Suitable for desktop or rackmount applications.
Outside dimensions per DIN 41 494, part 1 for installation in 19″/482.6 mm enclosures. Installation dimensions for plug-in assemblies according to DIN 41 494, part 5 as well as DIN IEC 60 297-3 and IEEE 1101.1/1101.10.

Protection ratings:
IP 40 for the solid, unvented model.

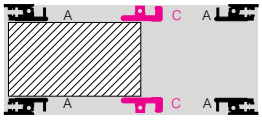
Material/finish:
Sidewalls: aluminum extrusions, painted RAL 7035
Cross members: aluminum extrusions, painted RAL 7035
Corner trim pieces: aluminum profiles, painted RAL 7035
Cover panels: sheet steel, painted RAL 7035
Side panels: aluminum extrusions, painted RAL 5018
Contact points:
bare metal.

Configuration:
2 sidewalls,
1 top cover panel
with/without ventilation hole(s),
1 lower cover panel
with/without ventilation hole(s),
4 cross rails,
4 tapped strips,
2 corner trim pieces, rear
for EMC gaskets,
installation hardware.



1) Desktop configuration:
order front corner pieces separately.

2) Rackmount configuration:
mounting flanges have to be ordered separately.



3 U

Included in the configuration.
Please order separately according to model.

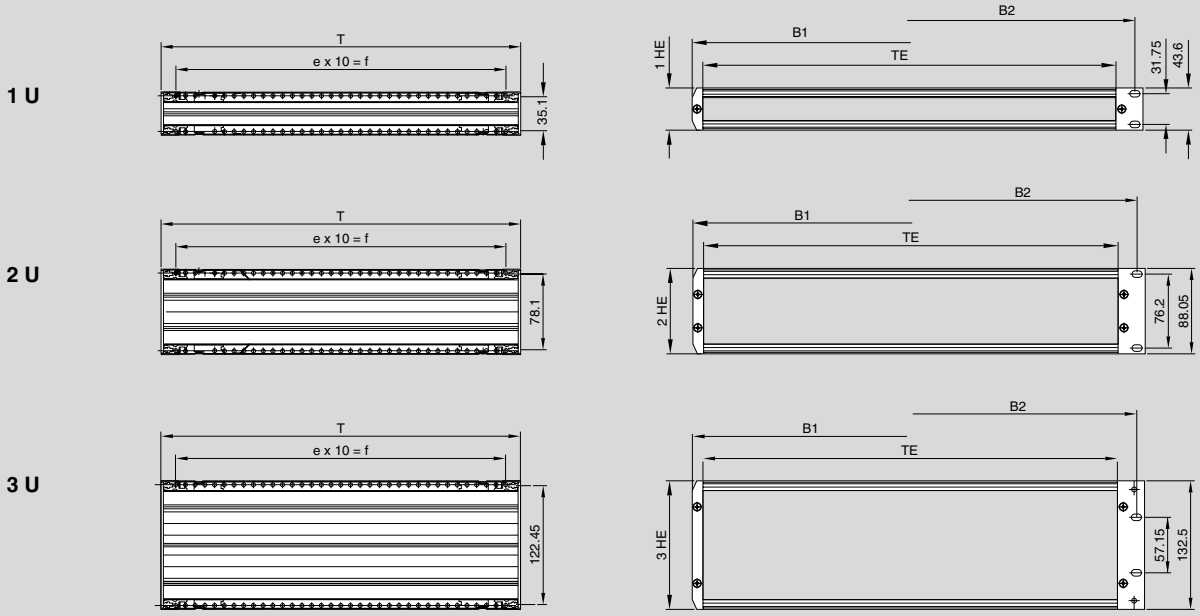
Accessories:

Ripac Vario Module accessories, see pages 422/423.

Cross rails, starting on page 363.

Corner trim pieces
with groove for accepting EMC gaskets.
Details see page 422.

Section B – B



HE = U
TE = HP

Mounting flange/corner trim pieces with groove for EMC gaskets.

Ripac Vario Module 1/2/3 U	PU	1 U			2 U		3 U			Page
Installation depth HP		84	84	84	84	84	84	84	84	
Depth (T) inches/mm		9.86/250.4	12.22/310.4	14.58/370.4	9.86/250.4	12.22/310.4	9.86/250.4	12.22/310.4	14.58/370.4	
Enclosure Part No. VM **without ventilation** **with ventilation holes**	1 1	**3981.001** **–**	**3981.002** **–**	**3981.003** **–**	**3981.010** **–**	**3981.030** **–**	**–** **3981.060**	**–** **3981.090**	**–** **3981.100**	
e		22	28	34	22	28	22	28	34	
B1 (mm)		449.0	449.0	449.0	449.0	449.0	449.0	449.0	449.0	
B2 (mm)		465.1	465.1	465.1	465.1	465.1	465.1	465.1	465.1	
Mounting accessories										
Corner trim pieces for the installation of desktop enclosures	2	3981.570	3981.570	3981.570	3981.300	3981.300	3981.310	3981.310	3981.310	422
Flange front for rackmount installation – without handle mounting holes – with handle mounting holes	 2 2	 3981.580 –	 3981.580 –	 3981.580 –	 3981.200 –	 3981.200 –	 3981.210 3981.260	 3981.210 3981.260	 3981.230 3981.280	 422 422
Cross rails, front	1	3684.562	3684.562	3684.562	3684.562	3684.562	3684.562	3684.562	3684.562	363
Cross rails, front with .39″/10 mm extension for injector/extractor handles	1	–	–	–	3684.567	3684.567	3684.567	3684.567	3684.567	363
Cross rails, rear	1	3684.572	3684.572	3684.572	3684.572	3684.572	3684.572	3684.572	3684.572	364
Z-rails DIN 41 612	1	–	–	–	3684.602	3684.602	3684.602	3684.602	3684.602	367
Isolation strip (21 HP)	1	–	–	–	3684.611	3684.611	3684.611	3684.611	3684.611	366
Contact strips (84 HP)	1	–	–	–	3684.612	3684.612	3684.612	3684.612	3684.612	366
Tapped strips	1	3684.610	3684.610	3684.610	3684.610	3684.610	3684.610	3684.610	3684.610	367
EMC configuration										
EMC gaskets, horizontal – top/bottom connector rail – between 2 cross rails	 1 1	 3684.808 3685.789	 3684.808 3685.789	 3684.808 3685.789	 3684.808 3685.789	 3684.808 3685.789	 3684.808 3684.789	 3684.808 3685.789	 3684.808 3685.789	 367 367
EMC gaskets, vertical	1	3686.973	3686.973	3686.973	3686.974	3686.974	3686.975	3686.975	3686.975	360
Front/rear EMC panels		see pages 384 – 395								
Accessories for external mounting										
Front/rear panels		see pages 384 – 395								
Carrying handles	2	3981.350	3981.360	3981.370	3981.350	3981.360	3981.350	3981.360	3981.370	423
Front handles*	2	–	–	–	–	–	3636.010	3636.010	3636.010	422
Front door, acrylic glass	1	–	–	–	–	–	3981.440	3981.440	3981.440	423
Rear support feet	4	3901.000	3901.000	3901.000	3901.000	3901.000	3901.000	3901.000	3901.000	423

* Only with mounting flanges with handle mounting holes.

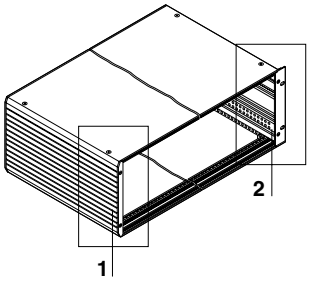
1 U, 2 U, 3 U/84 HP

Technical specifications:
Suitable for desktop or rackmount applications.
Outside dimensions per DIN 41 494, part 1 for installation in 19″/482.6 mm enclosures. Installation dimensions for plug-in assemblies according to DIN 41 494, part 5 as well as DIN IEC 60 297-3 and IEEE 1101.1/1101.10.

Protection ratings:
IP 40 for the solid, unvented model.

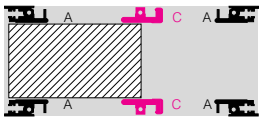
Material/finish:
Sidewalls: aluminum extrusions, painted RAL 7035
Cross members: aluminum extrusions, painted RAL 7035
Corner trim pieces: aluminum profiles, painted RAL 7035
Cover panels: sheet steel, painted RAL 7035
Side panels: aluminum extrusions, painted RAL 5018
Contact points:
bare metal.

Configuration:
2 sidewalls,
1 top cover panel
with/without ventilation hole(s),
1 lower cover panel
with/without ventilation hole(s),
4 cross rails,
4 tapped strips,
2 corner trim pieces, rear
for EMC gaskets,
installation hardware.



1) Desktop configuration:
order front corner pieces separately.

2) Rackmount configuration:
mounting flanges have to be ordered separately.



3 U

Included in the configuration.
Please order separately according to model.

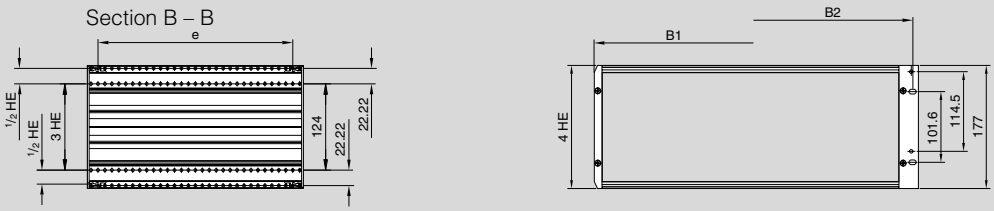
Accessories:

Ripac Vario Module accessories, see pages 422/423.

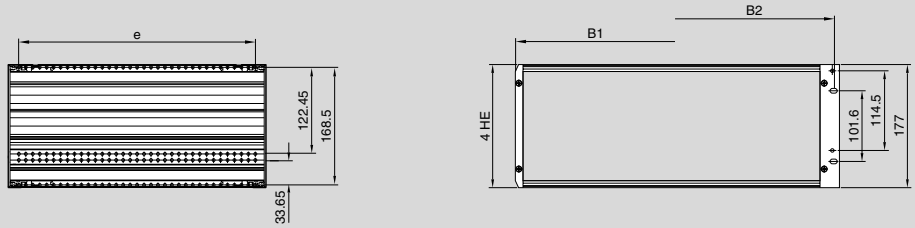
Cross rails, starting on page 363.

Mounting panel
for individualized installation.

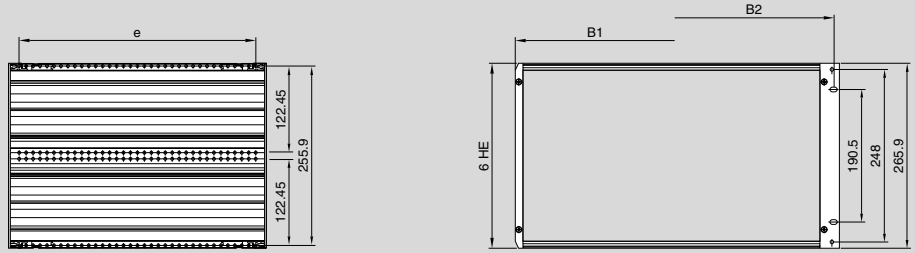
4 U
(3 + 2 x 1/2)



4 U
(3 + 1)



6 U



HE = U

Mounting flange/corner trim pieces with groove for EMC gaskets.

Ripac Vario Module 4/6 U	PU	4 U (3 + 1)			4 U (3 + 2 x 1/2)			6 U			Page
Installation depth HP		84	84	84	84	84	84	84	84	84	
Depth (inches/mm)		9.86/250.4	12.22/310.4	14.58/370.4	12.22/310.4	14.58/370.4	16.95/430.4	12.22/310.4	14.58/370.4	16.95/430.4	
Enclosure Part No. VM											
without ventilation	1	**–**	**–**	**–**	**3981.111**	**3981.121**	**3981.131**	**–**	**–**	**–**	
with ventilation holes	1	**3981.110**	**3981.120**	**3981.130**	**–**	**–**	**–**	**3981.140**	**3981.150**	**3981.160**	
e		22	28	34	28	34	40	28	34	40	
B1 (mm)		449.0	449.0	449.0	449.0	449.0	449.0	449.0	449.0	449.0	
B2 (mm)		465.1	465.1	465.1	465.1	465.1	465.1	465.1	465.1	465.1	
Mounting accessories											
Corner trim pieces for the installation of desktop enclosures	2	3981.320	3981.320	3981.320	3981.600	3981.600	3981.600	3981.330	3981.330	3981.330	422
Flange front for rackmount installation											
– without handle mounting holes	2	3981.220	3981.220	3981.220	3981.520	3981.520	3981.520	3981.230	3981.230	3981.230	422
– with handle mounting holes	2	3981.270	3981.270	3981.270	3981.540	3981.540	3981.540	3981.280	3981.280	3981.280	422
Cross rails, front	1	3684.562	3684.562	3684.562	3684.562	3684.562	3684.562	3684.562	3684.562	3684.562	363
Cross rails, front with .39"/10 mm extensions for injector/extractor handles	1	3684.567	3684.567	3684.567	3684.567	3684.567	3684.567	3684.567	3684.567	3684.567	363
Cross rails, rear	1	3684.572	3684.572	3684.572	3684.572	3684.572	3684.572	3684.572	3684.572	3684.572	364
Cross rails, rear, center	1	–	–	–	–	–	–	3684.582	3684.582	3684.582	365
Adaptor rails rear, center	1	–	–	–	–	–	–	3684.591	3684.591	3684.591	366
Z-rails DIN 41 612	1	3684.602	3684.602	3684.602	3684.602	3684.602	3684.602	3684.602	3684.602	3684.602	367
Isolation strip (21 HP)	1	3684.611	3684.611	3684.611	3684.611	3684.611	3684.611	3684.611	3684.611	3684.611	366
Contact strips (84 HP)	1	3684.612	3684.612	3684.612	3684.612	3684.612	3684.612	3684.612	3684.612	3684.612	366
Tapped strips	1	3684.610	3684.610	3684.610	3684.610	3684.610	3684.610	3684.610	3684.610	3684.610	367
EMC configuration											
EMC gaskets, horizontal											
– top/bottom connector rail	1	3684.808	3684.808	3684.808	3684.808	3684.808	3684.808	3684.808	3684.808	3684.808	367
– between 2 cross rails	1	3685.789	3685.789	3685.789	3685.789	3685.789	3685.789	3685.789	3685.789	3685.789	367
EMC gaskets, vertical	1	3686.976	3686.976	3686.976	3686.976	3686.976	3686.976	3686.977	3686.977	3686.977	360
Front/rear EMC panels		see pages 384 – 395									
Accessories for external mounting											
Front/rear panels		see pages 384 – 395									
Carrying handles	2	3981.350	3981.360	3981.370	3981.360	3981.370	3981.380	3981.360	3981.370	3981.380	423
Front handles*	2	3636.010	3636.010	3636.010	3636.010	3636.010	3636.010	3666.010	3666.010	3666.010	422
Front door, acrylic glass	1	3981.450	3981.450	3981.450	3981.620	3981.620	3981.620	3981.460	3981.460	3981.460	423
Rear support feet	4	3901.000	3901.000	3901.000	3901.000	3901.000	3901.000	3901.000	3901.000	3901.000	423

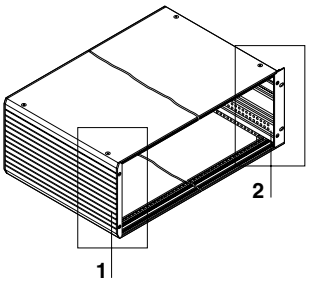
* Only with mounting flanges with handle mounting holes.

Technical specifications:
Suitable for desktop or rackmount applications.
Outside dimensions per DIN 41 494, part 1 for installation in 19″/482.6 mm enclosures. Installation dimensions for plug-in assemblies according to DIN 41 494, part 5 as well as DIN IEC 60 297-3 and IEEE 1101.1/1101.10.

Protection ratings:
IP 41 for the solid, unvented model.

Material/finish:
Sidewalls: aluminum extrusions, painted RAL 7035
Cross members: aluminum extrusions, painted RAL 7035
Corner trim pieces: aluminum profiles, painted RAL 7035
Cover panels: sheet steel, painted RAL 7035
Side panels: aluminum extrusions, painted RAL 5018
Contact points:
bare metal.

Configuration:
2 sidewalls,
1 top cover panel
with/without ventilation hole(s),
1 lower cover panel
with/without ventilation hole(s),
4 cross rails,
4 tapped strips,
2 corner trim pieces, rear
for EMC gaskets,
installation hardware.



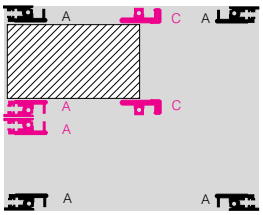
1) Desktop configuration:
order front corner pieces separately.

2) Rackmount configuration:
mounting flanges have to be ordered separately.

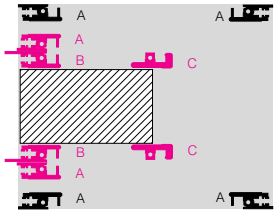
Accessories:

Ripac Vario Module accessories, see pages 422/423.

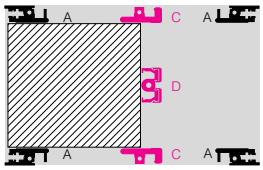
Cross rails, starting on page 363.



4 U (3 U + 1 U)



4 U (3 + 2 x ½ U)

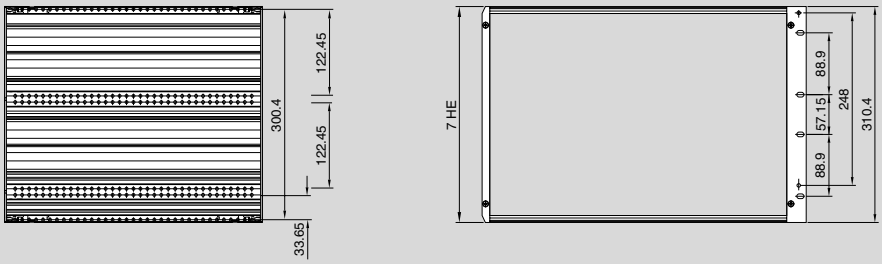


6 U

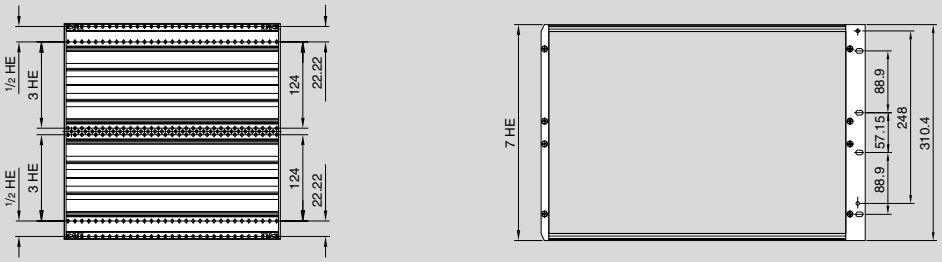
Included in the configuration. Please order separately according to model.

Section B – B

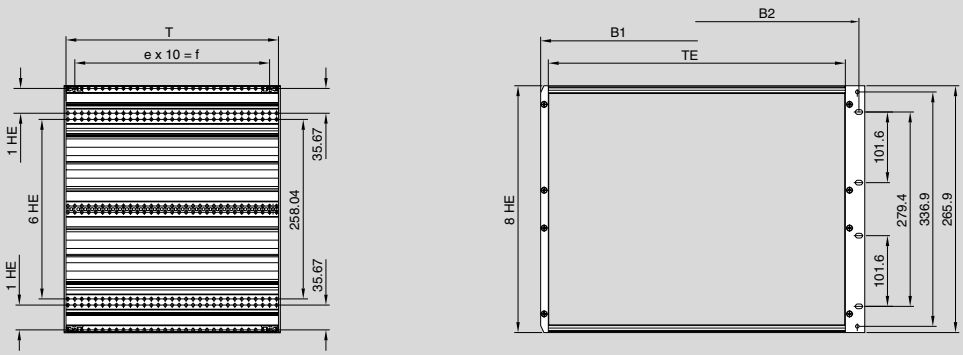
7 U
(6 + 1)



7 U
(6 + 2 x 1/2)



8 U
(2 x 3 + 2 x 1)



HE = U
TE = HP

Mounting flange/corner trim pieces with groove for EMC gaskets.

Ripac Vario Module 7/8 U	PU	7 U (6 + 1)			7 U (6 + 2 x 1/2)			8 U (2 x 3 + 2 x 1)			Page
Installation depth HP		84	84	84	84	84	84	84	84	84	
Depth (T) inches/mm		12.22/310.4	14.58/370.4	16.95/430.4	12.22/310.4	14.58/370.4	16.95/430.4	12.22/310.4	14.58/370.4	16.95/430.4	
Enclosure Part No. VM **without ventilation** **with ventilation holes**	1 1	**–** **3981.170**	**–** **3981.180**	**–** **3981.190**	**3981.171** **–**	**3981.181** **–**	**3981.191** **–**	**3981.175** **–**	**3981.185** **–**	**3981.195** **–**	
e		28	34	40	28	34	40	28	34	40	
B1 (mm)		449.0	449.0	449.0	449.0	449.0	449.0	449.0	449.0	449.0	
B2 (mm)		465.1	465.1	465.1	465.1	465.1	465.1	465.1	465.1	465.1	
Mounting accessories											
Corner trim pieces for the installation of desktop enclosures	2	3981.340	3981.340	3981.340	3981.610	3981.610	3981.610	3981.590	3981.590	3981.590	422
Flange front for rackmount installation – without handle mounting holes – with handle mounting holes	 2 2	 3981.240 3981.290	 3981.240 3981.290	 3981.240 3981.290	 3981.530 3981.550	 3981.530 3981.550	 3981.530 3981.550	 3981.250 3981.560	 3981.250 3981.560	 3981.250 3981.560	 422 422
Cross rails, front	1	3684.562	3684.562	3684.562	3684.562	3684.562	3684.562	3684.562	3684.562	3684.562	363
Cross rails, front with .39″/10 mm extension for injector/extractor handles	1	3684.567	3684.567	3684.567	3684.567	3684.567	3684.567	3684.567	3684.567	3684.567	363
Cross rails, rear	1	3684.572	3684.572	3684.572	3684.572	3684.572	3684.572	3684.572	3684.572	3684.572	364
Cross rails, rear, center	1	3684.582	3684.582	3684.582	3684.582	3684.582	3684.582	3684.582	3684.582	3684.582	365
Adaptor rail rear, center	1	3684.591	3684.591	3684.591	3684.591	3684.591	3684.591	3684.591	3684.591	3684.591	366
Z-rails DIN 41 612	1	3684.602	3684.602	3684.602	3684.602	3684.602	3684.602	3684.602	3684.602	3684.602	367
Isolation strip (21 HP)	1	3684.611	3684.611	3684.611	3684.611	3684.611	3684.611	3684.611	3684.611	3684.611	366
Contact strips (84 HP)	1	3684.612	3684.612	3684.612	3684.612	3684.612	3684.612	3684.612	3684.612	3684.612	366
Tapped strips	1	3684.610	3684.610	3684.610	3684.610	3684.610	3684.610	3684.610	3684.610	3684.610	367
EMC configuration											
EMC gaskets, horizontal – top/bottom connector rail – between 2 cross rails	 1 1	 3684.808 3685.789	 3684.808 3685.789	 3684.808 3685.789	 3684.808 3685.789	 3684.808 3685.789	 3684.808 3685.789	 3684.808 3685.789	 3684.808 3685.789	 3684.808 3685.789	 367 367
EMC gaskets, vertical	1	3686.978	3686.978	3686.978	3686.978	3686.978	3686.978	3686.979	3686.979	3686.979	360
Front/rear EMC panels		see pages 384 – 395									
Accessories for external mounting											
Front/rear panels		see pages 384 – 395									
Carrying handles	2	3981.360	3981.370	3981.380	3981.360	3981.370	3981.380	3981.360	3981.370	3981.380	423
Front handles*	2	3666.010	3666.010	3666.010	3666.010	3666.010	3666.010	–	–	–	422
Front door, acrylic glass	1	3981.470	3981.470	3981.470	3981.630	3981.630	3981.630	–	–	–	423
Rear support feet	4	3901.000	3901.000	3901.000	3901.000	3901.000	3901.000	3901.000	3901.000	3901.000	423

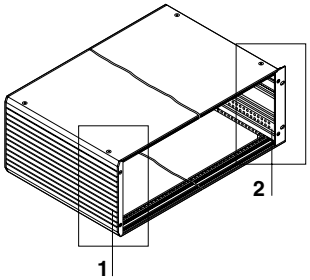
* Only with mounting flanges with handle mounting holes.

Technical specifications:
Suitable for desktop or rackmount applications.
Outside dimensions per DIN 41 494, part 1 for installation in 19″/482.6 mm enclosures. Installation dimensions for plug-in assemblies according to DIN 41 494, part 5 as well as DIN IEC 60 297-3 and IEEE 1101.1/1101.10.

Protection ratings:
IP 41 for the solid, unvented model.

Material/finish:
Sidewalls: aluminum extrusions, painted RAL 7035 light grey
Cross members: aluminum extrusions, painted RAL 7035 light grey
Corner trim pieces: aluminum profiles, painted RAL 7035 light grey
Cover panels: sheet steel, painted RAL 7035 light grey
Side panels: aluminum extrusions, painted RAL 5018 turquoise
Contact points: bare metal.

Configuration:
2 sidewalls,
1 top cover panel
with/without ventilation hole(s),
1 lower cover panel
with/without ventilation hole(s),
4 cross rails,
4 tapped strips,
2 corner trim pieces, rear
for EMC gaskets,
2 side panels, center,
installation hardware.



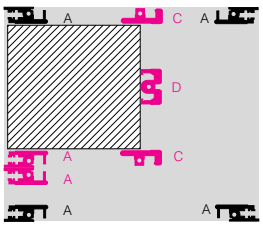
1) Desktop configuration:
order front corner pieces separately.

2) Rackmount configuration:
mounting flanges have to be ordered separately.

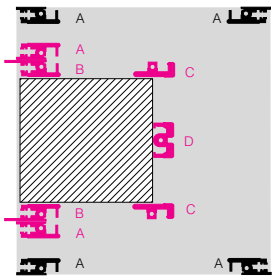
Accessories:

Ripac Vario Module accessories,
see pages 422/423.

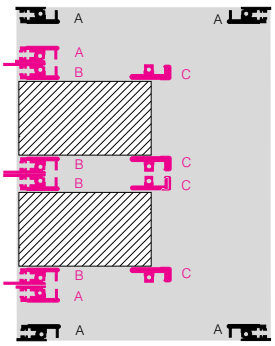
Cross rails,
starting on page 363.



7 U (6 + 1)



7 U (6 + 2 x ½)



8 U (2 x 3 + 2 x 1)

Included in the configuration. Please order separately according to model.

Enclosure configurations

The Ripac system component program is available for individualized inside configuration of the enclosures (see pages 363 – 373).

Support feet

With folding support.
Maximum load capacity 44.09 lbs/20 kg.

Material:
Plastic, RAL 7035 light grey.

PU	Part No. VM
2	**3919.000**

Flange, front

Is required for rackmount applications of the Ripac Vario Module. The flanges are prepared with a groove for vertical EMC gaskets.

Material:
Aluminum, chromated.

* Without handle mounting holes.
** With handle mounting holes.

U	PU	Part No. VM	Part No. VM
1	2	**3981.580***	–
2	2	**3981.200***	–
3	2	**3981.210***	**3981.260****
4 (3 + 1)	2	**3981.220***	**3981.270****
4 (3 + 2 x 1/2)	2	**3981.520***	**3981.540****
6	2	**3981.230***	**3981.280****
7 (6 + 1)	2	**3981.240***	**3981.290****
7 (6 + 2 x 1/2)	2	**3981.530***	**3981.550****
8	2	**3981.250***	**3981.560****

Corner trim pieces, front

Are required if Ripac Vario Modules are used in a desktop application. The corner trim pieces are prepared with a groove for vertical EMC gaskets.

Material:
Zinc die-cast

Color:
RAL 7035 light grey

U	PU	Part No. VM
1	2	**3981.570**
2	2	**3981.300**
3	2	**3981.310**
4 (3 + 1)	2	**3981.320**
4 (3 + 2 x 1/2)	2	**3981.600**
6	2	**3981.330**
7 (6 + 1)	2	**3981.340**
7 (6 + 2 x 1/2)	2	**3981.610**
8	2	**3981.590**

Front handles

Mounting flanges with handle mounting holes are required.

Material:
Zinc die-cast, painted.

For U	PU	Part No. UV
3 and 4	2	**3636.010**
6 and 7	2	**3666.010**

EMC gaskets

From our Ripac program are used for the EMC version of our enclosure or also for retrofitting.

EMC gaskets, vertical
Part No. see page 360.

EMC gaskets, horizontal
Part No. see page 367.

Front panels/rear panels

As housing cover in the front or rear.
Also available in a hinged version, vented for fan installation or in an EMC version.

Details on pages 384 – 395.

Carrying handles

For ergonomic transportation even with stacked enclosures.
May also be used as stands.
May not be used with flanges.
Maximum load 350 N.

Material:
Zinc die-cast and aluminum extrusion profile, painted RAL 7035 light grey.

For enclosure depths inches/mm	PU	Part No. VM
9.86/250.4	2	**3981.350**
12.22/310.4	2	**3981.360**
14.58/370.4	2	**3981.370**
16.94/430.4	2	**3981.380**

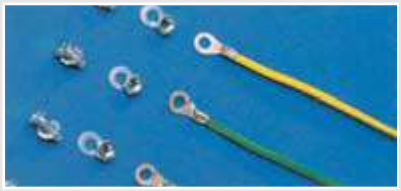
German Patent No. 40 34 773

Rear support feet

Can be retrofitted on the rear of the enclosure.
Dual function:
- Mechanical protection of the connector elements.
- Convenient cord storage during transport.

PU	Part No. VM
4	**3901.000**

Material:
PA, RAL 7035 light grey,
self-extinguishing per UL 94-V0.



Grounding set

Grounding connection of the top and base plates with the sidewalls.

Configuration:
Grounding cable green/yellow, 1.5 mm^2, with ring terminal, flat pin terminal, installation hardware.

PU	Part No. VM
4	**3900.000**

Support carrying handle

Suitable for all enclosures 3 U, 4 U and 6 U, adjustable in 30° increments.

Material:
Aluminum extrusion/zinc die-cast, painted RAL 7035 light grey.

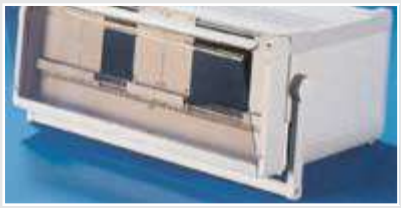
Configuration:
1 support carrying handle, installation hardware.

Note: Order corner panels separately.

Support carrying handle*	PU	Part No. VM
42 HP	1	**3981.390**
63 HP	1	**3981.400**
84 HP	1	**3981.410**

*** German Patent No. 41 10 873**

Corner trim pieces	PU	Part No. VM
3 U	2	**3981.490**
4 U (3 + 1)	2	**3981.500**
6 U	2	**3981.510**
4 U (3 + 2 x 1/2)	2	**3981.650**



Front doors of acrylic glass, folding

Protection of installed control elements.

Material:
Side pieces: aluminum, painted RAL 7035 light grey
Pane: acrylic glass, smoke color

Configuration:
1 front door, installation hardware.

U	HP	PU	Part No. VM
3	42	1	**3981.420**
3	63	1	**3981.430**
3	84	1	**3981.440**
4 (3 + 1)	84	1	**3981.450**
4 (3 + 2 x 1/2)	84	1	**3981.620**
6	84	1	**3981.460**
7 (6 + 1)	84	1	**3981.470**
7 (6 + 2 x 1/2)	84	1	**3981.630**

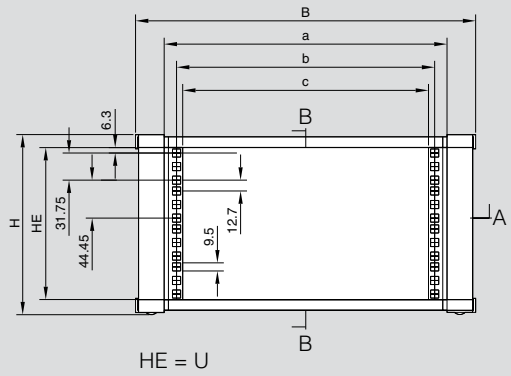
German Patent No. 41 10 872

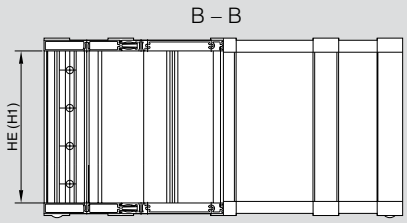
Keyboard cover 4 U, 84 HP

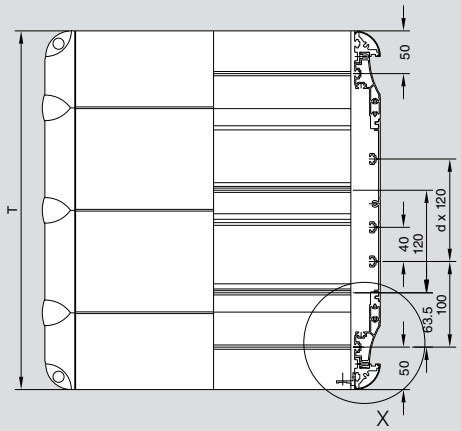
Front installation on Ripac Vario Module 4 U high, 84 HP wide.
For mechanical or membrane keyboards.

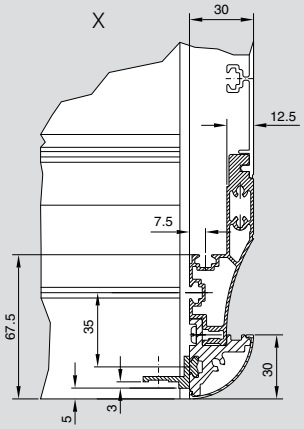
U	PU	Part No. VM
4 (3 + 1)	1	**3981.480**
4 (3 + 2 x 1/2)	1	**3981.640**

Material:
Aluminum,
Surface painted RAL 7035 light grey.









Enclosures for the installation of ½ 19″/269.2 mm rackmount assemblies	PU	1 U		2 U		3 U			4 U		Page
Depth (T) inches/mm		11.81/300	16.54/420	11.81/300	21.26/540	11.81/300	16.54/420	21.26/540	16.54/420	21.26/540	
Part No. RC unvented, RAL 5018	1	**3750.100**	**–**	**3750.200**	**–**	**3750.210**	**3750.300**	**–**	**3750.400**	**–**	
Part No. RC unvented, RAL 5012*	1	**3750.102**	**–**	**3750.202**	**–**	**3750.212**	**3750.302**	**–**	**3750.402**	**–**	
Part No. RC unvented, RAL 7030*	1	**3750.104**	**–**	**3750.204**	**–**	**3750.214**	**3750.304**	**–**	**3750.404**	**–**	
Part No. RC vented, RAL 5018	1	**–**	**3750.110**	**–**	**3750.220**	**–**	**3750.350**	**3750.360**	**–**	**3750.450**	
Part No. RC vented, RAL 5012*	1	**–**	**3750.112**	**–**	**3750.222**	**–**	**3750.352**	**3750.362**	**–**	**3750.452**	
Part No. RC vented, RAL 7030*	1	**–**	**3750.114**	**–**	**3750.224**	**–**	**3750.354**	**3750.364**	**–**	**3750.454**	
H		77.5	77.5	121.9	121.9	166.4	166.4	166.4	210.8	210.8	
H1		45.0	45.0	89.4	89.4	133.8	133.8	133.8	178.3	178.3	
B		348.6	348.6	348.6	348.6	348.6	348.6	348.6	348.6	348.6	
a		280.6	280.6	280.6	280.6	280.6	280.6	280.6	280.6	280.6	
b		251.6	251.6	251.6	251.6	251.6	251.6	251.6	251.6	251.6	
c		237.2	237.2	237.2	237.2	237.2	237.2	237.2	237.2	237.2	
Weight (lbs/kg) vented unvented		7.3/3.3 7.5/3.4	9.3/4.2 9.7/4.4	8.2/3.7 8.4/3.8	11.9/5.4 13.5/6.1	9.0/4.1 9.3/4.2	11.5/5.2 11.9/5.4	13.5/6.1 15.0/6.8	12.8/5.8 13.2/6.0	15.0/6.8 16.5/7.5	

Accessories

Carrying handles horizontal		2	–	–	3751.250	3751.270	3751.250	3751.260	3751.270	3751.260	3751.270	430
Support carrying handles	RAL 5018	1	3751.200	3751.200	3751.200	3751.200	3751.200	3751.200	3751.200	3751.200	3751.200	430
	RAL 5012*	1	3751.202	3751.202	3751.202	3751.202	3751.202	3751.202	3751.202	3751.202	3751.202	430
	RAL 7030*	1	3751.204	3751.204	3751.204	3751.204	3751.204	3751.204	3751.204	3751.204	3751.204	430
Blank/rear panel		3	3746.000	3746.000	3747.000	3747.000	3748.000	3748.000	3748.000	3749.000	3749.000	433
Front door, pivoting, acrylic glass		1	–	–	–	–	3751.300	3751.300	3751.300	3751.310	3751.310	431
Slide rails		2	3751.500	3751.510	3751.500	3751.520	3751.500	3751.510	3751.520	3751.510	3751.520	428
Mounting angle, 19″/482.6 mm		2	3751.650	3751.650	3751.660	3751.660	3751.670	3751.670	3751.670	3751.680	3751.680	428
Rackmount strips, tapped		8	3751.700	3751.700	3751.710	3751.710	3751.720	3751.720	3751.720	3751.730	3751.730	428
Trim panel		2	–	–	–	–	3751.900	3751.900	3751.900	3751.910	3751.910	429

* Lead times upon request.

1/2 19″/269.2 mm / 1 U, 2 U, 3 U, 4 U

Technical specifications desktop enclosure:
- Depth: 12/16.5/21″; 300/420/540 mm.
- Installation depth: 1/2 19″/269.2 mm
- 1/2 19″/269.2 mm rackmount assemblies and modular subracks according to DIN 41 494, part 5 and IEC 60 297-3.

Protection ratings:
IP 42, unvented version.

Material/finish:
- Cover shells: aluminum extrusions/die-cast, painted RAL 7035 light grey.
- Sidewalls: aluminum extrusions, painted RAL 7035, design colors RAL 5018/5012/7030*.
- Cover corner pieces: plastic, RAL 5018/5012/7030*.
- 19″/482.6 mm mounting rail: aluminum extrusions, chromated.

Configuration:
2 sidewalls,
2 cover shells,
8 corner, trim pieces,
8/12/16″ cover trim pieces (300/420/540 mm depth),
4 19″/482.6 mm mounting angles,
4 tapped rackmount strips,
4 solid rackmount strips,
1 rear wall.
Enclosures are delivered partially assembled.

* RAL 5018 turquoise
RAL 5012 light blue
RAL 7030 stone grey

- **Custom dimensions and colors upon request.**

Accessories:

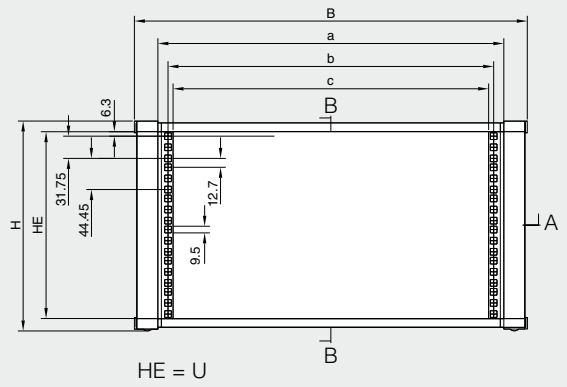
RiCase accessories, starting on page 428.

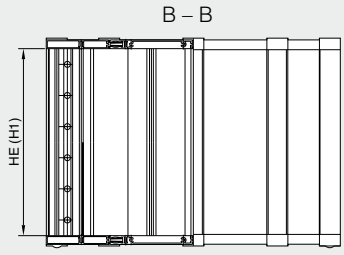
Subrack systems, starting on page 342.

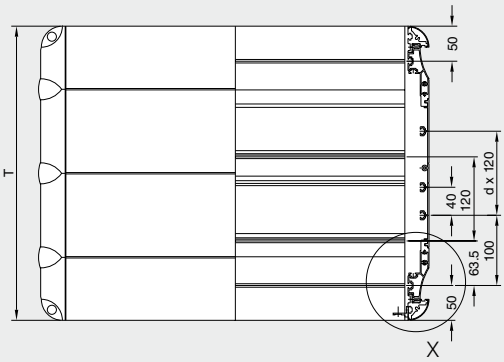
Internal assemblies, starting on page 428.

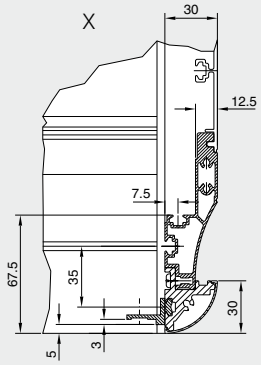
Hinged blanking panel swing-out for the installation in electronic enclosures or housings.

The horizontal carrying handles, with a maximum load of up to 66.14 lbs/30 kg, can easily be retrofitted.









Enclosures for the installation of ½ 19″/ 269.2 mm rack-mount assemblies	PU	3 U		4 U		6 U			7 U		9 U		12 U	P.
Depth (T) inches/mm		11.81/300	16.54/420	11.81/300	16.54/420	11.81/300	16.54/420	21.26/540	16.54/420	21.26/540	16.54/420	21.26/540	21.26/540	
Part No. RC unvented, RAL 5018	1	**3750.310**	**3750.320**	**3750.410**	**3750.420**	**3750.600**	**3750.610**	**3750.620**	**3750.700**	**3750.710**	**3750.900**	**3750.910**	**3750.000**	
Part No. RC unvented, RAL 5012*	1	**3750.312**	**3750.322**	**3750.412**	**3750.422**	**3750.602**	**3750.612**	**3750.622**	**3750.702**	**3750.712**	**3750.902**	**3750.912**	**3750.002**	
Part No. RC unvented, RAL 7030*	1	**3750.314**	**3750.324**	**3750.414**	**3750.424**	**3750.604**	**3750.614**	**3750.624**	**3750.704**	**3750.714**	**3750.904**	**3750.914**	**3750.004**	
Part No. RC vented, RAL 5018	1	**3750.330**	**3750.340**	**3750.430**	**3750.440**	**3750.630**	**3750.640**	**3750.650**	**3750.720**	**3750.730**	**3750.920**	**3750.930**	**3750.030**	
Part No. RC vented, RAL 5012*	1	**3750.332**	**3750.342**	**3750.432**	**3750.442**	**3750.632**	**3750.642**	**3750.652**	**3750.722**	**3750.732**	**3750.922**	**3750.932**	**3750.032**	
Part No. RC vented, RAL 7030*	1	**3750.334**	**3750.344**	**3750.434**	**3750.444**	**3750.634**	**3750.644**	**3750.654**	**3750.724**	**3750.734**	**3750.924**	**3750.934**	**3750.034**	
H		166.4	166.4	210.8	210.8	299.7	299.7	299.7	344.2	344.2	433.1	433.1	496.7	
H1		133.8	133.8	178.3	178.3	267.2	267.2	267.2	311.7	311.7	400.6	400.6	464.2	
B		562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0	562.0	
a		494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0	
b		465.0	465.0	465.0	465.0	465.0	465.0	465.0	465.0	465.0	465.0	465.0	465.0	
c		450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6	450.6	
Weight vented (lbs/kg) unvented		11.7/5.3 11.9/5.4	15.2/6.9 15.7/7.1	12.6/5.7 15.9/7.2	16.5/7.5 17.0/7.7	14.3/6.5 14.6/6.6	18.7/8.5 19.2/8.7	23.8/10.8 26.9/12.2	20.1/9.1 20.5/9.3	23.4/11.5 28.5/12.9	22.3/10.1 22.7/10.3	28.5/12.9 31.5/14.3	33.1/15.0 36.2/16.4	

Accessories

Carrying handles, horizontal	2	3751.250	3751.260	3751.250	3751.260	3751.250	3751.260	3751.270	3751.260	3751.270	3751.260	3751.270	3751.270	430
Support carrying handles RAL 5018	1	3751.210	3751.210	3751.210	3751.210	3751.210	3751.210	3751.210	3751.210	3751.210	3751.210	3751.210	3751.210	430
Support carrying handles RAL 5012*	1	3751.212	3751.212	3751.212	3751.212	3751.212	3751.212	3751.212	3751.212	3751.212	3751.212	3751.212	3751.212	430
Support carrying handles RAL 7030*	1	3751.214	3751.214	3751.214	3751.214	3751.214	3751.214	3751.214	3751.214	3751.214	3751.214	3751.214	3751.214	430
Blank/rear panel	1	3751.600	3751.600	3751.610	3751.610	3751.620	3751.620	3751.620	3751.630	3751.630	3751.530	3751.530	3751.540	433
Rear door, solid	1	3751.100	3751.100	3751.110	3751.110	3751.120	3751.120	3751.120	3751.130	3751.130	–	–	–	432
Rear door, for fan	1	3751.150	3751.150	3751.160	3751.160	3751.170	3751.170	3751.170	3751.180	3751.180	–	–	–	432
Front door, pivoting	1	3751.320	3751.320	3751.330	3751.330	3751.340	3751.340	3751.340	3751.350	3751.350	–	–	–	431
Slide rails	2	3751.500	3751.510	3751.500	3751.510	3751.500	3751.510	3751.520	3751.510	3751.520	3751.510	3751.510	3751.520	428
Mounting angle, 19″/482.6 mm	2	3751.670	3751.670	3751.680	3751.680	3751.690	3751.690	3751.690	3751.640	3751.640	3751.780	3751.780	3751.790	428
Rackmount strips, tapped	8	3751.720	3751.720	3751.730	3751.730	3751.740	3751.740	3751.740	3751.750	3751.750	3751.760	3751.760	3751.770	428
Trim panel	2	3751.900	3751.900	3751.910	3751.910	3751.920	3751.920	3751.920	3751.930	3751.930	3751.820	3751.820	3751.830	429

* Lead times upon request.

19″/482.6 mm / 3 U, 4 U, 6 U, 7 U

Technical specifications desktop enclosure:
- Depth: 12/16.5/21″; 300/420/540 mm.
- Installation depth: 19″/482.6 mm
- 19″/482.6 mm rackmount assemblies and modular subracks according to DIN 41 494, part 5 and IEC 60 297-3.

Protection ratings:
IP 42, unvented version.

Material/Finish:
- Cover shells: aluminum extrusions/ die-cast, painted RAL 7035 light grey.
- Sidewalls: aluminum extrusions, painted RAL 7035, design colors RAL 5018/5012/7030*.
- Cover corner pieces: plastic, RAL 5018/5012/7030*.
- 19″/482.6 mm mounting angles: aluminum extrusions, chromated.

Configuration:
2 sidewalls,
2 cover shells,
8 corner trim pieces,
8/12/16″ cover trim pieces (300/420/540 mm depth)
2 19″/482.6 mm mounting rails,
4 tapped rackmount strips,
4 solid rackmount strips,
1 rear wall.
Enclosures are delivered partially assembled.

* RAL 5018 turquoise
RAL 5012 light blue
RAL 7030 stone grey

- **Custom dimensions and colors upon request.**

Accessories:

RiCase accessories, starting on page 428.

Subrack systems, starting on page 342.

Internal assemblies, starting on page 428.

Support carrying handle in a stable aluminum configuration, is adjustable in 30° increments.

The keyboard cover is designed for 19″/482.6 mm program keyboards; it comes equipped with a safety lock. Details see page 430.

19″ mounting rail

For the installation of additional subracks.

Material:
Aluminum extrusion, chromated.

Configuration:
2 mounting rails,
installation hardware.

Note:
1 PU of rackmount strips as well as 2 PU each of distancing bolts are required for the offset installation in the depth dimension of the enclosure.

For enclosure heights	PU	Part No. RC
1 U	2	**3751.650**
2 U	2	**3751.660**
3 U	2	**3751.670**
4 U	2	**3751.680**
6 U	2	**3751.690**
7 U	2	**3751.640**
9 U	2	**3751.780**
12 U	2	**3751.790**

Slide rails

For the support of heavy assemblies.

Material:
0.06″/1.5 mm sheet steel, chromated.

Configuration:
2 slide rails, installation hardware.

Depth inches/mm	PU	Part No. RC
11.81/300	2	**3751.500**
16.50/420	2	**3751.510**
21.26/540	2	**3751.520**

Note:
Please order rackmount strips separately.

Tapped rackmount strips

For the installation of mounting angles, slide rails, assembly kits, cable ducts, etc. Slide into the notches of the sidewalls.

Material:
Aluminum extrusions, chromated.

Configuration:
8 rackmount strips

For enclosure heights	PU	Part No. RC
1 U	8	**3751.700**
2 U	8	**3751.710**
3 U	8	**3751.720**
4 U	8	**3751.730**
6 U	8	**3751.740**
7 U	8	**3751.750**
9 U	8	**3751.760**
12 U	8	**3751.770**

Ground connector set

To fulfill electrical safety requirements; fits any Rittal Vario Case *iS*.

Configuration:
Rackmount strip,
setscrew with tip, green/yellow connector, tooth lock washer, nut.

PU	Part No. VC
4	**3798.000**

Mounting rails

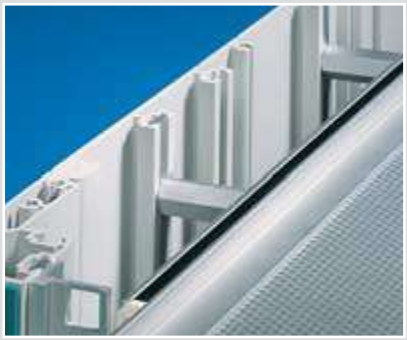
- For installing mounting angles at variable depths.
- Installation of component shelves, rigid or pull-out.

Material:
Aluminum, chromated

Configuration:
2 rackmount strips,
installation hardware.

For enclosure depths inches/mm	PU	Part No. RC
16.54/420	2	**3751.410**
21.26/540	2	**3751.420**

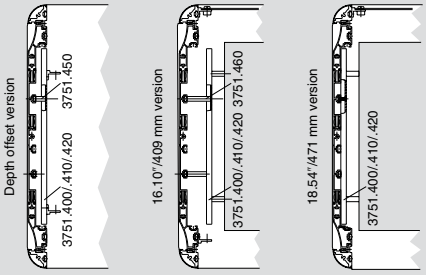
Note:
Please order rackmount strips and spacer bolts separately.



Spacer bolts

For installing the mounting rails. 18.54″/ 471 mm component shelves are mounted directly to the sidewalls.

Configuration:
4 spacer bolts



Installation kit for	PU	Part No. RC
Depth offset mounting angles	4	**3751.450**
Component shelves 16.10″/409 mm wide [1]	4	**3751.460**
Component shelf installation 18.54″/471 mm wide [2]	direct mount	

[1] 19″ component shelves, see pages 989 – 991.
[2] Component shelves, see pages 986 – 988.

Note:
Please order rackmount strips separately.

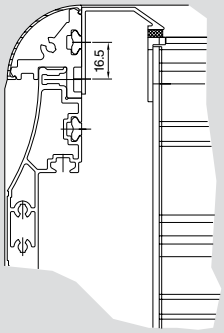
Trim profile

A side filler panel, left/right of the sub-racks, when no rear door or rear panel is used.

Material:
Aluminum extrusion, painted RAL 7035.

Configuration:
2 trim profiles, installation hardware.

Enclosure heights	PU	Part No. RC
3 U	2	**3751.900**
4 U	2	**3751.910**
6 U	2	**3751.920**
7 U	2	**3751.930**
9 U	2	**3751.820**
12 U	2	**3751.830**



Mounting screws M6

For cage nuts, includes plastic washers.

Description	PU	Part No. EL
Slotted head	1 pack	**2093.200**
Phillips head	1 pack	**2089.000**

1 pack = 100 pieces

M6 cage nuts

For installation of component parts **with** electrical contact of the subrack to the enclosure/rack.

PU	Part No. EL
1 pack	**2094.200**

1 pack = 50 pieces

M6 cage nuts

For installation of component parts **without** electrical contact of the subrack to the enclosure/rack.

PU	Part No. EL
1 pack	**2092.200**

1 pack = 50 pieces

Carrying handles, horizontal

For easy and safe transportation.
- Suitable for retrofitting.
- Maximum load 66.14 lbs/30 kg/pair.

Material:
Side pieces: die-cast, painted RAL 7035 light grey
Center part: aluminum extrusion, painted RAL 7035 light grey.

Configuration:
2 carrying handles,
installation hardware.

For enclosure depths inches/mm	PU	Part No. RC
11.81/300	2	**3751.250**
16.54/420	2	**3751.260**
21.26/540	2	**3751.270**

RAL 5018

RAL 5012

RAL 7030

Prop-up/carrying handle

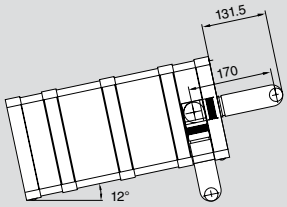
- Prop-up/carrying handle is adjustable in 30° increments.
- May be retrofitted for 2 – 7 U.
- 1/2 19″/269.2 mm and 19″/482.6 mm wide enclosures.
- Maximum load 66.14 lbs/30 kg.

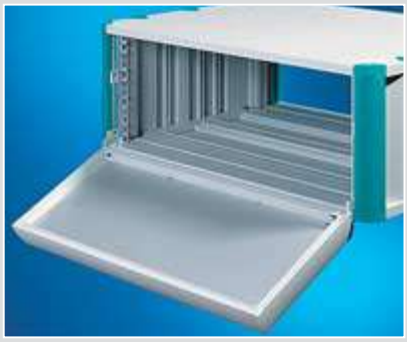
Material:
Rotating part: die-cast, painted RAL 7035, Design colors RAL 5018/5012/7030
Center part: aluminum extrusions, painted RAL 7035 with plastic sheath.

Configuration:
1 prop-up/carrying handle,
installation hardware.

For enclosure width inches/mm	Color RAL	W mm	Part No. RC
1/2 19″/269.2	5018	392	**3751.200**
1/2 19″/269.2	5012*	392	**3751.202**
1/2 19″/269.2	7030*	392	**3751.204**
19″/482.6	5018	605	**3751.210**
19″/482.6	5012*	605	**3751.212**
19″/482.6	7030*	605	**3751.214**

W = Total width of handle
PU = 1 set
* Lead times upon request.





Keyboard cover

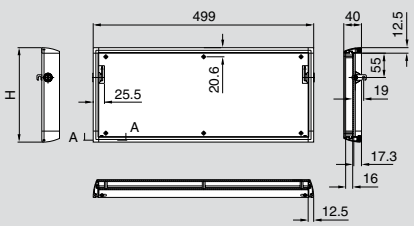
Suitable for 19″/482.6 mm keyboards.
- Folding with safety lock.
- Removable cover panel.

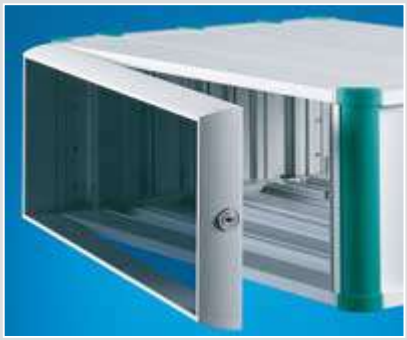
Material:
Frame profile: aluminum extrusions/ die-cast, painted RAL 7035 light grey
Floor and cover panel: aluminum, painted RAL 7035 light grey.

Configuration:
1 keyboard cover,
installation hardware.

Note:
Only in conjunction with prop-up/carrying handle.

For enclosure with inches/mm	H (U)	PU	Part No. RC
19″/482.6	4	1	**3751.800**
19″/482.6	6	1	**3751.810**





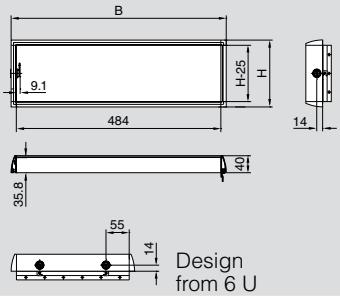
Front door, swing-out

For the mechanical protection of installed operator components.
- Choice of right or left hinging.
- With safety lock.

Material:
Frame profile: aluminum extrusion, painted RAL 7035 light grey
Corner pieces: aluminum die-cast, painted RAL 7035 light grey
Window: acrylic glass, smoke colored.

Configuration:
1 front door, installation hardware.

Encl. widths inches/mm	W inches/mm	H (U)	Part No. RC
1/2 19″/269.2	11.38/289	3	**3751.300**
		4	**3751.310**
19″/482.6	19.80/503	3	**3751.320**
		4	**3751.330**
		6	**3751.340**
		7	**3751.350**



Design from 6 U

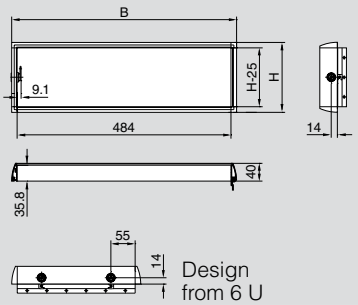
Aluminum front door, swing-out

For the mechanical protection of installed operator components.
- Choice of right or left hinging.
- With safety lock.

Material:
Frame profile: aluminum extrusion, painted RAL 7035 light grey
Corner pieces: aluminum die-cast, painted RAL 7035 light grey
aluminum panel.

Configuration:
1 front door, installation hardware.

Encl. widths inches/mm	W inches/mm	H (U)	Part No. RC
19″/482.6	19.80/503	3	**3751.360**
		4	**3751.370**
		6	**3751.380**



Design from 6 U

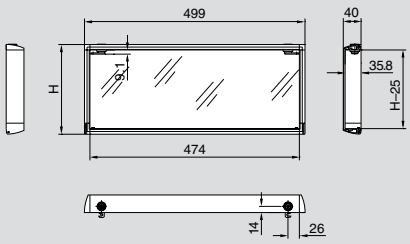
Front door for tower cases

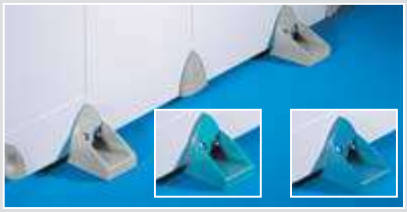
For the mechanical protection of installed operator components.
- Choice of right or left hinging.
- With safety lock.

Material:
Frame profile: aluminum extrusion, painted RAL 7035 light grey
Corner pieces: aluminum die-cast, painted RAL 7035 light grey
Window: acrylic glass, smoke colored.

Configuration:
1 front door, installation hardware.

Enclosure widths inches/mm	W inches/mm	H (U)	Part No. RC
19″/482.6	19.80/503	3	**3751.390**
		4	**3751.430**




RAL 7030 RAL 5018 RAL 5012

Tower feet

For the vertical support of tower cases.

Material:
Plastic per UL 94-V0,
Self-extinguishing, RAL 5018/5012/7030.

Configuration:
4 tower feet, installation hardware.

Color RAL	PU	Part No. RC
5018	1 set	**3751.850**
5012	1 set	**3751.852**
7030	1 set	**3751.854**

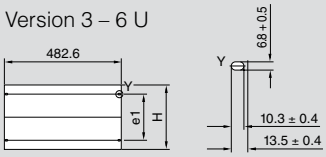
Rear panels

To close the rear of the enclosure.
Screw-on, mounting rail included.

Material:
Aluminum, 0.08/0.12″; 2/3 mm,
natural anodized.

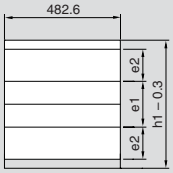
Configuration:
1 rear panel,
2 19″/482.6 mm mounting rails,
installation hardware.

Version 3 – 6 U



For 19″/482.6 mm enclosure width

e1	e2	H (U)	PU	Part No. RC
57.15	–	3	1	**3751.600**
101.60	–	4		**3751.610**
190.50	–	6		**3751.620**
57.15	88.90	7		**3751.630**
120.60	101.60	9		**3751.530**
190.60	133.30	12		**3751.540**



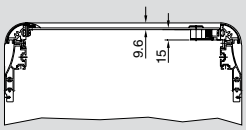
Version
7 – 12 U

Rear door, solid

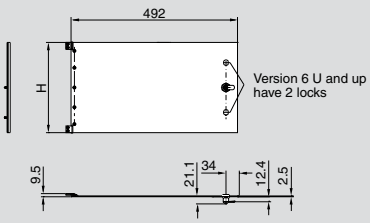
For rear cover.
- Hinged with safety lock.
- Choice of left or right hinging.

Material:
Aluminum, painted RAL 7035 light grey.

Configuration:
1 rear door, hinged,
installation hardware.



For enclosure widths inches/mm	H (U)	PU	Part No. RC
19″/482.6 mm	3	1	**3751.100**
	4		**3751.110**
	6		**3751.120**
	7		**3751.130**

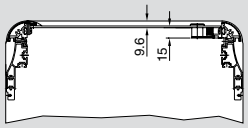


Rear door, for fan installation

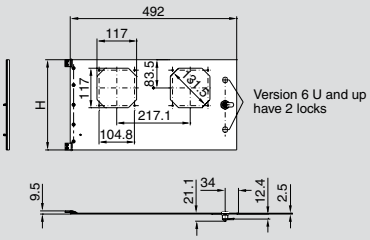
For rear cover.
- With safety lock.
- Choice of right or left hinging.
- For 4.72″/120 mm fan.

Material:
Aluminum, painted RAL 7035 light grey.

Configuration:
1 rear door, hinged,
installation hardware.



For enclosure width inches/mm	H (U)	PU	Part No. RC
19″/482.6 mm	3	1	**3751.150**
	4		**3751.160**
	6		**3751.170**
	7		**3751.180**



Fan expansion kit

Consists of one fan, installation hardware
and power cable (24″/0.61 m) included.

Technical specifications:
Rated operator voltage: 230 V
Power consumption: 19/18 W at 50/60 Hz
Air capacity (unimpeded air flow):
84/97 cfm; 140/165 m³/h, 50/60 Hz
Temperature range:
10°F to 131°F/–10°C to +55°C.

	PU	Part No. DK
Fan	1 set	**7980.000**

Blanking panel

Material:
0.12″/3 mm aluminum,
natural anodized (19″).
0.08″/2 mm aluminum,
natural anodized (1/2 19″).

Note:
Mounting angles are necessary for use as blank rear panel.

U	PU	Part No. VC 1/2 19″/ 269.2 mm	Part No. EL 19″/ 482.6 mm
1	3	3746.000	1931.200
2		3747.000	1932.200
3		3748.000	1933.200
4		3749.000	1934.200
6		–	1936.200
7		–	1935.200
9		–	1939.200
12		–	1937.200

Ventilation front panels

For providing natural ventilation in enclosures from the front or rear.

Material:
.12″/3 mm aluminum, natural anodized.

Width inches/mm	U	PU	Part No. EL
19″/482.6	1	3	2231.000
	2		2232.000
	3		2233.000

Hinged blanking panel, swing-out

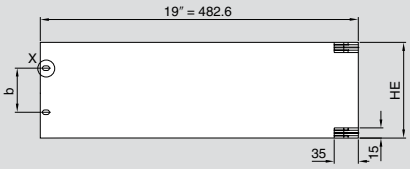
For installation in electronic enclosures or housings.

Material:
Hinges: zinc die-cast, galvanized
Blanking plate: .12″/3 mm aluminum, natural anodized.

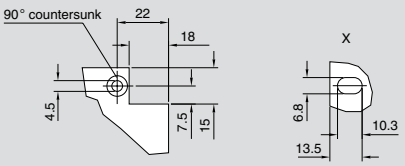
Configuration:
2 hinges, 1 front panel,
includes installation hardware.

Note:
Please order 19″/482.6 mm mounting angle for use as a rear panel.

Width inches/mm	U (HE)	b mm	Part No. EL
19″/482.6	3	57.15	1940.000
	6	190.50	1941.000



Hinge cutout



Hinged blanking panel, fold-down

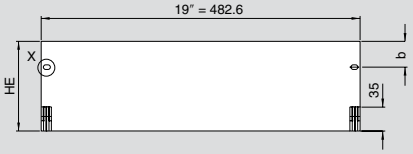
For installation in electronic enclosures or housings.

Material:
Hinges: zinc die-cast, galvanized
Blanking panels .12″/3 mm aluminum, natural anodized.

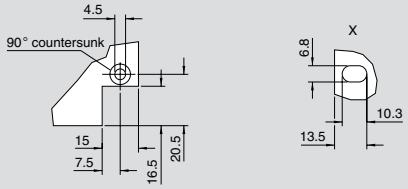
Configuration:
2 hinges, 1 front panel,
includes installation hardware.

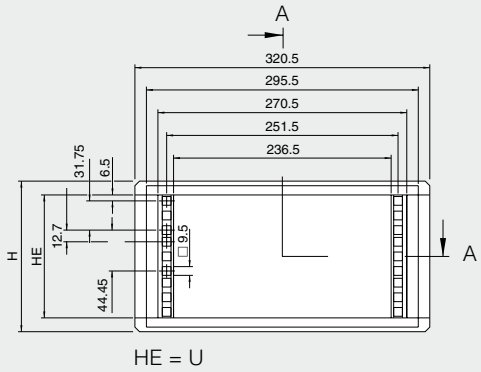
Note:
Please order 19″/482.6 mm mounting angle for use as a rear panel.

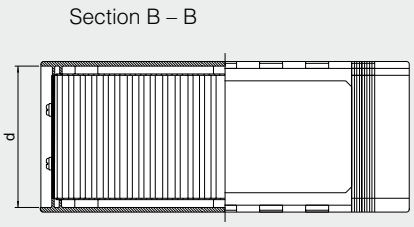
Width inches/mm	U (HE)	b mm	Part No. EL
19″/482.6	3	37.7	1944.000
	6		1945.000

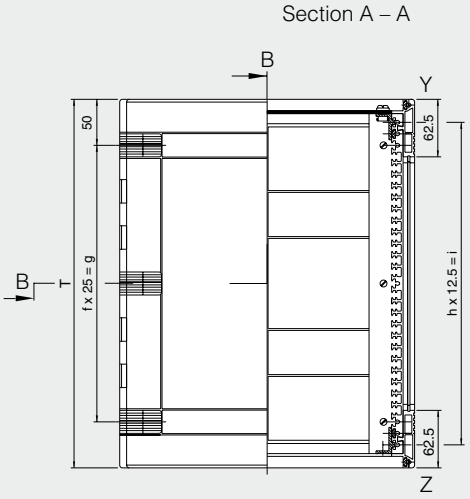


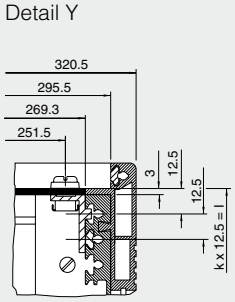
Hinge cutout

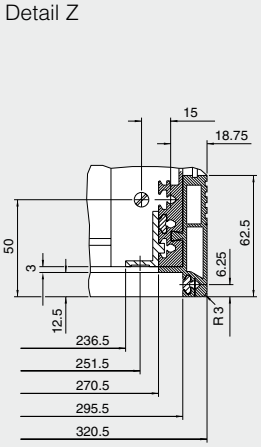












All dimensions are in (mm) unless stated otherwise.

Housing for subrack widths (1/2 19″/269.2 mm)		PU	1 U	2 U	3 U		4 U		Page
Depth (T) inches/mm			11.81/300	11.81/300	11.81/300	15.75/400	11.81/300	15.75/400	
Part No. without ventilation slots	**VC**	1	**3710.000**	**3720.000**	**3730.000**	**3731.000**	**3740.000**	**3741.000**	
H			74.75	119.20	163.65	163.65	208.10	208.10	
d			64.75	109.20	153.65	153.65	198.10	198.10	
f			8	8	8	12	8	12	
g			200	200	200	300	200	300	
h			20	20	20	28	20	28	
i			250	250	250	350	250	350	
k			22	22	22	30	22	30	
l			275	275	275	375	275	375	
Accessories									
Mounting kit	VC	1	–	–	3780.000	3780.000	–	–	440
Carrying handle, vertical	VC	2	–	–	3785.000	3785.000	–	–	443
Carrying handle, horizontal	VC	2	3787.000	3787.000	3787.000	3788.000	3787.000	3788.000	443
Blanking panel, rear wall	VC	3	3746.000	3747.000	3748.000	3748.000	3749.000	3749.000	444
Slide rails	VC	4	3782.000	3782.000	3782.000	3783.000	3782.000	3783.000	441
Acrylic glass door, swing-out	VC	1	–	–	3700.000	3700.000	3701.000	3701.000	442
For other VC accessories		see pages 440 – 445							

1/2 19″/269.2 mm / 1 U, 2 U, 3 U, 4 U

Accessories:
see pages 440 – 445.

- EMC version upon request.
- Custom dimensions and colors upon request.

Technical specifications desktop housing:
- Total depth: 11.81,15.74″/ 300, 400 mm
- Installation width: 1/2 19″/269.2 mm
- Installation options: 1/2 19″/269.2 mm rackmount assemblies and modular subracks per DIN 41 494, part 5.

Material/finish:
Sidewalls: aluminum extrusions, painted similar to RAL 7030/7035
Cover shells: plastic UL 94-V0 (self-extinguishing), color similar to RAL 7035 light grey
Rear wall: .08″/2 mm aluminum, natural anodized.

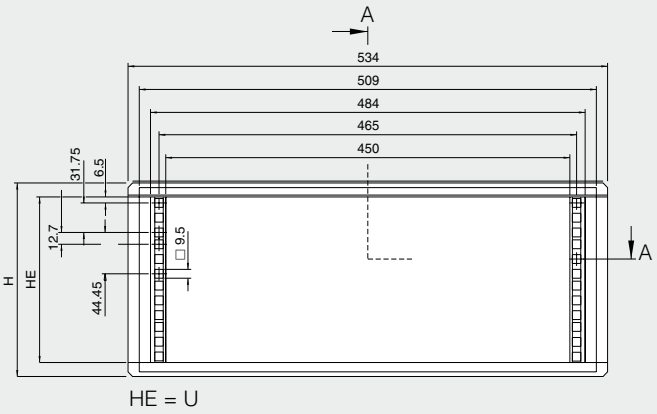
Configuration:
2 plastic cover shells,
4 (6) housing feet,
4 (6) covers,
2 sidewalls,
1 rear wall,
4 mounting rails,
4 tapped rackmount strips,
4 plain rackmount strips,
installation hardware.
Housings are delivered partially assembled.

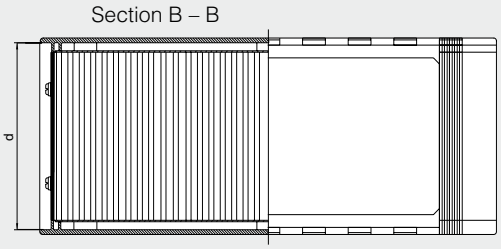
Prop-up carrying handle
for VarioCase housing.

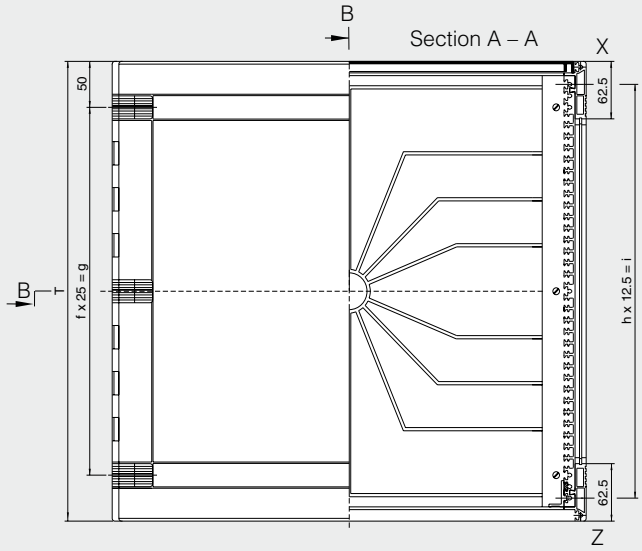
Details on page 443.

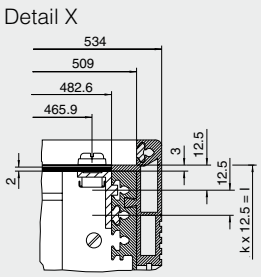
Blanking panel
as a VarioCase cover.

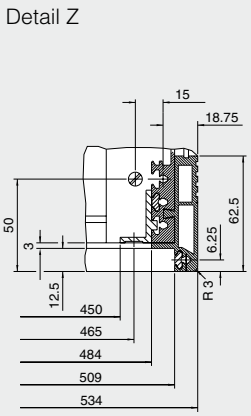
Details on page 444.











All dimensions are in (mm) unless stated otherwise.

Housing for subrack widths (19″/482.6 mm)	PU	1 U		4 U			7 U		Page
Depth (T) inches/mm		11.81/300	15.74/400	11.81/300	15.74/400	19.69/500	15.75/400	19.69/500	
Part No. without ventilation slots VC	1	**3713.000***	**3714.000**	**3743.000**	**3744.000**	**3745.000**	**3774.000**	**3775.000**	
Part No. with ventilation slots VC	1	**3713.200***	**3714.200**	**3743.200**	**3744.200**	**3745.200***	**3774.200**	**3775.200**	
H		74.75	74.75	208.10	208.10	208.10	341.40	341.40	
d		64.75	64.75	198.10	198.10	198.10	331.40	331.40	
f		8	12	8	12	16	12	16	
g		200	300	200	300	400	300	400	
h		20	28	20	28	36	28	36	
i		250	350	250	350	450	350	450	
k		22	30	22	30	38	30	38	
l		275	375	275	375	475	375	475	

Accessories

Carrying handle, horizontal	VC	2	3787.000	3788.000	3787.000	3788.000	3789.000	3788.000	3789.000	443
Prop-up carrying handle	VC	1	3797.000	3797.000	3797.000	3797.000	3797.000	3797.000	3797.000	443
Blanking panel, rear wall	EL	3	1931.200	1931.200	1934.200	1934.200	1934.200	1935.200	1935.200	444
Slide rails	VC	4	3782.000	3783.000	3782.000	3783.000	3784.000	3783.000	3784.000	441
Acrylic glass door, swing-out	VC	1	–	–	3703.000	3703.000	3703.000	3705.000	3705.000	442
Acrylic glass door, fold-down	VC	1	–	–	3727.000	3727.000	3727.000	3729.000	3729.000	442
Electronics drawer 1 U	PS	1	–	–	–	–	4541.000	–	4541.000	444
Electronics drawer 3 U	PS	1	–	–	–	–	4542.000	–	4542.000	444
For other VC accessories		see pages 440 – 445								

* Lead times upon request.

19″/482.6 mm / 1 U, 4 U, 7 U

Accessories:
see pages 440 – 445.

- EMC version upon request.
- Custom dimensions and colors upon request.

Technical specifications desktop housing:
- Total depths: 11.81,15.75, 19.69″/ 300, 400, 500 mm
- Installation width: 19″/482.6 mm
- Installation options: 19″/482.6 mm rackmount assemblies and modular subracks per DIN 41 494, part 5.

Material/finish:
Sidewalls: aluminum extrusions, painted similar to RAL 7030/7035
Cover shells: plastic UL 94-V0 (self-extinguishing), color similar to RAL 7035 light grey
Rear wall: .08″/2 mm aluminum, natural anodized.

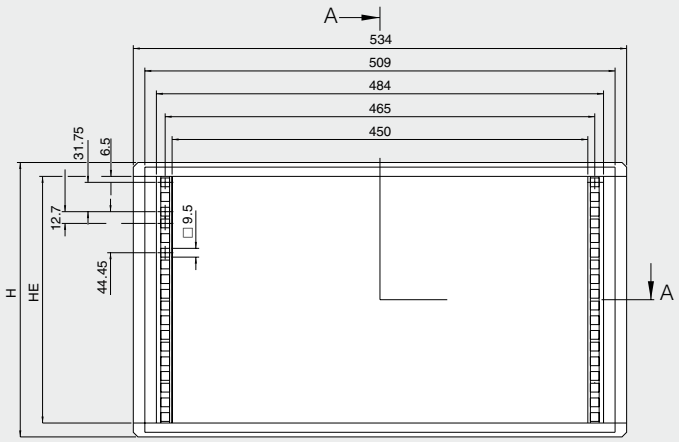
Configuration:
2 plastic cover shells,
4 (6) housing feet,
4 (6) covers,
2 sidewalls,
1 rear wall,
4 mounting rails,
4 tapped rackmount strips,
4 solid rackmount strips,
installation hardware.
Housings are delivered partially assembled.

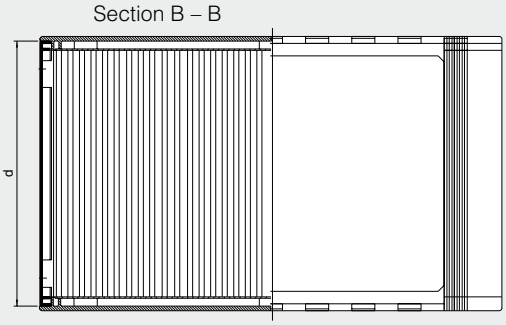
Vertical carrying handles
for easy transportation.

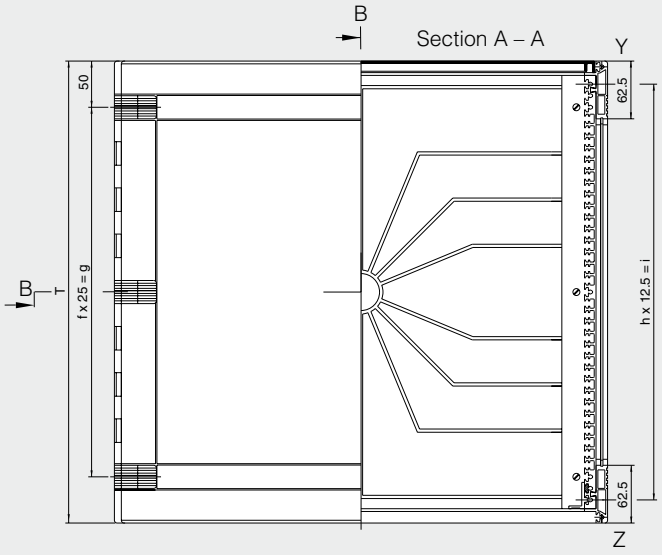
Details see page 443.

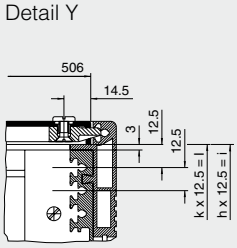
Ventilation front panel
in 1 U or 3 U.

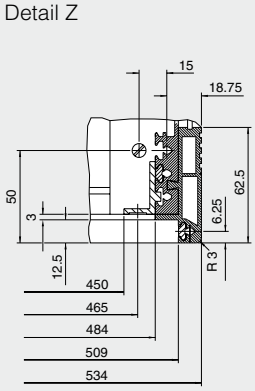
Details see page 444.











Housing for subrack widths (19″/482.6 mm)	PU	3 U			6 U			9 U		Page
Depth (T) inches/mm		11.81/300	15.74/400	19.69/500	11.81/300	15.74/400	19.69/500	15.74/400	19.69/500	
Part No. without ventilation slots VC	1	**3733.000**	**3734.000**	**3735.000**	**3763.000**	**3764.000**	**3765.000**	**3794.000**	**3795.000**	
Part No. with ventilation slots VC	1	**3733.200**	**3734.200**	**3735.200**	**3763.200**	**3764.200**	**3765.200**	**3794.200**	**3795.200**	
H		163.65	163.65	163.65	297.00	297.00	297.00	430.50	430.50	
d		153.65	153.65	153.65	287.00	287.00	287.00	420.50	420.50	
f		8	12	16	8	12	16	12	16	
g		200	300	400	200	300	400	300	400	
h		20	28	36	20	28	36	28	36	
i		250	350	450	250	350	450	350	350	
k		22	30	38	22	30	38	30	38	
l		275	375	475	275	375	475	375	475	
Accessories										
Mounting kit VC	1	3780.000	3780.000	3780.000	3781.000	3781.000	3781.000	–	–	440
Carrying handle, horizontal VC	2	3787.000	3788.000	3789.000	3787.000	3788.000	3789.000	3788.000	3789.000	443
Carrying handle, vertical VC	2	3785.000	3785.000	3785.000	3786.000	3786.000	3786.000	–	–	443
Prop-up carrying handle VC	1	3797.000	3797.000	3797.000	3797.000	3797.000	3797.000	3797.000	3797.000	443
Blanking panel, rear wall EL	3	1933.200	1933.200	1933.200	1936.200	1936.200	1936.200	1939.200	1939.200	444
Slide rails VC	4	3782.000	3783.000	3784.000	3782.000	3783.000	3784.000	3783.000	3784.000	441
Acrylic glass door, swing-out VC	1	3702.000	3702.000	3702.000	3704.000	3704.000	3704.000	–	–	442
Acrylic glass door, fold-down VC	1	3726.000	3726.000	3726.000	3728.000	3728.000	3728.000	–	–	442
Electronics drawer 1 U PS	1	–	–	4541.000	–	–	4541.000	–	4541.000	444
Electronics drawer 3 U PS	1	–	–	4542.000	–	–	4542.000	–	4542.000	444
For other VC accessories	see page 440 – 445									

19″/482.6 mm / 3 U, 6 U, 9 U

Technical specifications desktop housing:
- Total depths: 11.81,15.75,19.69″/ 300, 400, 500 mm
- Installation width: 19″/482.6 mm
- Installation options: 19″/482.6 mm rackmount assemblies and modular subracks per DIN 41 494, part 5.

Material/finish:
Sidewalls: aluminum extrusions, painted similar to RAL 7030/7035
Cover shells: plastic UL 94-V0 (self-extinguishing), color similar to RAL 7035 light grey
Rear wall: plastic UL 94-V0 (self-extinguishing), color similar to RAL 7035 light grey.

Configuration:
2 plastic cover shells,
4 (6) housing feet,
4 (6) covers,
2 sidewalls,
1 rear wall, with ventilation slots
4 mounting rails,
4 tapped rackmount strips,
4 solid rackmount strips,
installation hardware.
Housings are delivered partially assembled.

Accessories:
see pages 440 – 445.

- EMC version upon request.
- Custom dimensions and colors upon request.

Installation options of **subracks** as well as modular **rackmount assemblies.**

Acrylic glass door, fold-down or swing-out.

Details see pages 442.

Mounting kit

For direct installation of rackmount assemblies without using subracks.
The vertical mounting kit profile/adaptor are designed for installing Unisets/Variosets mounting rails/mounting rail kits in the Rittal VarioCase *iS*.

Material:
Vertical profile: aluminum, natural anodized,
Adaptor: plastic

Configuration:
2 vertical profiles, front,
2 vertical profiles, rear,
4 tapped rackmount strips,
8 adaptor (12 for 6 U),
installation hardware.

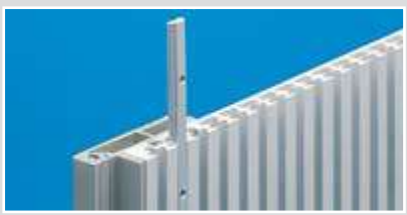
Mounting rails and mounting rail kits must be ordered separately.

Height	Part No. VC
3 U	**3780.000**
6 U	**3781.000**

Mounting rail kits

For configuring the Rittal VarioCase *iS* housing for direct mounting of rackmount assemblies, without subracks.
Other installation options are possible with the rails from the Rittal Uniset *iS*/Varioset *iS* accessories program.

	Configuration 3 U, 84 HP		Configuration 6 U, 84 HP	
	Without integral Z-rails For backplanes or female multi-point connectors per DIN 41 612 or 41 617, please order Z-rails/isolations strips separately	**With integral Z-rails** For female multi-point connectors per DIN 41 612	**Without integral Z-rails** For backplanes or female multi-point connectors per DIN 41 612 or 41 617, please order Z-rails/isolations strips separately	**With integral Z-rails** For female multi-point connectors per DIN 41 612
Part No. UV	**3663.301**	**3663.311**	**3663.601**	**3663.611**
PU	1 set	1 set	1 set	1 set
Mounting rails, front	2	2	2	2
Mounting rails, rear	2	–	2	–
Mounting rails, rear with integral Z-rails	–	2	–	2
Mounting rail, center	–	–	1	–
Mounting rail, center with integral Z-rails	–	–	–	1
Tapped strips	4	2	6	2
HP rails	4	4	4	4
Mounting screws	8	8	12	12



M4 tapped rackmount strips

For the installation of mounting angles, slide rails, cable channels, etc. to the sidewalls.

Material:
Aluminum, natural anodized.

Height	PU	Part No. VC
1 U	8	**3757.000**
2 U		**3776.000**
3 U		**3777.000**
4 U		**3758.000**
6 U		**3778.000**
7 U		**3759.000**
9 U		**3779.000**

Mounting angle for 19″/482.6 mm

Depth adjustable, in 12.5 mm increments, for the installation of front panels in Rittal VarioCase housings.

Material:
Aluminum, natural anodized.

Configuration:
Profile, installation hardware.

U	PU	Part No. VC
1	4	**3717.000**
2		**3716.000**
3		**3790.000**
4		**3718.000**
6		**3791.000**
7		**3719.000**
9		**3792.000**

Slide rails

For the support of subracks/rackmount assemblies.

Material:
0.06″/1.5 mm sheet steel

Configuration:
Slide rails, installation hardware.

For housings inches/mm	PU	Part No. VC
11.81/300	4	**3782.000**
15.74/400		**3783.000**
19.79/500		**3784.000**

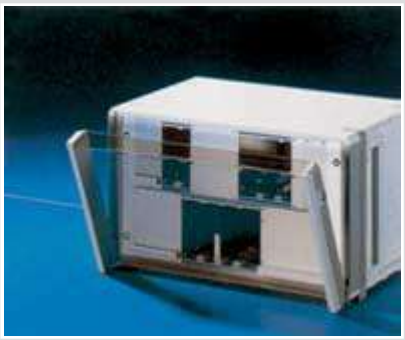
Note:
Please order tapped rackmount strips for the installation of slide rails separately.

Grounding set

To comply with electrical safety standards; suitable for all Rittal VarioCase *iS*.

Configuration:
Rackmount strip,
setscrews with tip,
green/yellow connector cable,
toothed disk, nut.

PU	Part No. VC
4	**3798.000**



German Patent No. 40 34 779
German Registered Design
No. M 91 03 320
IR Reg. Design No. DM/019 564
affecting BE, CH, ES, FR, IT, LU, NL

Keyboard lid

Suitable for the installation of 19″/482.6 mm keyboards. Fold-down with safety lock.

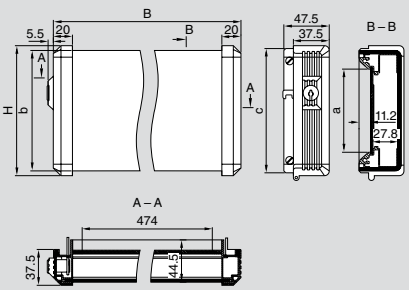
Configuration:
Keyboard lid, pre-installed with solid aluminum panel inside (without keyboard).

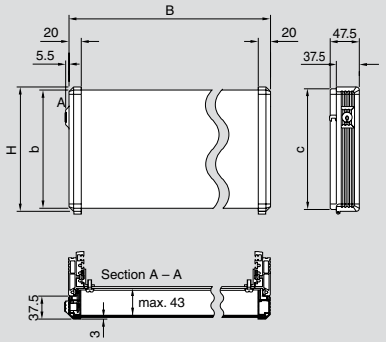
Material:
Center/side panels: aluminum,
painted similar to RAL 7030/7035
Corner pieces: zinc die-cast,
painted similar to RAL 7030 stone grey
Filler panel: aluminum,
painted similar to RAL 7035 light grey.

Configuration:
Keyboard lid, installation hardware.

Inches/mm	PU	4 U	6 U
Width (B)	1	21.02/534	21.02/534
H		7.99/203	11.50/292
a		6.10/155	9.61/244
b		7.60/193	11.10/282
c		7.76/197	11.26/286
Part No. VC		**3722.000**	**3723.000**

3 U upon request.





Front doors, swing-out

Aluminum or acrylic glass

- To protect built-in operator equipment.
- Choice of right or left hinging.
- Safety lock cylinder is standard.
- Usable as front or rear door.

Material:
Side pieces: aluminum extrusions/die-cast, painted RAL 7030
Center piece: aluminum, painted similar to RAL 7035 light grey

Configuration:
1 front door, installation hardware.

Dimensions are in (mm) unless stated otherwise.

Aluminum	U	Width (B) mm	H mm	b mm	c mm	**Part No. VC**
19″/482.6 mm	3	534	159	149	153	**3707.000**
	4	534	203	193	197	**3708.000**
	6	534	292	282	286	**3709.000**

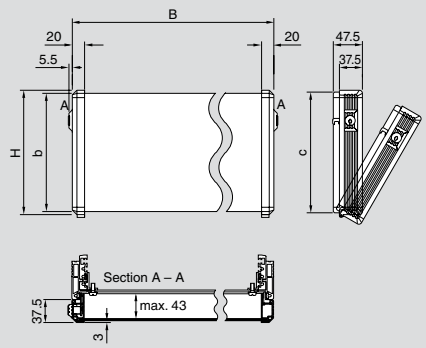
Material:
Side pieces: aluminum extrusions/die-cast, painted RAL 7030
Window: Acrylic glass, smoke color

Configuration:
1 front door, installation hardware.

Dimensions are in (mm) unless stated otherwise.

Acrylic glass	U	Width (B) mm	H mm	b mm	c mm	**Part No. VC**
1/2 19″/269.2 mm	3	320.5	157.5	147.0	151.5	**3700.000**
	4	320.5	202.0	192.0	196.0	**3701.000**
19″/482.6 mm	3	534.0	157.5	147.0	151.5	**3702.000**
	4	534.0	202.0	192.0	196.0	**3703.000**
	6	534.0	291.0	281.0	285.0	**3704.000**
	7	534.0	335.3	325.5	329.4	**3705.000**

German Patent No. 38 13 003
European Patent No. 0 338 339
affecting CH, GB, NL
German Registered Design
No. 1 MR 371
IR Reg. Design No. DM 011 876
affecting BE, CH, DE, ES, FR, IT, LU, NL



Front doors, fold-down

Made of acrylic glass

- To protect built-in operator equipment.
- Choice of right or left hinging.
- Safety lock cylinder is standard.

Material:
Side pieces: aluminum extrusions/die-cast, painted RAL 7030
Window: Acrylic glass, smoke color

Configuration:
1 front door, installation hardware.

Dimensions are in (mm) unless stated otherwise.

	U	Width (B) mm	H mm	b mm	c mm	**Part No. VC**
1/2 19″/269.2 mm	3	320.5	157.5	147.0	151.5	**3724.000**
	4	320.5	202.0	192.0	196.0	**3725.000**
19″/482.6 mm	3	534.0	157.5	147.0	151.5	**3726.000**
	4	534.0	202.0	192.0	196.0	**3727.000**
	6	534.0	291.0	281.0	285.0	**3728.000**
	7	534.0	335.3	325.5	329.4	**3729.000**

German Patent No. 38 13 003
European Patent No. 0 338 339
affecting CH, GB, NL
German Registered Design
No. 1 MR 371
IR-Reg. Design No. DM 011 876
affecting BE, CH, DE, ES, FR, IT, LU, NL

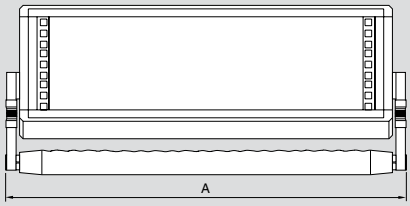
Prop-up carrying handle

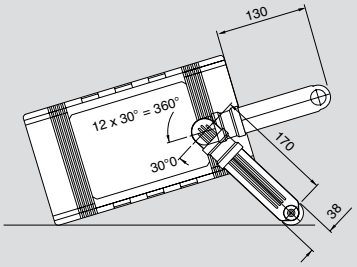
- May be retrofit for 2 U – 6 U.
- Prop-up carrying handle is adjustable in 30° increments.
- Maximum load of 66.13 lbs/30 kg.

Material:
Side pieces: zinc die-cast,
painted RAL 7030 stone grey
Center piece: aluminum extrusions,
with plastic sheathing, painted RAL 7030
stone grey.

Configuration:
1 prop-up carrying handle,
installation hardware.

For VC inches/mm	A inches/mm	PU	Part No. VC
1/2 19″/269.2	14.35/364.5	1	**3796.000**
19″/482.6	22.76/578.0		**3797.000**





Carrying handle, vertical

For easy and comfortable transportation.

Material:
Side pieces: zinc die-cast,
painted RAL 7030
Center piece: aluminum extrusions,
painted similar to RAL 7035 light grey.

Configuration:
2 carrying handles,
installation materials.

Height	PU	Part No. VC
3 U	2	**3785.000**
6 U		**3786.000**

German Patent No. 36 33 205

Carrying handles, horizontal

For easy and comfortable transportation.

Material:
Side pieces: zinc die-cast,
painted RAL 7030
Center piece: aluminum extrusions,
painted similar to RAL 7035 light grey.

Configuration:
2 carrying handles,
installation materials.

Inches/mm	PU	Part No. VC
11.81/300 deep	2	**3787.000**
15.74/400 deep		**3788.000**
19.69/500 deep		**3789.000**

German Patent No. 36 33 205

Rubber caps for VC feet

Retrofits on the feet of the VarioCase and prevents sliding on slippery surfaces.

Material:
Soft-PVC, shore hardness 60°,
painted RAL 7030 stone grey.

PU	Part No. VC
12	**3736.000**

Electronics drawer/utility tray

For keyboards up to 17.33″/440 mm width, operator manuals. Minimum depth of the VC housing must be: 19.69″/500 mm.

Material:
Aluminum

Configuration:
1 drawer, 1 pair of telescopic rails, installation hardware.

U	Part No. PS
1	**4541.000**
2	**4548.000**
3	**4542.000**

Mounting kit:
Part No. VC 3793.000
(PU = 4)
Please order rackmount strips separately.
Part No. see page 440.

Blanking panels

19″/482.6 mm:
.12″/3 mm aluminum, natural anodized.

½ 19″/269.2 mm:
.08″/2 mm aluminum, natural anodized.

U	PU	Part No. VC ½ 19″/ 269.2 mm	Part No. EL 19″/ 482.6 mm
1	3	**3746.000**	**1931.200**
2		**3747.000**	**1932.200**
3		**3748.000**	**1933.200**
4		**3749.000**	**1934.200**
6		–	**1936.200**
7		–	**1935.200**
9		–	**1939.200**
12		–	**1937.200**

Vented front panel

For ventilation of enclosures and housings.

Material:
.12″/3 mm aluminum, natural anodized.

Width inches/mm	U	PU	Part No. EL
19″/482.6	1	3	**2231.000**
	2		**2232.000**
	3		**2233.000**

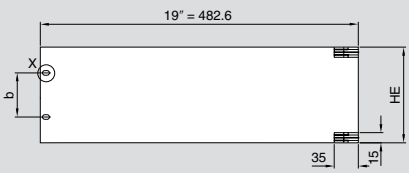
Hinged blanking panel, swing-out

For installation in electronic enclosures or housings.

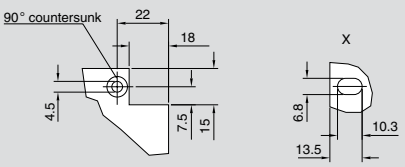
Material:
Hinges: zinc die-cast, galvanized
Blanking panel: .12″/3 mm aluminum, natural anodized

Configuration:
2 hinges, 1 front panel, installation hardware.

Width inches/mm	U (HE)	b mm	Part No. EL
19″/482.6	3	57.15	**1940.000**
	6	190.50	**1941.000**



Cutouts for hinges



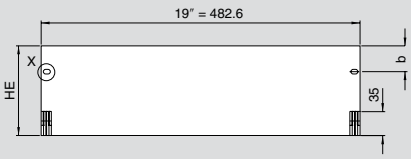
Hinged blanking panel, fold-down

For the installation in electronic enclosures or housings.

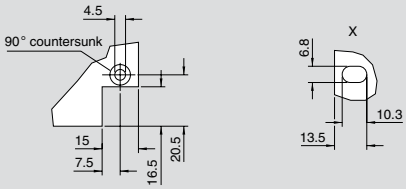
Material:
Hinges: zinc die-cast, galvanized
Blanking panel: .12″/3 mm aluminum, natural anodized.

Configuration:
2 hinges, 1 front panel, installation hardware.

Width inches/mm	U (HE)	b mm	Part No. EL
19″/482.6	3	37.7	**1944.000**
	6		**1945.000**



Cutout for hinges



Hinge for blanking panel

For retrofitting hinges onto blanking panels, including installation hardware.

Material:
Zinc die-cast, galvanized.

PU	Part No. EL
2	**1950.000**

German Patent No. 40 04 264
UK Patent No. 2 243 025

M6 installation screws

For cage nuts, including plastic washers.

Description	PU	Part No. EL
Slotted head	1 pack	**2093.200**
Phillips head	1 pack	**2089.000**

1 pack = 100 pieces

M6 cage nuts

For the installation of accessory parts **with** electrical contact of the rackmount assembly to the subrack.

PU	Part No. EL
1 pack	**2094.200**

1 pack = 50 pieces

M6 cage nuts

For the installation of accessory parts **without** electrical contact of the rackmount assembly to the subrack.

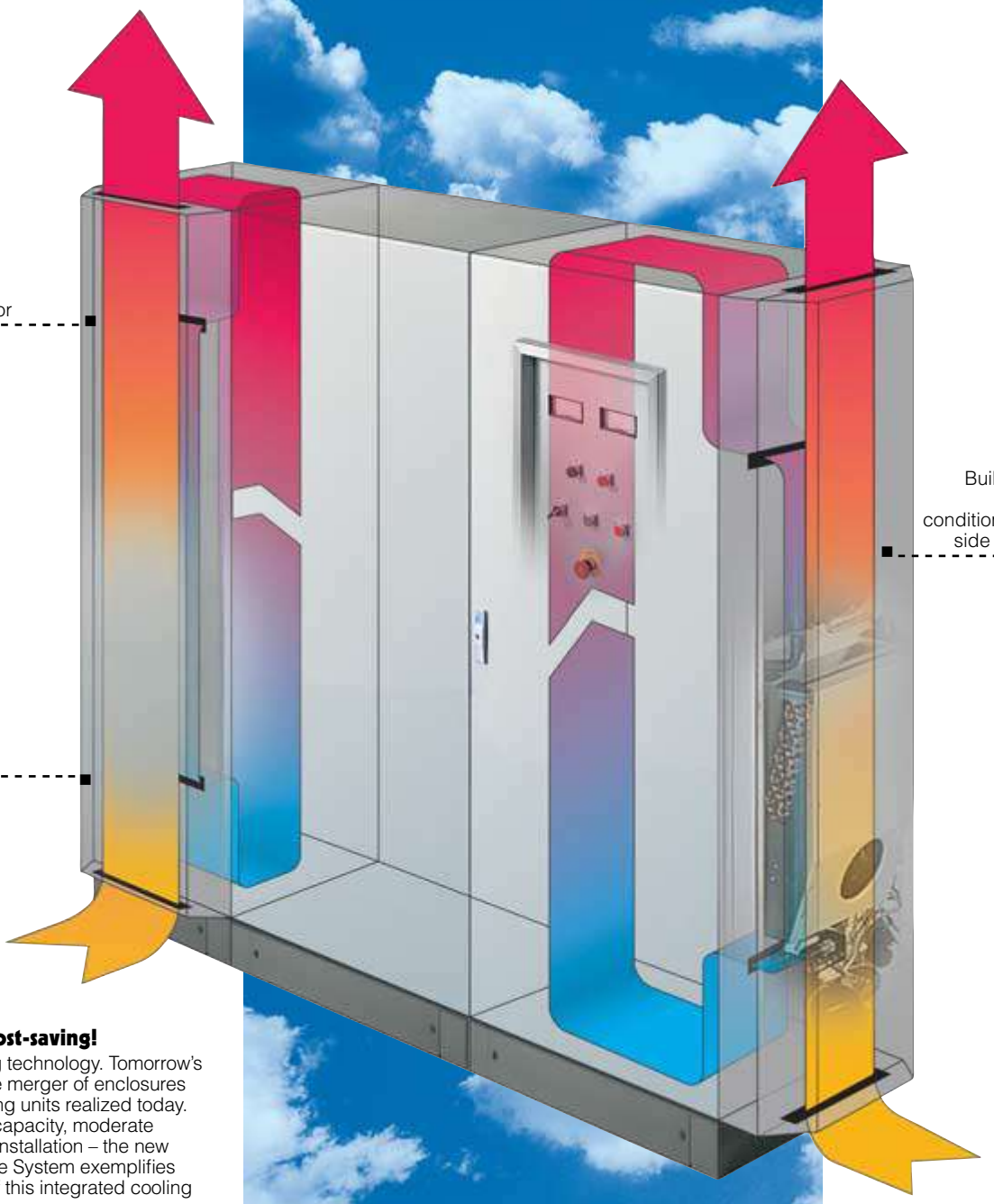
PU	Part No. EL
1 pack	**2092.200**

1 pack = 50 pieces

Leading Edge Technology

Rittal climate control solutions are designed to meet your total cooling needs.

- Cost effective enclosure climate control and process cooling
- High operating safety for electronic devices
- Comprehensive product line
- Wide spectrum of applications
- Industry specific and specialized individual solutions.



Effective and cost-saving!

Integrated cooling technology. Tomorrow's benchmark for the merger of enclosures and air conditioning units realized today. Effective cooling capacity, moderate investment, easy installation – the new TS 8 Top Enclosure System exemplifies the advantages of this integrated cooling technology.

Overview of Rittal Enclosure Climate Control and Process Cooling

Central cooling systems
Our chillers, in combination with air/water heat exchangers are very efficient at cooling enclosures, machines and processes.

Strong performance
Aesthetically pleasing design, quick installation and an air displacement of 12 to 680 cfm – the super flat Rittal filter fans. All models are available with optional EMC protection.

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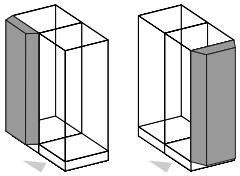
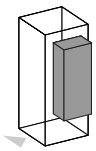
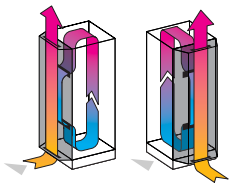
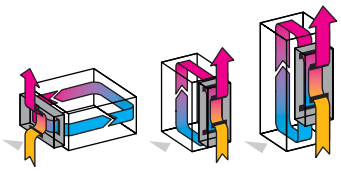
■ Air conditioners

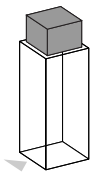
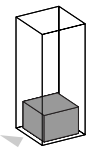
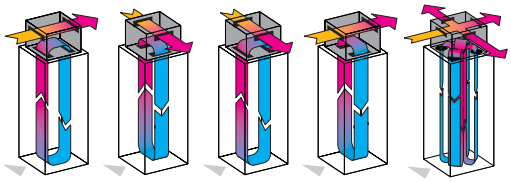
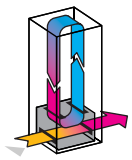
Climate controlled enclosures
Air conditioning doors
Air conditioning side walls

Wallmount air conditioners

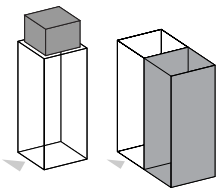
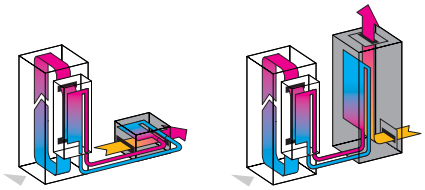
Performance	**4260 BTU – 8700 BTU** **115 V/230 V/400 V/460 V**	**920 BTU – 15,940 BTU** **115 V/230 V/400 V/460 V**
Installation requirements	 Choose complete climate controlled enclosures with the air conditioning unit included or just air conditioning doors or side walls for retrofitting.	 The chassis construction of our wallmount air conditioners, depending on type, allows for external, partially recessed and completely recessed mounting.
Air flow	 The external cycle is designed so that the warm air is pushed to the top of the enclosure.	 A variety of air flow patterns are available depending on air conditioner type.
Notes	A 4″/100 mm plinth is required to ensure proper operation of the outer air cycle. The air conditioning unit can be easily removed and reinstalled for servicing.	The enclosure needs to be properly sealed from all sides. The wallmount units may be installed onto an enclosure wall or a door. The installation cutout depends on your choice of mounting option (external, partially recessed or completely recessed).
User benefits	■ Complete solutions, including enclosure and built-in air conditioning unit ■ Easy installation ■ Moderate investment ■ Outdoor and NEMA 4X upgrade option available on many models.	■ Effective air flow inside the enclosure ■ Installation variations with different mounting options (external, partially recessed, completely recessed) ■ Easy operation and access to components.
	Pages 452 – 465	**Pages 480 – 501**

Roofmount air conditioners

19″/482.6 mm rackmount air conditioners

	1300 BTU – 9550 BTU 115 V/230 V/400 V/460 V	**3585 BTU 115 V/230 V**
		
	Mounting the air conditioner on the roof leaves all enclosure surfaces available for controls and displays. Rittal's mounting options leave walkways and transportation aisles unobstructed.	Specially designed unit for 19″/482.6 mm rackmount applications. It creates an integrated cooling solution and can easily be installed inside the enclosure.
		
	Air conditioners on bayed enclosure configurations: the air flow of the external air cycle should be front to back.	Consistently even air flow is achieved across the enclosure width. It helps achieve effective heat removal from the enclosure.
	The enclosure needs to be sealed properly, especially at the cable entry areas and at the enclosure base. The roof of the enclosure has to be strong enough to support the air conditioner's weight (use mounting rails for reinforcement).	A maintenance access door provides easy access to setting and controlling the thermostat.
	■ Variations of internal and external air cycles ■ Enclosure surfaces remain available for operating and display components.	■ Quick and easy installation ■ Direct and effective dispersion of heat loss ■ Extended life of electronic components.
	Pages 466 – 479	**Pages 556/557**

■ Water chillers/oil chillers

Performance	**3650 BTU – 410,000 BTU** **230 V/400 V/460 V**
Installation requirements	 Roofmount mini chillers are suitable for integration or baying with a TS/PS enclosure system or for custom built special enclosures.
Air flow	 Rittal chillers are designed to have cooling water readily available for air/water heat exchangers or water cooled machine processes.
Notes	Chillers as central cooling units are an excellent choice when very high heat dissipation occurs. They are able to supply multiple users simultaneously as well as efficiently provide high cooling capacity.
User benefits	■ Effective central cooling technology ■ Remote dissipation of high heat losses ■ A system for cooling enclosures, processes and machines, as well as the cooling of fluid mediums like oil and water.

Pages 504 – 519

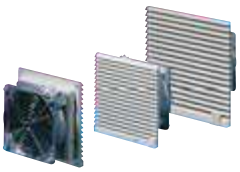
Rittal Enclosure Climate Control and Process Cooling

■ Heat exchangers

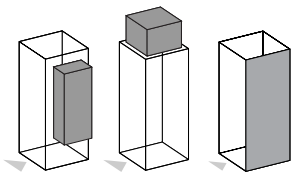
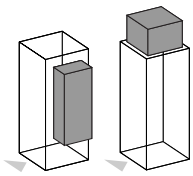
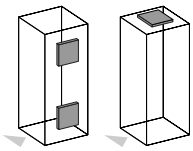
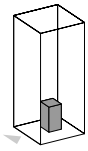
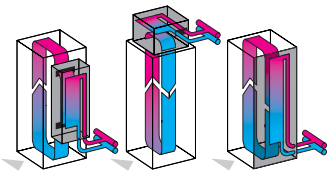
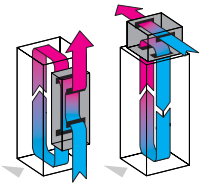
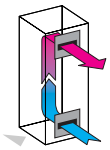
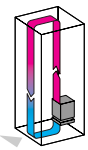
Air/water heat exchangers

Air/air heat exchangers

■ Filter fans

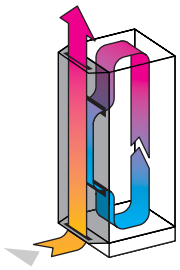


■ Panel heaters

2050 BTU – 17,000 BTU 115 V/230 V	**14.6 W/C – 69 W/C 115 V/230 V**	**12 cfm – 680 cfm 24 V/48 V DC/115 V/230 V**	**10 W – 1000 W 110 V – 240 V**
			
Available in wallmount or roof-mount versions. Our TS 8 Top Enclosure System offers a heat exchanger side wall.	External as well as recessed mounting options are available. A roofmount unit is also available.	From the smallest box to the largest enclosure, there is room for an exhaust fan or a filter fan assembly.	Quick installation into the enclosure with screw-in or snap-in attachments. May be installed on the mounting panel or 35 mm mounting DIN EN 50 022 rails.
			
Air/water heat exchangers cool the enclosure interior through integration into an existing water supply, or by connecting to a chiller.	Air/air heat exchangers use the cooler ambient air for cooling the enclosure interior. The completely separate air circuits exchange heat via the heat exchanger modules using a counterflow system.	The flow of filtered ambient air and the exhaust of hot enclosure interior air cools the inside of the enclosure.	The design of the aluminum heating fins helps ensure an even temperature distribution and therefore optimum heat dissipation across the outer surface.
Air/water heat exchangers are especially well suited for dissipating high heat loads in limited spaces. The capacity of the heat exchangers depends on the water intake temperature and the water flow volume.	These air/air heat exchangers can only be used when the ambient temperature is lower than the desired temperature inside an enclosure.	Filter fans are well suited for the economical removal of high heat loads. A requirement for their use is an ambient temperature below the desired enclosure interior temperature and relatively clean air.	In conditions of fluctuating ambient temperatures, such as outdoor applications or in unheated rooms, a heater must be used to prevent condensation from forming on the equipment.
■ Maintenance free ■ Cooling of high heat loads ■ Moderate weight and size ■ Suitable for use in extreme environments ■ For ambient temperatures up to 158 °F/+ 70 °C ■ NEMA 4 possible.	■ Specific performance capacity from 14.6 to 69 W/C ■ Compact dimensions, low weight ■ Easy maintenance via the easily removable heat exchanger module ■ Filterless operation.	■ Air capacity from 12 to 680 cfm ■ Fast installation ■ Low noise ■ Available in RAL 7032 or RAL 7035 colors ■ NEMA 12 and NEMA 3R upgrade options.	■ Thermal capacity range from 10 to 1000 W ■ Quick and easy installation ■ Compact, effective and robust.
Pages 520 – 533	**Pages 534 – 539, 565**	**Pages 540 – 551**	**Pages 562/563**

All inclusive!
The air conditioner is built into the enclosure door with our single door or double door KTS.

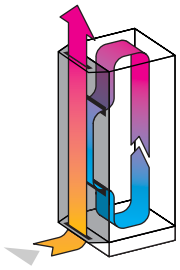
KTS climate controlled enclosures



Useful cooling capacity	**4260 BTU/1250 W**				**5150 BTU/1510 W**			
Enclosure height (inches/mm)	71/1800		79/2000		71/1800		79/2000	
Rated voltage	230 V	400 V, 2~	230 V	400 V, 2~	230 V	400 V, 2~	230 V	400 V, 2~
Position of air conditioning door								
Thermostat control	●	●	●	●	●	●	●	●
Part No.	**8687.100**	**8687.840**	**8607.100**	**8607.840**	**8887.150**	**8887.140**	**8807.100**	**8807.140**
Pages	454/455				456/457			
Certifications								
UL	●	●	●	●	●	●	●	●
CUL	●	●	●	●	●	●	●	●
GS	●	●	●	●	●	●	●	●
CE-Conformity	●	●	●	●	●	●	●	●

Perfect retrofit
Air conditioning doors and air conditioning side walls can easily be installed on-site. Single air conditioning doors are not made to fit onto double door enclosures.

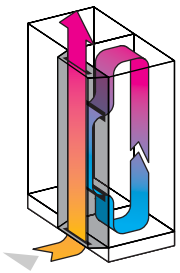
Air conditioning doors for TS



Useful cooling capacity	**4260 BTU/1250 W**				**5150 BTU/1510 W**			
Enclosure height (inches/mm)	71/1800	79/2000	71/1800	79/2000	71/1800	79/2000	71/1800	79/2000
Rated voltage	230 V	230 V	400 V, 2~		230 V		400 V, 2~	
Thermostat control	●	●	●	●	●	●	●	●
Part No.	**3306.880**	**3306.800**	**3306.884**	**3306.840**	**3308.880**	**3308.800**	**3308.884**	**3308.840**
Pages	460/461							
Certifications								
UL	●	●	●	●	●	●	●	●
CUL	●	●	●	●	●	●	●	●
GS	●	●	●	●	●	●	●	●
CE-Conformity	●	●	●	●	●	●	●	●

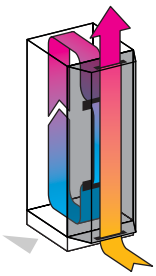
Certification status is current at time of printing.

KTS climate controlled enclosures



	6800 BTU/2010 W				8700 BTU/2550 W	
	71/1800		79/2000		71/1800	79/2000
	230 V				400 V, 3~	
	right	left	right	left	left	left
	●	●	●	●	●	●
	8287.170	**8807.180**	**8207.170**	**8207.180**	**8807.260**	**8807.250**
	458/459					
	●	●	●	●	●	●

Air conditioning side walls for TS



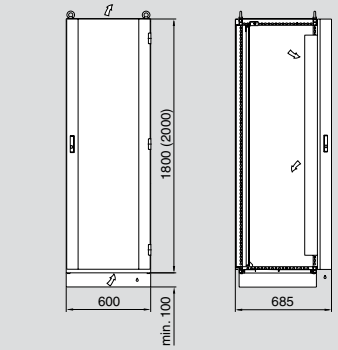
	6800 BTU/2010 W				8700 BTU/2550 W		4095 BTU/1200 W				4950 BTU/1450 W			
	71/1800	79/2000	71/1800	79/2000	71/1800	79/2000	71/1800	79/2000	71/1800	79/2000	71/1800	79/2000	71/1800	79/2000
	230 V		400 V, 2~		400 V, 3~		230 V		400 V, 2~		230 V		400 V, 2~	
	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	3309.880	**3309.800**	**3309.884**	**3309.840**	**3310.880**	**3310.800**	**3331.116**	**3331.316**	**3331.140**	**3331.340**	**3331.216**	**3331.416**	**3331.240**	**3331.440**
	462/463						464/465							
	●	●	●	●	●	●	●	●	●	●	●	●	●	●

KTS climate controlled enclosure systems, single door version
Enclosure and lock system are the same as the TS 8 Top Enclosure System. By integrating the cooling module into the enclosure door, there is no assembly work required, and the work of cutting out the air inlet and outlet openings is eliminated. Multiple benefits: an attractive purchasing price, minimal assembly work, and effective cooling.

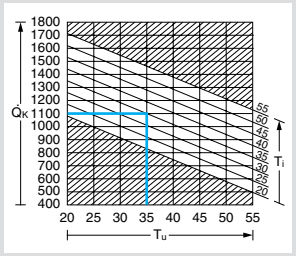
Technical description:
- May be bayed with all 24″/600 mm deep and 71″/1800 mm or 79″/2000 mm high TS enclosures.
- The cooling module is easily and quickly removed and re-installed for servicing.
- The solid front protects against dirt and damage.
- Large distance between air supply and return.

Configuration:
Enclosure frame with rear wall, roof and climate controlled door, painted. Air conditioner pre-installed, right hinged, easily changeable to opposite side. 4 eyebolts installed, mounting panel, three-part gland plate, depth bars as shipping braces.

Certifications for climate controlled enclosures, see pages 452/453.

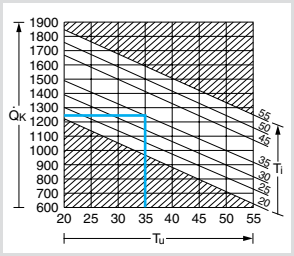


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. KTS		**8687.100**	**8607.100**	**8687.840**	**8607.840**
Rated voltage Volt/Hz*		230/50/60		400/50/60, 2~	
Dimensions in inches/mm	H W D	71/1800 24/ 600 28/ 700	79/2000 24/ 600 28/ 700	71/1800 24/ 600 28/ 700	79/2000 24/ 600 28/ 700
Bayable with TS in inches/mm	D	24/ 600			
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient**	**3750/4260 BTU 2800/3400 BTU**			
Rated current maximum		3.2 A/ 3.8 A		1.9 A/2.2 A	
Starting current		11.0 A/12.0 A		6.3 A/6.9 A	
Pre-fuse T		10.0 A/10.0 A		6.0 A/6.0 A	
Power consumption P_{el} to DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	525 W/630 W 605 W/725 W		540 W/650 W 625 W/750 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.1			
Refrigerant		R134 a, 24 oz/675 g			
Maximum allowable operating pressure		334 psi/23 bar			
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C			
Protection ratings to EN 60 529/10.91		exterior cycle NEMA 2/IP 24; interior cycle NEMA 12/IP 54			
Duty cycle		100%			
Type of connection		terminal block			
Weight		341 lbs/155 kg	354 lbs/163 kg	348 lbs/158 kg	366 lbs/166 kg
Color		RAL 7032			
Air displacement (unimpeded air flow)	exterior cycle	340 cfm/580 m³/h			
	interior cycle	250 cfm/420 m³/h			
Temperature control		internal thermostat (range 68 °F to 131 °F/+ 20 °C to + 55 °C)			

A base/plinth of at least 4″/100 mm is required for the proper functioning of the exterior air cycle.
* 115 V/460 V voltages available upon request. Specifications subject to change.

! **Additional parts needed:**	PU					Page
Plinth components KTS, 4″/100 mm, front/rear	1 set	8601.800				880
Plinth trim pieces KTS, 4″/100 mm, sides	1 set	8601.060				880
Side walls for KTS	2	8186.200	8706.200	8186.200	8106.200	902

Useful cooling capacity 4260 BTU/1250 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity	4260 BTU/1250 W			
Height (inches/mm)	71/1800		79/2000	
Voltage	230 V	400 V, 2~	230 V	400 V, 2~
Thermostat control	●	●	●	●
Part No. KTS	**8687.100**	**8687.840**	**8607.100**	**8607.840**

Additional parts needed:

Base/plinth of 4″/100 mm or 8″/200 mm high, see the TS 8 catalog, pages 878 – 880.

Optional microcontroller:

With digital temperature display, potential free contact for collective fault signal and connection for door operated switch to delay start-up.

Additional accessories:

TS 8 internal fan panel, enclosure fans, see page 552.

Air circulation, see page 565.

Metal filter, see page 567.

Door switch, see page 573.

Floor bolts, see page 886.

Comfort handle for KTS, see page 936.

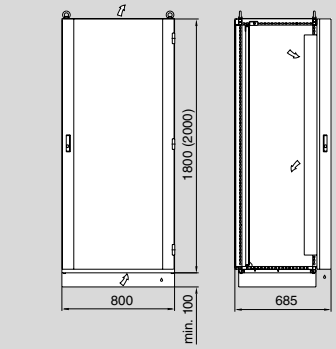
The air in the external cycle is drawn in at the lower edge of the door. Therefore, a base/plinth of at least 4″/100 mm is required.

KTS climate controlled enclosures, single door version
Enclosure and lock system are the same as for the TS 8 Top Enclosure System. By integrating the air conditioner into the enclosure door, there is no assembly work required, and the work of cutting out the air intake and outlet openings is eliminated. The KTS system provides multiple benefits: an attractive purchasing price, minimal assembly work, and effective cooling.

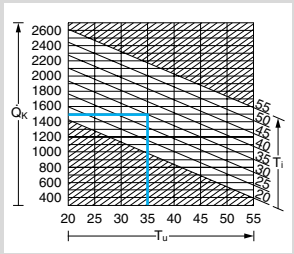
Technical description:
- May be bayed with all 24″/600 mm deep and 71″/1800 mm or 79″/2000 mm high TS enclosures.
- The cooling module is easily and quickly removed and reinstalled for servicing.
- The solid front protects against dirt and damage.
- Large distance between the air supply and air return.

Configuration:
Enclosure frame with rear wall, roof and air conditioning door; painted; including pre-fitted cooling module, right door hinge, may be swapped to opposite side; 4 eyebolts, installed; mounting panel; three-part gland plates; depth rails as shipping braces.

Standard certifications for all climate controlled enclosures, see pages 452/453.

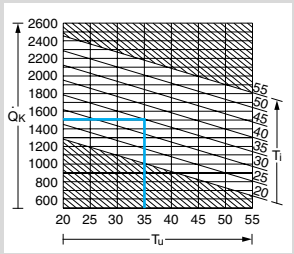


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. KTS		**8887.150**	**8807.100**	**8887.140**	**8807.140**
Rated voltage Volt/Hz*		230/50/60		400/50/60, 2~	
Dimensions inches/mm	H W D	71/1800 32/ 800 28/ 700	79/2000 32/ 800 28/ 700	71/1800 32/ 800 28/ 700	79/2000 32/ 800 28/ 700
Suitable for baying with TS enclosures in inches/mm	D	24/ 600			
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**5120/5150 BTU** **3630/4230 BTU**			
Rated current maximum		4.0 A/ 4.5 A		2.3 A/2.6 A	
Starting current		9.0 A/10.0 A		5.2 A/5.7 A	
Pre-fuse T		10.0 A/10.0 A		6.0 A/6.0 A	
Power consumption P_{el} per DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	650 W/750 W 750 W/850 W		670 W/780 W 780 W/880 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.3			
Refrigerant		R134 a, 25 oz/700 g			
Maximum allowable operating pressure		334 psi/23 bar			
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C			
Protection ratings to EN 60 529/10.91		exterior cycle NEMA 2/IP 24; interior cycle NEMA 12/IP 54			
Duty cycle		100%			
Type of connection		terminal block			
Weight		401 lbs/182 kg	423 lbs/192 kg	408 lbs/185 kg	430 lbs/195 kg
Color		RAL 7032			
Temperature control		built-in thermostat, settings range 68 °F to 131 °F/+ 20 °C to + 55 °C			
Air displacement (unimpeded air flow)	exterior cycle	351 cfm/600 m³/h			
	interior cycle	281 cfm/480 m³/h			

A base/plinth of at least 4″/100 mm is required for the proper functioning of the exterior air cycle.
* 115 V/460 V voltages available upon request. Specifications subject to change.

! **Additional parts needed:**	PU					Page
Plinth components for KTS, 4″/100 mm, front/rear	1 set	8601.800				880
Plinth trim pieces for KTS, 4″/100 mm, side	1 set	8601.060				880
Side walls for KTS	2	8186.200	8106.200	8186.200	8106.200	902

Useful cooling capacity 5150 BTU/1510 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity	5150 BTU/1510 W			
Height (inches/mm)	71/1800		79/2000	
Voltage	230 V	400 V, 2~	230 V	400 V, 2~
Thermostat control	●	●	●	●
Part No. KTS	**8887.150**	**8887.140**	**8807.100**	**8807.140**

Additional parts needed:

Plinth, 4″ to 8″/100 mm to 200 mm high,
see pages 878 – 880.

Optional microcontroller:

With digital temperature display, potential free contact for collective fault signal and connection for door operated switch to delay start-up.

Additional accessories:

TS 8 internal fan panel, enclosure fans,
see page 552.

Metal filter,
see page 567.

Door position switch,
see page 573.

Floor bolts,
see page 886.

Comfort handle for KTS,
see page 936.

The KTS is suitable for baying. **The side walls are therefore not part of the standard configuration.**

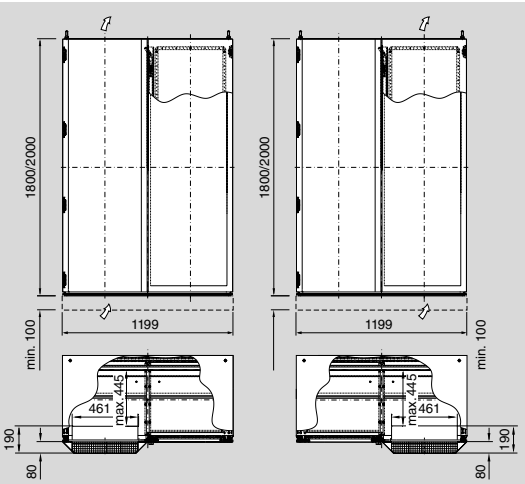
KTS climate controlled enclosures, double door version
Enclosure, side door and the lock system match that of the TS 8 Top Enclosure System. By integrating the air conditioner into the enclosure door, there is no assembly work required, and the work of cutting out the air inlet and outlet openings is eliminated. Multiple benefits are provided including an attractive purchasing price, minimal assembly work, and effective cooling.

Technical description:
- Suitable for baying with all 24″/600 mm wide and 71″/1800 mm or 79″/2000 mm high TS enclosures.
- The air conditioner is easily and quickly removed and re-installed for servicing purposes.
- The solid front protects against dirt and damage.
- Large distance between air intake and air return for the internal air cycle, see page 462.

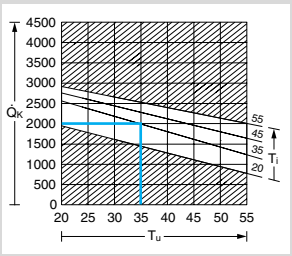
Configuration:
Enclosure frame with rear wall, roof and air conditioning door, painted; pre-installed air conditioner is included. 4 eyebolts, installed; mounting panel, three-part gland panels, depth rails for transportation braces.

Certifications for all climate controlled enclosures, see pages 452/453.

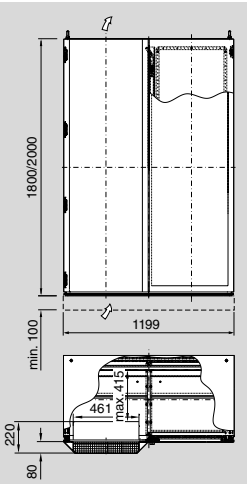
Performance diagrams for 60 Hz units see pages 502/503.



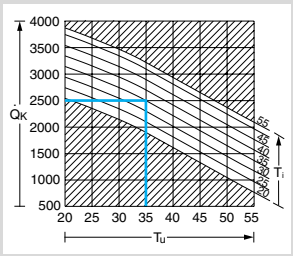
Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)



Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. KTS		**8287.170**	**8807.180**	**8207.170**	**8207.180**	**8807.260**	**8807.250**
Rated voltage Volt/Hz*		230/50/60				400/50/60, 3~	
Dimensions inches/mm	H W D	71/1800 47/1200 28/ 700		79/2000 47/1200 28/ 700		71/1800 47/1200 28/ 700	79/2000 47/1200 28/ 700
Bayable with TS in inches/mm	D	24/600				24/600	
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**6825/6860 BTU** **4850/5630 BTU**				**8330/8700 BTU** **5630/5970 BTU**	
Rated current maximum		5.8 A/ 6.3 A				3.0 A/ 3.2 A	
Starting current		12.0 A/14.0 A				14.0 A/16.0 A	
Pre-fuse T		16.0 A/16.0 A				6.0 A/ 6.0 A	
Power consumption P_{el} to DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	960 W/1070 W 1030 W/1180 W				1330 W/1640 W 1580 W/2000 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.1				1.9	
Refrigerant		R134 a, 925 g				R134 a, 975 g	
Maximum allowable operating pressure		406 psi/28 bar				406 psi/28 bar	
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C				68 °F to 131 °F/+ 20 °C to + 55 °C	
Protection ratings to EN 60 529/10.91		exterior cycle NEMA 2/IP 24; interior cycle NEMA 12/IP 54				exterior cycle NEMA 2/IP 24; interior cycle NEMA 12/IP 54	
Duty cycle		100%				100%	
Type of connection		terminal block				terminal block	
Location of unit		right	left	right	left	left	
Weight		509.3 lbs/231 kg		542.4 lbs/246 kg		509.3 lbs/231 kg	542.4 lbs/246 kg
Color		RAL 7032				RAL 7032	
Air displacement (unimpeded air flow)	exterior cycle	371 cfm/630 m^3/h				412 cfm/700 m^3/h	
	interior cycle	306 cfm/520 m^3/h				365 cfm/620 m^3/h	
Temperature control		internal thermostat (range 68 °F to 131 °F/+ 20 °C to + 55 °C)				internal thermostat (range 68 °F to 131 °F/+ 20 °C to + 55 °C)	

A base/plinth of at least 4″/100 mm is required for the proper functioning of the exterior air cycle.
* 115 V/460 V voltages available upon request. Specifications subject to change.

! Additional parts needed:	PU					Page
Plinth components KTS, 4″/100 mm, front/rear	1 set	8601.200			8601.200	880
Plinth trim pieces KTS, 4″/100 mm, sides	1 set	8601.060			8601.060	880
Side walls for KTS	2	8186.200	8106.200		8186.200	8106.200	902

Useful cooling capacity 6860/8700 BTU; 2010/2550 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity	6860 BTU/2010 W				8700 BTU/2550 W	
Enclosure height (inches/mm)	71/1800		79/2000		71/1800	79/2000
Voltage	230 V				400 V, 3~	
Air conditioning door location	right	left	right	left	left	left
Thermostat control	●	●	●	●	●	●
Part No. KTS	**8287.170**	**8807.180**	**8207.170**	**8207.180**	**8807.260**	**8807.250**

Additional parts needed:

Plinth, 4″/100 mm or 8″/200 mm high, see pages 878 – 880.

Optional microcontroller:

With digital temperature display, potential free contact for collective fault signal and connection for door operated switch to delay start-up.

Additional accessories:

TS 8 internal fan panel, enclosure interior fan, see page 552.

Metal filter, see page 567.

Door switch, see page 573.

Floor bolts, see page 886.

Comfort handle for KTS, see page 936.

The air for the exterior cycle is pulled in at the bottom of the door. Therefore a 4″/100 mm high plinth is required.

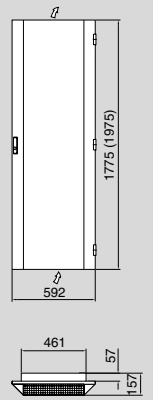
Air conditioning doors for retrofitting
The lock system matches that of the TS 8 Top Enclosure System. By integrating the air conditioner into the enclosure door, there is no assembly work required, and the work of cutting out the air intake and outlet openings is eliminated. Multiple benefits are provided, including an attractive purchasing price, minimal assembly work and effective cooling.

Technical description:
- Suitable for all 24″/600 mm or 32″/800 mm wide and 71″/1800 mm or 79″/2000 mm high TS enclosures.
- The air conditioner is easily and quickly removed and reinstalled for servicing.
- The solid front protects against dirt and damages.
- Large distance between the air supply and air return.

Configuration:
Air conditioning unit with pre-installed cooling unit, includes hinges and multi-lingual assembly instructions.

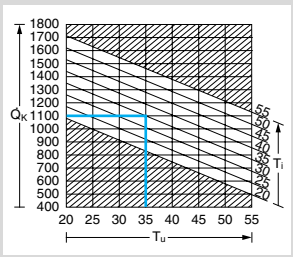
Certification for all air conditioning doors, see pages 452/453.

Performance diagrams for 60 Hz units see pages 502/503.

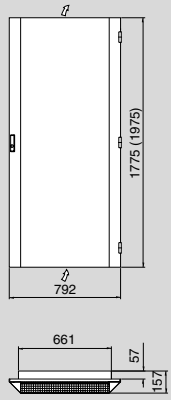


Internal air cycle
see page 454

Performance diagram (DIN 3168) (50 Hz)

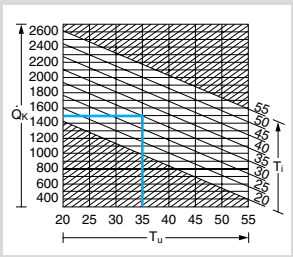


T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)



Internal air cycle
see page 456

Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK for TS enclosures		**3306.880**	**3306.800**	**3306.884**	**3306.840**
Rated voltage Volt/Hz*		230/50/60		400/50/60, 2~	
Dimensions in inches/mm for TS enclosures	H W	71/1800 24/ 600	79/2000 24/ 600	71/1800 24/ 600	79/2000 24/ 600
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient**	**3750/4260 BTU 2800/3400 BTU**			
Rated current maximum		3.2 A/ 3.8 A		1.9 A/2.2 A	
Starting current		11.0 A/12.0 A		6.3 A/6.9 A	
Pre-fuse T		10.0 A/10.0 A		6.0 A/6.0 A	
Power consumption P_{el} per DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	525 W/630 W 605 W/725 W		540 W/650 W 625 W/750 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.1			
Refrigerant		R134 a, 24 oz/675 g			
Maximum allowable operating pressure		335 psi/23 bar			
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C			
Protection ratings per EN 60 529/10.91		ext. cycle NEMA 2/IP 24; int. NEMA 12/IP 54			
Duty cycle		100%			
Type of connection		terminal block			
Weight		128 lbs/ 58 kg	132 lbs/ 60 kg	134 lbs/ 61 kg	139 lbs/ 63 kg
Color		RAL 7032			
Air displacement (unimpeded air flow)	exterior cycle	340 cfm/580 m³/h			
	interior cycle	250 cfm/420 m³/h			
Temperature control		built-in thermostat range 68 °F to 131 °F/+ 20 °C to + 55 °C			

Part No. SK for TS enclosures		**3308.880**	**3308.800**	**3308.884**	**3308.840**
Rated voltage Volt/Hz*		230/50/60		400/50/60, 2~	
Dimensions in inches/mm for TS enclosures	H W	71/1800 32/ 800	79/2000 32/ 800	71/1800 32/ 800	79/2000 32/ 800
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient**	**5120/5150 BTU 3630/4250 BTU**			
Rated current maximum		4.0 A/ 4.5 A		2.3 A/2.6 A	
Starting current		9.0 A/10.0 A		5.2 A/5.7 A	
Pre-fuse T		10.0 A/10.0 A		6.0 A/6.0 A	
Power consumption P_{el} per DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	650 W/750 W 750 W/850 W		670 W/780 W 780 W/880 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.3			
Refrigerant		R134 a, 25 oz/700 g			
Maximum allowable operating pressure		335 psi/23 bar			
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C			
Protection ratings per EN 60 529/10.91		ext. cycle NEMA 2/IP 24; int. NEMA 12/IP 54			
Duty cycle		100%			
Type of connection		terminal block			
Weight		143 lbs/ 65 kg	148 lbs/ 67 kg	150 lbs/ 68 kg	154 lbs/ 70 kg
Color		RAL 7032			
Air displacement (unimpeded air flow)	exterior cycle	350 cfm/600 m³/h			
	interior cycle	280 cfm/480 m³/h			
Temperature control		built-in thermostat range 68 °F to 131 °F/+ 20 °C to + 55 °C			

A base/plinth of at least 4″/100 mm is required for the proper functioning of the exterior air cycle.
* 115 V/460 V voltages available upon request. Specifications subject to change.

Accessories	PU			Page
Metal filter	1	3284.200	3288.200	567
Door switch	1	4127.000	4127.000	573
Digital temperature display	1	3114.100	3114.100	570
Air diverter	1	3213.300	3213.300	565

Useful cooling capacity 4260/5150 BTU; 1250/1510 W

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity	4260 BTU/1250 W				5150 BTU/1510 W			
Height (inches/mm)	71/1800	79/2000	71/1800	79/2000	71/1800	79/2000	71/1800	79/2000
Voltage	230 V		400 V, 2~		230 V		400 V, 2~	
Thermostat control	●	●	●	●	●	●	●	●
Part No. SK for TS	**3306.880**	**3306.800**	**3306.884**	**3306.840**	**3308.880**	**3308.800**	**3308.884**	**3308.840**

Additional parts needed:

Plinth, 4″/100 mm or 8″/200 mm high, see pages 878 – 880.

Optional microcontroller:

With digital temperature display, potential free contact for collective fault signal and connection for door operated switch for delay start-up.

Additional accessories:

Comfort handle for TS, see page 936.

Note:
Single doors will not fit on double door enclosures.

Adjustable hinging may be changed from right hinged to left hinged.

The air conditioning door can easily be installed into already existing bayed TS enclosure arrangements.

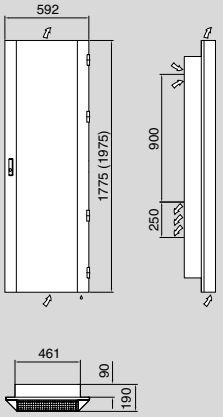
Air conditioning doors for on-site installation
The locking systems match those of the TS 8 Top Enclosure System. By integrating the air conditioner into the enclosure door, there is no assembly work required, and the work of cutting out air intake and outlet openings is eliminated. Multiple benefits: an attractive purchasing price, minimal assembly work and effective cooling.

Technical description:
- Suitable for all 24″/600 mm wide and 71″/1800 mm or 79″/2000 mm high TS enclosures.
- The air conditioner is easily and quickly removed and reinstalled for servicing.
- The solid front protects against dirt and damage.
- Large distance between the air supply and air return.

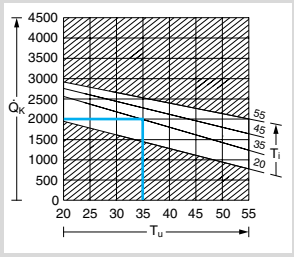
Configuration:
Air conditioning door chassis with pre-installed air conditioner unit, including hinges and multi-lingual assembly instructions.

Certifications for all air conditioning doors, see pages 452/453.

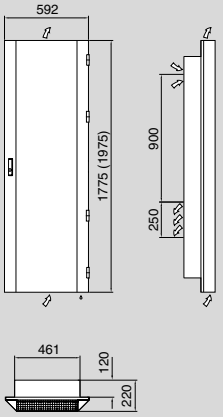
Performance diagram for 60 Hz units see pages 502/503.



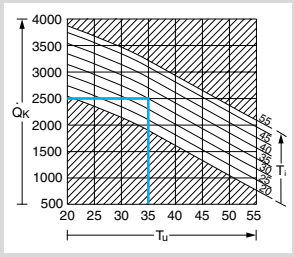
Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)



Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK for TS enclosures		**3309.880**	**3309.800**	**3309.884**	**3309.840**	**3310.880**	**3310.800**
Rated voltage Volt/Hz*		230/50/60		400/50/60, 2~		400/50/60, 3~	
Dimensions suitable for all TS/PS enclosures in inches/mm	H W	71/1800 24/ 600	79/2000 24/ 600	71/1800 24/ 600	79/2000 24/ 600	71/1800 24/ 600	79/2000 24/ 600
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**6825/6860 BTU** **4850/5630 BTU**				**8530/8700 BTU** **5610/5450 BTU**	
Rated current maximum		5.8 A/ 6.3 A		3.4 A/ 3.6 A		3.0 A/3.2 A	
Starting current		2.0 A/14.0 A		6.9 A/ 8.1 A		14.0 A/6.0 A	
Pre-fuse T		16.0 A/16.0 A		10.0 A/10.0 A		6.0 A/6.0 A	
Power consumption P_{el} per DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	960/1070 W 1030/1180 W		985/1100 W 1055/1210 W		1330/1640 W 1580/2000 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.1				1.9	
Refrigerant		R134 a, 33 oz/925 g				R134 a, 34 oz/975 g	
Maximum allowable operating pressure		406 psi/28 bar				406 psi/28 bar	
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C				68 °F to 131 °F/+ 20 °C to + 55 °C	
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 24; interior cycle NEMA 12/IP 54				exterior cycle NEMA 2/IP 24; interior cycle NEMA 12/IP 54	
Duty cycle		100%				100%	
Type of connection		terminal block				terminal block	
Weight		159 lbs/72 kg	163 lbs/74 kg	165 lbs/75 kg	170 lbs/77 kg	163 lbs/74 kg	168 lbs/76 kg
Color		RAL 7032				RAL 7032	
Air displacement (unimpeded air flow)	exterior cycle	370 cfm/630 m^3/h				410 cfm/700 m^3/h	
	interior cycle	305 cfm/520 m^3/h				365 cfm/620 m^3/h	
Temperature control		built-in thermostat range 68 °F to 131 °F/+ 20 °C to + 55 °C				built-in thermostat, range 68 °F to 131 °F/+ 20 °C to + 55 °C	

A base/plinth of at least 4″/100 mm is required for the proper functioning of the exterior air cycle.
* 115 V/460 V voltages available upon request. Specifications subject to change.

Accessories	PU			Page
Metal filter	1	3284.200	3284.200	567
Door switch	1	4127.000	4127.000	573
Digital temperature display	1	3114.100	3114.100	570

Useful cooling capacity 6860/8700 BTU; 2010/2550 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity	6860 BTU/2010 W				8700 BTU/2550 W	
Height in inches/mm	71/1800	79/2000	71/1800	79/2000	71/1800	79/2000
Voltage	230 V		400 V, 2~		400 V, 3~	
Thermostat control	●	●	●	●	●	●
Part No. SK for TS	**3309.880**	**3309.800**	**3309.884**	**3309.840**	**3310.880**	**3310.800**

Additional parts needed:

Plinth, 4″/100 mm or 8″/200 mm high, see pages 878 – 880.

Optional microcontroller:

With digital temperature display, potential free contact for collective fault signal and connection for door operated switch to delay start-up.

Additional accessories:

Comfort handle for TS, see page 936.

Note:
Single air conditioning doors will not fit into double door enclosures.

The air conditioner that was specifically designed for this application…

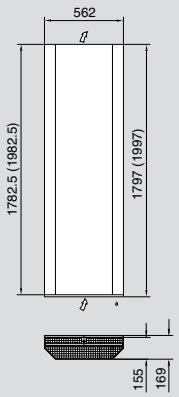
…is pre-configured and integrated into the recess of the designer air conditioning door.

Air conditioning side walls
The installation is the same as a TS 8 Top Enclosure System side wall. By integrating the air conditioner into the enclosure side wall, there is no assembly work required. Air intake and outlet cut outs are eliminated. Multiple benefits: an attractive purchase price, minimal assembly work and effective cooling.

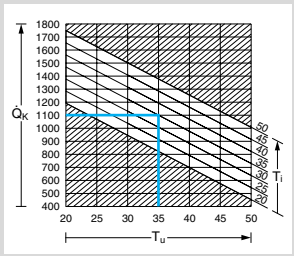
Technical description:
- Suitable for all 24″/600 mm wide and 71″/1800 mm or 79″/2000 mm high TS enclosures.
- The air conditioner is easily and quickly removed and reinstalled for servicing.
- The solid front protects against dirt and damage.

Configuration:
Air conditioning side walls with pre-installed air conditioner unit, including multi-lingual assembly instructions.

Certifications for all air conditioning doors, see pages 452/453.

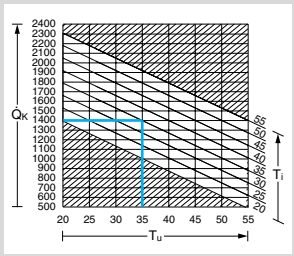


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagrams for 60 Hz units see pages 502/503.

Part No. SK for TS enclosures		**3331.116**	**3331.316**	**3331.140**	**3331.340**
Rated voltage Volt/Hz*		230/50/60		400/50/60, 2~	
Dimensions suitable for all TS enclosures in inches/mm	H D	71/1800 24/ 600	79/2000 24/ 600	71/1800 24/ 600	79/2000 24/ 600
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**3750/4095 BTU** **2490/2830 BTU**			
Rated current maximum		4.0 A/ 4.6 A		2.3 A/2.7 A	
Starting current		11.0 A/12.0 A		6.4 A/6.9 A	
Pre-fuse T		6.0 A/ 6.0 A		5.4 A	
Power consumption P_{el} per DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	670 W/ 850 W 800 W/1000 W		680 W/ 870 W 820 W/1025 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	1.6			
Refrigerant		R134 a, 29 oz/825 g			
Maximum allowable operating pressure		377 psi/26 bar		363 psi/25 bar	
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C			
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 24; interior cycle NEMA 12/IP 54			
Duty cycle		100%			
Type of connection		terminal block			
Weight		128 lbs/58 kg		137 lbs/62 kg	
Color		RAL 7032			
Air displacement (unimpeded air flow)	exterior cycle	325 cfm/550 m^3/h			
	interior cycle	160 cfm/275 m^3/h			
Temperature control		built-in thermostat, range 68 °F to 131 °F/+ 20 °C to + 55 °C			

Part No. SK for TS enclosures		**3331.216**	**3331.416**	**3331.240**	**3331.440**
Rated voltage Volt/Hz*		230/50/60		400/50/60, 2~	
Dimensions suitable for all TS enclosures in inches/mm	H D	71/1800 24/ 600	79/2000 24/ 600	71/1800 24/ 600	79/2000 24/ 600
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**4780/4950 BTU** **3450/3620 BTU**			
Rated current maximum		4.0 A/ 4.6 A		2.3 A/2.7 A	
Starting current		11.0 A/12.0 A		6.4 A/6.9 A	
Pre-fuse T		6.0 A/ 6.0 A			
Power consumption P_{el} per DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	710 W/ 910 W 810 W/1030 W		725 W/ 930 W 830 W/1050 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.0		1.9	
Refrigerant		R134 a, 31 oz/875 g			
Maximum allowable operating pressure		348 psi/24 bar			
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C			
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 24; interior cycle NEMA 12/IP 54			
Duty cycle		100%			
Type of connection		terminal block			
Weight		128 lbs/58 kg		137 lbs/62 kg	
Color		RAL 7032			
Air displacement (unimpeded air flow)	exterior cycle	325 cfm/550 m^3/h			
	interior cycle	160 cfm/275 m^3/h			
Temperature control		built-in thermostat, range 68 °F to 131 °F/+ 20 °C to + 55 °C			

A base/plinth of at least 4″/100 mm is required for the proper functioning of the exterior air cycle.
* 115 V/460 V voltages available upon request. Specifications subject to change.

Accessories	PU		Page
Metal filter	1	3289.200	567
Door switch	1	4127.000	573
Digital temperature display	1	3114.100	570
Air diverter	1	3213.300	565

Useful cooling capacity 4095/4950 BTU; 1200/1450 W

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity	4095 BTU/1200 W				4950 BTU/1450 W			
Height (inches/mm)	71/1800	79/2000	71/1800	79/2000	71/1800	79/2000	71/1800	79/2000
Voltage	230 V		400 V, 2~		230 V		400 V, 2~	
Thermostat control	●	●	●	●	●	●	●	●
Part No. SK for TS	**3331.116**	**3331.316**	**3331.140**	**3331.340**	**3331.216**	**3331.416**	**3331.240**	**3331.440**

Additional parts needed:

Plinth, 4″/100 mm or
8″/200 mm high,
see pages 878 – 880.

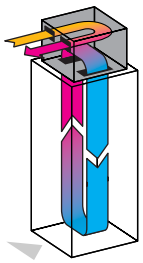
Optional microcontroller:

With digital temperature display, potential free contact for collective fault signal and connection for door operated switch to delay start-up.

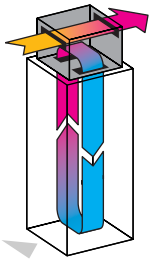
Installation of the air conditioning side wall is simple with our modular concept.

Solutions
Roofmount mini air conditioners have been especially developed for the dissipation of smaller heat loads. Roofmount air conditioners with air flow from front to rear need a distance of 8″/200 mm from the wall to function properly.

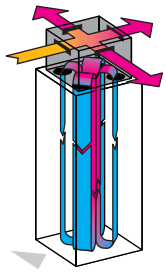
Roofmount mini air conditioners



Roofmount air conditioners



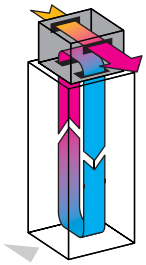
Roofmount air conditioners



Useful cooling capacity		1300 BTU		2950 BTU				2950 BTU	N/A	
Dimensions in inches/mm	H W D	13.4/340 24 /600 13.8/348		13.4/340 24 /600 13.8/348				13.4/340 24 /600 13.8/348	16/415 24/598 20/510	
Voltage		115 V	230 V	115 V	115 V	230 V		460 V, 2~	115/230 V	
Part No. SK with thermostat		**3266.100**	**3265.100**	**3272.100**		**3296.100**		**3296.146**	**N/A**	
Part No. SK with microcontroller					**3272.500**		**3296.500**		**N/A**	
Pages		468/469		470/471				470/471	472/473	
Certifications										
UL		●	●	●	●	●	●		**NOT**	
CUL		●	●	●	●	●	●		**AVAILABLE**	
DIN									**IN THE**	
GS		●		●					**U.S.A.**	
CE-Conformity		●	●	●	●	●	●	●		

Even more options
If the air flow is from right to left, additional space from the wall will not be necessary.

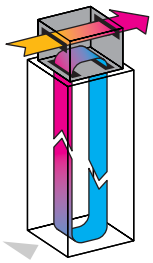
Roofmount air conditioners



Useful cooling capacity		7030 BTU					
Dimensions in inches/mm	H W D	17.9/454 24 /600 18.1/460					
Voltage		115 V	230 V		400 V, 2~	460 V, 2~	
Part No. SK with thermostat		**3256.115**	**3256.100**			**3256.146**	
Part No. SK with microcontroller				**3256.500**	**3256.540**		
Pages		476/477					
Certifications							
UL			●	●	●		
CUL			●	●	●		
DIN			●	●			
GS			●	●			
CE-Conformity			●	●	●	●	

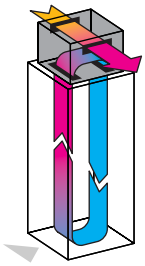
Certification status is current at time of printing.

Roofmount air conditioners



	2950 BTU		4800 BTU						
	13.4/340 24 /600 13.8/348		15.7/400 24 /600 13.4/340						
	400 V, 2~	460 V, 2~	115 V		230 V		400 V, 2~		460 V, 2~
		3296.146	**3280.100**		**3290.100**		**3290.140**		**3290.146**
	3296.540			**3280.500**		**3290.500**		**3290.540**	
	470/471		474/475						
			●	●	●	●			
			●	●	●	●			
					●	●			
			●		●	●			
	●	●	●	●	●	●	●	●	●

Roofmount air conditioners



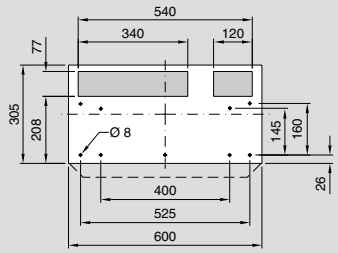
	9550 BTU			
	27.6/700 15.7/400 24 /600			
	400 V, 3~		460 V, 3~	
	3299.140		**3261.140**	
		3299.500		**3261.500**
	478/479			
		●		●
	●	●	●	●

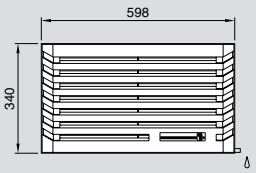
Mini air conditioners were especially developed for small enclosures but can also be used in larger enclosures with low heat dissipation requirements. They are available in compact roof-mount and powerful wallmount versions.

Technical description:
- Useful cooling capacity 1300 BTU/380 W per DIN 3168 L35 L35.
- Standard: built-in thermostat.
- Ambient air intake and outlet in the front.

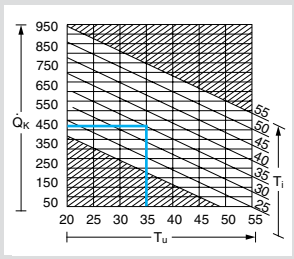
Configuration:
Ready for installation, mounting template, installation hardware and multi-lingual installation manual.

Installation cutouts



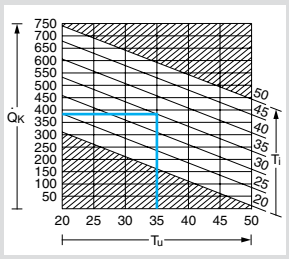


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3265) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3265.100**	**3266.100**
Rated voltage Volt/Hz*		230/50/60	115/50/60
Dimensions in inches/mm with louvered grille	H W D	13.4/340 23.6/600 13.7/348	
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**1400/1300 BTU / 410/380 W** **785/820 BTU / 230/240 W**	**1400/1300 BTU / 410/380 W** **785/820 BTU / 230/240 W**
Rated current maximum		2.2 A/2.5 A	4.5 A/ 5.2 A
Starting current		6.6 A/7.2 A	13.5 A/13.5 A
Pre-fuse T		6.0 A/6.0 A	
Power consumption P_{el} per DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	310 W/440 W 350 W/450 W	325 W/450 W 365 W/490 W
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	1.4/0.9	1.2/0.8
Refrigerant		R134 a, 11.5 oz/325 g	
Maximum pressure		350/24 bar	
Temperature range		68 °F to 122 °F/+ 20 °C to + 50 °C	
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 24; interior cycle NEMA 12/IP 54	
Duty cycle		100%	
Type of connection		terminal block	
Weight		57 lbs/26 kg	64 lbs/29 kg
Color		RAL 7032	
Air displacement (unimpeded air flow)	exterior cycle	145 cfm/243 m³/h	
	interior cycle	145 cfm/243 m³/h	
Temperature control		built-in thermostat – factory setting 95 °F/+ 35 °C	

* Special voltages available on request. Specifications subject to change.

Accessories	PU			Page
Foam filter	3	3267.100		567
Metal filter	1	upon request		567
Door switch	1	4127.000		573
Digital temperature display	1	3114.100	3114.115	570
10′ power cord	1	9965837	9962136	571

Mini air conditioners, useful cooling capacity 1300 BTU/380 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		1300 BTU/380 W	
Dimensions (inches/mm)	H W D	13.4/340 23.6/600 13.7/348	
Voltage		115 V	230 V
Thermostat		●	●
Part No. SK		**3266.100**	**3265.100**

Standard approvals for all mini air conditioners, see pages 466/467.

Perfect use for low heat loss applications and limited space at the installation site.

Space saving climate control solution for small as well as large enclosures.

These energy efficient, low noise air conditioners feature an extremely high cooling coefficient, resulting in energy savings and environmentally friendly operation. Low air speed in the external cycle keeps noise to a minimum.

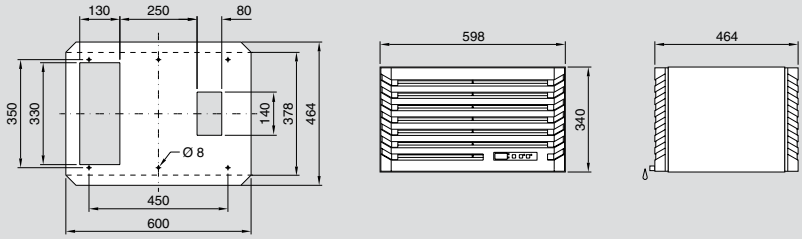
Technical description:

- Useful cooling capacity of 2950 BTU/ 860 W per DIN 3168 L35 L35.
- Low noise level through low air speed in external cycle.
- Basic models offer temperature control with built-in thermostat (Part No. . . . . .100 / .140).
- Convenient microcontroller model offers electronic temperature regulation. Membrane switch keyboard keeps dirt out (Part No. . . . . .500 / .540).
- The ambient air flow, from front to back, makes these air conditioners especially suitable for rows of bayed enclosures.
- Low installation height of 13.39″/340 mm.

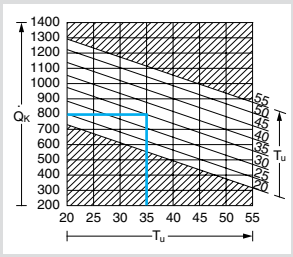
Configuration:

Ready for connection with mounting template, transportation eyebolts, gasket, installation hardware, and multi-lingual instruction manual.

Installation cutout

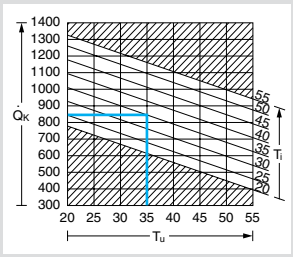


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3272.100**	**3272.500**	**3296.100**	**3296.500**	**3296.146**	**3296.540**
Rated voltage Volt/Hz*		115/50/60		230/50/60		460/50/60, 2~	400/50/60, 2~
Dimensions in inches and mm without louvered grille	H W D	13.39/340 23.62/600 14.88/378					
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**2750/2950 BTU / 800/860 W** **2100/2350 BTU / 615/685 W**					
Rated current maximum		6.3 A/ 6.6 A		3.2 A/ 3.9 A		1.9 A/2.3 A	
Starting current		18.2 A/20.7 A		11.4 A/11.0 A		6.6 A/6.3 A	
Pre-fuse T		10.0 A/10.0 A		6.0 A/ 6.0 A		4.0 A/4.0 A	
Power consumption P_{el} per DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	345 W/450 W 415 W/545 W		330 W/430 W 390 W/525 W		45 W/450 W 415 W/545 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.3/1.9		2.4/2.0		2.3/1.9	
Refrigerant		R134 a, 25 oz/750 g					
Maximum pressure		363 psi/25 bar					
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C					
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 34; interior cycle NEMA 12/13/IP 54					
Duty cycle		100%					
Type of connection		terminal block					
Weight		90 lbs/41 kg		84 lbs/38 kg		90 lbs/41 kg	
Color		RAL 7032					
Air displacement (unimpeded air flow)	exterior cycle	535/615 cfm / 910 m^3/h/1045 m^3/h					
	interior cycle	100/110 cfm / 171 m^3/h/ 185 m^3/h					
Temperature control setting range: 68 °F to 131 °F/+ 20 °C to + 55 °C factory setting: 95 °F/+ 35 °C		thermostat	microcontroller	thermostat	microcontroller	thermostat	microcontroller

* Special voltages available on request. Specifications subject to change.

Accessories	PU							Page
Foam filter	3	3286.100						567
Metal filter	1	3286.210						567
Quick change frame	1	3289.100						564
Door switch for PS	1	4127.000						573
Digital temperature display	1	3114.115	–	3114.100	–	3114.100	–	570
BUS system	1	–	3124.000	–	3124.000	–	3124.000	573
10′ power cord	1	9962136	9962136	9965837	9965837	–	–	571

Useful cooling capacity 2950 BTU/860 W

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		2950 BTU/860 W					
Dimensions (inches/mm)	H W D	13.39/340 23.62/600 14.88/378					
Voltage		115 V		230 V		460 V, 2~	400 V, 2~
Thermostat		●		●	–	●	–
Microcontroller		–	●	–	●	–	●
Part No. SK		**3272.100**	**3272.500**	**3296.100**	**3296.500**	**3296.146**	**3296.540**

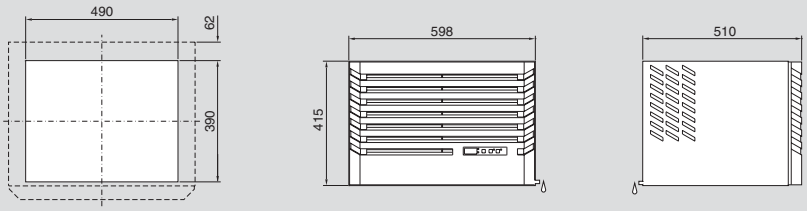
See pages 466/467 for standard approvals for all roofmount air conditioners.

Optimal use for bayed enclosure systems and more than one cooling unit via our BUS system.

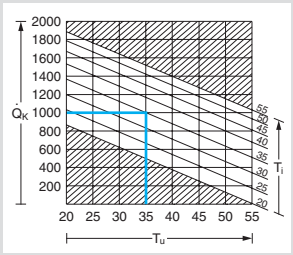
Easy access to the air conditioning components with our removable louver grille.

NOT AVAILABLE IN THE U.S.A.

Installation cutout

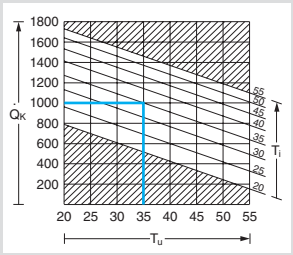


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**N/A**	**N/A**
Rated voltage Volt/Hz*		115/230 V	
Dimensions (inches/mm) with louvered grille	H W D	16/415 24/598 20/510	
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient**	**N/A**	
Refrigerant		R 134 a	
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C	
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 34; interior cycle NEMA 12/13/IP 54	
Type of connection		terminal block	
Color		RAL 7035	
Temperature control		Electronic temperature control via built-in microcontroller offers monitoring and collective fault signal Temperature range: 68 °F to 131 °F/+ 20 °C to + 55 °C (factory setting: 95°F/+ 35 °C)	

* Special voltages are available upon request. Specifications subject to change.

Accessories	PU		Page
Door switch	1	4127.000	573
BUS system	1	3124.000	573

For PS and TS enclosures

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

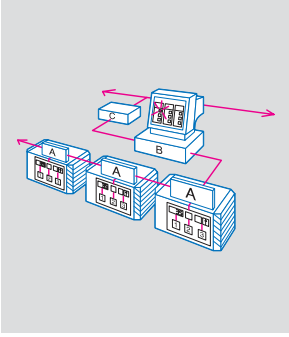
Useful cooling capacity		N/A	
Dimensions (inches/ mm)	H W D	16/400 24/598 20/510	
Voltage		115 V	230 V
Microcontroller		●	●
Part No. SK		**N/A**	**N/A**

Not available in the U.S.A.

Accessories:

Roof plate for air conditioners, see page 960.

See pages 466/467 for certifications of all roofmount air conditioners.



Optimal use of the BUS system for bayed enclosure configurations.

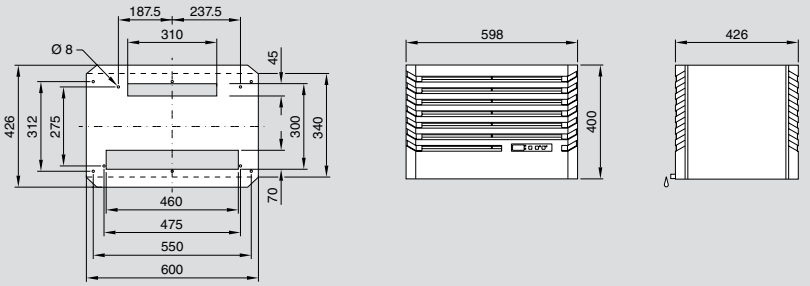
Especially designed for installation on interconnected enclosures, these Design Series air conditioners with high useful cooling capacity are ideal when available space is restricted.

Technical description:

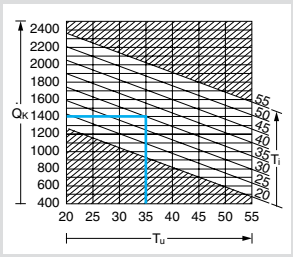
- Useful cooling capacity of 4800 BTU/ 1400 W per DIN 3168 L35 L35.
- These air conditioners can be installed on both freestanding and interconnected enclosures from: 24″ x 16″/600 mm W x 400 mm D.
- The ambient air flow – from front to back – makes these air conditioners especially suitable for rows of interconnected enclosures.
- Basic model offers temperature control through built-in thermostat (Part No. . . . . .100 / .140).
- Convenient microcontroller model offers electronic temperature regulation (Part No. . . . . .500 / .540).

Configuration:
Ready for connection with mounting template, transportation eyebolts, gasket, installation hardware, and multi-lingual instruction manual.

Installation cutouts

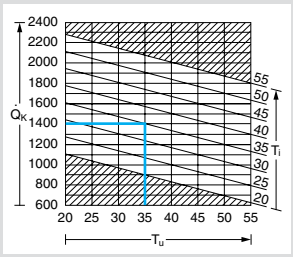


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3280.100**	**3280.500**	**3290.100**	**3290.500**	**3290.146**	**3290.540**
Rated Voltage Volt/Hz*		115/50/60		230/50/60		460/50/60, 2~	400/50/60, 2~
Dimensions in inches and mm without louvered grille	H W D	16/400 24/600 15/340					
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**4800 BTU / 1400 W** **3550/4100 BTU / 1040/1200 W**					
Rated current maximum		10.5 A/12.8 A		5.3 A/ 6.0 A		3.1 A/3.5 A	
Starting current		24.6 A/28.7 A		16.6 A/15.5 A		9.6 A/8.9 A	
Pre-fuse T		16.0 A/16.0 A		6.0 A/10.0 A		6.0 A/6.0 A	
Power consumption P_{el} per DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	740 W/825 W 860 W/940 W		710 W/800 W 840 W/920 W		740 W/825 W 860 W/940 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.0/1.9		2.0/2.0		2.0/1.9	
Refrigerant		R134 a, 27.4 oz/950 g					
Maximum pressure		363 psi/25 bar					
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C					
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 34; interior cycle NEMA 12/13/IP 54					
Duty cycle		100%					
Type of connection		terminal block					
Weight		110 lbs/50 kg		97 lbs/44 kg		110 lbs/50 kg	
Color		RAL 7032					
Air displacement (unimpeded air flow)	exterior cycle interior cycle	2 x 535/555 cfm / 2 x 910 m^3/h /940 m^3/h 129/131 cfm / 220/222 m^3/h					
Temperature control: Settings range: 68 °F to 131 °F/+ 20 °C to + 55 °C Factory setting: 95 °F/+ 35 °C		thermostat	microcontroller	thermostat	microcontroller	thermostat	microcontroller

* Special voltages available on request. Specifications subject to change.

Accessories	PU							Page
Foam filter	3	3286.100						567
Metal filter	1	3286.210						567
Quick change frame	1	3282.100						564
Door switch	1	–	4127.000	4127.000	4127.000	–	–	573
Digital temperature display	1	3114.115	–	3114.110	–	3114.115	–	570
BUS system	1	–	3124.000	–	3124.000	–	3124.000	573
10′ power cord	1	–	–	9965837	9965837	–	–	571

Useful cooling capacity 4800 BTU/1400 W

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		4800 BTU/1400 W					
Dimensions (inches/mm)	H W D	15.75/400 23.62/600 13.39/340					
Voltage		115 V		230 V		460 V, 2~	400 V, 2~
Thermostat		●		●	–	●	–
Microcontroller		–	●	–	●	–	●
Part No. SK		**3280.100**	**3280.500**	**3290.100**	**3290.500**	**3290.146**	**3290.540**

See pages 466/467 for standard approvals for all roofmount air conditioners.

Roofmount air conditioners accessorized with quick change and dust collection frame.

These air conditioners are, among other uses, especially suitable for rows of interconnected enclosures.

These high performance air conditioners were specifically designed for high heat loss applications.

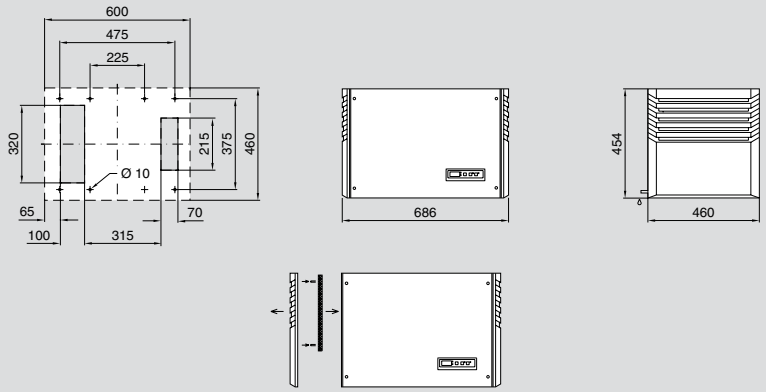
Technical description:

- High performance air conditioner with a useful cooling capacity of 7000/ 7030 BTU or 2050/2060 W per DIN 3168 L35 L35.
- Designed especially for enclosures with a width of at least 32″/800 mm and depth of 24″/600 mm.
- They can be adapted to a 16″/400 mm deep enclosure by using a quick change frame.
- Basic model is equipped with a built-in thermostat for temperature control (Part No. . . . . .100 / .140).
- Convenient microcontroller version to control and monitor the air conditioner (Part No. . . . . .500 / .540).

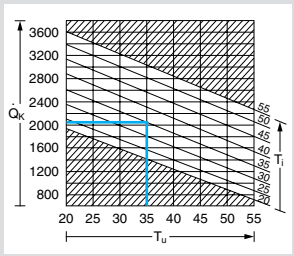
Configuration:

Ready for connection. Mounting template, transportation eyebolts, installation hardware and multi-lingual instructions are included.

Installation cutouts

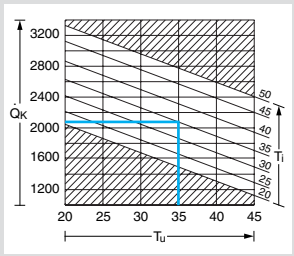


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3256.100**	**3256.115**	**3256.500**	**3256.146**	**3256.540**
Rated voltage Volt/Hz*		230/50/60	115/50/60	230/50/60	460/50/60, 2~	400/50/60, 2~
Dimensions in inches/mm without louvered grille	H W D	18/454 24/600 18/460				
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient**	**7000/7030 BTU / 2050/2060 W 5085 BTU/1490 W**				
Rated current maximum		8.9 A/ 9.8 A	17.8 A/19.6 A	8.9 A/ 9.8 A	5.1 A/ 5.7 A	
Starting current		24.7 A/22.5 A	44.4 A/44.5 A	24.7 A/22.5 A	14.2 A/13.0 A	
Pre-fuse T		10.0 A/10.0 A	20.0 A/24.0 A	10.0 A/10.0 A	10.0 A/10.0 A	
Power consumption P_{el} per DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	1480 W/1480 W 1590 W			1520 W/1520 W 1640 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	1.4			1.3	
Refrigerant		R 134 a, 3.5 oz/980 g				
Maximum pressure		348 psi/24 bar				
Temperature range		68 °F to 131 °F/113 °F / + 20 °C to + 55 °C/+ 45 °C				
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 24; interior cycle NEMA 12/IP 54				
Duty cycle		100%				
Type of connection		terminal block				
Weight		119 lbs/54 kg			130 lbs/59 kg	
Color		RAL 7032				
Air displacement (unimpeded air flow)	exterior cycle	421 cfm/720 m³/h				
	interior cycle	222 cfm/380 m³/h				
Temperature control – settings range: 68 °F to 131 °F/+ 20 °C to + 55 °C factory setting is at 95 °F/+ 35 °C		thermostat	thermostat	microcontroller	thermostat	microcontroller

* Special voltages (115/460 V) are available upon request. Specifications subject to change.

Accessories	PU						Page
Foam filter	3	3254.000					567
Metal filters	1	3254.200					567
Quick change frame	1	3242.100					564
Door switch PS	1	–	–	4127.000	–	–	573
Digital temperature display	1	3114.100	3114.115	–	3114.100	–	570
BUS system	1	–	–	3124.000	–	3124.000	573

Useful cooling capacity 7030 BTU/2060 W

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		7030 BTU/2060 W				
Dimensions (inches/mm)	H W D	18/454 24/600 18/460				
Voltage		115 V	230 V		460 V, 2~	400 V, 2~
Thermostat		●	●	–	●	–
Microcontroller		–	–	●	–	●
Part No. SK		**3256.115**	**3256.100**	**3256.500**	**3256.146**	**3256.540**

See pages 466/467 for certifications of all roofmount air conditioners.

The SK 3256. . . . series of roofmount air conditioners can be installed on a free-standing enclosure…

…or installed on a row of bayed enclosures.

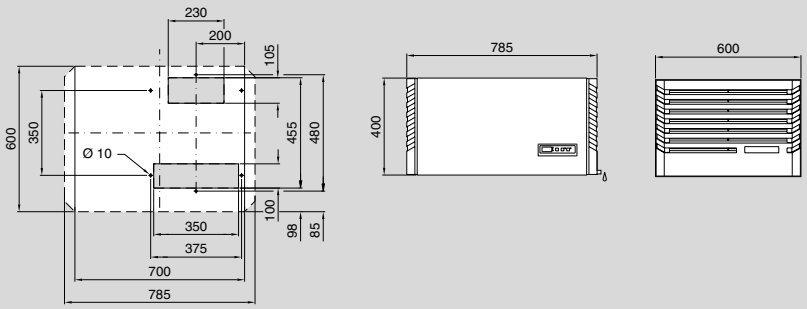
Rittal's high performance air conditioner line was developed to cool high heat loads in enclosures. They are used worldwide in a variety of applications.

Technical description:

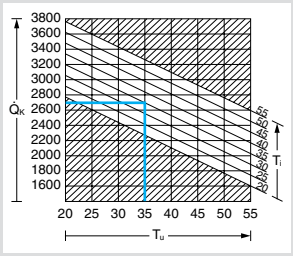
- High performance air conditioners with an output of 9275/9550 BTU or 2700/ 2800 W per DIN 3168 L35 L35.
- Especially suited for enclosures of 32″/800 mm width and 24″/600 mm depth.
- Low operating costs because of extremely high energy efficiency, cooling coefficient ε = 2.4 at L35 L35 (SK 3299.… at 50 Hz).
- With the installation of the optional quick change frame, the unit can be easily and quickly removed and reinstalled.
- Temperature control in the basic model is through a built-in thermostat.
- The convenient microcontroller version has a dirt resistant membrane switch keypad for the control and monitoring of the unit.

Configuration:
Ready for installation. Comes with mounting template, eyebolt, installation hardware and multi-lingual assembly instructions.

Installation cutout

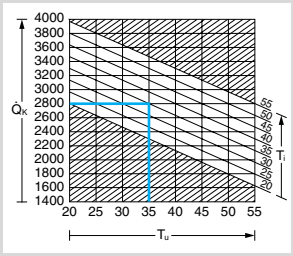


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3299.140**	**3299.500**	**3261.140**	**3261.500**
Rated voltage Volt/Hz*		400/50/60, 3~		460/60, 3~	
Dimensions in inches/mm without louvered grille	H W D	16/400 28/700 24/600		16/400 28/700 24/600	
Useful cooling capacity $\dot{Q}_K$ per DIN 3158	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**9275/9550 BTU / 2700/2800 W** **7500/7850 BTU / 2200/2300 W**		**9550 BTU/2800 W** **8020 BTU/2350 W**	
Rated current maximum		3.0 A/ 3.2 A		2.8 A	
Starting current		15.5 A/15.5 A		14.0 A	
Pre-fuse T		6.0 A/ 6.0 A		6.0 A	
Power consumption P_{el} per DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient	1150 W/1350 W 1400 W/1630 W		1350 W 1600 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.4/2.1		2.1	
Refrigerant		R 134 a, 29 oz/825 g		R 134 a, 29 oz/825 g	
Maximum allowable pressure		348 psi/24 bar		348 psi/24 bar	
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C		68 °F to 131 °F/+ 20 °C to + 55 °C	
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 24; interior cycle NEMA 12/IP 54		exterior cycle NEMA 2/IP 24; interior cycle NEMA 12/IP 54	
Duty cycle		100%		100%	
Type of connection		terminal block		terminal block	
Weight		158 lbs/72 kg		171 lbs/78 kg	
Color		RAL 7032		RAL 7032	
Air displacement (unimpeded air flow)	exterior cycle	618 cfm/1050 m³/h		618 cfm/1050 m³/h	
	interior cycle	412 cfm/ 700 m³/h		412 cfm/ 700 m³/h	
Temperature control – settings range: 68 °F to 131 °F/+ 20 °C to + 55 °C, factory setting 95 °F/+ 35 °C		thermostat	microcontroller	thermostat	microcontroller

* Special voltages are available on request. Specifications subject to change.

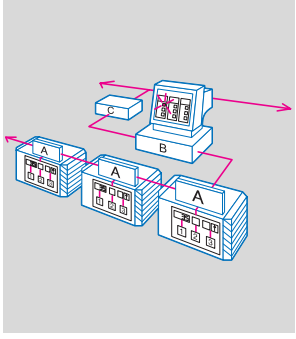
Accessories	PU					Page
Foam filter	3	3286.100		3286.100		567
Metal filter	1	3286.200		3286.200		567
Quick change frame	1	3258.100		3258.100		564
Door switch	1	–	4127.000	–	4127.000	573
Digital temperature display	1	3114.100	–	3114.100	–	570
BUS system	1	–	3124.000	–	3124.000	573

Useful cooling capacity 9550 BTU/2800 W

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		9550 BTU/2800 W			
Dimensions (inches/mm)	H W D	16/400 28/700 24/600			
Voltage		400 V, 3~		460 V, 3~	
Thermostat		●	–	●	–
Microcontroller		–	●	–	●
Part No. SK		**3299.140**	**3299.500**	**3261.140**	**3261.500**

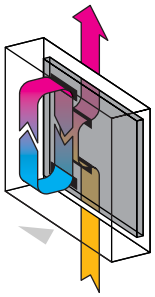
See pages 466/467 for certifications of all roofmount air conditioners.



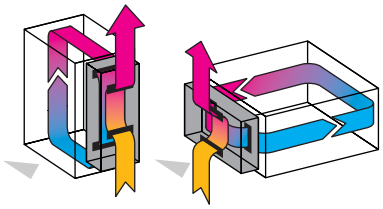
High cooling capacity and the use of our BUS system will provide optimal cooling with bayed enclosure configurations.

The space savers
VIP small air conditioners, micro air conditioners and mini air conditioners are especially designed for the cooling of small enclosures.

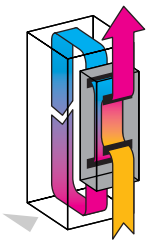
■ VIP small air conditioners



■ Micro air conditioners



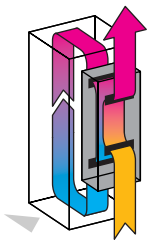
■ Mini air conditioners



Useful cooling capacity		**920 BTU**		**1175 BTU**		**1230 BTU**		**2400 BTU**			
Dimensions in inches/mm	H W D	14 /353.5 21 /526 4.15/105		12/300 20/490 5/120		20.5/520 11 /270 5 /120		25/635 16/400 10/248			
Voltage		230 V		115 V	230 V	115 V	230 V	115 V	230 V	400 V	460 V, 2~
Condensor location		left	right								
Wallmount				horizontal		vertical		vertical			
Part No. SK with thermostat								**3262.100**	**3269.100**	**3269.140**	**3269.146**
Part No. SK with microcontroller											
Part No. SK with electronic control		**3201.100**	**3202.100**	**3206.100**	**3204.100**	**3205.100**	**3203.100**				
Pages		482/483		484/485				486/487			
Certifications											
UL		●	●	●	●	●	●	●	●		
CUL		●	●	●	●	●	●	●	●		
DIN											
GS				●	●	●	●	●			
CE-Conformity		●	●	●	●	●	●	●	●	●	●

High capacity
Rittal offers high capacity air conditioners in 115 V, 230 V, 400 V and 460 V, all in thermostat and microcontroller versions. This provides the user with energy savings possibilities, maximum flexibility and a variety of monitoring and control capabilities.

■ Wallmount air conditioners

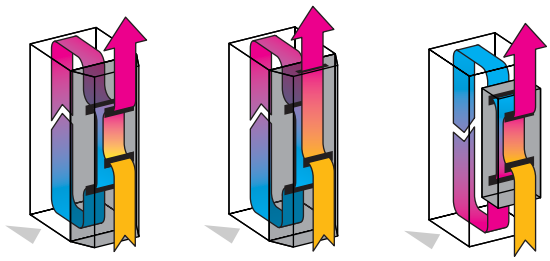


Useful cooling capacity		**7575 BTU**				**9215 BTU**		**9965 BTU**
Dimensions in inches/mm	H W D	62.2/1580 16 / 400 12 / 290				62.2/1580 20 / 500 13.4/ 340		
Voltage		115 V	230 V	400 V	460 V	115 V	230 V	460 V
Part No. SK with thermostat		**3390.115**	**3390.100**	**3390.140**	**3390.146**	**3392.115**	**3392.100**	**3392.146**
Part No. SK with microcontroller		**3390.515**	**3390.500**	**3390.540**	**3390.546**	**3392.515**	**3392.500**	**3392.546**
Pages		494/495						
Certifications								
UL		● **(.115)**	● **(.100)**			● **(.115)**	● **(.100)**	
CUL		● **(.115)**	● **(.100)**			● **(.115)**	● **(.100)**	
DIN								
GS								
CE-Conformity		●	●	●	●	●	●	●

Certification status is current at the time of printing.

Wallmount air conditioners

Highest flexibility
Because of the split chassis construction, three different installation configurations are possible: fully external, partially recessed or fully recessed into the enclosure.



	3300 BTU				3925 BTU				4950 BTU		5560 BTU
	38/950 16/400 9/230								50 /1265 16 / 400 10.25/ 260		
	115 V	230 V	400 V, 2~	460 V, 2~	115 V	230 V	400 V, 2~	460 V, 2~	115 V	230 V	460 V, 3~
	vertical				vertical				vertical		
	3281.100	**3293.100**	**3293.140**	**3293.146**	**3381.100**	**3393.100**	**3393.140**	**3393.146**	**3279.100**	**3298.100**	**3260.146**
	3281.500	**3293.500**	**3293.540**		**3381.500**	**3393.500**	**3393.540**		**3279.500**	**3298.500**	**3260.460**
	488/489				490/491				492/493		
	●	●			●	●			●	●	● (.460)
	●	●			●	●			●	●	● (.460)
		●									
	●	●				●			●		
	●	●	●	●	●	●	●	●	●	●	●

Aesthetically pleasing
The extremely low profile construction of our wallmount air conditioner units is perfectly suited for a fully recessed installation, taking up only minimal space in the enclosure.

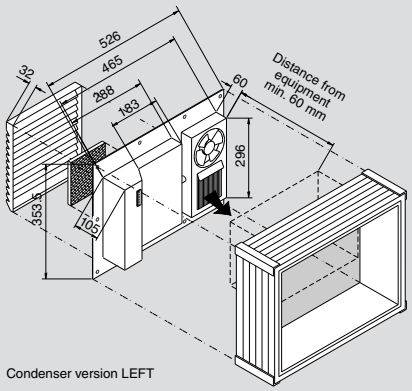
	7100 BTU		13,800 BTU	15,940 BTU			4800 BTU		
	39.4/1000 15.8/ 402 9.3/ 235		62.2/1580 20 / 500 13.4/ 340				62 /1575 18 / 460 5.2/ 132		
	230 V	115 V	230/60	400 V, 3~		460 V, 3~	230 V	230 V	400 V, 2~
	3367.200		**3391.123**	**3391.140**		**3391.146**	**3255.100**	**3395.100**	**3255.140**
		3367.210			**3391.500**	**3391.560**	**3255.500**	**3395.500**	**3255.540**
	500/501		496/497				498/499		
			●		● (.500)		● (.100)	● (.100)	
			●		● (.500)		● (.100)	● (.100)	
							●	●	
					●		●	●	
	●	●	●	●	●	●	●	●	●

The new VIP micro air conditioners were designed for the cooling of the VIP enclosures. The VIP air conditioners also offer a space saving and economical solution for cooling enclosures in applications where the system produces only low heat dissipation.

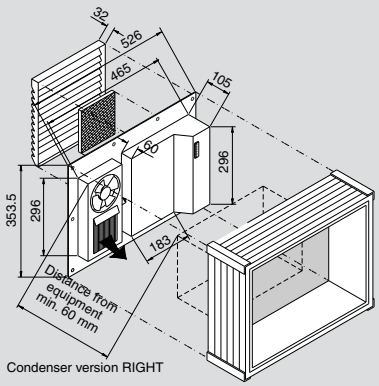
Technical description:

- Useful cooling capacity of 920 BTU/ 270 W per DIN 3168 L 35 L 35.
- Specializes in cooling the VIP 6000 operator housing.
- Two versions of the air conditioner are available. It is pre-installed into the rear wall of the operator housing of the VIP 6000 and is available with the condenser installed to the right or to the left.
- Customer requested special solutions are available for other small enclosures.
- Optimal relationship of useful cooling capacity and air conditioner size.
- Electronic internal temperature sensor.
- Monitoring of the temperature inside the enclosure via a potential-free contact at the terminal block.
- 115 V external transformer available via Part No. 3397.137.

Configuration:
Ready for connection and pre-installed on an aluminum rear panel to fit 7 U VIP 6000 operating housing, including multi-lingual user instructions.

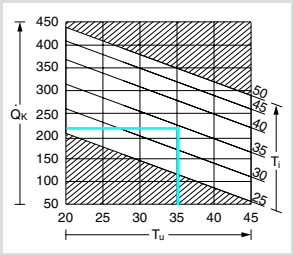


Condenser version LEFT



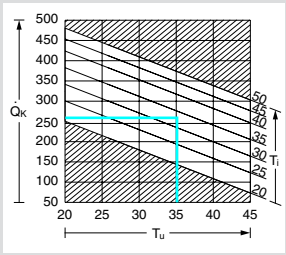
Condenser version RIGHT

Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3201.100**	**3202.100**
Rated operating voltage Volt/Hz		230/50/60	
Dimensions in inches/mm	H W D	14 /353.5 21 /526 4.1/105	
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 113 °F ambient**	**770/920 BTU** **545/680 BTU**	
Rated current maximum		1.5 A/1.5 A	
Starting current		1.9 A/2.0 A	
Pre-fuse T		4.0 A/4.0 A	
Power consumption P_{el} to DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 113 °F ambient	285 W/300 W 315 W/325 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	0.8/0.9	
Refrigerant		R134 a, 6 oz/170 g	
Maximum allowable pressure		392/27 bar	
Temperature range		68 °F to 110 °F/+ 20 °C to + 45 °C	
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 34; interior cycle NEMA 12/IP 54	
Duty cycle		100%	
Type of connection		terminal block	
Weight		25 lbs/10.5 kg	
Color		rear wall aluminum, vent grille RAL 7035	
Air displacement (unimpeded air flow	exterior cycle interior cycle	137/158 cfm or 235/270 m^3/h 94/105 cfm or 160/180 m^3/h	
Temperature control		electronic controls, settings range 68 °F to 110 °F/+ 20 °C to + 45 °C, factory setting 95 °F/+ 35 °C	
Temperature monitoring		monitoring of interior temperature via internal sensor, potential free contact $I_{max.}$ = 5 A, $U_{max.}$ = 230 V	

Specifications subject to change.

Accessories	PU
Digital temperature display	1
115 V primary/230 V secondary transformer	1

	Page
3114.100	570
3397.137	

VIP micro air conditioners, useful cooling capacity 920 BTU/270 W

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Condenser version		left	right
Useful cooling capacity		920 BTU/270 W	
Dimensions (inches/mm)	H W D	14 /353.5 21 /526 4.1/105	
Voltage		230 V	
Part No. SK		**3201.100**	**3202.100**

See pages 480/481 for certifications for air conditioners.

Digital temperature display
for the display of the internal enclosure temperature.

Optimal cooling
for the VIP 6000 operator housing.

The micro air conditioners have been especially designed for our smallest enclosures. They can also be installed onto larger enclosures with relatively small cooling requirements as a space saving and economical solution.

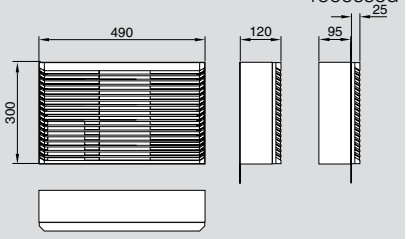
Technical description for micro air conditioners:

- Useful cooling capacity of 1175/ 1230 BTU per DIN 3168 L35 L35.
- Especially well suited for the air conditioning of small enclosures (i. e. operator housing CP 6022.000).
- Optimum ratio between size of air conditioner and useful cooling capacity.
- For vertical wall installations, use SK 3203.100 / SK 3205.100.
- For horizontal wall installations, use SK 3204.100 / SK 3206.100.
- The standard units can be installed externally or fully recessed.
- Our new clip-on installation eliminates additional mounting hole cutouts.
- Built-in electronic temperature control.
- Internal enclosure temperature is monitored with a potential free over temperature contact.

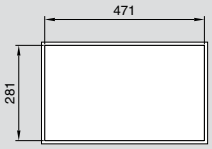
Configuration:
Ready for installation, mounting template, installation hardware and multi-lingual installation instructions included.

Performance diagrams for 50 Hz units see page 503.

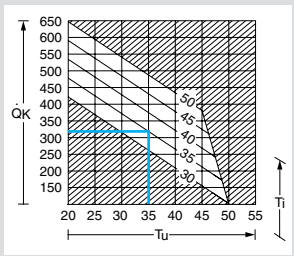
Horizontal External Fully recessed



Installation cutout

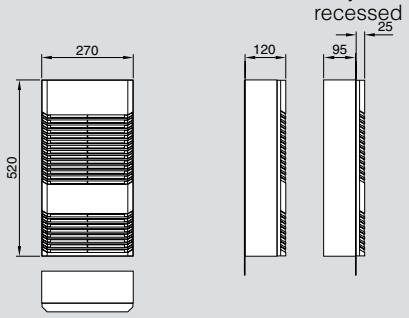


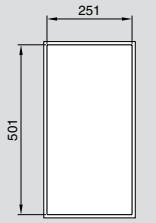
Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

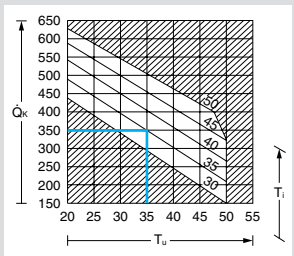
Vertical External Fully recessed





Installation cutout

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3206.100**	**3204.100**	**3205.100**	**3203.100**
Rated operating voltage Volt/Hz*		115/50/60	230/50/60	115/50/60	230/50/60
Dimensions in inches/mm	H	12/300		20.5/520	
	W	20/490		11 /270	
	D	5/120 (+ 53 ext. transf.)	5/120	5/120 (+ 53 ext. transf.)	5/120
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient**	**1100/1175 BTU**		**1195/1230 BTU**	
	95 °F thermostat 122 °F ambient	**545/ 580 BTU**		**715/ 680 BTU**	
Rated current maximum		3.5 A/3.8 A	1.5 A/1.5 A	3.5 A/3.6 A	1.8 A/1.6 A
Starting current		4.2 A/4.5 A	1.9 A/2.0 A	4.0 A/4.5 A	2.7 A/2.8 A
Pre-fuse T		6.0 A	4.0 A	6.0 A	4.0 A
Power consumption P_{el} to DIN 3168	95 °F thermostat 95 °F ambient	285 W/290 W		275 W/280 W	
	95 °F thermostat 113 °F ambient	295 W/305 W		315 W/315 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	1.1/1.2		1.3/1.3	
Refrigerant		R134 a, 5 oz/150 g		R134 a, 4 oz/125 g	
Maximum allowable pressure		406 psi/28 bar		406 psi/28 bar	
Temperature range		68 °F to 122 °F/+ 20 °C to + 50 °C		68 °F to 122 °F/+ 20 °C to + 50 °C	
Protection ratings per EN 60 529/10.91		ext. cycle NEMA 2/IP 34; int. cycle NEMA12/IP 54		ext. cycle NEMA 2/IP 34; int. cycle NEMA12/IP 54	
Duty cycle		100%		100%	
Type of connection		terminal block		terminal block	
Weight		35 lbs/16 kg	29 lbs/13 kg	35 lbs/16 kg	29 lbs/13 kg
Color		RAL 7032		RAL 7032	
Air displacement (unimpeded air flow)	exterior cycle	83/98 cfm / 142 /167 m³/h		83/98 cfm / 142/167 m³/h	
	interior cycle	47/54 cfm / 80 / 93 m³/h		47/54 cfm / 80/ 93 m³/h	
Temperature control with a settings range: 68 °F to 122 °F/+ 20 °C to + 50 °C		electronic controls factory setting 95 °F/+ 35 °C		electronic controls factory setting 95 °F/+ 35 °C	
Temperature monitoring		electronic monitoring of internal temperature, potential free contact $I_{max.}$ = 5 A, $U_{max.}$ = 230 V		electronic monitoring of internal temperature, potential free contact $I_{max.}$ = 5 A, $U_{max.}$ = 230 V	

* Special voltages are available on request. Specifications subject to change.

Accessories	PU					Page
Door position switch	1	4127.000		4127.000		573
Digital temperature display	1	3114.115	3114.100	3114.115	3114.100	570
Foam filters	3	9965899		9965899		567
NEMA 4X cover	1	–	–	9965915	9965915	570
10′ power cord	1	included	9965837	included	9965837	571

Micro air conditioners, useful cooling capacity 1175/1230 BTU; 345/360 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

External installation		Horizontal		Vertical	
Useful cooling capacity		1175 BTU/345 W		1230 BTU/360 W	
Dimensions (inches/mm)	H W D	12 /300 19.5/490 5 /120		20.5/520 11 /270 5 /120	
Voltage		115 V	230 V	115 V	230 V
Part No. SK		**3206.100**	**3204.100**	**3205.100**	**3203.100**

See pages 480/481 for certifications of all micro air conditioners.

The compact size of the micro air conditioners makes installation onto small enclosures possible.

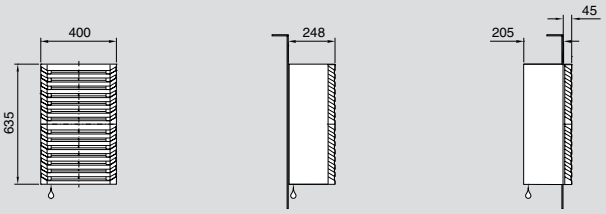
Two variations are available for your individual applications, choose from horizontal and vertical installations.

Mini air conditioners offer a space saving and dependable solution. They were especially developed for small enclosures but can also be used in larger enclosures with low heat dissipating requirements.

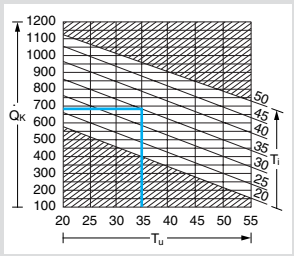
Technical description:
- Useful cooling capacity of 2400 BTU/ 700 W per DIN 3168 L 35 L 35.
- Standard model with built-in thermostat.
- The unit can be installed externally or recessed. With the fully recessed version, only the louvered grille will be visible from the outside.
- Easy access to the cooling components.

Configuration:
Ready for installation, mounting template, installation hardware and multi-lingual installation instructions included.

Installation cutout

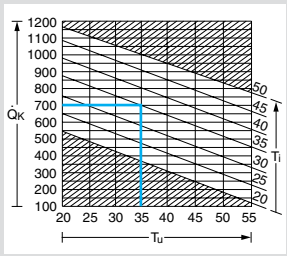


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3269.100**	**3262.100**	**3269.140**	**3269.146**
Rated voltage Volt/Hz*		230/50/60	115/50/60	400/50/60, 2~	460/50/60, 2~
Dimensions in inches/mm	H W D	25/635 16/400 10/248			
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**2320/2400 BTU** **1700/1775 BTU**			
Rated current maximum		3.1 A/ 4.0 A	5.1 A/ 6.0 A	1.8 A/2.3 A	1.64 A/2.1 A
Starting current		12.6 A/14.4 A	25.2 A/34.3 A	7.2 A/8.3 A	6.51 A/7.5 A
Pre-fuse T		6.0 A/ 6.0 A	6.0 A/10.0 A	4.0 A/4.0 A	4.0 A/4.0 A
Power consumption P_{el} to DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 113 °F ambient	460 W/580 W 520 W/660 W	480 W/600 W 540 W/675 W		
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	1.5/1.2	1.4/1.2		
Refrigerant		R134 a, 11 oz/300 g			
Maximum allowable pressure		348 psi/24 bar			
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C			
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 34; interior cycle NEMA 12/IP 54			
Duty cycle		100%			
Type of connection		terminal block			
Weight		72 lbs/32.5 kg	77.5 lbs/35 kg		
Color		RAL 7032			
Air displacement (unimpeded air flow)	exterior cycle interior cycle	142 cfm/243 m³/h 142 cfm/243 m³/h			
Temperature control		built-in thermostat; factory setting 95 °F/+ 35 °C			

* Special voltages available on request. Specifications subject to change.

Accessories	PU					Page
Foam filters	3	3294.100				567
Metal filters	1	3294.200				567
Door switch	1	4127.000				573
Digital temperature display	1	3114.100	3114.115	–	–	570
10′ power cord	1	9965837	9962136	–	–	571
NEMA 4X cover	1	9965418				570
NEMA 3R rain hood	1	9968075				572

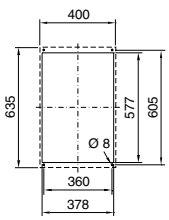
Mini air conditioners, useful cooling capacity 2400 BTU/700 W

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

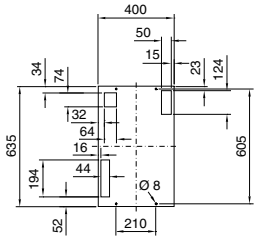
Useful cooling capacity		2400 BTU/700 W		2400 BTU/700 W	
Dimensions (inches/mm)	H W D	25/635 16/400 10/248			
Voltage		115 V	230 V	400 V, 2~	460 V, 2~
Part No. SK		**3262.100**	**3269.100**	**3269.140**	**3269.146**

See pages 480/481 for certifications for all mini air conditioners.

Installation cutout fully recessed



Installation cutout external installation

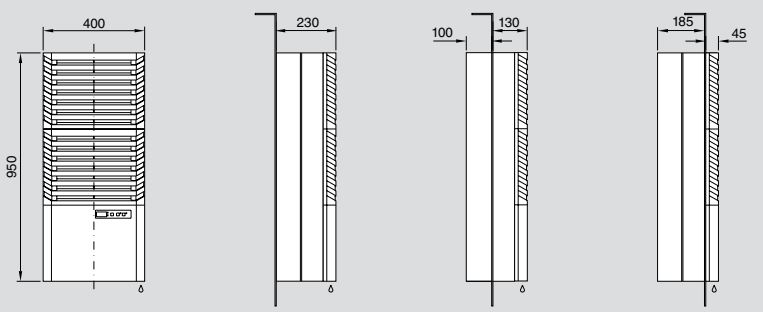


The unit can be installed externally or fully recessed.

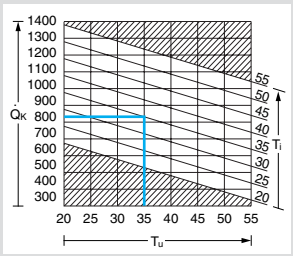
These medium capacity Rittal air conditioners are in use worldwide and stand out through high dependability, flexible installation options, ease of operation and standard safety features.

Technical description:
- Useful cooling capacity of 3300 BTU/ 960 W per DIN 3168 L35 L35.
- Can be installed externally, partially or fully recessed.
- Standard model has thermostat (Part No. . . . . .100 / .140).
- Easy to operate microcontroller model has dirt-resistant key pad to set, adjust and control the units (Part No. . . . . .500 / .540).
- Removable louvered front panel can be easily detached for maintenance or filter change.
- Comes standard with the CFC-free refrigerant R134 a.

Configuration:
Ready for connection, wallmounting template, installation hardware and multi-lingual instruction manual included.

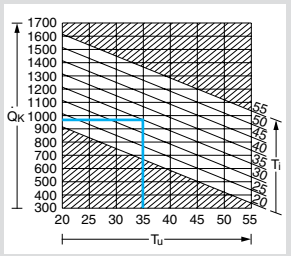


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3281.100**	**3281.500**	**3293.100**	**3293.500**	**3293.140**	**3293.146**	**3293.540**
Rated voltage Volt/Hz*		115/50/60		230/50/60		400/50/60, 2~	460/60, 2~	400/50/60, 2~
Dimensions in inches/mm	H W D	38/950 16/400 9/230						
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient 95 °F thermostat 122 °F ambient**	**2815/3300 BTU** **2320/2460 BTU**						
Rated current maximum		6.5 A/ 7.6 A		3.0 A/ 3.6 A		1.8 A/2.1 A	1.6 A/1.9 A	1.8 A/2.1 A
Starting current		16.4 A/20.1 A		8.5 A/10.0 A		4.6 A/5.8 A	5.2 A/5.3 A	4.6 A/5.8 A
Pre-fuse T		10.0 A/10.0 A		6.0 A/ 6.0 A		4.0 A/4.0 A		
Power consumption P_{el} to DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 113 °F ambient	470 W/520 W 520 W/605 W		450 W/500 W 500 W/580 W		470 W/520 W 520 W/605 W		
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	1.8						
Refrigerant		R134 a, 18.5 oz/525 g						
Maximum allowable pressure		363 psi/25 bar						
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C						
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 34; interior cycle NEMA 12/IP 54						
Duty cycle		100%						
Type of connection		terminal block						
Weight		84 lbs/38 kg		77 lbs/35 kg		84 lbs/38 kg		
Color		RAL 7032						
Air displacement (unimpeded air flow)	exterior cycle	351 cfm/600 m³/h						
	interior cycle	146 cfm/250 m³/h						
Temperature control – settings range: 68 °F to 131 °F/+ 20 °C to + 55 °C factory setting 95 °F/+ 35 °C		built-in thermostat	micro-controller	built-in thermostat	micro-controller	built-in thermostat		micro-controller

* Special voltages are available upon request. Specifications subject to change.

Accessories	PU							Page
Foam filter	3	3294.100						567
Metal filter	1	3294.200						567
Air diverter	1	3213.300						–
Door wheel for TS	10	4538.000						573
Door switch	1	4127.000						573
Digital temperature display	1	3114.115	–	3114.100	–	3114.100	3114.100	– 570
BUS system	1	–	3124.000	–	3124.000	–	–	3124.000 573
10′ power cord	1	9962136	9962136	9965837	9965837	–	–	– 571
NEMA 4X cover (.100 only)	1	9965351	–	9965351	–	9965351	9965351	– 570
NEMA 3R rain cover (.100 only)	1	9968075	–	9968075	–	9968075	–	– 572

Useful cooling capacity 3300 BTU/960 W

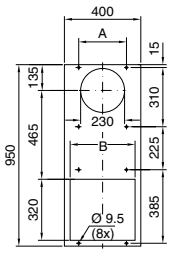
PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		3300 BTU/960 W						
Dimensions (inches/mm)	H W D	38/950 16/400 9/230						
Voltage		115 V		230 V		400 V, 2~		460 V, 2~
Thermostat control		●	–	●	–	●	–	●
Microcontroller		–	●	–	●	–	●	–
Part No. SK		**3281.100**	**3281.500**	**3293.100**	**3293.500**	**3293.140**	**3293.540**	**3293.146**

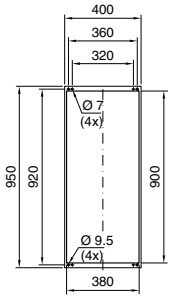
See pages 480/481 for certification of all wallmount air conditioners.

US Design Patent
No. Des. 374,920
German Design
No. M 94 03 149
IR-Reg. Design
No. DM/031 018 affecting
DE, ES, FR, IT
Japanese Design
No. 1009 242

Installation cutout external



Installation cutout full/partially recessed



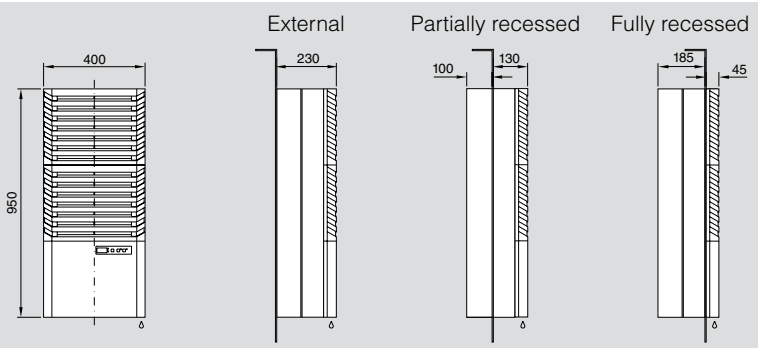
Only for cabinets of more than 16"/400 mm depth
A = 300 mm, B = 356 + 2 mm

Two part chassis design for more installation flexibility.

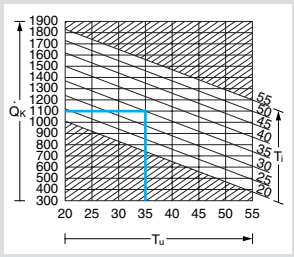
These medium capacity Rittal air conditioners are in use worldwide and stand out through high dependability, flexible installation options, optimum ease of operation and safety features.

Technical description:
- Useful cooling capacity of 3925 BTU/ 1150 W per DIN 3168 L35 L35.
- Can be installed onto the side walls of 16″/400 mm deep TS/PS enclosures.
- For more details see SK 3293. . . . / SK 3281.100.

Configuration:
Ready for installation. Mounting template, installation hardware and multi-lingual instruction manual included.

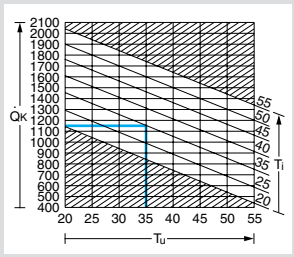


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3381.100**	**3381.500**	**3393.100**	**3393.500**	**3393.140**	**3393.146**	**3393.540**
Rated voltage Volt/Hz*		115/50/60		230/50/60		400/50/60, 2~	460/60, 2~	400/50/60, 2~
Dimensions in inches/mm	H W D	38/950 16/400 9/230						
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**3750/3925 BTU** **2830/2900 BTU**						
Rated current maximum		8.6 A/ 9.2 A		4.2 A/ 4.4 A		2.5 A/2.6 A	2.3 A/2.4 A	2.5 A/2.6 A
Starting current		19.8 A/23.1 A		9.8 A/11.4 A		5.7 A/6.6 A	5.2 A/6.0 A	5.7 A/6.6 A
Pre-fuse T		10.0 A/10.0 A		6.0 A/ 6.0 A		6.0 A/6.0 A	6.0 A/6.0 A	6.0 A/6.0 A
Power consumption P_{el} to DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 113 °F ambient	610 W/680 W 690 W/780 W		590 W/660 W 670 W/750 W		610 W/680 W 690 W/780 W		
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	1.8		1.9		1.8		
Refrigerant		R134 a, 19 oz/550 g						
Maximum allowable pressure		348 psi/24 bar						
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C						
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 34; interior cycle NEMA 12/IP 54						
Duty cycle		100%						
Type of connection		terminal block						
Weight		90 lbs/41 kg		84 lbs/38 kg		90 lbs/41 kg		
Color		RAL 7032						
Air displacement (unimpeded air flow)	exterior cycle	351 cfm/600 m^3/h						
	interior cycle	156 cfm/250 m^3/h						
Temperature control: settings range: 68 °F to 131 °F/+ 20 °C to + 55 °C factory setting 95 °F/+ 35 °C		built-in thermostat	micro-controller	built-in thermostat	micro-controller	built-in thermostat		micro-controller

* Special voltages available on request. Specifications subject to change.

Accessories	PU							Page
Foam filter	3	3294.100						567
Metal filter	1	3294.200						567
Air diverter	1	3213.300						–
Door wheel for TS	10	4538.000						573
Door switch	1	4127.000						573
Digital temperature display	1	3114.115	–	3114.100	–	3114.100	–	– 570
BUS system	1	–	3124.000	–	3124.000	–	–	3124.000 573
10′ power cord	1	9962136	9962136	9965837	9965837	–	–	– 571
NEMA 4X cover (.100 only)	1	9965351	–	9965351	–	9965351	9965351	– 570
NEMA 3R rain cover (.100 only)	1	9968075	–	9968075	–	9968075	–	– 572

Useful cooling capacity 3925 BTU/1150 W

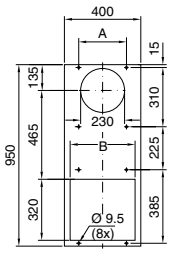
PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		3925 BTU/1150 W						
Dimensions (inches/mm)	H W D	38/950 16/400 9/230						
Voltage		115 V		230 V		400 V, 2~		460 V, 2~
Thermostat control		●		●	–	●	–	●
Microcontroller		–	●	–	●	–	●	–
Part No. SK		**3381.100**	**3381.500**	**3393.100**	**3393.500**	**3393.140**	**3393.540**	**3393.146**

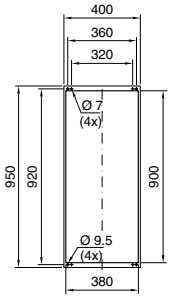
See pages 480/481 for certification of all wallmount air conditioners.

US Design Patent
No. Des. 374,920
German Design
No. M 94 03 149
IR Registered Design
No. DM/031 018 affecting
DE, ES, FR, IT
Japanese Design
No. 1009242

Installation cutout external installation



Installation cutout fully/partially recessed



Only for 16″/400 mm deep TS/PS/ES enclosures	Only for enclosures more than 16″/400 mm deep
3393.100 / 3393.500 / 3381.100	3393.100 / 3393.500 / 3381.100
A = 250 mm, B = 300 mm	A = 250 mm, B = 340 mm

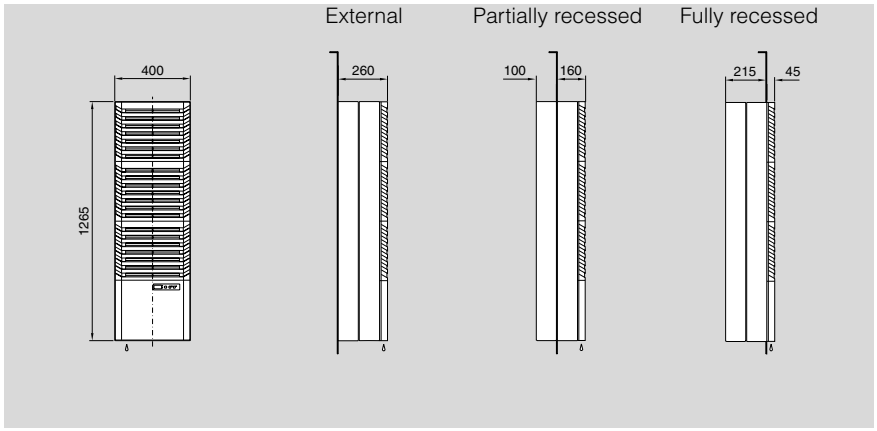
These units can be installed on 16″/400 mm deep enclosures.

Today's industrial design requires that equal attention be given to functionality, ergonomics, and aesthetics. Rittal's multi-functional wallmount air conditioners fully meet these requirements through their user friendliness, microcontroller technology and ease of installation due to their two-piece chassis construction.

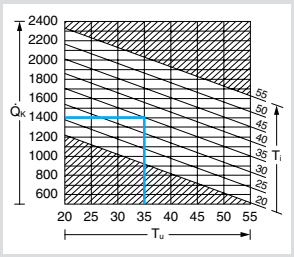
Technical description:

- SK 3260.500 / .140: 400 V/50/60 Hz, 3~, useful cooling capacity of 5560 BTU/ 1630 W per DIN 3168 L35 L35.
- SK 3260.460/.146: 460 V/60 Hz, 3~, useful cooling capacity of 5560 BTU.
- SK 3298.100 / .500: 230 V/50/60 Hz, useful cooling capacity of 4950 BTU/ 1450 W per DIN 3168 L35 L35.
- SK 3279.100: 115 V/50/60 Hz, useful cooling capacity of 4950 BTU/1450 W per DIN 3168 L35 L35.
- Standard version with built-in thermostat (Part No. . . . . .100 / .140).
- Models with microcontrollers for monitoring and controlling of air conditioning unit (Part No. . . . . .500).
- The two-part chassis design allows three ways of installing the units.

Performance diagrams for 50 Hz units see page 503.

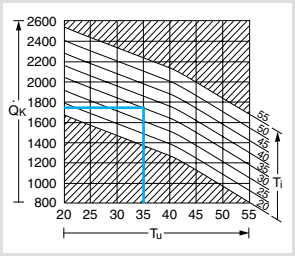


Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3279.100**	**3279.500**	**3298.100**	**3298.500**	**3260.140**	**3260.500**	**3260.146**	**3260.460**
Rated voltage Volt/Hz*		115/50/60		230/50/60		400, 3~		460, 3~	
Dimensions in inches/mm	H W D	50/1265 16/ 400 10/ 260				50/1265 16/ 400 10/ 260			
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**4780/4950 BTU** **3750/3925 BTU**				**5940/5560 BTU** **4575/4160 BTU**			
Rated current maximum		11.5 A/12.0 A		5.5 A/ 5.7 A		2.3 A/2.6 A		2.1 A/2.0 A	
Starting current		36.0 A/37.0 A		17.5 A/16.5 A		9.5 A/9.5 A		8.6 A	
Pre-fuse T		16.0 A/16.0 A		10.0 A/10.0 A		6.0 A/6.0 A		6.0 A	
Power consumption P_{el} to DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 113 °F ambient	860 W/1080 W 975 W/1210 W		830 W/1040 W 940 W/1170 W		900 W/750 W 1060 W/920 W			
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	1.6/1.3		1.7/1.4		1.7/1.4			
Refrigerant		R134 a, 19 oz/525 g				R134 a, 19.4 oz/550 g			
Maximum allowable pressure		363 psi/25 bar				348 psi/24 bar			
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C				68 °F to 131 °F/+ 20 °C to + 55 °C			
Protection ratings per EN 60 529/10.91		ext. cycle NEMA 2/IP 34; interior NEMA 12/IP 54				ext. cycle NEMA 2/IP 34; interior NEMA 12/IP 54			
Duty cycle		100%				100%			
Type of connection		terminal block				terminal block			
Weight		112 lbs/51 kg		106 lbs/48 kg		132 lbs/60 kg			
Color		RAL 7032				RAL 7032			
Air displacement (unimpeded air flow	exterior cycle	257 cfm/440 m³/h				257 cfm/440 m³/h			
	interior cycle	170 cfm/290 m³/h				170 cfm/290 m³/h			
Temperature control		thermostat	micro-controller	thermostat	micro-controller	thermostat	micro-controller	thermostat	micro-controller

* Special voltages available on request. Specifications subject to change.

Accessories	PU								Page
Foam filter	3	3294.100				3294.100			567
Metal filter	1	3294.200				3294.200			567
Air diverter	1	3213.300				3213.300			–
Door roller wheel	10	4538.000				4538.000			573
Door switch	1	–	4127.000	–	4127.000		4127.000	–	573
Digital temperature display	1	3114.115	–	3114.100	–	3114.100	–	–	570
BUS system	1	–			3124000	–	3124.000	–	573
10′ power cord	1	–		9965837	9965837	–	–	–	571
NEMA 4X cover (.100 only)	1	9965352	–	9965352	–	9965352	–	–	570
NEMA 3R rain hood (.100 only)	1	9968075	–	9968075	–	9968075	–	9968075	572

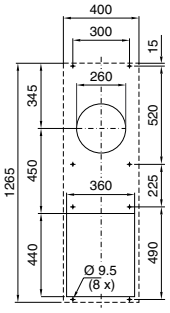
Useful cooling capacity 4950/5560 BTU; 1450/1630 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

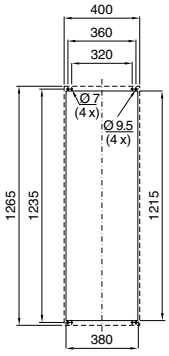
Useful cooling capacity		4950 BTU/1450 W				5560 BTU/1630 W			
Dimensions (inches/mm)	H W D	50/1265 16/ 400 10/ 260							
Voltage		115 V		230 V		400 V, 3~		460 V, 3~	
Thermostat control		●	–	●	–	●	–	●	–
Microcontroller		–	●	–	●	–	●	–	●
Part No. SK		**3279.100**	**3279.500**	**3298.100**	**3298.500**	**3260.140**	**3260.500**	**3260.146**	**3260.460**

See pages 480/481 for certification of all wallmount air conditioners.

Installation cutout exterior



Installation cutout partially/fully recessed



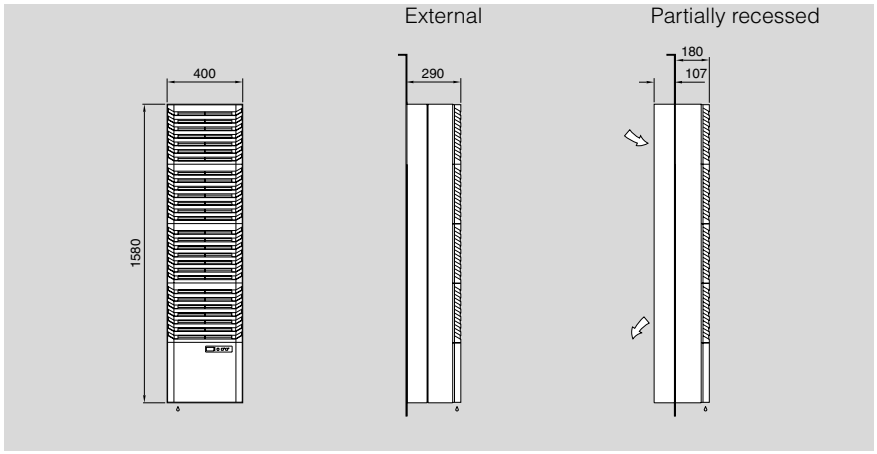
The two-part chassis construction allows for three different ways of installing these units.

The increased cooling requirements of industrial machines require that we incorporate ergonomics, functionality and aesthetics equally into our air conditioner design. These units are targeted toward medium and high heat load applications. These multi-functional design air conditioners have a modern industrial design, with features such as microcontroller technology and the flexibility of the split system chassis construction.

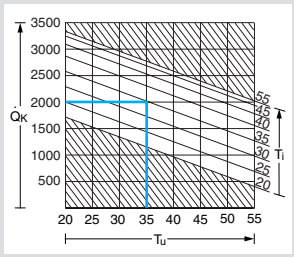
Technical description:
- SK 3390. . . . cooling capacity of 7575 BTU/2220 W according to DIN 3168 L35 L35.
- SK 3392. . . . cooling capacity of 9965 BTU/2920 W according to DIN 3168 L35 L35.
- Basic version with thermostat control (Part No. . . . . .100 / .115 / .140).
- Microcontroller version for the control and surveillance of the unit (Part No. . . . . .500 / .515 / .540).
- The totally new internal air cycle design with the increased distance of air intake and outlet offers optimal cooling.
- The split chassis construction makes two mounting configurations possible.

Configuration:
Ready for installation. Mounting template, eyebolts, installation hardware and multilingual instruction manual included.

Performance diagrams for 50 Hz units see page 503.

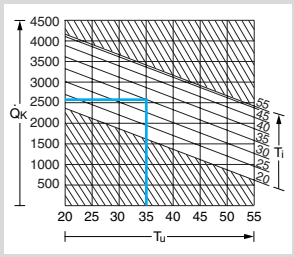


Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK with thermostat		**3390.100**	**3390.115**	**3390.146**	**3392.100**	**3392.115**	**3392.146**
Part No. SK with microcontroller		**3390.500**	**3390.515**	**3390.546**	**3392.500**	**3392.515**	**3392.546**
Rated voltage Volt/Hz*		230/50/60	115/50/60	460/50/60, 3~	230/50/60	115/50/60	460/50/60, 3~
Dimensions in inches/mm	H W D	62/1580 16/ 400 12/ 290			62/1580 16/ 400 12/ 290		
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient**	**6895/7575 BTU**			**8800/9215 BTU**		**8800/9965 BTU**
	95 °F thermostat 122 °F ambient	**4980/5390 BTU**			**5940/6140 BTU**		**6245/6860 BTU**
Rated current maximum		6.9 A/ 8.9 A	13.8 A/17.8 A	2.3 A/ 2.5 A	8.2 A/10.0 A	16.4 A/20.0 A	3.2 A/3.5 A
Starting current		24.0 A/23.0 A	48.0 A/46.0 A	9.1 A/ 8.2 A	25.0 A/24.0 A	50.0 A/48.0 A	6.4 A
Pre-fuse T		10.0 A/10.0 A	20.0 A/20.0 A	10.0 A/10.0 A	10.0 A/16.0 A	20.0 A/24.0 A	10.0 A/10.0 A
Power consumption P_{el} to DIN 3168	95 °F thermostat 95 °F ambient	1160 W/1460 W	1180 W/1490 W	870 W/1120 W	1400 W/1800 W	1430 W/1840 W	1320 W/1740 W
	95 °F thermostat 113 °F ambient	1310 W/1620 W	1330 W/1650 W	1060 W/1340 W	1620 W/2080 W	1650 W/2130 W	1570 W/2020 W
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	1.7/1.5	1.7/1.5	2.3/2.0	1.8/1.6	1.8/1.6	2.0/1.7
Refrigerant		R 134 a, 36 oz/1025 g			R 134 a, 38 oz/1075 g		41 oz/1175 g
Maximum allowable pressure		406 psi/28 bar			406 psi/28 bar		
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C			68 °F to 131 °F/+ 20 °C to + 55 °C		
Protection ratings per EN 60 529/10.91		ext. cycle NEMA 2/IP 34; interior NEMA 12/IP 54			ext. cycle NEMA 2/IP 34; interior NEMA 12/IP 54		
Duty cycle		100%			100%		
Type of connection		terminal block			terminal block		
Weight		146 lbs/66 kg	154 lbs/70 kg	152 lbs/69 kg	152 lbs/69 kg	161 lbs/73 kg	161 lbs/73 kg
Color		RAL 7032			RAL 7032		
Air displacement (unimpeded air flow	exterior cycle	374 cfm/640 m³/h			415 cfm/710 m³/h		
	interior cycle	322 cfm/550 m³/h			374 cfm/640 m³/h		
Temperature control		thermostat or microcontroller (.115, .515)			thermostat or microcontroller (.115, .515)		

* Special voltages available on request. Specifications subject to change.

Accessories	PU						Page
Foam filter	3	3294.100			3294.100		567
Metal filter	1	3294.200			3294.200		567
Door roller wheel	10	4538.000			4538.000		573
Door switch (.500 only)	1	4127.000	–	–	4127.000	–	573
Digital temperature display	1	3114.100	3114.115	–	3114.100	3114.115	570
BUS system	1	3124.000			3124.000		573
NEMA 3R rain hood (.100 only)	1	9968075			9968075		572

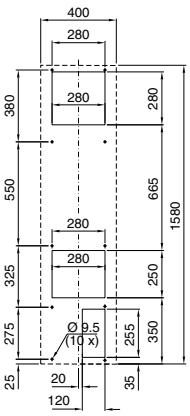
Useful cooling capacity 7575/9965 BTU; 2220/2920 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

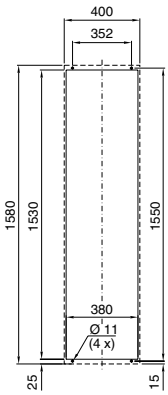
Useful cooling capacity		7575 BTU/2220 W				9215 BTU/2700 W			9965 BTU/2920 W
Dimensions (inches/mm)	H W D	62/1580 16/ 400 12/ 290							
Voltage		115 V	230 V	400 V	460 V, 3~	115 V	230 V	400 V	460 V, 3~
Part No. SK with thermostat		**3390.115**	**3390.100**	**3390.140**	**3390.146**	**3392.115**	**3392.100**	**3392.140**	**3392.146**
Part No. SK with microcontroller		**3390.515**	**3390.500**	**3390.540**	**3390.546**	**3392.515**	**3392.500**	**3392.540**	**3392.546**

See pages 480/481 for certifications for all design wallmount air conditioners.

Installation cutout external



Installation cutout partially recessed



The optimal air flow of the internal cycle offers excellent climate control for even the strongest performance demands.

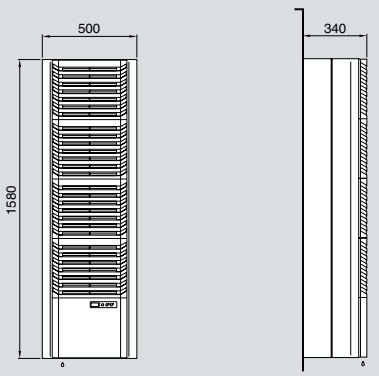
These high performance, three-phase air conditioners are designed to remove extremely high heat loads.

Technical description:

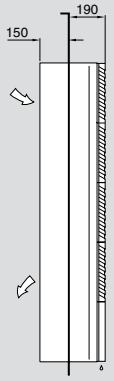
- High performance air conditioners with useful cooling capacity of 15,940 BTU/ 4670 W per DIN 3168 L35 L35.
- Large distance between air intake and exhaust is especially suitable for cooling of driver systems.
- Unit can be mounted externally or partially recessed.
  Partially recessed is not possible with:
  – 24″/600 mm wide TS enclosures and
  – 28″/1200 mm wide TS enclosures in the lock door.
- A transportation eyebolt makes it easier to mount the unit.
- Temperature control, function monitoring and fault signaling via built-in microcontroller.
- System diagnostics via potential free contact or PLC interface (only in SK 3391.500).
- Several air conditioners can be networked via a Rittal SK BUS system (see accessories) (only for SK 3391.500).

Configuration:
Ready for connection, with terminal block, mounting template, installation hardware and multi-lingual instruction manual.

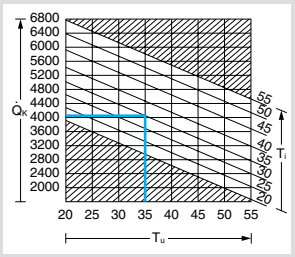
External



Partially recessed

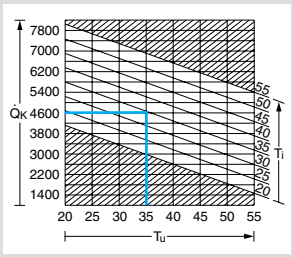


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagrams for 60 Hz units see page 503.

Part No. SK		**3391.500**	**3391.560**	**3391.140**	**3391.146**	**3391.123**
Rated voltage Volt/Hz		400/50/60, 3~	460/60, 3~	400/50/60, 3~	460/50/60, 3~	230/60
Dimensions in inches/mm	H W D	62 /1580 20 / 500 13.5/ 340				
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**13,800/15,940 BTU** **10,240/12,115 BTU**				**13,800 BTU**
Rated current maximum		4.5 A/ 5.3 A				18.5 A
Starting current		15.5 A/17.0 A				58.0 A
Pre-fuse T		10.0 A/10.0 A				20.0 A
Power consumption P_{el} to DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 113 °F ambient	1600 W/2030 W 1900 W/2420 W				
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.5/2.3				
Refrigerant		R134 a, 62 oz/1750 g				
Maximum allowable pressure		406 psi/28 bar				
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C				
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 34; interior cycle NEMA 12/IP 54				
Duty cycle		100%				
Type of connection		terminal block				
Weight		187 lbs/85 kg				
Color		pebble grey RAL 7032				
Air displacement (unimpeded air flow	exterior cycle	643 cfm/1100 m³/h				
	interior cycle	497 cfm/ 850 m³/h				
Temperature control: setting range: 68 °F to 131 °F/+ 20 °C to + 55 °C factory setting: 95 °F/+ 35 °C		function monitoring and fault signal via microcontroller		built-in thermostat		

Specifications subject to change.

Accessories	PU
Foam filter	3
Metal filter	1
Door roller wheel	10
Door switch	1
Digital temperature display	1
BUS system	1
NEMA 3R rain hood (.100 only)	1

					Page
3294.100					587
3294.200					587
4538.000					573
4127.000	4127.000	–	–	–	573
–	–	3114.100			570
3124.000	3124.000	–	–	–	573
–	–	9968075	9968075	9968075	572

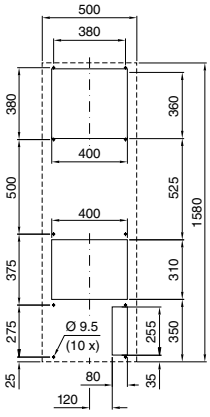
Useful cooling capacity 13,800/15,940 BTU; 4000/4670 W

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

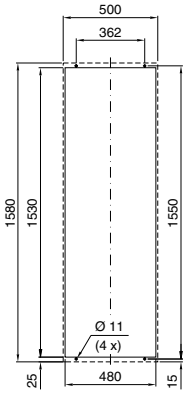
Useful cooling capacity		15,940 BTU/4670 W				13,800 BTU/4000 W
Dimensions (inches/mm)	H W D	62 /1580 20 / 500 13.5/ 340				
Voltage		400 V, 3~	460 V, 3~	400 V, 3~	460 V, 3~	230 V
Thermostat		●		–		●
Microcontroller		–		●		–
Part No. SK		**3391.140**	**3391.146**	**3391.500**	**3391.560**	**3391.123**

See pages 480/481 for certifications for all design wallmount air conditioners.

Installation cutout external



Installation cutout partially recessed

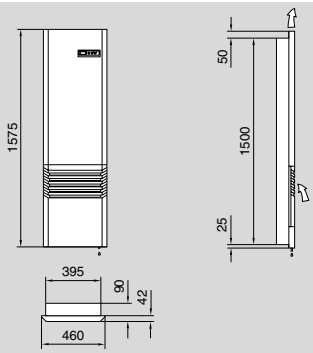


High cooling capacity and two installation choices to maximize your options.

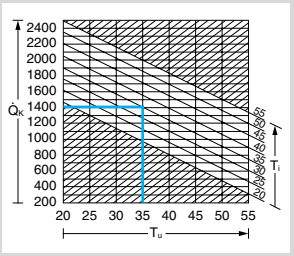
Extremely shallow depth, yet high cooling capacity make these design series air conditioners ideal for applications where high heat loss is generated in very tight places.

Technical description SK 3255. . . .:
- Useful cooling capacity of 4800 BTU/ 1400 W per DIN 3168 L35 L35.
- Can be installed externally or fully recessed.
- Projects only 3.5″/90 mm into enclosure interior when installed fully recessed.
- External installation requires an SK 3214.000 trim frame.
- SK 3216.000 mounting frame (see accessories on page 173).
- Standard model with thermostat control (Part No. . . . . .100 /.140).
- Convenient microcontroller model offers electronic temperature regulation and monitoring (Part No. . . . . .500 / .540).

Technical description SK 3395. 100 / SK 3395.500:
- Cooling capacity of 4800 BTU/1400 W per DIN 3168 L35 L35.
- Especially suited for installation into doors or side walls.
- Can be installed extremely flush with only 0.6″/15 mm projection when installed fully recessed.

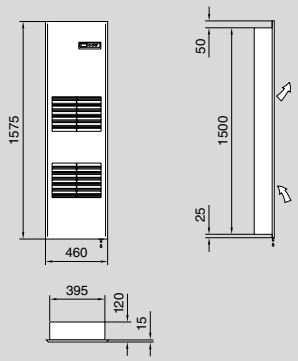


Performance diagram (DIN 3168) (50 Hz)

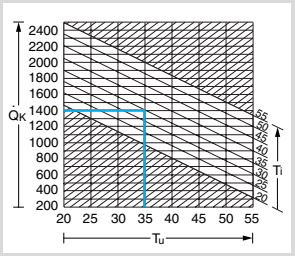


T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram for 60 Hz units see page 503.



Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram for 60 Hz units see page 503.

Part No. SK		**3255.100**	**3255.500**	**3255.140**	**3255.540**	**3395.100**	**3395.500**
Rated voltage Volt/Hz*		230/50/60		400/50/60, 2~		230/50/60	
Dimensions in inches/mm	H W D	62/1575 18/ 460 5/ 132				62 /1575 18 / 460 5.5/ 135	
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**4800 BTU** **3100 BTU**				**4800 BTU** **3100 BTU**	
Rated current maximum		4.6 A/ 5.2 A		2.7 A/3.0 A		4.6 A/5.2 A	
Starting current		13.6 A/13.6 A		7.8 A/7.8 A		13.6 A/3.6 A	
Pre-fuse T		6.0 A/ 6.0 A		6.0 A/6.0 A		6.0 A/6.0 A	
Power consumption P_{el} to DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 113 °F ambient	740 W/ 960 W 860 W/1075 W		760 W/ 990 W 885 W/1100 W		740 W/ 960 W 860 W/1075 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.0/1.5		1.8/1.4		2.0/1.5	
Refrigerant		R134 a, 22 oz/625 g				R134 a, 22 oz/665 g	
Maximum allowable pressure		348 psi/24 bar				348 psi/24 bar	
Temperature range		68 °F to 131 °F/+ 20 °C to + 55 °C				68 °F to 131 °F/+ 20 °C to + 55 °C	
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 34; interior cycle NEMA 12/IP 54				exterior cycle NEMA 2/IP 34; interior cycle NEMA 12/IP 54	
Duty cycle		100%				100%	
Type of connection		terminal block				terminal block	
Weight		97 lbs/44 kg		104 lbs/47 kg		104 lbs/47 kg	
Color		RAL 7032				RAL 7032	
Air displacement (unimpeded air flow	exterior cycle	530/608 psi / 907/1040 m³/h				530/608 psi / 907/1040 m³/h	
	interior cycle	503/602 psi / 860/1030 m³/h				503/602 psi / 860/1030 m³/h	
Temperature control: setting range: 68 °F to 131 °F/+ 20 °C to + 55 °C factory setting: 95 °F/+ 35 °C		built-in thermostat	micro-controller	built-in thermostat	micro-controller	built-in thermostat	micro-controller

* Special voltages available on request. Specifications subject to change.

Accessories	PU							Page
Foam filter	3	3253.000				3253.000		567
Metal filter	1	3253.200				3253.200		567
Air diverter	1	3213.300				3213.300		–
Door roller wheel	10	4538.000				4538.000		–
Door switch	1	4127.000				4127.000		573
Digital temperature display	1	3114.100	–	3114.100	–	3114.100	–	570
BUS system	1	–	3124.000	–	3124.000	–	3124.000	573

Useful cooling capacity 4800 BTU/1400 W

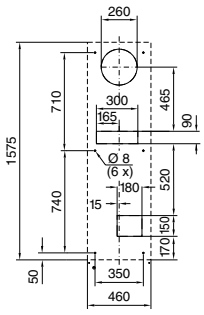
PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		4800 BTU/1400 W					
Dimensions (inches/mm)	H W D	62/1575 18/ 460 5/ 132		62 /1575 18 / 460 5.5/ 135		62/1575 18/ 460 5/ 132	
Voltage		230 V				400 V, 2~	
Thermostat control		●	–	●	–	●	–
Microcontroller		–	●	–	●	–	●
Part No. SK		**3255.100**	**3255.500**	**3395.100**	**3395.500**	**3255.140**	**3255.540**

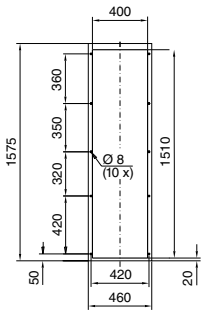
Configuration:
Ready for connection, with terminal block, drilling template and multi-lingual instruction manual.

See pages 480/481 for certifications for all wallmount air conditioners.

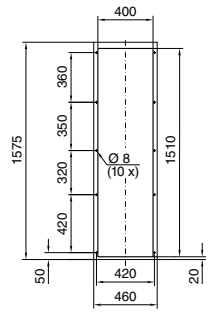
SK 3255. . . .
Installation cutout external



Installation cutout fully recessed



SK 3395. . . .
Installation cutout fully recessed



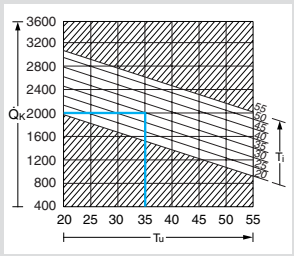
Maximum installation flexibility through extremely flat design.

These air conditioners provide high cooling output in an exceptionally small footprint.

Technical description:
Bullet high performance air conditioners with useful cooling capacity of 7100 BTU/ 2080 W per DIN 3168 L35 L35.

Configuration:
Ready for installation with terminal block, mounting template, installation hardware, and multi-lingual instruction manual included.

Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3367.200**	**3367.210**
Rated voltage Volt/Hz		230/50/60	115/60
Dimensions in inches/mm	H W D	39.4/1000 15.8/ 402 9.3/ 235	
Useful cooling capacity $\dot{Q}_K$ per DIN 3168	**95 °F thermostat 95 °F ambient** **95 °F thermostat 122 °F ambient**	**6825/7100 BTU** **5185/5665 BTU**	**6825/7100 BTU** **5185/5665 BTU**
Rated current maximum		4.7 A/ 5.5 A	11 A
Starting current		21.8 A/21.8 A	44 A
Pre-fuse T		6 A/ 6 A	12 A
Power consumption P_{el} to DIN 3168	95 °F thermostat 95 °F ambient 95 °F thermostat 113 °F ambient	1080 W/1290 W 1160 W/1460 W	
Cooling coefficient $\varepsilon = \dot{Q}_K/P_{el}$	95 °F thermostat 95 °F ambient	2.0/1.6	
Refrigerant		R134 a, 18 oz/500 g	
Maximum allowable pressure		390 psi/27 bar	
Temperature range		68 °F to 122 °F/+ 20 °C to + 50 °C	
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 34; interior cycle NEMA 12/IP 54	
Duty cycle		100%	
Type of connection		terminal block	
Weight		115 lbs/52 kg	125 lbs/57 kg
Color		RAL 7032	
Temperature control setting range: 68 °F to 131 °F/+ 20 °C to + 55 °C factory setting: 95 °F/+ 35 °C		built-in thermostat	

Specifications subject to change.

Accessories	PU			Page
Foam filter	3	9968464		567
Metal filter	1	–	–	–
Door wheel	10	4538.000		573
Door switch	1	4127.000		573
Digital temperature display	1	3114.110	3114.115	570
10' power cord	1	9965837	9962136	571

Useful cooling capacity 7100 BTU/2080 W

SK 3367.200 / .210

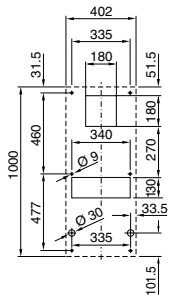
Product Not Available in the U.S.A.

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		7100 BTU/2080 W	
Dimensions (inches/mm)	H W D	39.4/1000 15.8/ 402 9.3/ 235	
Voltage		230 V	115 V
Thermostat		●	–
Microcontroller		–	●
Part No. SK		**3367.200**	**3367.210**

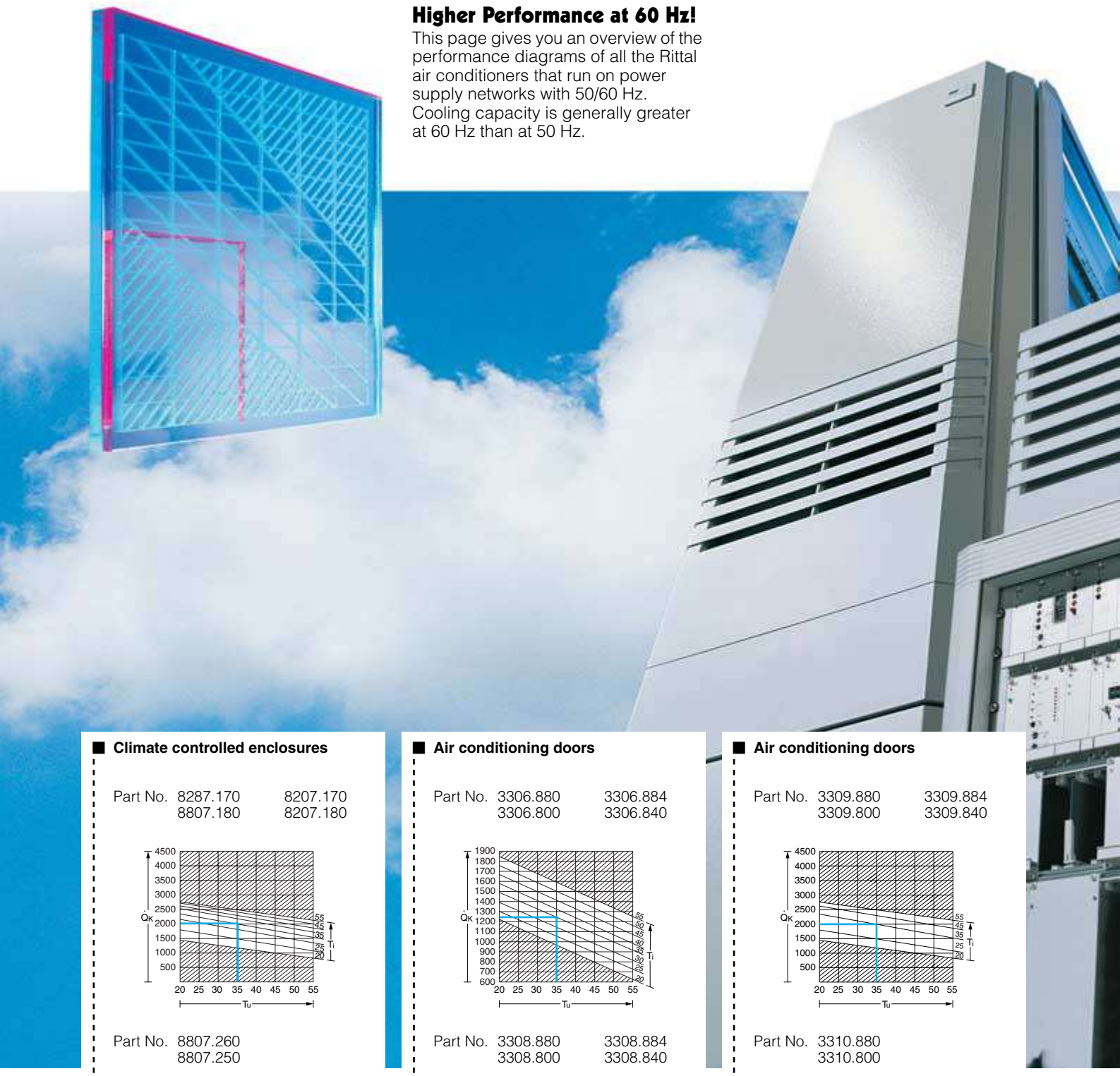
See pages 480/481 for certifications for all wallmount air conditioners.

Installation cutout external



Higher Performance at 60 Hz!

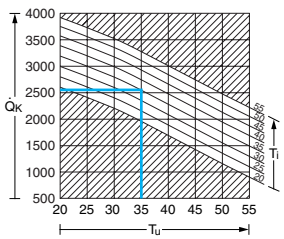
This page gives you an overview of the performance diagrams of all the Rittal air conditioners that run on power supply networks with 50/60 Hz. Cooling capacity is generally greater at 60 Hz than at 50 Hz.



Climate controlled enclosures

Part No. 8287.170 8207.170
8807.180 8207.180

Part No. 8807.260
8807.250



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

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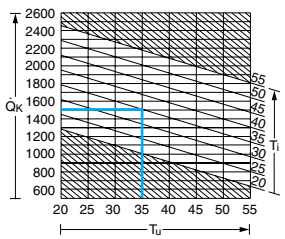
Air conditioning doors

Part No. 3306.880 3306.884
3306.800 3306.840

Part No. 3308.880 3308.884
3308.800 3308.840



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

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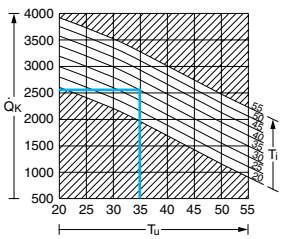
Air conditioning doors

Part No. 3309.880 3309.884
3309.800 3309.840

Part No. 3310.880
3310.800



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

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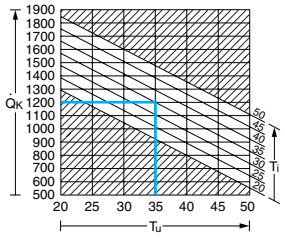
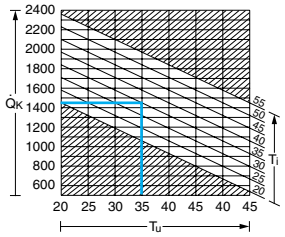
Detailed product information can be found on the pages referenced on the bottom right corners.

Air conditioning side walls

Part No. 3331.116 3331.140
3331.316 3331.340



Part No. 3331.216 3331.240
3331.416 3331.440



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

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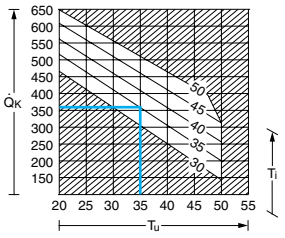
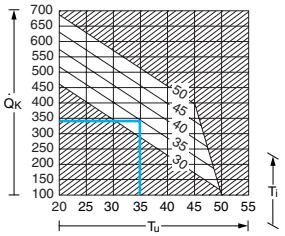
Micro air conditioners

Part No. 3205.100 3203.100



Part No. 3206.100 3204.100



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

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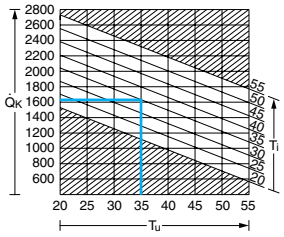
Wallmount air conditioners

Part No. 3279.100 3298.100
3279.500 3298.500

Part No. 3260.140 3260.500
3260.146 3260.460



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

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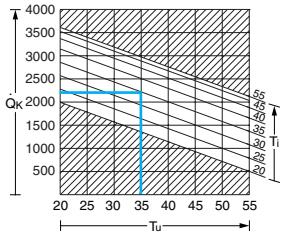
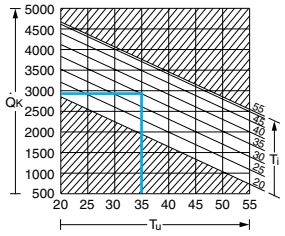
Wallmount air conditioners

Part No. 3390.100 3390.500
3390.115 3390.515
3390.140 3390.540



Part No. 3392.100 3392.500
3392.115 3392.515
3392.140 3392.540



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

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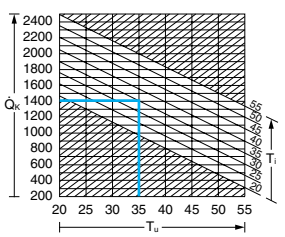
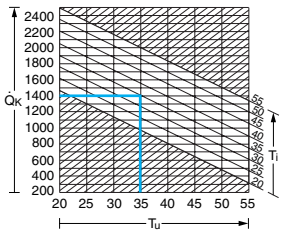
Wallmount air conditioners

Part No. 3255.100 3255.140
3255.500 3255.540



Part No. 3395.100 3395.500

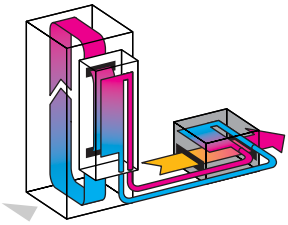


T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Pages 498/499

Readily available
Rittal mini chillers can be mounted on top of any equipment enclosure, or integrated in a machine.

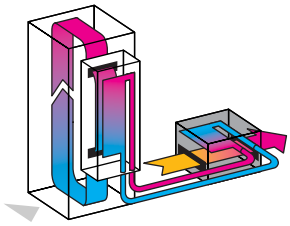
■ Mini chillers



Useful cooling capacity		**3650 BTU/1070 W**	**5665 BTU/1660 W**	**11,390 BTU/3300 W**		**17,080 BTU/5000 W**	
Voltage		230 V 50/60 Hz		400 V, 3~	460 V, 3~	400 V, 3~	460 V, 3~
Dimensions (inches/mm)	H W D	16/400 24/600 17/426		24/600 27/680 25/625			
Microcontroller		●	●	●	●	●	●
Pump		●	●	●	●	●	●
Reservoir		●	●	●	●	●	●
Reservoir capacity		0.7 gal/2.5 l		8.5 gal/32 l			
Color		RAL 7035 light grey					
Part No. SK		**3318.510**	**3319.510**	**3320.500**	**3320.502**	**3334.500**	**3334.502**
Pages		506/507		508/509			
CE-Conformity		●	●	●	●	●	●

Robust and practical
These chillers are built into an industrial enclosure, requiring only a small footprint. Oil or water can be cooled with this practical design.

■ Small to medium capacity freestanding water and oil chillers

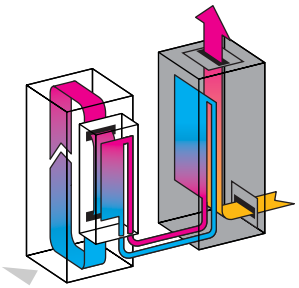


Useful cooling capacity		**7170 BTU/ 2100 W**	**10,350 BTU/ 3060 W**	**13,770 BTU/ 4030 W**	**13,700 BTU/ 4000 W**	**20,660 BTU/ 6050 W**	**20,500 BTU/ 6000 W**	**25,250 BTU/ 7390 W**	**26,980 BTU/ 7900 W**
Voltage*		460 V, 3~							
Dimensions in inches/mm	H W D	28/720 18/465 21/540	38/960 19/485 26/650			47/1180 24/ 595 32/ 800			
Microcontroller		●	●	●	●	●	●	●	●
Pump		●	●	●	●	●	●	●	●
Reservoir		●	**3336.209**	●	–	●	–	●	–
Reservoir capacity		4.5 gal/17 l	9 gal/33 l			15 gal/57 l			
Color		RAL 7035 light grey							
Part No. SK for oil chillers		**–**	**3337.209**	**–**	**3337.309**	**–**	**3337.509**	**–**	**3337.609**
Part No. SK for water chillers		**3336.109**	**3336.209**	**3336.309**	**–**	**3336.509**	**–**	**3336.609**	**–**
Pages		510/511							
CE-Conformity		●	●	●	●	●	●	●	●

* For 400 V order Part No. 3336.XX0; 3337.XX0.

High performance
Our standard series offers units from 20,500 to 85,300 BTU or 6 to 25 kW useful cooling capacity.
These units can be integrated into our new TS 8 Top Enclosure System and are equipped with an integral reservoir and pump.

■ Standard chillers/based on TS 8



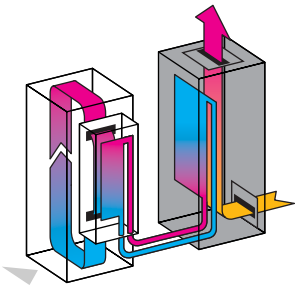
Useful cooling capacity		20,500 BTU/ 6 kW	25,600 BTU/ 7.5 kW	34,300 BTU/ 10 kW	41,000 BTU/ 12 kW	51,200 BTU/ 15 kW	68,260 BTU/ 20 kW	85,300 BTU/ 25 kW
Voltage		400 V, 3~/460 V, 3~						
Dimensions in inches/mm	H	48/1200		79/2000			79/2000	
	W	32/ 800		32/ 800			48/1200	
	D	24/ 600		24/ 600			24/ 600	
Microcontroller		●	●	●	●	●	●	●
Reservoir capacity		21 gal/80 l		32 gal/120 l			79 gal/300 l	
Part No. 400 V/50/60 Hz		**3335.060**	**3335.075**	**3335.100**	**3335.120**	**3335.150**	**3335.200**	**3335.250**
Part No. 460 V/60 Hz, 3~		**3335.062**	**3335.072**	**3335.102**	**3335.122**	**3335.152**	**3335.202**	**3335.252**
Pages		512/513		514/515				
Color		RAL 7035 light grey						
CE-Conformity		●	●	●	●	●	●	●

Special project series

Customer designed, tailored applications from 3400 to 545,000 BTU – with adaptation to specific location requirements are available. Contact Rittal for further details.

Rugged and compact
Designed for medium to high heat loads for a variety of process cooling applications, these rugged and compact chillers provide reliable cooling performance.

■ High capacity freestanding water and oil chillers



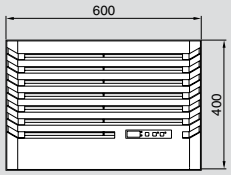
Useful cooling capacity		45,700 BTU	66,900 BTU	71,710 BTU	41,000 BTU	59,700 BTU	68,300 BTU
Voltage		460 V 60 Hz, 3~					
Dimensions (inches/mm)	H	46/1178					
	W	24/ 615					
	D	46/1160					
Microcontroller		●	●	●	●	●	●
Reservoir capacity		21 gal/80 l (3336 series)			–	–	–
Part No. 460 V/60 Hz water chiller		**3336.812**	**3336.822**	**3336.832**	**–**	**–**	**–**
Part No. 460 V/60 Hz oil chiller		**–**	**–**	**–**	**3337.702**	**3337.712**	**3337.727**
Pages		516/517					
CE-Conformity		●	●	●	●	●	●

Function:
The chiller supplies coolant within a ± 2 °C temperature range via the electronic controller. In this way, the water can be routed to the equipment by the integral pump, without the need for an additional reservoir. The pump capacity curve and flow resistance of the equipment connected to the chiller allows for proper sizing. The design of the chillers will blend in seamlessly with our climate control equipment.The microcontroller may be installed in the front or the rear. A stand alone installation is also possible.

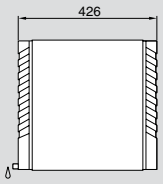
Technical description:
- Space saving and modular construction of the cooling components. Components built on a rugged base panel, yet easily accessible for maintenance.
- Controls and electric components protected to NEMA 12/IP 44.
- Performance range: 3650 to 5665 BTU/ 1070 to 1600 W.
- Hermetically sealed compressor.
- Condensers with axial fans.
- Coolant transfer pumps.
- Exact temperature control and monitoring through microprocessor technology and digital displays.
- Ready for connection with terminal block.
- Collective fault signal with potential free relay contact.
- Metal filter mats as an accessory.
- Special configurations upon request.

Configuration:
Pre-wired and plumbed, ready for installation, complete with multi-lingual documentation, including functional diagram and wiring diagram.

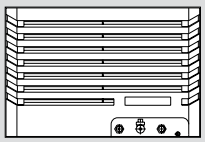
Front view



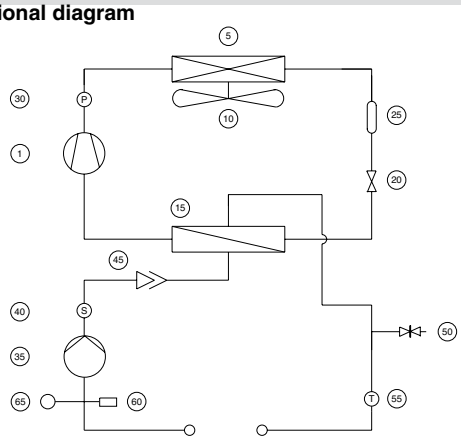
Side view



Rear view

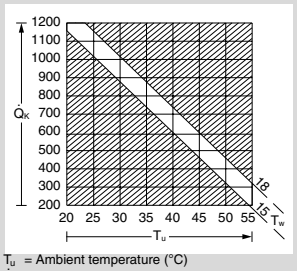


Functional diagram



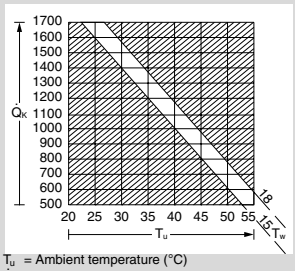
Legend:
1. Compressor
5. Condenser
10. Condenser fan
15. Evaporator
20. Expansion valve
25. Filter dryer
30. Water tank
35. Water pump
40. Flow switches
45. Vent valve
50. Water intake
55. Water temperature sensor
60. Pressure valve
65. Pressure expansion chamber

Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_w = Water inlet temperature (°C)

Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_w = Water inlet temperature (°C)

Part No. SK		**3318.510**	**3319.510**
Rated operating voltage Volt/Hz		230/50/60	230/50/60
Dimensions in inches/mm	H W D	16/400 24/600 17/426	16/400 24/600 17/426
Useful cooling capacity at **T_w = 65 °F/+ 18 °C** **T_u = 90 °F/+ 32 °C**		**3275/3650 BTU**	**5085/5665 BTU**
Power		630/780 W	845/1050 W
Rated current maximum		4.1 A	5.4 A
Refrigerant*		R134 a, 34 oz/0.975 kg	R134 a, 33 oz/0.925 kg
$P_{max.}$ cooling circuit		363 psi/25 bar	363 psi/25 bar
Ambient temperature		41 °F to 109 °F/+ 5 °C to + 43 °C	41 °F to 109 °F/+ 5 °C to + 43 °C
Fluid temperatures		50 °F to 86 °F/+ 10 °C to + 30 °C	50 °F to 86 °F/+ 10 °C to + 30 °C
Pump capacity		1.6 gpm/6 l/min	1.6 gpm/6 l/min
Reservoir		yes	yes
Reservoir capacity		0.7 gal/2.5 l	0.7 gal/2.5 l
Pressure head (external)		34.8 psi/2.4 bar	34.8 psi/2.4 bar
Water connection		2 x $^1/_2$" IG	2 x $^1/_2$" IG
Weight		106 lbs/48 kg	112 lbs/51 kg
Protection ratings (electric)		NEMA 12/IP 44	NEMA 12/IP 44
Air displacement (unimpeded air flow)		530 cfm/900 m^3/h	530 cfm/900 m^3/h
Temperature control setting range 50 °F to 88 °F/+ 10 °C to + 30 °C		Microcontroller factory setting at 65 °F/+ 18 °C	Microcontroller factory setting at 65 °F/+ 18 °C

* Other refrigerants available upon request. Specifications subject to change.

Mini chillers, useful cooling capacity 3650/5665 BTU; 1070/1660 W

Special customer options pictured.

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		3650 BTU/1070 W	5665 BTU/1660 W
Voltage		230 V	230 V
Dimensions (inches/mm)	H W D	16/400 24/600 17/426	
Microcontroller		●	●
Water system		plastic tank 0.7 gal/2.5 l	plastic tank 0.7 gal/2.5 l
Part No. SK		**3318.510**	**3319.510**

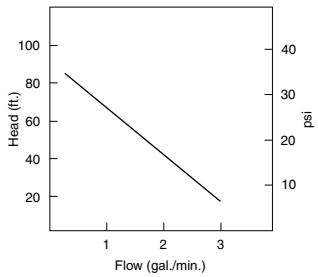
Accessories:

Filters, metal filters,
see page 567.

Available options:

- Stainless steel piping
- Ambient temperature tracking
- Higher capacity pumps

Pump Capacity Curve (50/60 Hz)



Microcontroller
For control of the water temperature and system analysis with collective fault signal.

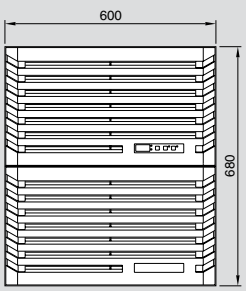
Precise cooling of process control, with coolant chilling.

Function:
Compact, space saving design. These chillers are used to cool water and are able to maintain constant coolant flow, via an integral pump. The warmed return coolant flows into the chiller reservoir, where it is cooled back down to the set discharge temperature in the fully hermetic cooling cycle. All safety components are designed to DIN EN 378 and VBG 20. The refrigerants used comply with the latest regulations.

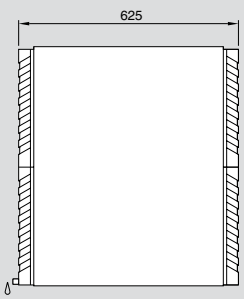
Technical description:
- Compact design of the cooling components with built-in reservoir.
- Your choice of front or back display.
- Controls and electric protected to NEMA 12/IP 54.
- Performance range: 11,390 to 17,080 BTU.
- Hermetically sealed compressors; condensers with axial fans.
- High capacity pump.
- Exact temperature control through microprocessor technology and digital displays.
- Fully wired, ready for connection.
- Collective fault signal with potential free contact.
- Metal filter mats as an accessory.
- Special configurations upon request.

Configuration:
Pre-wired and plumbed, ready for installation, complete with multi-lingual documentation, including operating instructions and wiring diagram.

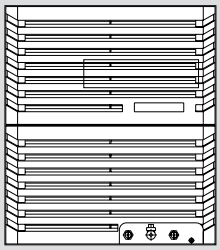
Front view



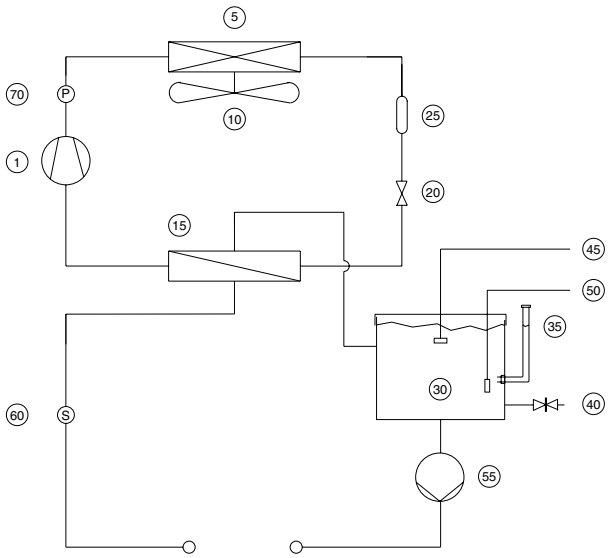
Side view



Rear view



Functional diagram



Legend:
1. Compressor
5. Condenser
10. Condenser fan
15. Evaporator
20. Expansion valve
25. Filter dryer
30. Water tank
35. Intake valve
40. Drain
45. Water level switch (optional)
50. Temperature sensor
55. Pump
60. Flow monitor
70. Pressostat

Part No. SK	**3320.500**	**3320.502**	**3334.500**	**3334.502**
Rated operating voltage Volt/Hz	400/50/60, 3~	460/60, 3~	400/50/60, 3~	460/60, 3~
Dimensions in inches/mm H W D	27/680 24/600 25/625		27/680 24/600 25/625	
Useful cooling capacity at **T_w = 65 °F/+ 18 °C** **T_u = 90 °F/+ 32 °C**	**11,390 BTU/3300 W**		**17,080 BTU/5000 W**	
Power	1400 W		2050 W	
Rated current maximum	3 A		5.2 A	
Refrigerant*	R134 a, 2.6 lbs/1.2 kg		R134 a, 4.1 lbs/1.875 kg	
$P_{max.}$ cooling circuit	334 psi/23 bar		334 psi/23 bar	
Ambient temperature	41 °F to 109 °F/+ 5 °C to + 43 °C		41 °F to 109 °F/+ 5 °C to + 43 °C	
Fluid temperature	50 °F to 86 °F/+ 10 °C to + 30 °C		50 °F to 86 °F/+ 10 °C to + 30 °C	
Pump capacity	4.76 gpm / (18 liters per minute)		4.76 gpm / (18 liters per minute)	
Tank	plastic UL rated material		plastic UL rated material	
Tank size	8.45 gal/32 l		8.45 gal/32 l	
Pressure head (external)	41 psi/2.8 bar		41 psi/2.8 bar	
Water connections	2 x 1/2" IG		2 x 1/2" IG	
Weight	112 lbs/51 kg		123 lbs/56 kg	
Protection ratings (electrical components)	NEMA 12/IP 54		NEMA 12/IP 54	
Air displacement (unimpeded air flow)	940 cfm/1600 m³/h		1060 cfm/1800 m³/h	
Temperature control settings range: 50 °F to 88 °F/+ 10 °C to + 30 °C	Microcontroller factory setting 65 °F/+ 18 °C		Microcontroller factory setting 65 °F/+ 18 °C	

* Other refrigerants are available upon request. Specifications subject to change.

Mini chillers, useful cooling capacity 10,240/15,360 BTU; 3000/4500 W

Special customer options pictured.

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity	11,390 BTU/3300 W		17,080 BTU/5000 W	
Voltage	400 V, 3~	460 V, 3~	400 V, 3~	460 V, 3~
Dimensions (inches/mm) H x W x D	27″ x 24″ x 25″ 680 x 600 x 625 mm			
Microcontroller	●	●	●	●
Water reservoir	plastic tank 8.5 gal/32 l		plastic tank 8.5 gal/32 l	
Part No. SK	**3320.500**	**3320.502**	**3334.500**	**3334.502**

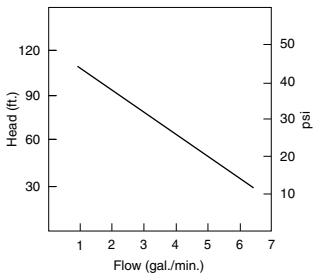
Accessories:

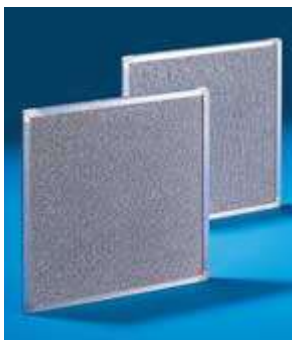
Filters, metal filters,
see page 567.

Available options:

- Stainless steel piping
- Ambient temperature tracking
- Higher capacity pumps.

Pump Capacity Curve (50/60 Hz)





Metal filters
Provide good protection against contamination when using chillers in dusty environments.

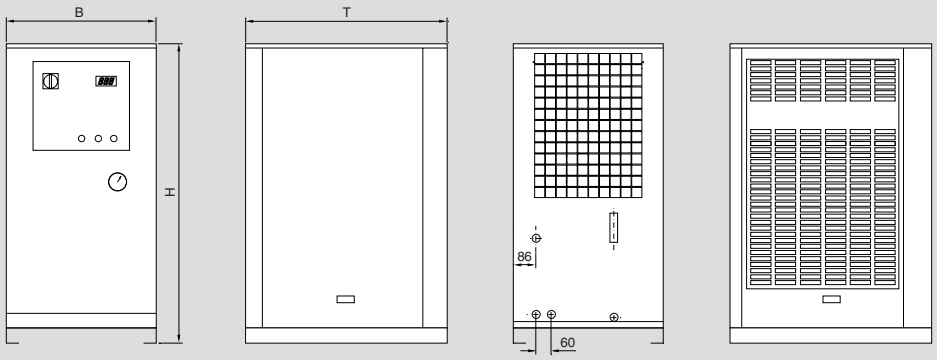
Air/water heat exchanger
for enclosure cooling from, 2400 to 17,000 BTU/ 1 – 5 kW capacity.

Function:
The safe and performance specific chiller series makes the specific tasks of cooling fluids possible and is used in a multitude of applications.

Technical description:
- Robust design in three enclosure sizes.
- Same enclosure size for oil and water chillers.
- Available space for addition of custom features.
- Air discharge available either on the left or right side of enclosure.

Configuration:
Wired and plumbed, ready for connection, complete housing and service access through the removal of the side wall.

Front view | **Side view** | **Rear view exhaust** | **Side view**



B = Width
T = Depth

Part No. SK for oil chillers	**3337.200**	**3337.209**	**3337.300**	**3337.309**	**3337.500**	**3337.509**	**3337.600**	**3337.609**
Rated operating voltage Volt/Hz	400/50/60, 3~	460/60, 3~	400/50/60, 3~	460/60, 3~	400/50/60, 3~	460/60, 3~	400/50/60, 3~	460/60, 3~
Dimensions in inches/mm H W D	38/960 19/485 26/650				47/1180 24/ 595 32/ 800			
Usable cooling capacity at oil ISO VG 32 T_{oil} = 68 °F/+ 20 °C T_u = 90 °F/+ 32 °C	**8710/10,450 BTU 2550/3060 W**		**11,600/13,700 BTU 3400/4000 W**		**17,500/20,500 BTU 5125/6000 W**		**22,880/26,980 BTU 6700/7900 W**	
Power	1.2/1.5 kW		1.6/1.95 kW		2.3/2.9 kW		2.8/3.6 kW	
Rated current maximum	3.1/3.2 A		3.7/3.7 A		4.9/4.9 A		5.4/5.7 A	
Refrigerant*	R134 a							
$P_{max.}$ cooling circuit	348 psi/24 bar							
Ambient temperature range	40 °F to 112 °F/+ 5 °C to + 45 °C							
Temperature range of fluids	59 °F to 86 °F/+ 15 °C to + 30 °C							
Pump capacity per volume	2.65 gpm/10 l/min				6.3 gpm/24 l/min			
Reservoir (optional)	Stainless steel							
Reservoir size (optional)	8.7 gal/33 l				15 gal/57 l			
Pressure head (external)	145 psi/10 bar							
Oil hook-ups	3/4″ IG				1″ IG			
Weight	231 lbs/105 kg				331 lbs/150 kg			
Protection rating of electronics	NEMA 12/IP 54							
Air displacement (unimpeded air flow)	1 x 736 cfm		1 x 1051 cfm		1 x 1849 cfm		1 x 1849 cfm	
Temperature control (return temperature)	Electrical controls with digital display, range of settings 50 °F to 88 °F; factory setting 65 °F/+ 18 °C							

* Other refrigerants available upon request. Specifications subject to change.

Part No. SK for water chillers	**3336.100**	**3336.109**	**3336.200**	**3336.209**	**3336.300**	**3336.309**	**3336.500**	**3336.509**	**3336.600**	**3336.609**
Rated operating voltage Volt/Hz	400/50/60, 3~	460/60, 3~	400/50/60, 3~	460/60, 3~	400/50/60, 3~	460/60, 3~	400/50/60, 3~	460/60, 3~	460/50/60, 3~	460/60, 3~
Dimensions in inches/mm H W D	28/720 18/465 21/540		38/960 19/485 26/650				47/1180 24/ 595 31/ 800			
Usable cooling capacity at T_w = 65 °F/+ 18 °C T_u = 90 °F/+ 32 °C	**7170 BTU 2100 W**		**8800/10,350 BTU 2580/3030 W**		**11,475/13,770 BTU 3360/4030 W**		**17,230/20,660 BTU 5040/6050 W**		**21,037/25,250 BTU 6160/7390 W**	
Power	1.3 kW		1.2/1.5 kW		2.6/2.0 kW		2.1/2.4 kW		3.0/3.5 kW	
Rated current maximum	2.7 A		2.7/2.7 A		3.5/3.5 A		4.4/4.4 A		5.6/6.0 A	
Refrigerant	R134 a									
$P_{max.}$ cooling circuit	348 psi/24 bar									
Ambient temperature range	40 °F to 112 °F/+ 5 °C to + 45 °C									
Temperature range of fluids	59 °F to 86 °F/+ 15 °C to + 30 °C									
Pump capacity for volume	3.5 gpm/(3 liters per minute)						7.1 gpm/(27 liters per minute)			
Water reservoir	Stainless steel									
Reservoir contents	4.5 l gal/17 l		8.7 gal/33 l				15.1 gal/57 l			
Pressure head (external)	37 psi/2.5 bar									
Water hook-ups	3/4″ IG						1″ IG			
Weight	165 lbs/75 kg		216 lbs/98 kg				315 lbs/143 kg			
Air displacement (unimpeded air flow)	1 x 736 cfm				1 x 1050 cfm		1 x 1850 cfm			
Temperature control (flow temperature)	Electrical controls with digital display, range of settings 50 °F to 88 °F/+ 10 °C to + 30 °C; factory setting 65 °F/+ 18 °C									

Oil and water chillers, useful cooling capacity 7170/26,980 BTU; 2100/7900 W

Special customer options pictured.

PRO OZON
Umweltorientierte Kühltechnik

Useful cooling capacity: oil cooling		–	10,450 BTU	13,700 BTU	20,500 BTU	26,980 BTU
Useful cooling capacity: water cooling		7170 BTU	10,350 BTU	13,770 BTU	20,660 BTU	25,250 BTU
Dimensions in inches/mm	H	28/720	38/960		47/1180	
	W	18/465	19/485		24/ 595	
	D	21/540	26/650		32/ 800	
Microcontroller		●	●	●	●	●
Part No. SK oil chiller	**400 V**	**–**	**3337.200**	**3337.300**	**3337.500**	**3337.600**
Part No. SK water chiller	**400 V**	**3336.100**	**3336.200**	**3336.300**	**3336.500**	**3336.600**
Part No. SK oil chiller	**460 V**	**–**	**3337.209**	**3337.309**	**3337.509**	**3337.609**
Part No. SK water chiller	**460 V**	**3336.109**	**3336.209**	**3336.309**	**3336.509**	**3336.609**

Accessories:

Metal filters, casters, eyebolts upon request.

Available options:

- Ambient temperature tracking
- Condensor pressure regulation at T_u < 15 °C/ 59 °F
- Tested and certified enclosure
- Electrical water level indicator
- Flow monitor
- Low pressure monitor
- Hot gas bypass regulation in the cooling circuit.

Additional for SK 3337. . . .:

- built-in reservoir interior in Type 304 stainless steel/ V2A, Capacity as in SK 3336. . . .

Basic equipment: louvered air intake.

Depending on the configuration, the air intake can be on the right or left, simply by exchanging the side wall.

Function:
This new generation of chillers has been integrated into the TS8 Top Enclosure System, to create a separate series with its own look.

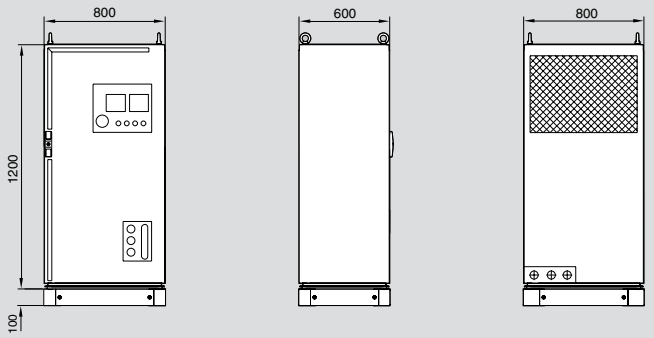
Thanks to the modular cooling structure of the chiller, Rittal has achieved a compact design, that provides ease of service and maintenance as well as ensures optimum functional and operational reliability.

The product range covers useful cooling outputs from 20,500 to 85,300 BTU, and is equipped with advanced controls, a water reservoir and integral pump.

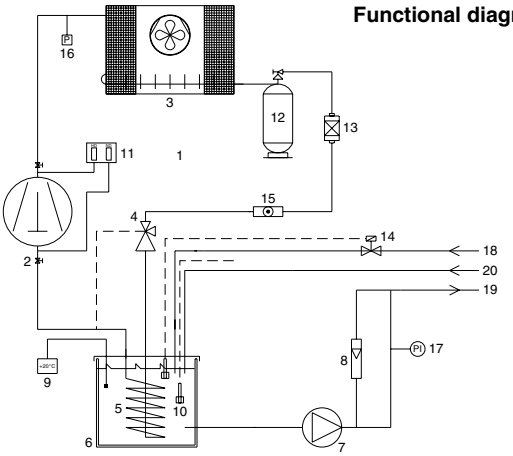
Technical description:
- Compact footprint with controls in the front and air intake in the rear.
- Suitable for suiting in a bayed arrangement.
- Fully hermetically sealed cooling circuit with high and lower pressure pressostat.
- High-performance condenser with axial fans.
- High-performance evaporator coil to cool the liquid medium.
- Reservoirs of polypropylene or stainless steel.
- Recirculating pump for control of the water circuit.
- Precise temperature control of ± 1 °C at full capacity.
- Special fittings and options available on request.
- Metal filter mats available as accessories.

Configuration:
Fully wired unit ready for connection, with complete housing. Service access is obtained via removable panels. The internal components are accessed via a lockable door. With multi-lingual documentation, including functional and wiring diagrams.

Front view **Side view** **Rear view**



Functional diagram



Legend:

1. Compressor cooling unit
2. Compressor
3. Condenser with axial fan
4. Expansion valve
5. Evaporator
6. Water tank
7. Primer pump
8. Flow meter
9. Thermostat
10. Fault message low water level
11. Water tank
12. Collector
13. Filter dryer
14. Solenoid valve for water intake
15. Sight glass
16. Filter monitor
17. Manometer
18. Optional: automatic refill
19. Water intake
20. Water return

Part No. SK		**3335.060**	**3335.062**
Rated operating voltage Volt/Hz		400/50, 3~	460/60, 3~
Dimensions in inches/mm	H W D	48/1200 32/ 800 24/ 600	
Base/plinth in inches/mm	H	4/ 100	
Useful cooling capacity at **T_w = 65 °F/+ 18 °C** **T_u = 90 °F/+ 32 °C**		**20,500 BTU/6000 W**	
Power		2.3 kW	
Rated current maximum		7.6 A	
Refrigerant*		R134 a	
$P_{max.}$ cooling circuit		348 psi/24 bar	
Ambient temperature range		41 °F to 110 °F/+ 5 °C to + 43 °C	
Temperature range fluids		50 °F to 86 °F/+ 10 °C to + 30 °C	
Pump capacity		5.7 gpm/21.1 l/min	
Water reservoir		plastic UL rated material	
Reservoir size		21.1 gal/80 l	
Pressure head (external)		45 psi/3.1 bar	
Water connections		3/4″ IG	
Weight		441 lbs/200 kg	
Protection ratings (electrical components)		NEMA 12/IP 54	
Air displacement (unimpeded air flow)		1235 cfm/2100 m³/h	
Temperature controls: settings range: 50 °F to 88 °F/+ 10 °C to + 30 °C		microcontroller factory setting 65 °F/+ 18 °C	

3335.075	**3335.072**
400/50, 3~	460/60, 3~
48/1200 32/ 800 24/ 600	
4/ 100	
25,600 BTU/7500 W	
3.0 kW	
11.7 A	
R134 a	
348 psi/24 bar	
41 °F to 110 °F/+ 5 °C to + 43 °C	
50 °F to 86 °F/+ 10 °C to + 30 °C	
5.7 gpm/21.1 l/min	
plastic UL rated material	
21.1 gal/80 l	
45 psi/3.1 bar	
3/4″ IG	
485 lbs/220 kg	
NEMA 12/IP 54	
1410 cfm/2400 m³/h	
microcontroller factory setting 65 °F/+ 18 °C	

* Other coolants available upon request.

Useful cooling capacity 20,500/25,600 BTU; 6000/7500 W

Special customer options pictured.

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		20,500 BTU/6000 W		25,600 BTU/7500 W	
Voltage		400 V, 3~	460, V–3~	400 V, 3~	460 V, 3~
Dimensions (inches/mm)	H W D	48/1200 32/ 800 24/ 600		48/1200 32/ 800 24/ 600	
Reservoir capacity		21.1 gal/80 l		21.1 gal/80 l	
Microcontroller		●	●	●	●
Part No. SK		**3335.060**	**3335.062**	**3335.075**	**3335.072**

Additional parts needed:

Safety series with adjustable pressure safety valve in the external plumbing circuit.

Accessories:

Metal filters
upon request.

Available options:

- Stainless steel reservoir
- Ambient temperature tracking
- Flow monitor.

Detail of pump
Each unit is equipped with a pump, ready for connection.

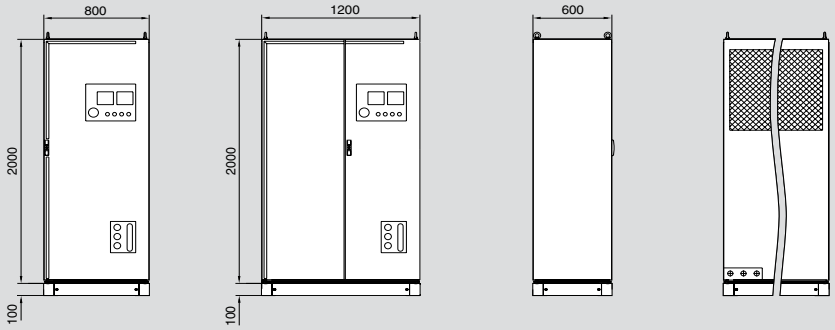
Detail of controller
The electronic controller for monitoring the various functions displays all system messages.

The reliable, application-specific series of chiller systems enables targeted cooling of liquid media, and is used in many process areas.

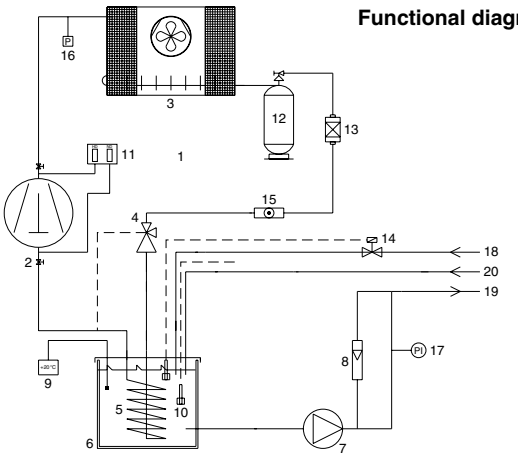
Technical description:
- Compact footprint with control components in the front and air intake in the rear.
- Suitable for baying.
- Fully hermetically sealed cooling circuit with high and lower pressure pressostat.
- High-performance condenser with axial fans.
- High-performance evaporator coil to cool the liquid medium.
- Reservoirs of polypropylene and stainless steel.
- Circulating pump for water and variable design of the water circuit.
- Precise temperature control of ± 2 °C at full capacity.
- Special fittings and options upon request.
- Metal filter available as an accessory.

Configuration:
Fully wired unit, ready for connection, with complete housing. Service access is obtained via removable panels. The components are accessed via a lockable front door. With multi-lingual documentation, including functional and wiring diagrams.

Front view **Front view** **Side view** **Rear view**



Functional diagram



Legend:

1. Compressor cooling unit
2. Compressor
3. Condenser with axial fan
4. Expansion valve
5. Evaporator
6. Water tank
7. Primer pump
8. Flow meter
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10. Fault message low water level
11. Water tank
12. Collector
13. Filter dryer
14. Solenoid valve for water intake
15. Sight glass
16. Filter monitor
17. Manometer
18. Optional: automatic refill
19. Water intake
20. Water return

Part No. SK 400 V/60 Hz, 3~	**3335.100**	**3335.120**	**3335.150**	**3335.200**	**3335.250**
Part No. SK 460 V/60 Hz, 3~	**3335.102**	**3335.122**	**3335.152**	**3335.202**	**3335.252**
Dimensions in inches/mm H W D	79/2000 32/ 800 24/ 600			79/2000 48/1200 24/ 600	
Plinth height in inches/mm	4/ 100				
Useful cooling capacity at T_w = 65 °F/+ 18 °C T_u = 90 °F/+ 32 °C	**34,300 BTU/ 10 kW**	**41,000 BTU/ 12 kW**	**51,200 BTU/ 15 kW**	**68,260 BTU/ 20 kW**	**85,300 BTU/ 25 kW**
Power	4.0 kW	4.4 kW	5.1 kW	7.1 kW	8.6 kW
Rated current maximum	15.2 A	17.2 A	23.0 A	30.0 A	33.0 A
Refrigerant*	R134 a				
$P_{max.}$ cooling circuit	348 psi/24 bar				
Ambient temperature range	41 °F to 110 °F/+ 5 °C to + 43 °C				
Temperature range of fluid mediums	50 °F to 86 °F/+ 10 °C to + 30 °C				
Pump capacity for volume	7.7 gpm/(24 liters per minute)		11.4 gpm/(43 l/min)	13 gpm/(57 l/min)	19.0 gpm/(72 l/min)
Water reservoir	made of plastic UL rated material				
Reservoir size	32 gal/120 l			79 gal/300 l	
Pressure head (external)	44 psi/3.0 bar			39 psi/2.7 bar	48 psi/3.3 bar
Water connections	1″ IG				
Weight	573 lbs/260 kg	606 lbs/275 kg	640 lbs/290 kg	1146 lbs/520 kg	1235 lbs/560 kg
Protection ratings (electrical components)	NEMA 12/IP 54				
Air displacement (unimpeded air flow)	3100 cfm/5270 m^3/h		5650 cfm/ 9600 m^3/h	6470 cfm/11,000 m^3/h	
Temperature control	Microcontroller with digital display, settings range: 50 °F to 86 °F/+ 10 °C to +30 °C factory setting of 65 °F/+ 18 °C				

* Other refrigerants available on request. Specifications subject to change.

Useful cooling capacity 34,300/85,300 BTU; 10/25 kW

Special customer options pictured.

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		34,300 BTU/ 10 kW	41,000 BTU/ 12 kW	51,200 BTU/ 15 kW	68,260 BTU/ 20 kW	85,300 BTU/ 25 kW
Dimensions in inches/mm	H	79/2000			79/2000	
	W	32/ 800			48/1200	
	D	24/ 600			24/ 600	
Microcontroller		●	●	●	●	●
Part No. SK 400 V, 3~		**3335.100**	**3335.120**	**3335.150**	**3335.200**	**3335.250**
Part No. SK 460 V, 3~		**3335.102**	**3335.122**	**3335.152**	**3335.202**	**3335.252**

Additional parts needed:

Safety series with adjustable pressure safety valve in the external plumbing circuit.

Accessories:

Metal filters
available as accessory.

Available options:

- Stainless steel reservoir
- Ambient temperature tracking
- Flow monitor.

High economy
The design also offers heat recovery with optional water-cooled condensers.

System cooling
Process-controlled cooling guarantees the level of precision required for today's production processes.

Function:
High capacity freestanding water and oil chillers are suitable for process and machine cooling in a variety of applications.

Technical descriptions:
- Three capacities available in one compact chassis size.
- Designed for harsh industrial environments.
- Microprocessor for precise control.
- International approvals and globally accepted refrigerant.
- Stainless steel reservoir.

Configuration:
Fully wired and plumbed, ready for connection. Easy service access via removable side wall.

Part No. SK 460 V/60 Hz, 3~ Water chiller		**3336.812**	**3336.822**	**3336.832**	**–**	**–**	**–**
Part No. SK 460 V/60 Hz, 3~ Oil chiller		**–**	**–**	**–**	**3337. 702**	**3337. 712**	**3337. 727**
Dimensions in inches/mm	H W D	46/1178 24/ 615 46/1160					
Useful cooling capacity at T_w = 65 °F/+ 18 °C T_u = 90 °F/+ 32 °C		**45,700 BTU/ 13,380 W**	**66,900 BTU/ 19.6 kW**	**71,710 BTU/ 21 kW**	**–**	**–**	**–**
Useful cooling capacity with oil ISO VG 32 at T_w = 68 °F/+ 20 °C T_u = 90 °F/+ 32 °C		**–**	**–**	**–**	**41,000 BTU/ 12 kW**	**59,700 BTU/ 17.5 kW**	**68,300 BTU 20 kW**
Power		5.3 kW	6.5 kW	7.1 kW	6.3 kW	6.5 kW	7.1 kW
Rated current maximum		10.8 A	13.3 A	14.3 A	6.3 A	13.3 A	14.3 A
Refrigerant		R407 c					
Ambient temperature range		40 °F to 112 °F/+ 5 °C to + 45 °C					
Temperature range of fluid mediums		59 °F to 86 °F/+ 15 °C to + 30 °C					
Pump capacity, water flow		9 gpm/35 l/min			14 gpm/54 l/min		
Water reservoir		stainless steel					
Reservoir size		21 gal/80 l			–		
External head pressure		36 psi/2.5 bar			218 psi/15 bar		
Water connections		1″ BSP					
Weight		500 lbs/225 kg					
Protection ratings (electrical components)		NEMA 12/IP 54					
Air displacement (unimpeded air flow)		4500 cfm/6880 m^3/h					
Sound*		69 dBa					
Temperature control		microcontroller with digital display, settings range: 50 °F to 88 °F/+ 10 °C to + 30 °C factory setting of 64 °F/+ 18 °C					

Special voltages/frequencies available upon request.
* Measure at 3.3 ft (3 m) from the unit, 5.2 ft (1.6 m) from ground level, in free space.

High capacity freestanding chillers, useful cooling capacity of 41,000 – 71,710 BTU

Special customer options pictured.

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Part No. SK for water or oil chiller systems			
Useful cooling capacity for WATER chillers	45,700 BTU	66,900 BTU	71,710 BTU
Part No. SK water chiller	**3336.812**	**3336.822**	**3336.832**
Useful cooling capacity for OIL chillers	41,000 BTU	59,700 BTU	68,300 BTU
Part No. SK oil chiller	**3337.702**	**3337.712**	**3337.727**
Voltage	460 V, 3~		
Dimensions H W D	46/1178 24/ 615 46/1160		
Microcontroller	●		

Accessories:

- Filter mats

Available options:

- Ambient temperature tracability
- Flow monitor
- Water level monitor
- Low ambient temperature operation
- Higher capacity pump

GKG series

The chiller is built into the housing of our TS 8 Top Enclosure System. The chiller and other enclosures can be bayed seamlessly. The equipment connections are tailored to the specific requirements of the system. The modular configuration allows customer-specific requirements to be implemented. Depending on the cooling output required and the pressure resistance of the equipment, the systems are sized to match the enclosure of the bayed TS models.
Rittal guarantees optimum, precise implementation in cooling capacities ranging from 13,600 to 171,000 BTU; 4 to 50 kW.

H x W x D (mm)	Doors	Useful cooling capacity (BTU/kW)
2000 (1800) x 600 x 600 (500)	1	13,600 – 20,500/4 – 6
2000 (1800) x 800 x 600 (500)	1	to 25,600/7.5
2000 (1800) x 800 x 800	1	to 43,000/10
2000 x 1000 x 800 (600)	2	to 51,000/15
2000 x 1200 x 600 (500)	2	to 61,000/18
2000 x 1200 x 800	2	to 85,000/25
2000 x 1600 x 600 (500)	2	to 106,000/31
2000 x 2400 x 800 (600)	4	to 171,000/50
inches/mm: 20/500; 24/600; 32/800; 39/1000; 48/1200; 63/1600; 71/1800; 79/2000; 95/2400		

Alternative TS 8 enclosures are available for selection from a full range (see TS 8 catalog). Installation and mounting of Rittal system accessories can be provided on request.

Special series
With a new frame design, the performance range of the existing chillers series is extended to 120 kW cooling capacity.

Our individualized project approach allows us to implement a customer oriented layout with all kinds of equipment requests and options.

H x W x D (inches/mm)	Doors	Useful cooling capacity (BTU/kW)
78.5 x 44 x 48/ 1995 x 1100 x 1200	2	123,000 – 177,000/ 36 – 52
80 x 89 x 48/ 2030 x 2260 x 1200	2	245,900 – 410,000/ 72 – 120

The enclosures consist of a frame construction with removable panels (side walls, roofs and doors) for easy accessibility and maintenance. A strong frame profile ensures the optimal adaptation of the enclosure to industrial enclosure needs.

Chillers are ideal for central cooling units in extreme heat load environments. They are designed to supply several users simultaneously and provide very effective cooling capacity.

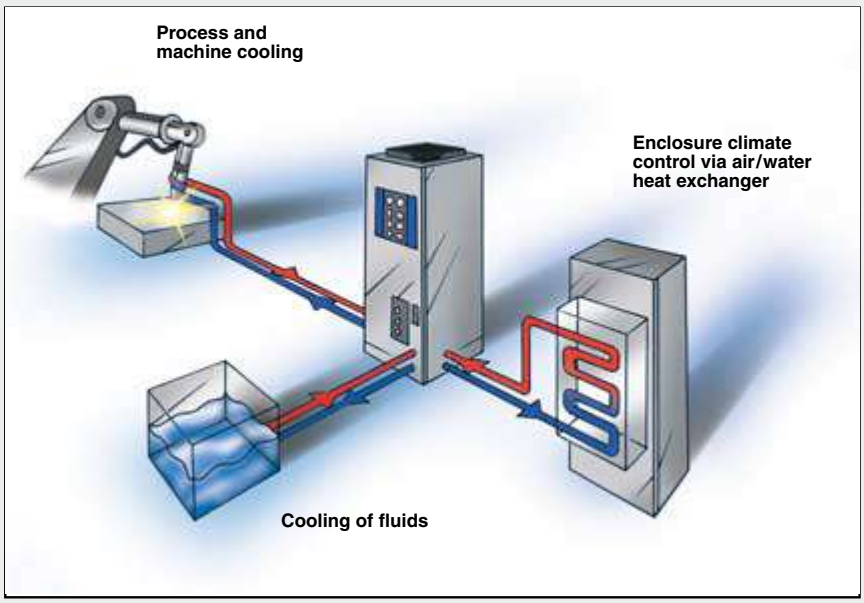
Technical data:

Useful cooling capacity	BTU/kW	13,600 – 410,000/4 – 120
Dimensions	in/mm	see enclosure design special series
Refrigerant**		R407 c
Electrical data Power requirement* Power consumption Starting current	 V kW A	 400 V/50 Hz, 3~ according to cooling component specifications
Pump performance Pressure Volume	 bar m^3/h	 dimensions per user requirements
Noise level		< 69 dBa
Water connections		R $^1/_2$″ to R 2″
Ambient temperature range	°F/°C	41 °F to 109 °F/ + 1 °C to + 43 °C

* Special voltages/frequencies available upon request.
** Alternative refrigerants available upon request

Technical description:
The equipment is adapted to the specific customer requirements. Important components are:
- Fully hermetic compressors.
- Powerful co-axial evaporator coil.
- Condensor with axial or radial fans.
- Circulating pumps with stainless steel or bronze casing.
- Microprocessor-controlled temperature regulation with digital display of set/actual value.
- Output regulation from 0 – 100%.
- Service and maintenance friendly arrangement of cooling components.
- Tanks made of PP or stainless steel can be used.
- Electronics housed in a NEMA 12/IP 54 enclosure, pre-wired, ready for connection.
- Performance range from 13,600 – 410,000 BTU; 4 – 120 kW.
- Collective fault signal with potential free contact.
- Flow monitor.
- Limit monitoring.
- Metal filter mat.

Configuration:
Wired and plumbed ready for connection, complete with multilingual documentation, including functional diagram and wiring plans.



GKG Series, useful cooling capacity 13,600/410,000 BTU; 4/120 kW

Special customer options pictured.

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

		GKG	Special series
Useful cooling capacity		13,600 – 171,000 BTU/ 4 – 50 kW	123,000 – 410,000 BTU/ 36 – 120 kW
Voltage		400 V/50 Hz, 3~	
Dimensions (in/mm)	H W D	71 – 79 /1800 – 2000 24 – 94.5/ 600 – 2400 20 – 32 / 500 – 800	70.5 – 80/1995 – 2030 44 – 133/1100 – 3400 48/1200
Microcontroller		●	●

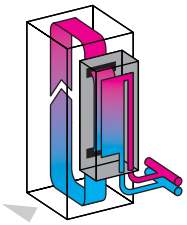
Available options:

- With built-in preheating
- With automatic ventilation and level indicator
- Built-in air/water heat exchanger for secondary cooling
- Double pump with switching according to hours of operation, for added security
- All water carrying parts in Type 304 stainless steel/V2A (no copper)
- Outdoor use (condensor pressure regulator) Remote temperature control
- Variable pump equipment
- Water cooled condensors.

Chiller
with exposed water reservoir for constant water intake temperatures.

Air/water heat exchangers
Available in wallmount or roof-mount versions. Can be integrated into the walls of the TS or PS enclosure systems. The most effective way of removing excessive heat loads with limited available space.

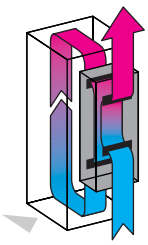
Air/water heat exchangers



Useful cooling capacity		2050 BTU	3400 BTU	4270 BTU	5250 BTU	7860 BTU	10,240 BTU
Dimensions in inches/mm	H W D	20/500 8/200 4/100	20.5/520 12 /298 5.5/135	38/950 8/200 4/100	32.5/825 15 /380 4.5/105	38/950 16/400 8/200	
Height of enclosure in inches/mm							
Installation options							
Stainless steel piping						●	
Temperature control		thermostat					
Part No. SK 230 V 50/60 Hz		**3214.100**	**3217.100**	**3215.100**	**3247.000**	**3218.104**	**3218.100**
Part No. SK 115 V 50/60 Hz		**3214.115**	**3217.115**	**3215.115**	**3247.115**	**–**	**3218.115**
Pages		522/523	522/523	524/525		526/527	
Certifications							
UL			●		●		●
CUL			●		●		●
GS					●		
CE-Conformity		●	●	●	●	●	●

Air/air heat exchangers
Techline heat exchangers can be installed inside or outside of the enclosure.
Roofmount heat exchangers are especially useful in limited space applications.
See page 566 for outdoor NEMA 4 heat exchangers.

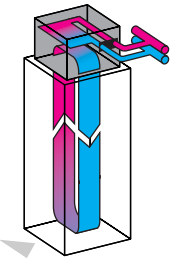
Air/air heat exchangers
wallmount



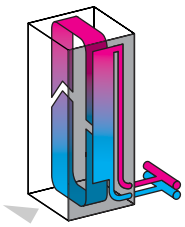
Specific thermal capacity		14.6 W/C	18.1 W/C	18.7 W/C	19.5 W/C	30 W/C	37 W/C
Air displacement (unimpeded air flow)	external	175 cfm/300 m³/h				333 cfm/570 m³/h	
	internal	175 cfm/300 m³/h				333 cfm/570 m³/h	
Dimensions in inches/mm	H W D	15/380 8/187.5 7/162.5	15/380 11/272 7/162.5	20/500 8/187.5 7/162.5	20 /500 11 /271 4.5/110	31 /780 11 /271 4.5/110	29 /730 11 /271 4.5/110
Part No. SK 230 V 50/60 Hz		**3125.000**	**3127.000**	**3126.000**	**3128.000**	**3129.000**	**3130.000**
Part No. SK 115 V 50/60 Hz		**3125.110**	**3127.110**	**3126.110**	**3128.110**	**3129.110**	**3130.110**
Pages		534/535					
Certifications							
UL		●	●	●	●	●	●
CUL		●	●	●	●	●	●
VDE/GS		●	●	●	●	●	●
CE-Conformity		●	●	●	●	●	●

Certification status is current at the time of printing.

Air/water heat exchangers



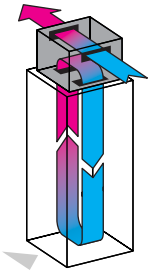
Air/water heat exchangers for TS



	5800 BTU	7680 BTU	11,370 BTU	2390 BTU		17,050 BTU
	11/280 22/547 16/404		16/400 24/600 16/400	79 /1800 24 / 600 2.8/ 70	79 /1800 24 / 600 2.8/ 70	55 /1400 17.8/ 450 9.8/ 250
	71/1800			71/1800	79/2000	
				side wall for TS		
	●					
	microcontroller		thermostat	thermostat		
	3249.104	**3249.100**	**3219.100**	**3316.180**	**3316.200**	**3216.100**
	–	**3249.115**	**3219.115**	**–**	**–**	**3216.115**
	530/531			532/533		530/531
	●	●	●			
	●	●	●			
	●	●	●	●	●	●

Air/air heat exchangers

roofmount



	42 W/C	44 W/C	44.5 W/C	48.1 W/C	63 W/C	69 W/C	66 W/C
	333 cfm/570 m³/h		269 cfm/460 m³/h	269 cfm/460 m³/h	333 cfm/570 m³/h		568 cfm/965 m³/h
	333 cfm/570 m³/h		269 cfm/460 m³/h	269 cfm/460 m³/h	333 cfm/570 m³/h		568 cfm/965 m³/h
	48 /1200 11 / 271 4.5/ 110	59 /1480 11 / 271 4.5/ 110	63 /1600 14 / 355 2.5/ 57.5	70 /1780 17.5/ 439 2.5/ 57.5	59 /1480 17.5/ 439 4.5/ 110	70 /1780 17.5/ 439 4.5/ 110	14.5/362 24 /595 17.5/440
	3131.000	**3132.000**	**3135.000**	**3136.000**	**3133.000**	**3134.000**	**3248.000**
	3131.110	**3132.110**	**3135.110**	**3136.110**	**3133.110**	**3134.110**	**3248.110**
	536/537			536/537			538/539
	●	●	●	●	●	●	
	●	●	●	●	●	●	
	●	●	●	●	●	●	
	●	●	●	●	●	●	●

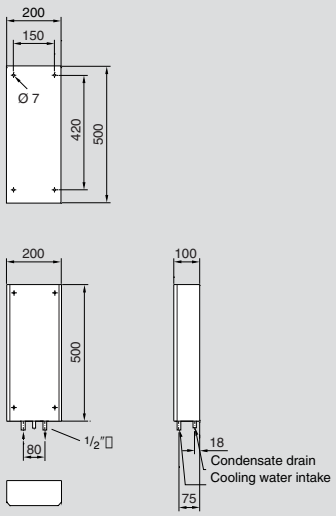
Rittal air/water heat exchangers represent the most efficient thermodynamic way to achieve maximum cooling capacity within the smallest available space. Because of their dependability, they are used worldwide and under many different conditions.

Technical description SK 3214.XXX:
- Useful cooling capacity of 2050 BTU/ 600 W.

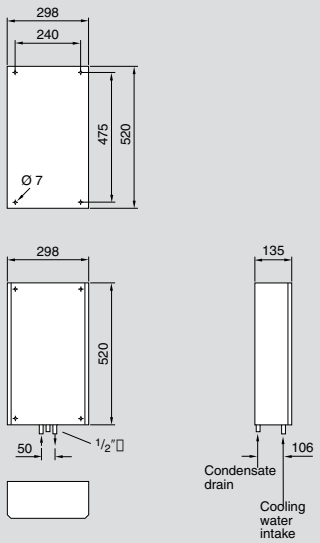
Technical description SK 3217.XXX:
- Useful cooling capacity of 3750 BTU/ 1100 W.

Configuration:
Ready for connection with terminal block or 10 ft/3 m power cord; mounting template, gasket, installation hardware and multi-lingual assembly instructions.

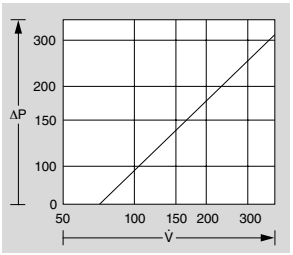
Holes for mounting inside enclosure



Holes for mounting inside enclosure

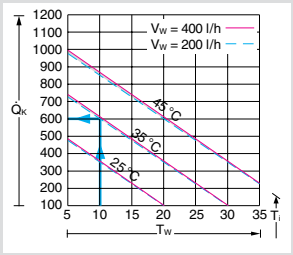


Flow resistance diagram Air/water heat exchangers (50/60 Hz)



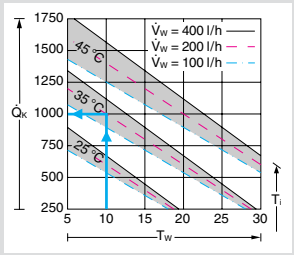
V̇ = Air displacement (unimpeded air flow) (l/h)
ΔP = Flow resistance (mbar)

Performance diagram (DIN 3168) (50/60 Hz)



T_w = Water inlet temperature (°C)
$\dot{Q}_K$ = Useful cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (50/60 Hz)



T_w = Water inlet temperature (°C)
$\dot{Q}_K$ = Useful cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3214.100**	**3214.115**
Rated voltage Volt/Hz		230/50/60	115/50/60
Dimensions in inches/mm	H W D	19.7/500 7.9/200 3.7/100	
Useful cooling capacity	**L35 W10, 0.9 gal/min L35 W10, 1.8 gal/min**	**2050 BTU/600 W 2220 BTU/650 W**	
Rated current maximum		0.17 A/0.18 A	
Pre-fuse T		2.0 A	
Cooling medium		water (see specifications)	
Water entry temperature		> 34 °F to 86 °F/+ 1 °C to + 30 °C	
Maximum allowable pressure		15 to 145 psi/1 to 10 bar	
Temperature range		34 °F to 158 °F/+ 1 °C to + 70 °C	
Protection ratings per EN 60 529/10.91		NEMA 12/IP 55*	
Duty cycle		100%	
Type of connection		terminal block	
Weight		21 lbs/9.5 kg	
Color		RAL 7032	
Air displacement (unimpeded air flow)		140 cfm/240 m³/h	
Temperature control		thermostat	
Temperature monitoring		built-in thermostat with change over contact capacity 16 A, setting range: 68 °F to 140 °F/+ 20 °C to + 60 °C	

3217.100	**3217.115**
230/50/60	115/50/60
20.5/520 12 /298 5.5/135	
3400 BTU/1000 W 3750 BTU/1100 W	
0.6 A/0.55 A	1.1 A
4.0 A	
water (see specifications)	
> 34 °F to 86 °F/+ 1 °C to + 30 °C	
15 to 145 psi/1 to 10 bar	
34 °F to 158 °F/+ 1 °C to + 70 °C	
NEMA 12/IP 55*	
100%	
terminal block	
21 lbs/9.5 kg	
RAL 7032	
140 cfm/240 m³/h	
thermostat	
built-in thermostat with change over contact capacity 16 A, setting range: 68 °F to 140 °F/+ 20 °C to + 60 °C	

* NEMA 4/IP 65 possible upon request. Specifications subject to change.

Accessories	PU			
Digital temperature display	1	3114.100		
Door switch	1	4127.000		
10′ power cord	1	9965837	9965837	9962136

	Page
3114.100	570
4127.000	573
9962136	571

Wallmount, useful cooling capacity 2050/3400 BTU; 600/1000 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

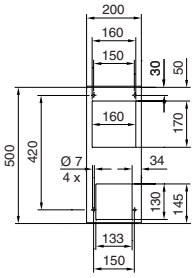
Useful cooling capacity		2050 BTU/600 W		3400 BTU/1000 W	
Voltage		230 V	115 V	230 V	115 V
Dimensions (inches/mm)	H	19.7/580		20.5/520	
	W	7.9/200		12 /298	
	D	3.9/100		5.5/135	
Temperature control		solenoid valve with thermostat			
Part No. SK		**3214.100**	**3214.115**	**3217.100**	**3217.115**

Additional parts needed:

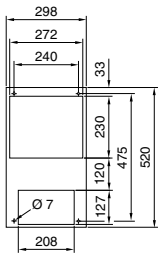
Cooling fluid system such as Rittal chillers, starting on page 504.

See pages 520/521 for all certifications of air/water heat exchangers.

Installation cutout for external installation
SK 3214.100 / SK 3214.115



Installation cutout for recessed installation
SK 3217.100 / SK 3217.115



Compact size is excellent for use with freestanding enclosures in conjunction with mini chillers.

Rittal air/water heat exchangers, with their maximum cooling capacity, are able to maximize efficiency in dissipating large heat loads within the smallest available space.
Their dependability and high standards of safety distinguish them worldwide for use under many different installations, including many extreme conditions.
The new line of air/water heat exchangers completes the upper and lower ranges of our performance spectrum.

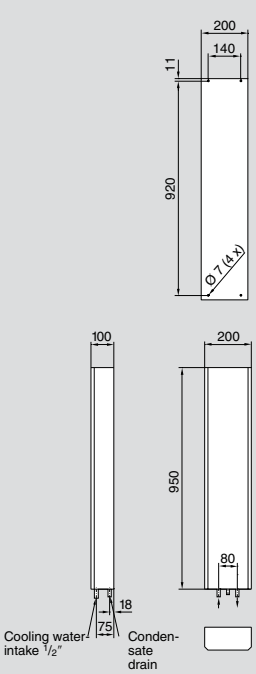
Technical description
SK 3215. . . . (wallmount):
- Useful cooling capacity of 4270 BTU/ 1250 W at L 35 W 10.

SK 3247. . . . (wallmount):
- Useful cooling capacity of 5250 BTU/ 1540 W.
- The heat exchanger module is mounted in a plastic housing to ensure optimum separation between the environment and the internal cycle.
- The air/heat exchangers can be easily installed with just four screws.

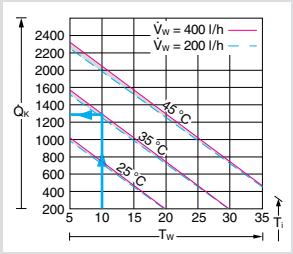
Configuration:
Ready for connection with terminal block or 10 ft/3 m power cord; mounting template, gasket, installation hardware and multi-lingual assembly instructions.

Note:
Pressure resistance flow rate diagram:
see page 522.

Holes for internal mounting

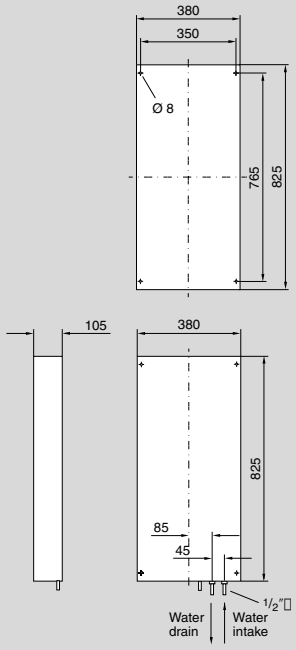


Performance diagram (DIN 3168) (50/60 Hz)

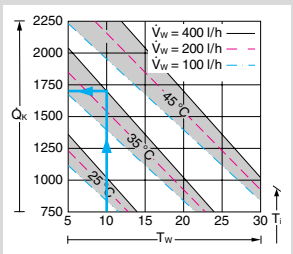


T_w = Water inlet temperature (°C)
$\dot{Q}_K$ = Useful cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Holes for internal mounting



Performance diagram (DIN 3168) (50/60 Hz)



T_w = Water inlet temperature (°C)
$\dot{Q}_K$ = Useful cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3215.100***	**3215.115***	**3247.000***	**3247.115***
Rated voltage Volt/Hz		230/50/60	115/50/60	230/50/60	115/50/60
Dimensions in inches/mm	H W D	38/950 8/200 4/100		32.5/825 15 /380 4.5/105	
Useful cooling capacity	**L35 W10, 0.9 gal/min** **L35 W10, 1.8 gal/min**	**4270 BTU/1250 W** **4440 BTU/1300 W**		**5250 BTU/1540 W** **5800 BTU/1700 W**	
Rated current maximum		0.38 A/0.4 A	0.8 A	0.43 A/0.5 A	
Pre-fuse T		4.0 A	4.0 A	4.0 A	
Refrigerant		water (see specifications)		water (see specifications)	
Water entry temperature		> 34 °F to 86 °F/+ 1 °C to + 30 °C		> 34 °F to 86 °F/+ 1 °C to + 30 °C	
Maximum allowable operating pressure		15 to 145 psi/1 to 10 bar		15 to 145 psi/1 to 10 bar	
Temperature range		34 °F to 158 °F/+ 1 °C to + 70 °C		34 °F to 158 °F/+ 1 °C to + 70 °C	
Protection ratings per EN 60 529/10.91		NEMA 12/IP 55		NEMA 12/IP 55	
Duty cycle		100%		100%	
Type of connection		terminal block		10 ft/3 m cord (no plug)	
Weight		28.7 lbs/13 kg		37 lbs/17 kg	
Color		RAL 7032		RAL 7032	
Air displacement (unimpeded air flow)		129 cfm/200 m^3/h		140 cfm/240 m^3/h	
Temperature control		thermostat		thermostat	
Temperature monitoring		built-in thermostat with change over contact capacity 16 A, setting range: 68 °F to 140 °F/+ 20 °C to + 60 °C		built-in thermostat with change over contact capacity 16 A, setting range: 68 °F to 140 °F/+ 20 °C to + 60 °C	

* Stainless steel housing available upon request. Specifications subject to change.

Accessories	PU					Page
Digital temperature display	1	3114.100	3114.115	3114.100	3114.115	570
Door switch	1	4127.000		4127.000		573
10′ power cord	1	9965837	9962136	9965837	9962136	571

Wallmount, useful cooling capacity 4270/5250 BTU; 1250/1540 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

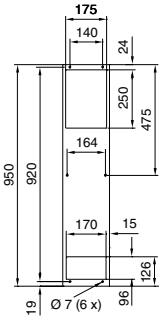
Useful cooling capacity		4270 BTU/1250 W		5250 BTU/1540 W	
Voltage		230 V	115 V	230 V	115 V
Dimensions (inches/mm)	H	38/950		32.5/825	
	W	8/200		15 /380	
	D	4/100		4.5/105	
Temperature control		thermostat controlled solenoid valve			
Part No. SK		**3215.100**	**3215.115**	**3247.000**	**3247.115**

Additional parts needed:

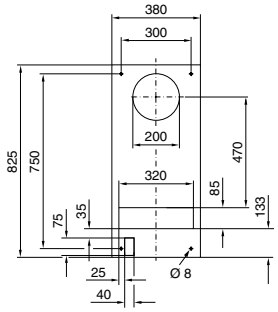
Cooling fluid system such as Rittal chillers, starting on page 504.

See pages 520/521 for all certifications of air/water heat exchangers.

Installation cutout for external mounting SK 3215.100



Installation cutout for external mounting SK 3247.000



Our compact and efficient design allows for cooling in limited spaces even under high ambient temperature conditions.

Rittal air/water heat exchangers represent the most efficient thermo-dynamic way to achieve maximum cooling capacity within the smallest available space. The standard cooling units can be built on or built into the enclosure and are, depending on the system, perfect for extreme environments. They are used worldwide and have built a good reputation for their dependability and safety.

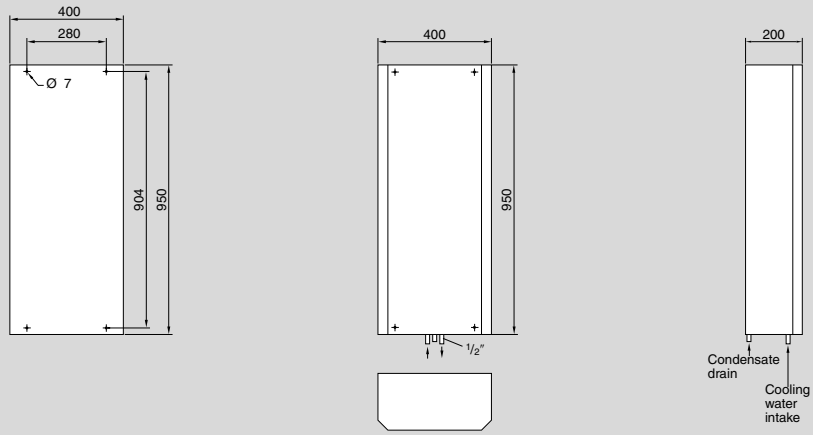
Technical description (SK 3218.104 wallmount):
- All piping and coil are made of corrosion resistant stainless steel.
- Useful cooling capacity of 9040 BTU/2650 W at L35 W10, 1.8 gal/min or 400 l/h.

Technical description (SK 3218.100 / SK 3218.115):
- All piping and coil made out of copper.
- Useful cooling capacity of 11,950 BTU/3500 W at L35 W10, 1.8 gal/min or 400 l/h.

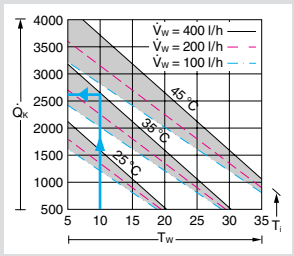
Configuration:
Ready for connection with terminal block. Mounting template, gasket, installation hardware and multi-lingual assembly instructions are included.

Note:
Pressure resistance flow rate diagram on page 522.

Holes for internal installation

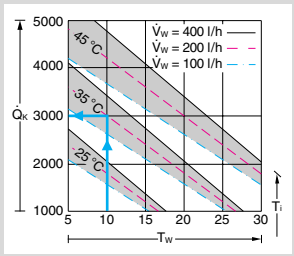


Performance diagram (DIN 3168) (50/60 Hz)



T_W = Water inlet temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (50/60 Hz)



T_W = Water inlet temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3218.104***	**3218.100***	**3218.115***
Rated voltage Volt/Hz		230/50/60	230/50/60	115/50/60
Dimensions in inches/mm	H W D	37.5/950 16 /400 8 /200	37.5/950 16 /400 8 /200	
Useful cooling capacity	**L35 W10, 0.9 gal/min L35 W10, 1.8 gal/min**	**7680 BTU/2250 W 9040 BTU/2650 W**	**10,240 BTU/3000 W 11,950 BTU/3500 W**	
Rated current maximum		0.42 A/0.48 A	0.42 A/0.48 A	
Pre-fuse T		4.0 A	4.0 A	
Cooling medium		water (according to specifications)	water (according to specifications)	
Water entry temperature		> 34 °F to 86 °F/+ 1 °C to + 30 °C	> 34 °F to 86 °F/+ 1 °C to + 30 °C	
Maximum allowable pressure		15 to 145 psi/1 to 10 bar	15 to 145 psi/1 to 10 bar	
Temperature range		34 °F to 158 °F/+ 1 °C to + 70 °C	34 °F to 158 °F/+ 1 °C to + 70 °C	
Protection ratings per EN 60 529/10.91		NEMA 12/IP 55	NEMA 12/IP 55	
Duty cycle		100%	100%	
Type of connection		terminal block	terminal block	
Weight		42 lbs/19 kg	46 lbs/21 kg	
Color		RAL 7032	RAL 7032	
Air displacement (unimpeded air flow)		140 cfm/240 m³/h	263 cfm/450 m³/h	
Temperature control		thermostat	thermostat	
Temperature monitoring		built-in thermostat with change over contact; capacity 16 A, temperature settings range: 68 °F to 140 °F/+ 20 °C to + 60 °C	built-in thermostat with change over contact; capacity 16 A, temperature settings range: 68 °F to 140 °F/+ 20 °C to + 60 °C	

* Stainless steel housing available upon request. Specifications subject to change.

Accessories	PU				Page
Digital temperature display	1	3114.100	3114.100	3114.115	570
Door switch for PS, ES, DK	1	4127.000	4127.000		573
10′ power cord	1	9965837	9965837	9962136	571

Wallmount, useful cooling capacity 7680/10,240 BTU; 2250/3000 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

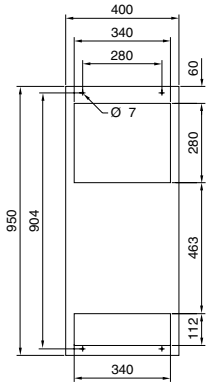
Useful cooling capacity		7680 BTU/2250 W	10,240 BTU/3000 W	
Voltage		230 V		115 V
Dimensions (inches/mm)	H	37.5/950		
	W	16 /400		
	D	8 /200		
Temperature control		thermostat controlled solenoid valve		
Part No. SK		**3218.104**	**3218.100**	**3218.115**

Additional parts needed:

Cooling fluid system such as Rittal chillers, starting on page 504.

See pages 520/521 for certifications of all air/water heat exchangers.

Installation cutout for external mounting

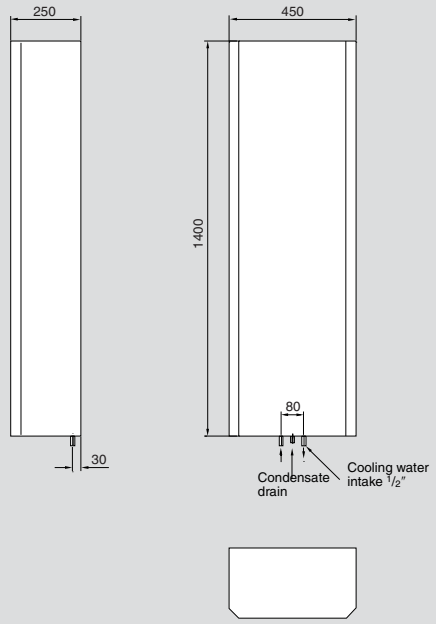


Identical heat exchanger unit is also available with coils and piping made of stainless steel.

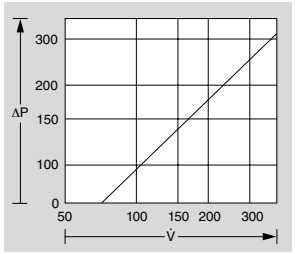
Rittal air/water heat exchangers, with their maximum cooling capacity, are able to maximize efficiency in dissipating large heat loads within the smallest available space.
Their dependability and high standards of safety distinguish them worldwide for use under many different installations, including many extreme conditions.
The new line of air/water heat exchangers completes the upper and lower ranges of our performance spectrum.

Technical description (SK 3216.100 / SK 3216.115):
- Useful cooling capacity of 17,050 BTU/5000 W
- Built-in thermostat with change-over contact for temperature monitoring.

Configuration:
Ready for connection with terminal block. Mounting template, gasket, installation hardware and multi-lingual assembly instructions are included.

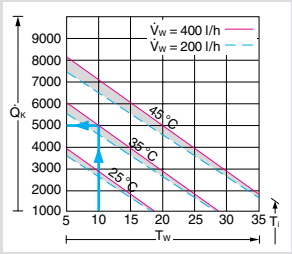


Flow resistance diagram Air/water heat exchangers (50/60 Hz)



V̇ = Air displacement (unimpeded air flow) (l/h)
ΔP = Flow resistance (mbar)

Performance diagram (DIN 3168) (50/60 Hz)



Tw = Water inlet temperature (°C)
QK = Useful cooling capacity (W)
Ti = Internal enclosure temperature (°C)

Part No. SK		**3216.100***	**3216.115**
Rated voltage Volt/Hz		230/50/60	115/50/60
Dimensions in inches/mm with louvered grille	H W D	55.5/1400 17.7/ 450 10 / 250	
Useful cooling capacity	**L35 W10, 400 l/h**	**17,050 BTU/5000 W**	
Rated current maximum		0.9 A/1.3 A	2.6 A
Pre-fuse T		4.0 A	
Refrigerant		water (see specifications)	
Water entry temperature		> 34 °F to 86 °F/+ 1 °C to + 30 °C	
Maximum allowable operating pressure		15 to 145 psi/1 to 10 bar	
Temperature range		34 °F to 158 °F/+ 1 °C to + 70 °C	
Protection ratings per EN 60 529/10.91		NEMA 12/IP 55	
Duty cycle		100%	
Type of connection		terminal block	
Color		RAL 7032	
Temperature control		thermostat controlled solenoid valve	
Temperature monitoring		built-in thermostat with change over contact; capacity 16 A, temperature settings range: 68 °F to 140 °F/+ 20 °C to + 60 °C	

* Stainless steel housing available upon special request. Specifications subject to change.

Accessories	PU			Page
Digital temperature display	1	3114.100	3114.115	570
Door switch for PS, ES, TS	1	4127.000		573
10′ power cord	1	9965837	9962136	571

Wallmount, useful cooling capacity 17,050 BTU/5000 W

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

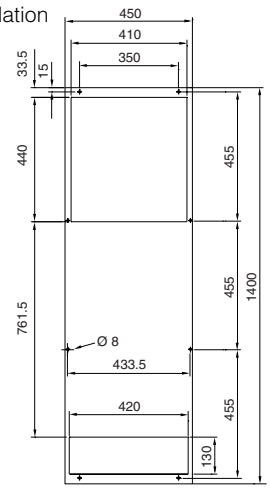
Useful cooling capacity		17,050 BTU/5000 W	
Voltage		230 V	115 V
Dimensions (inches/mm)	H W D	55.5/1400 18 / 450 10 / 250	
Temperature control		thermostat controlled solenoid valve	
Part No. SK		**3216.100**	**3216.115**

Additional parts needed:

Cooling fluid system such as Rittal chillers, starting on page 504.

See pages 520/521 for certifications of all air/water heat exchangers.

Cutout for installation of unit



Compact design for the dissipation of high enclosure heat loads.

Rittal air/water heat exchangers represent the most efficient thermo-dynamic way to achieve maximum cooling capacity within the smallest available space. They are used worldwide, under all climate conditions, because of their dependability.

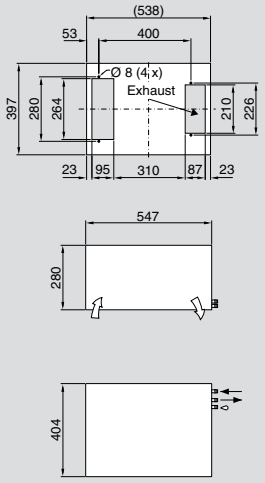
Technical description:

- SK 3249.104: All pipes and coils made of corrosion resistant stainless steel.
- SK 3249.104: Useful cooling capacity of 6485 BTU/1900 W at L35 W10, 1.8 gal/min / 400 l/h.
- SK 3249.xxx: Useful cooling capacity of 8530 BTU/2500 W at L35 W10, 1.8 gal/min / 400 l/h.
- SK 3219.100: Useful cooling capacity of 13,660 BTU/4000 W at L35 W10, 1.9 gal/min or 400 l/h.
- Electronic water level sensors help ensure perfect system safety in case of excessive condensation or water line break.
- A wire screen serves as a condensate deflector, providing additional mechanical protection against spraying water.
- A fault signal contact is provided for temperature and leak monitoring.
- The unit is suitable for enclosures with a depth of 16″/400 mm and greater.

Configuration:
Fully wired, with terminal block. Mounting template, gasket, installation hardware and multi-lingual assembly instructions included.

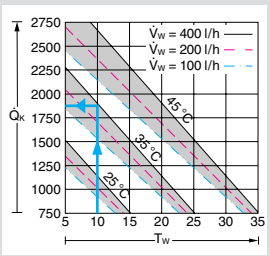
Note:
Please check page 522 for pressure resistance flow rate diagram.

Installation cutout
Roofmount



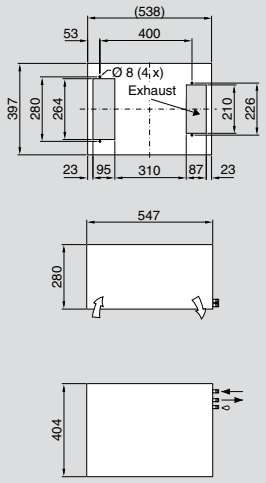
Water connections
and condensation drain 1/2″

Performance diagram (DIN 3168) (50/60 Hz)



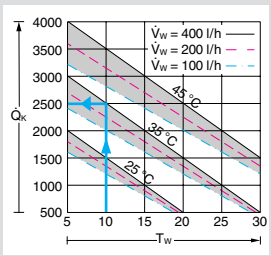
T_W = Water inlet temperature (°C)
$\dot{Q}_K$ = Useful cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Installation cutout
Roofmount



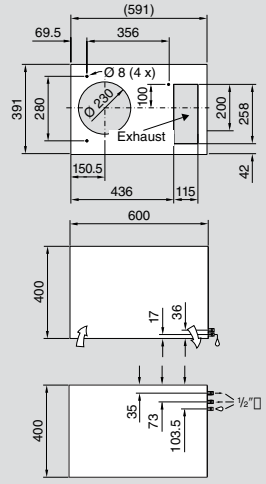
Water connections
and condensation drain 1/2″

Performance diagram (DIN 3168) (50/60 Hz)



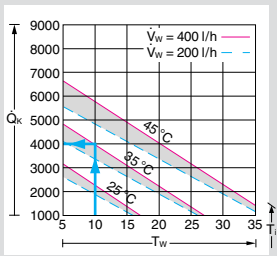
T_W = Water inlet temperature (°C)
$\dot{Q}_K$ = Useful cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Installation cutout
Roofmount



Water connections
and condensation drain 1/2″

Performance diagram (DIN 3168) (50/60 Hz)



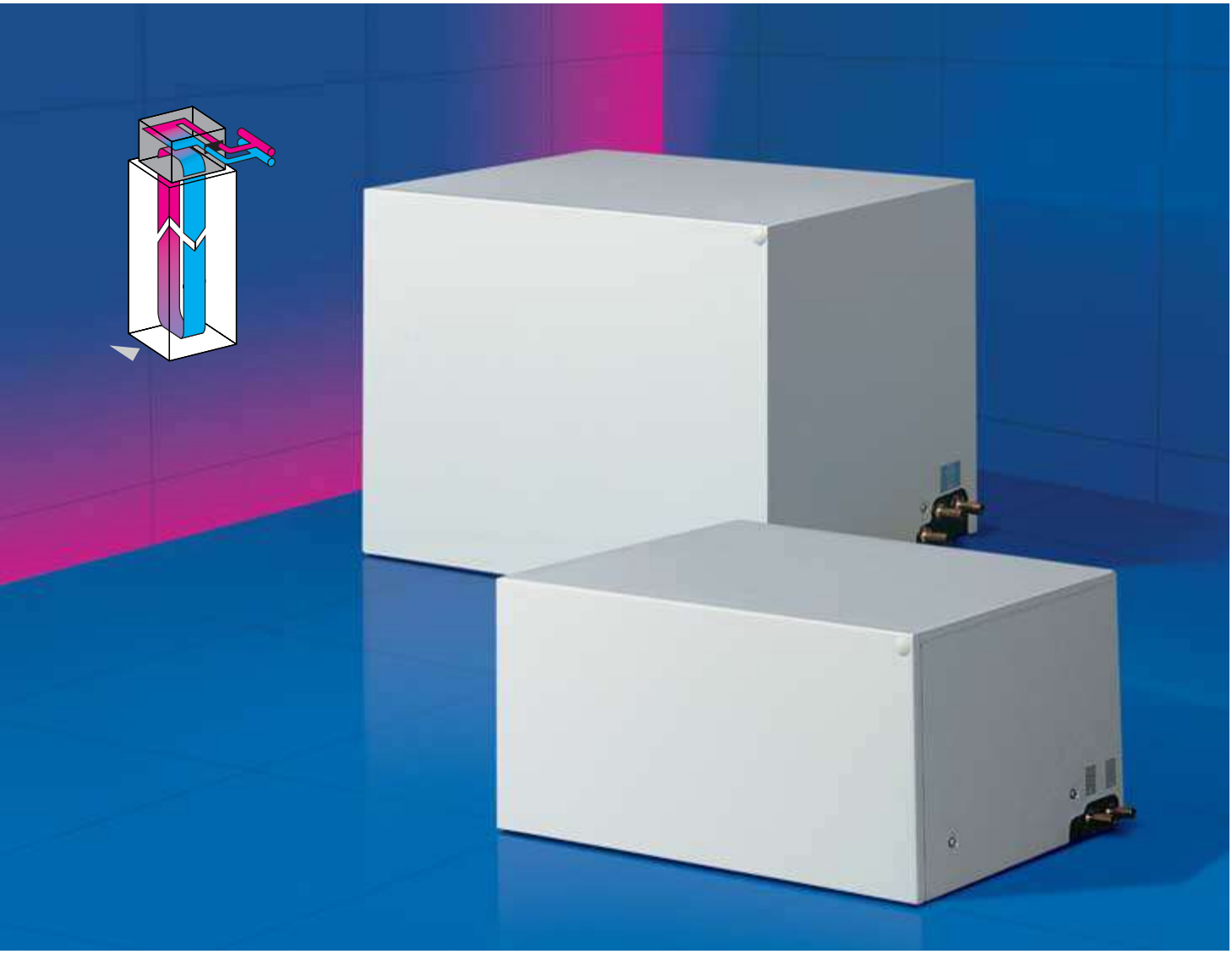
T_W = Water inlet temperature (°C)
$\dot{Q}_K$ = Useful cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3249.104**	**3249.100**	**3249.115**	**3219.100**	**3219.115**
Rated voltage Volt/Hz		230/50/60	230/50/60	115/50/60	230/50/60	115/50/60
Dimensions in inches/mm	H W D	11/280 22/547 16/404	11/280 22/547 16/404		16/400 24/600 16/400	
Useful cooling capacity	**L35 W10, 200 l/h L35 W10, 400 l/h**	**5800 BTU/1700 W 6485 BTU/1900 W**	**7680 BTU/2250 W 8530 BTU/2500 W**		**11,370 BTU/3330 W 13,660 BTU/4000 W**	
Rated current maximum		0.91 A/0.94 A	0.91 A/0.94 A	1.8 A	1.2 A/1.8 A	3.6 A
Pre-fuse T		4.0 A	4.0 A		4.0 A	
Refrigerant		water (per specifications)	water (per specifications)		water (per specifications)	
Water entry temperature		> 33 °F to 86 °F/+1 °C to + 30 °C	> 33 °F to 86 °F/+1 °C to + 30 °C		> 33 °F to 86 °F/+1 °C to + 30 °C	
Maximum allowable operating pressure		14.5 to 145 psi/1 to110 bar	14.5 to 145 psi/1 to110 bar		14.5 to 145 psi/1 to110 bar	
Temperature range		33 °F to 158 °F/+1 °C to + 70 °C	33 °F to 158 °F/+1 °C to + 70 °C		33 °F to 158 °F/+1 °C to + 70 °C	
Protection ratings per EN 60 529/10.91		NEMA 12/IP 55	NEMA 12/IP 55		NEMA 12/IP 55	
Duty cycle		100%	100%		100%	
Type of connection		terminal block	terminal block		terminal block	
Weight		42 lbs/19 kg	47 lbs/21 kg		93 lbs/42 kg	
Color		RAL 7032	RAL 7032		RAL 7032	
Air displacement (unimpeded air flow)		230 cfm/390 m³/h	230 cfm/390 m³/h		330 cfm/560 m³/h	
Temperature control		thermostat	thermostat		thermostat	
Temperature control settings range: 68 °F to 140 °F/+ 20 °C to + 60 °C		collective fault signal through change over contact, maximum switching load 250 V AC, 8 A	collective fault signal through change over contact, maximum switching load 250 V AC, 8 A		collective fault signal through change over contact, maximum switching load 250 V AC, 8 A	

Specifications subject to change.

Accessories	PU						Page
Digital temperature display	1	3114.100	3114.100	3114.115	3114.100	3114.115	570
Door switch	1	4127.000	4127.000		4127.000		573
10′ power cord	1	9965837	9965837	9962136	9965837	9962136	571

Roofmount, useful cooling capacity 6485/8530/13,660 BTU; 1900/2500/4000 W



PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		6485 BTU/1900 W	8530 BTU/2500 W		13,660 BTU/4000 W	
Voltage		230 V	115 V		230 V	115 V
Dimensions (inches/mm)	H W D	11/280 22/547 16/404			16/400 24/600 16/400	
Water contact part material (pipes/coil)		stainless steel	copper		copper	
Temperature control		electronically controlled solenoid valve				
Part No. SK		**3249.104**	**3249.100**	**3249.115**	**3219.100**	**3219.115**

Additional parts needed:

Cooling fluid system such as Rittal chillers, starting on page 504.

See pages 520/521 for certifications of all air/water heat exchangers.

Connection of air/water heat exchangers into a cooling water circuit or onto a chiller makes for an ideal central cooling system combination.

For extreme conditions, these units are available with all stainless steel coil and piping.

Ideal for high ambient temperatures and restrictive space.

In order to achieve effective climate control in a very confined space, this air/water heat exchanger was designed to fit into the side wall of the new TS 8 Top Enclosure System. This cost-effective unit also offers simple assembly, as there is no need to make any cutouts for air inlet and outlet, and the super slimline design saves internal enclosure space. Retrofitting of the heat exchanger as a side wall for the 24″/600 mm deep TS 8 Top Enclosure System is easily achieved.

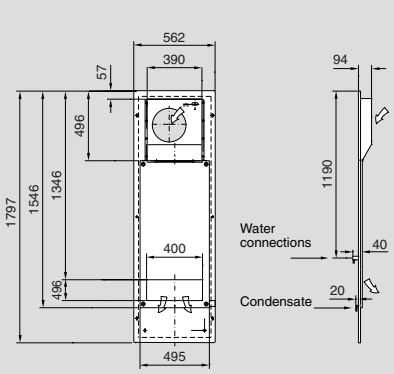
Technical description:

- Useful cooling capacity of 2390 BTU at L 35 W10, 100 l/h.
- SK 3316.180: Air/water heat exchanger side wall for 24″/600 mm deep, 71″/1800 mm high TS8 enclosures.
- SK 3316.200: Air/water heat exchanger side wall for 24″/600 mm deep, 79″/2000 mm high TS8 enclosures.
- A solenoid valve regulates the flow of cooling water depending on the thermostat setting 68 °F to 140 °F/+ 20 °C to + 60 °C.
- The units are available as standard TS 8 side walls.
- Installation as a rear panel for 24″/600 mm wide TS 8 enclosure is also possible (should be minimum of 3″ from back of mounting panel; air inlet/outlet should not be blocked).
- The system is designed for use in dirty environments.
- Monitoring of the interior enclosure temperature is done via a thermostat with a double switch contact.
- Eliminates the need for time consuming cutting of air inlet and outlet holes.

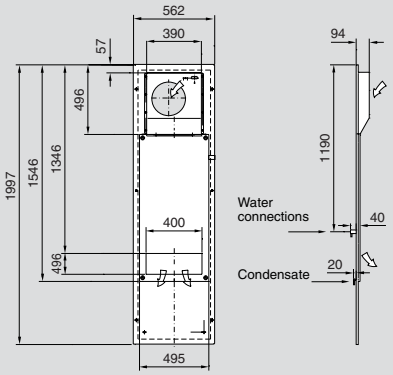
Configuration:
Wired, ready for connection, with terminal block, gasket and installation hardware, as well as multi-lingual assembly manual.

Note:
Pressure resistance flow rate diagram, see page 528.

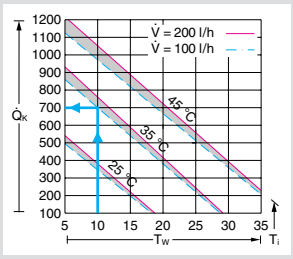
SK 3316.180



SK 3316.200



Performance diagram (DIN 3168) (50/60 Hz)



T_w = Water inlet temperature (°C)
$\dot{Q}_K$ = Useful cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3316.180**	**3316.200**
Rated voltage Volt/Hz*		230/50/60	
Dimensions in inches/mm	H W D	79 /2000 24 / 600 2.8/ 70	79 /2000 24 / 600 2.8/ 70
Useful cooling capacity	**L 35 W10, 100 l/h**	**2390 BTU/700 W**	
Rated current maximum		0.45 A/0.51 A	
Pre-fuse T		4.0 A	
Cooling medium		Water (per specification)	
Water entry temperature		> 33 °F to 95 °F/+ 1 °C to + 35 °C	
Maximum operating pressure		14.5 to 145 psi/1 to 10 bar	
Temperature range		33 °F to 158 °F/+ 1 °C to + 70 °C	
Protection ratings per EN 60 529/10.91		NEMA 12/IP 55	
Duty cycle		100%	
Type of connection		terminal block	
Weight		46 lbs/21 kg	
Color		RAL 7032	
Air displacement (unimpeded air flow)		210 cfm/360 m³/h	
Temperature control		thermostat	
Temperature monitoring		built-in thermostat, with change over contact, switching load 16 A, settings range: 68 °F to 140 °F/+ 20 °C to + 60 °C	

* 115 V available by special request. Specifications subject to change.

Accessories	PU		Page
Digital temperature display	1	3114.100	570
Door switch PS	1	4127.000	573
10' power cord	1	9965837	571

For TS enclosures, useful cooling capacity 2390 BTU/700 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity	2390 BTU/700 W	
Voltage	230 V	
Enclosure height (inches/mm)	71/1800	79/2000
Installation options	as sidewall for 24″/600 mm deep TS enclosures	
Temperature control	solenoid valve with thermostat	
Part No. SK	**3316.180**	**3316.200**

Additional parts needed:

Cooling fluid system, such as Rittal chillers,
starting on page 504.

See pages 520/521 for certifications of all air/water heat exchangers.

Optimal combination of TS 8 enclosure system and climate control technology with the most effective use of available space.

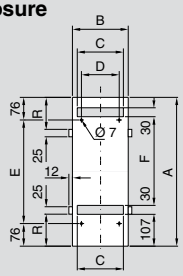
Cooling water can be supplied from a Rittal chiller.

Air/air heat exchangers provide a low maintenance cooling solution and are best used when ambient temperatures and heat loads are moderate.

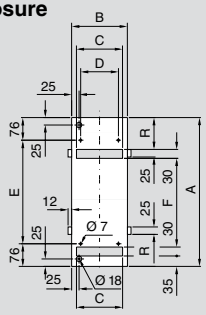
Technical description:

- Compact aluminum construction with easily removable heat exchanger module.
- Techline mini heat exchangers can be installed inside an enclosure (preferably on the door) or outside (on the side wall, door, rear wall or roof).
- Only 4 screws are needed to install or remove unit for easy cleaning.
- All motors have thermal winding protection and are moisture protected.
- The heat exchanging fins are conductively bonded together for grounding continuity and integration into the electrical protection.
- The internal and external air cycles are separated to prevent entry of dust, humidity and dirt.

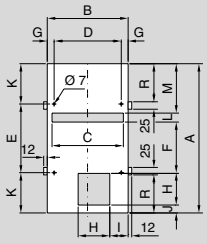
Installation cutout for mounting inside an enclosure



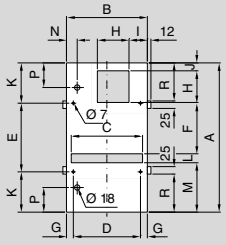
Installation cutout for mounting on an enclosure



Installation cutout for mounting inside an enclosure



Installation cutout for mounting on an enclosure



A (mm)	380.0	500.0	380.0
B (mm)	187.5	187.5	271.5
C (mm)	155.0	155.0	239.0
D (mm)	127.0	127.0	211.0
E (mm)	228.0	348.0	228.0
F (mm)	178.0	298.0	178.0
G (mm)	–	–	–
H (mm)	–	–	–
I (mm)	–	–	–
J (mm)	–	–	–
K (mm)	–	–	–
L (mm)	–	–	–
M (mm)	–	–	–
N (mm)	–	–	–
P (mm)	–	–	–
R (mm)	107.5	107.5	107.5

Part No. 230 V 50/60 Hz	**3125.000**	**3126.000**	**3127.000**
Part No. 115 V 50/60 Hz	**3125.110**	**3126.110**	**3127.110**
Dimensions in inches/mm H W D	15 /380 8 /187.5 6.5/162.5	20 /500 8 /187.5 6.5/162.5	15 /380 11 /272 6.5/162.5
Specific thermal capacity	**14.6 W/C**	**18.7 W/C**	**18.1 W/C**
Fans	2 backward curved impellers		
Rated current per fan (230 V)	0.28 A/0.25 A		
Power consumption per fan	43/42 W		
Air displacement (unimpeded air flow) exterior cycle	152/175 cfm / 260/300 m³/h		
Air displacement (unimpeded air flow) interior cycle	152/175 cfm / 260/300 m³/h		
Noise level	54 dBa		57 dBa
Temperature range	23 °F to 131 °F/– 5 °C to + 55 °C		
Weight	10.14 lbs/4.3 kg	10.8 lbs/4.9 kg	11 lbs/5.0 kg
Finish/color	anodized/black		
Heat exchange surface in inches²/m²	961/0.62	1534/0.99	1395/0.9
Protection ratings (interior cycle) per EN 60 529/10.91	NEMA 12/IP 54		
Power cord (no plug)	10 ft/2 x 3 m long		

A (mm)	500.0	780.0	730.0
B (mm)	271.0	271.0	355.0
C (mm)	239.0	239.0	323.0
D (mm)	225.0	220.0	304.0
E (mm)	230.0	460.0	410.0
F (mm)	172.0	296.5	246.5
G (mm)	23.0	25.5	25.5
H (mm)	106.0	160.0	160.0
I (mm)	61.5	40.0	40.0
J (mm)	26.5	30.0	30.0
K (mm)	135.0	160.0	160.0
L (mm)	30.0	62.0	62.0
M (mm)	165.5	231.5	231.5
N (mm)	48.0	36.0	36.0
P (mm)	135.0	82.5	82.5
R (mm)	117.5	127.5	127.5

Part No. 230 V 50/60 Hz	**3128.000**	**3129.000**	**3130.000**
Part No. 115 V 50/60 Hz	**3128.110**	**3129.110**	**3130.110**
Dimensions in inches/mm H W D	20 /500 11 /272 4.5/110	31 /780 11 /272 4.5/110	29 /730 14 /355 4.5/110
Specific thermal capacity	**19.5 W/C**	**30.0 W/C**	**37.0 W/C**
Fans	2 backward curved impellers		
Rated current per fan (230 V)	0.28 A/0.25 A	0.36 A/0.45 A	
Power consumption per fan	43/42 W	82/103 W	
Air displacement (unimpeded air flow) exterior cycle	152/175 cfm / 260/300 m³/h	335 cfm/570 m³/h	
Air displacement (unimpeded air flow) interior cycle		335 cfm/570 m³/h	
Noise level	61 dBa	67.5 dBa	64 dBa
Temperature range	23 °F to 131 °F/– 5 °C to + 55 °C		
Weight	11.24 lbs/5.1 kg	16.31 lbs/7.4 kg	17.85 lbs/8.1 kg
Finish/color	anodized/black		
Heat exchange surface in inches²/m²	976/0.63	1565/1.01	1906/1.23
Protection ratings (interior cycle) per EN 60 529/10.91	NEMA 12/IP 54		
Power cord (no plug)	10 ft/2 x 3 m	16.4 ft/2 x 5 m long	

Specifications subject to change.

Accessories	PU			Page
Thermostat	1	3110.000		3110.000 569
Digital temperature display with change-over contact	1	3114.100 (230 V)	3114.115 (115 V)	3114.100 (230 V) 3114.115 (115 V) 570
Speed regulator	1	3120.000 (230 V)	3120.115 (115 V)	3120.000 (230 V) 3120.115 (115 V) 572

Wallmount, specific thermal capacity 14.6 – 37.0 W/C

Special customer options pictured.

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Specific thermal capacity		14.6 W/C	18.1 W/C	18.7 W/C	19.5 W/C	30.0 W/C	37.0 W/C
Air displacement (unimpeded air flow)	exterior	175 cfm				335 cfm	
	interior	175 cfm				335 cfm	
Dimensions in inches/mm	H	15/380	15/380	20/500	20/500	31/780	29/730
	W	8/187.5	11/272	8/187.5	11/272	11/272	14/355
	D	7/162.5	7/162.5	7/162.5	4/110	4/110	4/110
Part No. SK 230 V 50/60 Hz		**3125.000**	**3127.000**	**3126.000**	**3128.000**	**3129.000**	**3130.000**
Part No. SK 115 V 50/60 Hz		**3125.110**	**3127.110**	**3126.110**	**3128.110**	**3129.110**	**3130.110**

Configuration:
Complete unit, ready for connection. Fans are connected to power source via two 3-conductor power cords.

IR-Reg. Design No. DM/013 569 affecting BE, CH, DE, ES, FR, IT, LI, LU, NL

See pages 520/521 for certifications of all mini techline air conditioners.

Extremely compact size offers a great number of application options.

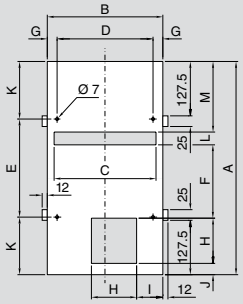
Mini techline heat exchangers can be installed in the smallest spaces for focused removal of heat.

Techline air/air heat exchangers for large enclosures are easy to install and service because of their low weight and easily removable heat exchanger module.

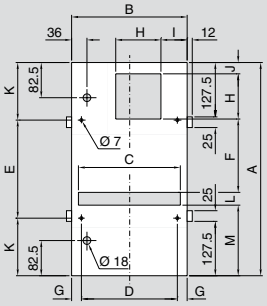
Technical description:
- Compact aluminum construction with two fans and sealed heat exchanger module.
- Techline heat exchangers can be installed inside an enclosure or on the outside.
- By simply removing 4 screws, the heat exchanger module can be easily removed and cleaned.
- All motors have thermal winding protection and are moisture protected.
- The heat exchanger fins are conductively bonded together for grounding continuity and integration into the electrical protection.
- The internal and external air cycles can be separately controlled.

Configuration:
Complete unit, ready for connection. Fans are connected to power source via two 3-conductor power cords.

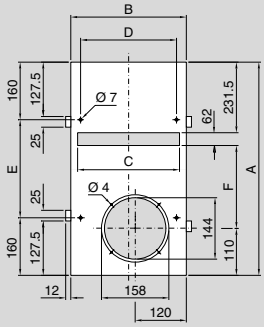
Installation cutout for mounting inside an enclosure



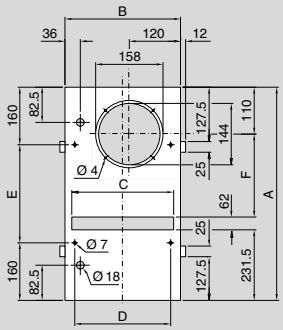
Installation cutout for mounting on an enclosure



Installation cutout for mounting inside an enclosure



Installation cutout for mounting on an enclosure



A (mm)		1200.0	1480.0	1480.0	1780.0	1600.0	1780.0
B (mm)		271.0	271.0	439.0	439.0	355.0	439.0
C (mm)		239.0	239.0	407.0	407.0	323.0	407.0
D (mm)		220.0	220.0	388.0	388.0	304.0	388.0
E (mm)		880.0	1160.0	1160.0	1460.0	1280.0	1460.0
F (mm)		716.5	996.5	996.5	1296.5	1196.5	1376.5
G (mm)		25.5	25.5	25.5	25.5	–	–
H (mm)		160.0	160.0	160.0	160.0	–	–
I (mm)		40.0	40.0	40.0	40.0	–	–
J (mm)		30.0	30.0	30.0	30.0	–	–
K (mm)		160.0	160.0	160.0	160.0	–	–
L (mm)		62.0	62.0	62.0	62.0	–	–
M (mm)		231.5	231.5	231.5	231.5	–	–
Part No. SK 230 V 50/60 Hz*		**3131.000**	**3132.000**	**3133.000**	**3134.000**	**3135.000**	**3136.000**
Part No. SK 115 V 50/60 Hz*		**3131.110**	**3132.110**	**3133.110**	**3134.110**	**3135.110**	**3136.110**
Dimensions in inches/mm	H W D	47 /1200 11 / 271 4.5/ 110	58 /1480 11 / 271 4.5/ 110	58 /1480 18 / 439 4.5/ 110	70 /1780 18 / 439 4.5/ 110	63 /1600 14 / 355 2.5/ 57.5	70 /1780 18 / 439 2.5/ 57.5
Specific thermal capacity		**42.0 W/C**	**44.0 W/C**	**63.0 W/C**	**69.0 W/C**	**44.5 W/C**	**48.1 W/C**
Fans		2 backward curved impellers				2 backward curved impellers	
Maximum rated current per fan (230 V)		0.36 A/0.45 A				0.25 A/0.29 A	
Power capacity per fan		82/103 W				55/65 W	
Air displacement (unimpeded air flow)	exterior cycle	335 cfm/570 m³/h				250/270 cfm / 425/460 m³/h	
	interior cycle	335 cfm/570 m³/h				250/270 cfm / 425/460 m³/h	
Noise level		62 dBa	61.5 dBa	68 dBa	61 dBa	64.5 dBa	63 dBa
Temperature range		23 °F to 131 °F/– 5 °C to + 55 °C				23 °F to 131 °F/– 5 °C to + 55 °C	
Weight		20.5 lbs/ 9.3 kg	22.7 lbs/ 10.3 kg	27.5 lbs/ 12.5 kg	41.6 lbs/ 18.9 kg	26 lbs/ 11.8 kg	32.5 lbs/ 4.8 kg
Finish/color		anodized/black				anodized/black	
Cooling surface in inches²/m²		3813/2.46	5317/3.43	8432/5.44	10850/7.00	4371/2.82	6246/4.03
Protection ratings (internal cycle) per EN 60529/10.91		NEMA 12/IP 54				NEMA 12/IP 54	
Power cord (no plug)		16.4 ft/2 x 5 m				16.4 ft/2 x 5 m	

* Special voltages available on request. Specifications subject to change.

Accessories	PU							Page
Thermostat	1	3110.000				3110.000		569
Digital temperature display with change-over contact	1	3114.100 (230 V)	3114.115 (115 V)			3114.100 (230 V)	3114.115 (115 V)	570
Speed regulator	1	3120.000 (230 V)	3120.115 (115 V)			3120.000 (230 V)	3120.115 (115 V)	572

Wallmount, specific thermal capacity 42 – 69 W/C

Special customer options pictured.

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Specific thermal capacity		42.0 W/C	44.0 W/C	44.5 W/C	48.1 W/C	63.0 W/C	69.0 W/C
Air displacement (unimpeded air flow)	exterior	335 cfm		270 cfm		335 cfm	
	interior	335 cfm		270 cfm		335 cfm	
Dimensions in inches/mm	H	47/1200	58/1480	63 /1600	70 /1780	58/1480	70/1780
	W	11/ 271	11/ 271	14 / 355	18 / 439	18/ 439	18/ 439
	D	4/ 110	4/ 110	2.5/ 57.5	2.5/ 57.5	4/ 110	4/ 110
SK 230 V 50/60 Hz		**3131.000**	**3132.000**	**3135.000**	**3136.000**	**3133.000**	**3134.000**
SK 115 V 50/60 Hz		**3131.110**	**3132.110**	**3135.110**	**3136.110**	**3133.110**	**3134.110**

See pages 520/521 for certifications of all techline heat exchangers.

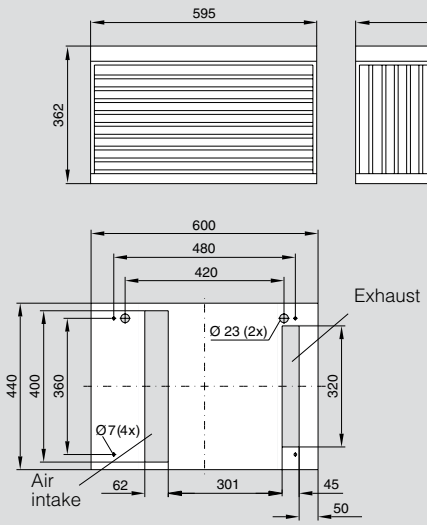
Effortless cleaning through simple removal of the heat exchanger module.

Simple cutouts make on-site installations easy, even in already assembled enclosures.

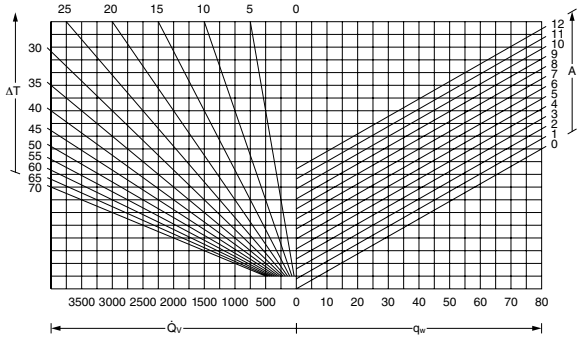
Roofmount air/air heat exchangers are especially suitable for situations where there is no space available for wall-mount heat exchangers.

Technical description:
- The heat exchanger module and the housing of the heat exchanger form one single unit, resulting in a maximized heat transfer surface.
- The design results in a very low weight (37 lbs/16.8 kg) and at the same time increases structural strength.
- Integrated radial fans ensure large capacity air displacement, even in densely packed enclosures.
- Fan motors have thermal winding protection.
- Heat exchanger fins are conductively connected for grounding continuity and integration into the electrical protection.
- The internal and external air cycles can be separately connected and controlled.

Configuration:
Complete unit, ready for connection.
Fans are connected to power source via two 3-conductor power cords.



Selection diagram Techline heat exchangers



ΔT = Temperature difference (K)
$\dot{Q}_V$ = Heat loss (W)
q_w = Specific thermal capacity (W/K)
A = Enclosure surface area per VDE 0660 Part 500 (m^2)

Part No. SK		**3248.000**	**3248.110**
Rated current Volt/Hz*		230/50/60	115/50/60
Dimensions in inches/mm	H W D	14.5/362 23.5/595 17.5/440	
Specific thermal capacity		**66 W/C**	
Fans		2 backward curved impellers	
Maximum rated current per fan		0.35 A	0.70 A
Power capacity per fan		75 W	
Air displacement (unimpeded air flow)	exterior cycle	565 cfm/965 m^3/h	
	interior cycle	565 cfm/965 m^3/h	
Noise level		62.5 dBa	
Temperature range		4 °F to 131 °F/– 20 °C to + 55 °C	
Weight		37 lbs/16.8 kg	
Finish/color		anodized/black	
Cooling surface		47.36 ft^2/4.40 m^2	
Protection ratings (interior cycle) per EN 60 529/10.91		NEMA 12/IP 54	
Power cord (no plug)		10 ft/approximately 3.0 m	

* Special voltages available on request. Specifications subject to change.

Accessories	PU			Page
Temperature control	1	3110.000		569
Digital temperature display with change-over contact	1	3114.100	3114.115	570
Speed regulator	1	3120.000	3120.115	572

Roofmount, specific thermal capacity 66 W/C

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Specific thermal capacity		66 W/C
Air displacement (unimpeded air flow)	exterior	565 cfm/965 m^3/h
	interior	565 cfm/965 m^3/h
Dimensions (inches/mm)	H	14.5/362
	W	23.5/595
	D	17.5/440
Part No. SK 230 V 50/60 Hz		**3248.000**
Part No. SK 115 V 50/60 Hz		**3248.110**

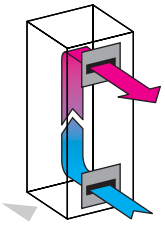
IR-Reg. Design No. DM/013 569 affecting BE, CH, DE, ES, FR, IT, LI, LU, NL

See pages 520/521 for certifications of all roofmount heat exchangers.

The roofmount heat exchanger can also be retrofitted on-site with minimal effort.

Design filter fans
Extremely shallow profile, aesthetically pleasing design, functional and safe.
The low capacity filter fans are especially well suited for the climate control of small enclosures.
Filter fans with high air capacity are used to circulate large air volumes such as in bayed enclosure configurations.

■ Design filter fans



Air displacement (unimpeded air flow)	12 cfm		15 cfm		32 cfm		40 cfm	
Axial fans	DC motor		self starting shaded pole motor		DC motor		self starting shaded pole motor	
Voltage	24 V DC	48 V DC	115 V	230 V	24 V DC	48 V DC	115 V	230 V
Part No. SK	**3321.024**	**3321.048**	**3321.115**	**3321.100**	**3322.024**	**3322.048**	**3322.115**	**3322.100**
Pages	542/543							
Certifications								
UL	●	●	●	●	●	●	●	●
CSA					●		●	●
CE-Conformity	●	●	●	●	●	●	●	●

Air displacement (unimpeded air flow)	62 cfm		70 cfm		106 cfm				135 cfm	
Axial fans	DC motor		self starting shaded pole motor		AC motor		self starting shaded pole motor		DC motor	
Voltage	24 V DC	48 V DC	115 V	230 V	24 V DC	48 V DC	115 V	230 V	24 V DC	48 V DC
Part No. SK	**3323.024**	**3323.048**	**3323.115**	**3323.100**	**3324.024**	**3324.048**	**3324.115**	**3324.100**	**3325.024**	**3325.048**
Pages	544/545								546/547	
Certifications										
UL	●	●	●	●	●	●	●	●	●	●
CSA	●		●	●	●		●	●	●	
CE-Conformity	●	●	●	●	●	●	●	●	●	●

Air displacement (unimpeded air flow)	155 cfm		330 cfm		425 cfm				680 cfm	
Axial fans	self starting shaded pole motor		PSC motor				3 phase AC motor		PSC motor	
Voltage	115 V	230 V	115 V	230 V	115 V	230 V	400 V	460 V	115 V	230 V
Part No. SK	**3325.115**	**3325.100**	**3326.115**	**3326.100**	**3327.115**	**3327.100**	**3327.140**	**3327.146**	**9964980**	**9968486**
Pages	546/547		548/549							
Certifications										
UL	●	●	●	●	●	●	●			
CSA	●	●	●	●						
CE-Conformity	●	●	●	●	●	●	●			

Certification status is current at the time of printing.

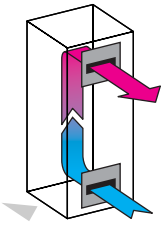
Pagoda roof fan systems
These powerful blowers draw hot air out of the enclosure while using minimal enclosure space.

■ Pagoda roof fans

Air displacement (unimpeded air flow)	210 cfm				360 cfm			
Fan type	Backward curved impeller (1)				Tubeaxial fan (2)			
Voltage								
Part No. SK	**3169.000**		**3149.000**		**9966814**		**9966815**	
Part No. SK EMC model	**–**		**–**		**9967775**		**9967776**	
Page	553							
Certifications								
UL	●	●	●	●				
CSA								
CE-Conformity	●	●	●	●				

EMC filter fans
EMC filter fans are used for enclosures with higher shielding requirements. They offer EMC shielding, while providing ventilation.

■ EMC filter fans



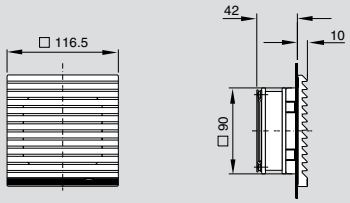
Air displacement (unimpeded air flow)	15 cfm	40 cfm	70 cfm	106 cfm	135 cfm	330 cfm	425 cfm
Axial fans	self starting shaded pole motor					capacitor motor	
Voltage	see Part No.						
Part No. SK (115 V)	**3321.615**	**3322.615**	**3323.615**	**3324.615**	**3325.615**	**3326.615**	**3327.615**
Part No. SK (230 V)	**3321.600**	**3322.600**	**3323.600**	**3324.600**	**3325.600**	**3326.600**	**3327.600**
Pages	550/551						
Certifications							
UL	●	●	●	●	●	●	●
CSA			●		●		
CE-Conformity	●	●	●	●	●	●	●

Technical description:

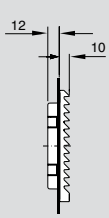
- Quick and simple snap-in installation without hardware.
- Square installation cutout.
- Extremely flat louver design.
- The air direction can be changed easily from intake to exhaust by simply turning the fan housing 180°.
- Use of the DC version (24 V DC) prevents possible electromagnetic interference such as on monitors.
- The IP 43 protection rating can be upgraded to NEMA 12/IP 54 or NEMA 3R/IP 55.
- Filter fan housings are made of heat resistant plastic and are self extinguishing according to UL 94-V0.

Color:
RAL 7032 pebble grey. Order filter fan and exhaust fan versions in RAL 7035 light grey by changing the last digit of the Part No. to 7.

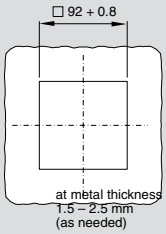
Configuration:
Filter fan, complete, ready to install, including filter mats, terminal block (3322). Matching exhaust louver order separately via Part No. SK 3321.200 / SK 3321.207 / SK 3322.200 / SK 3322.207.



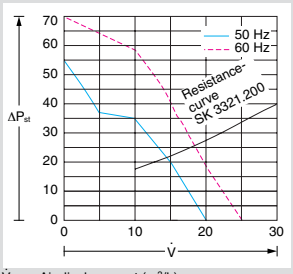
Exhaust filter



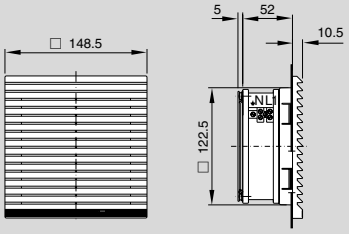
Installation cutout



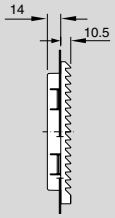
Performance diagram



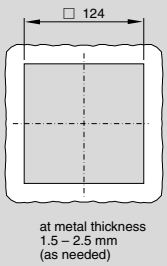
V̇ = Air displacement (m³/h)
ΔPst = Static pressure differential (Pa)



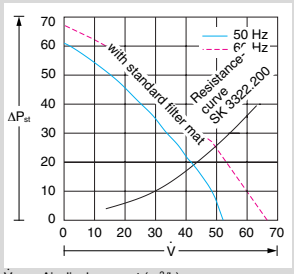
Exhaust filter



Installation cutout



Performance diagram



V̇ = Air displacement (m³/h)
ΔPst = Static pressure differential (Pa)

Part No. filter fans SK	**3321.100**	**3321.115**	**3321.024**	**3321.048**
Rated voltage Volt/Hz*	230/50/60	115/50/60	24 V DC	48 V DC
Air displacement (unimpeded air flow)	**15 cfm/25 m³/h**		**12 cfm/20 m³/h**	
Air displacement (with water guard shroud)	**13 cfm/22 m³/h**		**10 cfm/17 m³/h**	
Air displacement (with exhaust louver incl. standard filter mats) (115/230 V 60 Hz)	1 SK 3321.200: 9 cfm/18 m³/h			
Axial fan with	self starting shaded pole motor		DC motor	
Rated current maximum	69 mA 58 mA	138 mA 115 mA	125 mA	90 mA
Power consumption	12.5 W/ 10.3 W	12.5 W/ 10.3 W	3.0 W	4.1 W
Noise level	41/46 dBa		41 dBa	
Temperature range	14 °F to 131 °F/– 10 °C to + 55 °C			
Protection ratings per EN 60 529/10.91	IP 43 when using standard filters and gasket NEMA 3R/IP 55 when using a shroud			
Part No. exhaust filters SK	**3321.200 / .207**			

Part No. filter fans SK	**3322.100**	**3322.115**	**3322.024**	**3322.048**
Rated voltage Volt/Hz*	230/50/60	115/50/60	24 V DC	48 V DC
Air displacement (unimpeded air flow)	**40 cfm/66 m³/h**		**32 cfm/55 m³/h**	
Air displacement (with water guard shroud)	**33 cfm/55 m³/h**		**26 cfm/45 m³/h**	
Air displacement (with exhaust louver incl. standard filter mats) (115/230 V 60 Hz)	1 SK 3322.200: 30 cfm/50 m³/h			
Axial fan with	self starting shaded pole motor		DC motor	
Rated current maximum	0.12 A 0.11 A	0.24 A 0.23 A	0.15 A	90 mA
Power consumption	19.0 W/ 18.0 W		3.5 W	4.4 W
Noise level	46/49 dBa		46 dBa	
Temperature range	14 °F to 131 °F/– 10 °C to + 55 °C			
Protection ratings per EN 60 529/10.91	IP 43 Standard NEMA 3R/IP 55 when using a shroud			
Part No. exhaust filters SK	**3322.200 / .207**			

* Special voltages available on request. Specifications subject to change.
Order RAL 7035 light grey models by changing the last digit of the Part No. to 7.

Accessories	PU					Page
Replacement filters	5	3321.700			3322.700	568
Filter fan gasket	5	3321.900			3322.900	569
Temperature control	1	3110.000			3110.000	569
Digital temperature display with change-over contact	1	3114.100	3114.115	– –	3114.100 3114.115 – –	570
Speed regulator	1	3120.000	3120.115	– –	3120.000 3120.115 – –	572
Water guard shroud	1	3321.800			3322.800	570
10′ power cord	1	–	–	– –	9965837 9962136 – –	571

Air displacement: 12/15/32/40 cfm; 20/25/55/66 m³/h

Air displacement	12 cfm/20 m³/h		15 cfm/25 m³/h		32 cfm/55 m³/h		40 cfm/66 m³/h	
Axial fan	DC motor		self-starting shaded pole motor		DC motor		self-starting shaded pole motor	
Voltage	24 V DC	48 V DC	115 V	230 V	24 V DC	48 V DC	115 V	230 V
Part No. SK	**3321.024**	**3321.048**	**3321.115**	**3321.100**	**3322.024**	**3322.048**	**3322.115**	**3322.100**
Exhaust louver	**3321.200**		**3321.207**		**3322.200**		**3322.207**	

German Patent
No. P 43 12 664
German Design
No. G 93 06 032
German Design
No. M 93 04 847
French Patent
No. 94 046 43
French Patent
No. 94 047 25
Italian Patent
No. 012 69 318

See pages 540/541 for certifications of all design filter fans.

Included with the unit: standard filters, made of randomly laid, non-woven fiber, capable of trapping dust particles larger than 10 µm.

The motor can simply be turned to switch air flow direction.

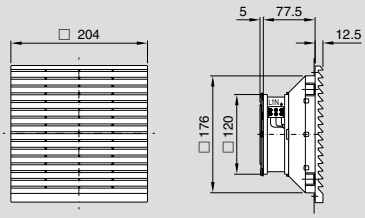
Technical description:

- Easy snap-in installation, requires no tools.
- Optimized air flow.
- Extremely flat Rittal design, compatible with older designs.
- Low noise.
- Air direction can be changed from intake to exhaust by simply turning the fan motor.
- 24 V or 48 V DC motors can prevent possible interferences such as on monitors.
- Protection rating IP 43 can be upgraded to NEMA 12/IP 54 or NEMA 3R/IP 55.
- Motor speed can be adjusted (see accessories on page 572).
- Fan housings are made of self-extinguishing (per UL 94-V0), heat-resistant plastic.

Color:
RAL 7032 pebble grey. Order RAL 7035 light grey models by changing the last digit of the Part No. to 7.

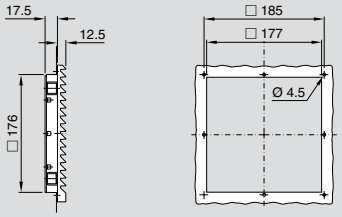
Configuration:
Filter fan, complete with mounting template, terminal block and filter, ready for installation. Matching exhaust louver ordered separately via Part No. SK 3323.200 / SK 3323.207 / SK 3325.200 / SK 3325.207.

Filter fans

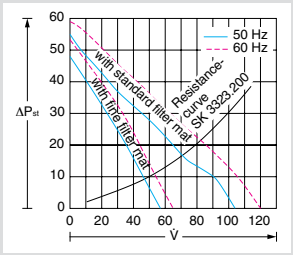


Exhaust filter SK 3323.200

Installation cutout SK 3323.…

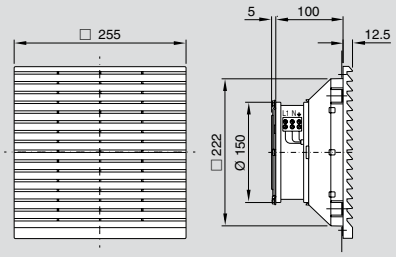


Performance diagram SK 3323.…



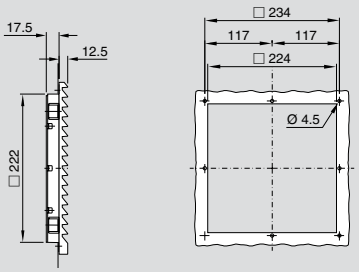
V̇ = Air displacement (m³/h)
ΔPst = Static pressure differential (Pa)

Filter fans

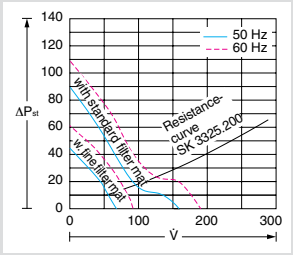


Exhaust filter SK 3325.200

Installation cutout SK 3324.… / SK 3325.…



Performance diagram SK 3324.…



V̇ = Air displacement (m³/h)
ΔPst = Static pressure differential (Pa)

Part No. filter fans SK	**3323.100**	**3323.115**	**3323.024**	**3323.048**
Rated voltage Volt/Hz*	230/50/60	115/50/60	24 V DC	48 V DC
Air displacement (unimpeded air flow)	**70 cfm/120 m³/h**		**62 cfm/105 m³/h**	
Air displacement (with water guard shroud)	**60 cfm/102 m³/h**		**53 cfm/ 90 m³/h**	
Air displacement (with exhaust louver and standard filter mat) (115/230 V 60 Hz)	1 x SK 3323.200: 50 cfm/82 m³/h 2 x SK 3323.200: 60 cfm/98 m³/h 1 x SK 3325.200: 55 cfm/90 m³/h			
Axial fan	self-starting shaded pole motor		DC motor	
Rated current maximum	0.12 A 0.11 A	0.24 A 0.23 A	0.15 A	90 mA
Power consumption	19 W/18 W	19 W/18 W	3.5 W	4.3 W
Noise level	46/49 dBa		46 dBa	
Temperature range	14 °F to 131 °F/– 10 °C to + 55 °C			
Protection ratings per EN 60 529/10.91	IP 43 Standard/NEMA 12/IP 54 with use of fine filter mats and filter fan gaskets; NEMA 3R/IP 55 with use of the filter mats and shroud (see accessories)			
Part No. exhaust filters SK	**3323.200/.207**			

Part No. filter fans SK	**3324.100**	**3324.115**	**3324.024**	**3324.048**
Rated voltage Volt/Hz*	230/50/60	115/50/60	24 V DC	48 V DC
Air displacement (unimpeded air flow)	**106 cfm/180 m³/h**		**106 cfm/180 m³/h**	
Air displacement (with water guard shroud)	**88 cfm/149 m³/h**			
Air displacement (with exhaust louver and standard filter mat) (115/230 V 60 Hz)	1 x SK 3325.200: 55 cfm/ 95 m³/h 2 x SK 3325.200: 80 cfm/140 m³/h 1 x SK 3326.200: 75 cfm/130 m³/h			
Axial fan	self-starting shaded pole motor		DC motor	
Rated current maximum	0.19 A 0.20 A	0.38 A 0.40 A	0.3 A	0.34 A
Power consumption	30 W/35 W	30 W/35 W	7.2 W	14 W
Noise level	52/48 dBa		52 dBa	
Temperature range	14 °F to 131 °F/– 10 °C to + 55 °C			
Protection ratings per EN 60 529/10.91	IP 43 Standard/NEMA 12/IP 54 with use of fine filter mats and filter fan gaskets; NEMA 3R/IP 55 with use of the filter mats and shroud (see accessories)			
Part No. exhaust filters SK	**3325.200/.207**			

* Special voltages available on request. We reserve the right to technical changes.
Order RAL 7035 light grey models by changing the last digit of the Part No. to 7.

Accessories	PU				Page
Replacement filter mats	5	3171.100			568
Fine filter mats	5	3181.100			568
Filter fan gasket	5	3191.100			569
Thermostat	1	3110.000			569
Digital temperature display	1	3114.100	3114.115	–	570
Speed regulator	1	3120.000	3120.115	–	572
Water guard shroud	1	3323.800			570
10′ power cord	1	9965837	9962136	–	571

			Page
3172.100			568
3182.100			568
3192.100			569
3110.000			569
3114.100	3114.115	–	570
3120.000	3120.115	–	572
3324.800			570
9965837	9962136	–	571

Air displacement: 62/70/106 cfm; 105/120/180 m³/h

Air displacement (unimpeded air flow)	62 cfm/105 m³/h		70 cfm/120 m³/h		106 cfm/180 m³/h			
Axial fan	DC motor		self-starting shaded pole motor		DC motor		self starting shaded pole motor	
Voltage	24 V DC	48 V DC	115 V	230 V	24 V DC	48 V DC	115 V	230 V
Part No. SK	**3323.024**	**3323.048**	**3323.115**	**3323.100**	**3324.024**	**3324.048**	**3324.115**	**3324.100**
Exhaust louver	**3323.200 / .207**				**3325.200 / .207**			
UL 12 filter pack	**3181.100**				**3182.100**			
UL 12 gasket pack	**3191.100**				**3192.100**			

See pages 540/541 for certifications of all design filter fans.

German Patent No. P 43 12 664
German Design No. G 93 06 032
German Design No. M 93 04 847
French Patent No. 94 046 43
French Patent No. 94 047 25
Italian Patent No. 012 69 318.

Our quick installation system for filter fans and exhaust filters – simply snap-in and done.

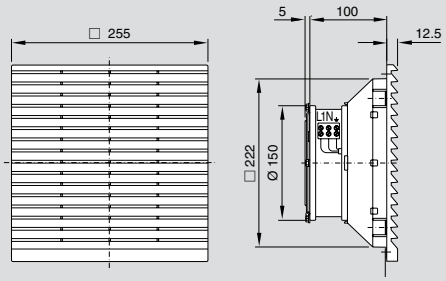
The air flow direction can easily be changed by turning the fan motor.

Technical description:
- Easy snap-in installation, requires no tools.
- Optimized air flow.
- Extremely flat Rittal design, compatible with older designs.
- Low noise.
- Air direction can be changed from intake to exhaust by simply turning the fan motor.
- 24 V or 48 V DC motors can prevent possible EMI such as on monitors.
- Protection rating of IP 43 can be upgraded to NEMA 12/IP 54 or NEMA 3R/IP 55.
- Motor speed can be adjusted (see accessories on page 182).
- Fan housings are made of self-extinguishing (per UL 94-V0), heat-resistant plastic.

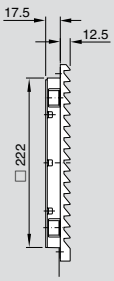
Color:
RAL 7032 pebble grey. Order RAL 7035 light grey models by changing the last digit of the Part No. to 7.

Configuration:
Filter fan, complete with mounting template, terminal block and filter, ready for installation. Matching exhaust filter louver ordered separately via Part No. 3325.200/ 3325.207.

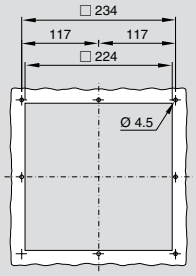
Filter fan SK 3325.…



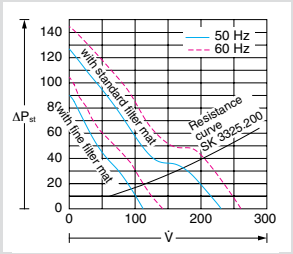
Exhaust filter SK 3325.200



Installation cutout SK 3325.…



Performance diagram SK 3325.…



V̇ = Air displacement (m³/h)
ΔPst = Static pressure differential (Pa)

Part No. filter fans SK	**3325.100**	**3325.115**	**3325.024**	**3325.048**
Rated voltage Volt/Hz*	230/50/60	115/50/60	24 V DC	48 V DC
Air displacement (unimpeded air flow)	**155 cfm/265 m³/h**		**135 cfm/230 m³/h**	
Air displacement (with water guard shroud)	**140 cfm/238 m³/h**		**122 cfm/207 m³/h**	
Air displacement (with exhaust filter and standard filter mats)	1 x SK 3325.200: 120 cfm/205 m³/h 2 x SK 3325.200: 135 cfm/230 m³/h 1 x SK 3326.200: 125 cfm/215 m³/h		1 x SK 3325.200: 100 cfm/170 m³/h 2 x SK 3325.200: 118 cfm/200 m³/h 1 x SK 3326.200: 112 cfm/190 m³/h	
Axial fan	self-starting shaded pole motor		DC motor	
Rated current maximum	0.28 A 0.24 A	0.53 A 0.49 A	0.59 A	0.31 A
Power consumption	41 W/38 W		14 W	15 W
Noise level	54/56 dBa		54 dBa	
Temperature range	14 °F to 131 °F/– 10 °C to + 55 °C			
Protection ratings per EN 60529/10.91	IP 43 Standard / NEMA 12/IP 54 with use of fine filter mats and filter fan gaskets; NEMA 3R/IP 55 with use of filter mat and shroud (see accessories).			
Part No. exhaust filters SK	**3325.200/.207**			

* Special voltages available on request. Specifications subject to change. Order RAL 7035 light grey models by changing the last digit of the Part No. to 7.

Accessories	PU				Page
Replacement filter mats	5	3172.100			568
Fine filter mats	5	3182.100			568
Filter fan gasket	5	3192.100			569
Thermostat	1	3110.000			569
Digital temperature display	1	3114.100	3114.115	–	570
Speed regulator	1	3120.000	3120.115	–	572
Water guard shroud	1	3324.800			570
10′ power cord	1	9965837	9962136	–	571

Air displacement 135/155 cfm; 230/265 m³/h

Air displacement	135 cfm/230 m³/h		155 cfm/265 m³/h	
Axial fans	DC motor		self-starting shaded pole motor	
Voltage	24 V DC	48 V DC	115 V	230 V
Part No. SK	**3325.024**	**3325.048**	**3325.115**	**3325.100**
Exhaust louver	**3325.200 / .207**			
UL 12 fine filter pack	**3182.100**			
UL 12 gasket pack	**3192.100**			

German Patent
No. P 43 12 664
German Design
No. G 93 06 032
German Design
No. M 93 04 847
French Patent
No. 94 046 43
French Patent
No. 94 047 25
Italian Patent
No. 012 69 318

See pages 540/541 for certifications of all design filter fans.

Temperature regulated filter fan speed regulator for noise reduction.

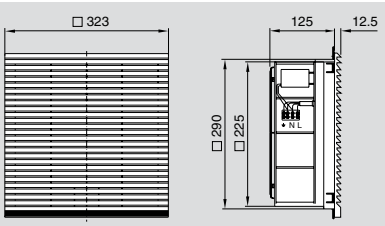
Quick and easy replacement of filter mats.

Design filter fans 330 to 680 cfm/560 to 1155 m³/h
These high capacity filter fans are designed for high heat loss applications and larger enclosures.

Technical description:
- Easy snap-in installation, requires no tools.
- Optimized air flow.
- Extremely flat Rittal design, compatible with older designs.
- Low noise.
- Air direction can be changed from intake to exhaust by simply turning the fan motor (except 9964980).
- 24 V or 48 V DC motors can prevent possible magnet field interferences such as on monitors.
- Protection rating of IP 43 can be upgraded to NEMA 12/IP 54 or NEMA 3R/IP 55.
- Motor speed can be adjusted (see accessories on page 572).
- Fan housings are made of self-extinguishing (per UL 94-V0), heat-resistant plastic.

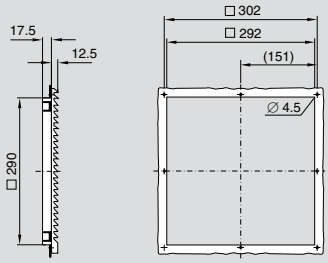
Color:
RAL 7032 pebble grey. Order RAL 7032 light grey models by changing the last digit of the Part No. to 7.

Configuration:
Filter fan, complete with mounting template and filter, ready for installation. Matching exhaust filter louver ordered separately via Part No. SK 3326.200 / SK 3326.207.

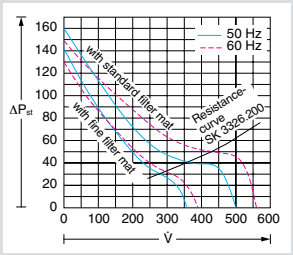


Exhaust filter SK 3326.200

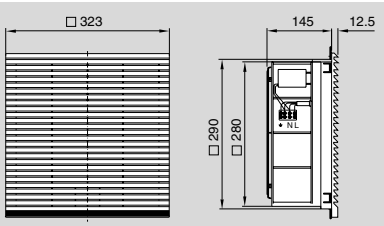
Installation cutout SK 3326.… 9964980 / 9968486



Performance diagram SK 3326.…

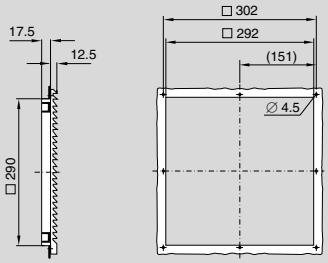


V̇ = Air displacement (m³/h)
ΔPst = Static pressure differential (Pa)

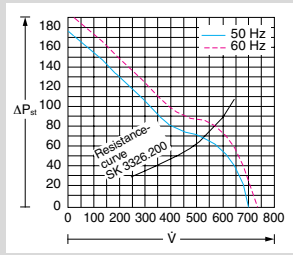


Exhaust filter SK 3326.200

Installation cutout SK 3327.…



Performance diagram SK 3327.…



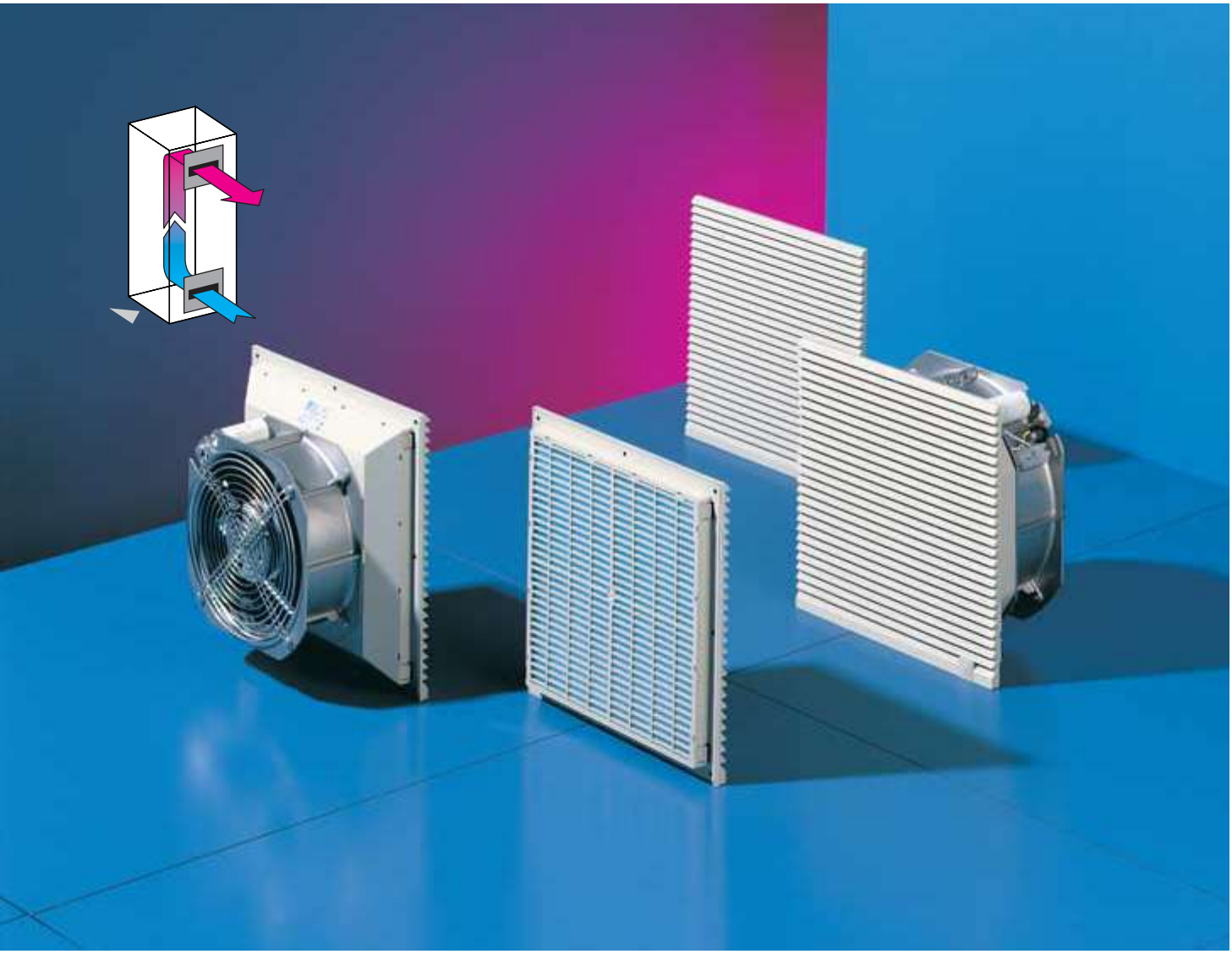
V̇ = Air displacement (m³/h)
ΔPst = Static pressure differential (Pa)

Part No. filter fans SK	**3326.100**	**3326.115**	**3327.100**	**3327.115**	**3327.140**	**3327.146**	**9964980**	**9968486**
Rated voltage Volt/Hz*	230/50/60	115/50/60	230/50/60	115/50/60	400/50/60, 3~	460/60, 3~	115/60	230/50/60
Air displacement (unimpeded air flow)	**330 cfm/560 m³/h**		**425 cfm/720 m³/h**				**680 cfm/1155 m³/h**	
Air displacement (with water guard shroud)	**310 cfm/530 m³/h**		**360 cfm/614 m³/h**				**580 cfm/ 980 m³/h**	
Air displacement with (exhaust louver and standard filter mat at 60 Hz)	1 SK 3326.200: 230 cfm/390 m³/h 2 SK 3326.200: 290 cfm/495 m³/h		1 SK 3326.200: 335 cfm/575 m³/h				1 SK 3326.200: 350 cfm/594 m³/h	
Axial fan	permanent split capacitor motor		permanent split capacitor motor		AC three phase motor		PSC motor	
Rated current maximum	0.29 A 0.35 A	0.58 A 0.70 A	0.65 A 0.95 A	1.5 A 2.0 A	0.27 A 0.33 A		1.5 A	0.9 A
Power consumption	64 W/80 W		155 W/ 212 W	167 W/ 230 W	146 W/ 205 W		175 W	200 W
Noise level	59/61 dBa		75/76 dBa				73 dBa	
Temperature range	14 °F to 131 °F/– 10 °C to + 55 °C							
Protection ratings per EN 60 529/10.91	IP 43 Standard – NEMA 12/IP 54 with use of fine filter mat and filter fan gaskets (except 9964980/9968486); NEMA 3R/IP 55 with use of filter mat and shroud (see accessories).							
Part No. exhaust filters SK	**3326.200/.207**							

* Special voltages available on request. Specifications subject to change. Order RAL 7035 light grey models by changing the last digit of the Part No. to 7.

Accessories	PU							Page
Replacement filter mats	5	3173.100		3327.700			9968464	568
Fine filter mats	5	3183.100		3183.100			–	568
Filter fan gasket	5	3193.100		3193.100				569
Thermostat	1	3110.000		3110.000		–	3110.000	569
Digital temperature display	1	3114.100	3114.115	3114.100	3114.115	–	3114.100	3114.115 570
Speed regulator	1	3120.000	3120.115	3120.000	3120.115	–	3120.000	3120.115 572
Water guard shroud	1	3326.800		3326.800				570
10′ power cord	1	9965837	9962136	9965837	9962136	–	9962136	9965837 571

Air displacement 330/425/680 cfm; 560/720/1155 m³/h

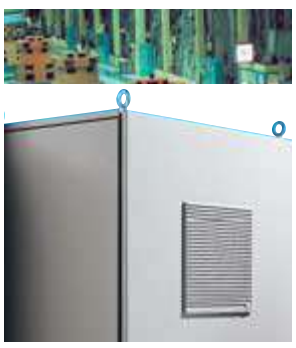


Air displacement	330 cfm/560 m³/h		425 cfm/720 m³/h				680 cfm/1155 m³/h	
Axial fans	permanent split capacitor motor				AC three phase motor		PSC motor	
Voltage	115 V	230 V	115 V	230 V	400 V	460 V	115 V	230 V
Part No. SK	**3326.115**	**3326.100**	**3327.115**	**3327.100**	**3327.140**	**3327.146**	**9964980**	**9968486**
Exhaust louver	**3326.200 / .207**							
UL 12 filter pack	**3183.100 / .207**							
UL 12 gasket pack	**3193.100**		–					

German Patent
No. P 43 12 664
German Design
No. G 93 06 032
German Design
No. M 93 04 847
French Patent
No. 94 046 43
French Patent
No. 94 047 25
Italian Patent
No. 012 69 318

See pages 540/541 for certifications of all design filter fans.

To increase the protection rating of filter fans/exhaust louvers, a water guard shroud can help protect against hose directed water spray.



These high capacity filter fans are especially suited for use in interconnected/bayed enclosures.

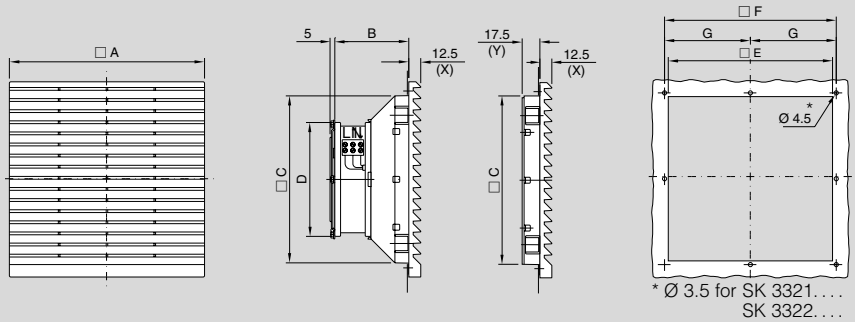
When using filter fans in an enclosure with increased shielding requirements, an EMC solution is necessary. The frame of our shielded filter fans are coated with a metallic layer. A special EMC gasket completes the continuous conductivity between the fan housing and enclosure surface.

Technical description:
- Continuous contact in the enclosure is achieved through copper EMC gasket.
- Minimal mounting hole drilling, via snap-in mounting connection.
- Optimal noise and air flow through the Rittal louver design.
- User friendly maintenance through the quick change of filter mats.
- The polymer housing is self extinguishing according to UL 94-V0.

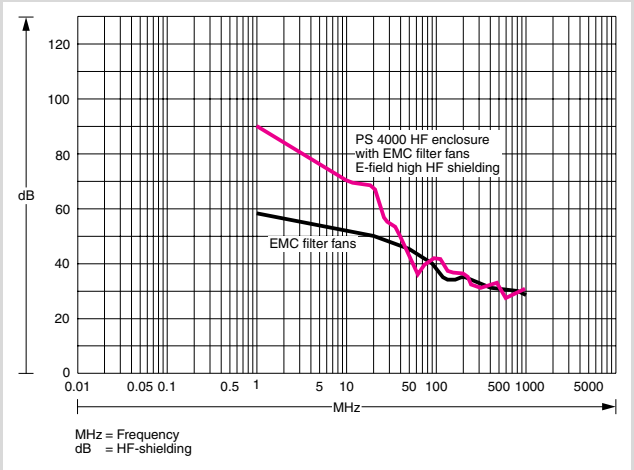
Color:
RAL 7032 pebble grey. Order RAL 7035 light grey by changing the last digit of the Part No. to 7.

Configuration:
Filter fan, completely ready for installation. Mounting template, filter mats and installation hardware included. Matching exhaust filter louver ordered separately via Part No. SK 3325.200 / SK 3325.207.

EMC filter fans



* Ø 3.5 for SK 3321.... SK 3322....



Performance diagrams: check standard models please:
SK 3321..... p. 542
SK 3322..... p. 542
SK 3323..... p. 544
SK 3324..... p. 544
SK 3325..... p. 546
SK 3326..... p. 548
SK 3327..... p. 548

(X): SK 3321.... 10 mm
SK 3322.... 10.5 mm
(Y): SK 3321.... 12 mm
SK 3322.... 14 mm

Part No. filter fans SK	**3321.600**	**3321.615**	**3322.600**	**3322.615**	**3323.600**	**3323.615**	**3324.600**	**3324.615**	**3325.600**	**3325.615**	**3326.600**	**3326.615**	**3327.600**	**3327.615**
Rated voltage Volt/Hz	230/50/60	115/50/60	230/50/60	115/50/60	230/50/60	115/50/60	230/50/60	115/50/60	230/50/60	115/50/60	230/50/60	115/50/60	230/50/60	115/50/60
Air displacement (unimpeded air flow)	**12/15 cfm**		**40 cfm**		**70 cfm**		**106 cfm**		**155 cfm**		**335 cfm**		**425 cfm**	
Air displacement with exhaust filter includes standard filter mats	1 x 3321.260: **9/11 cfm**		1 x 3322.260: **25/30 cfm** 2 x 3322.260: **29/33 cfm** 1 x 3323.260: **29/33 cfm**		1 x 3323.260: **42/49 cfm** 2 x 3323.260: **50/58 cfm** 1 x 3325.260: **46/53 cfm**		1 x 3325.260: **68/56 cfm** 2 x 3325.260: **98/83 cfm** 1 x 3326.260: **92/77 cfm**		1 x 3325.260: **100/121 cfm** 2 x 3325.260: **118/136 cfm**		1 x 3325.260: **100/121 cfm** 2 x 3325.260: **118/136 cfm** 1 x 3326.260: **230 cfm**		1 x 3326.260: **335 cfm**	
Axial fans	self-starting shaded pole motor										permanent split capacitor motor			
Rated current maximum	69 mA/ 58 mA	138 mA/ 115 mA	0.12 A/ 0.11 A	0.24 A/ 0.23 A	0.12 A/ 0.11 A	0.24 A/ 0.23 A	0.19 A/ 0.20 A	0.38 A/ 0.40 A	0.28 A/ 0.24 A	0.53 A/ 0.49 A	0.29 A/ 0.35 A	0.58 A/ 0.70 A	0.65 A/ 0.95 A	1.50 A/ 2.00 A
Power consumption	12.5 W/ 10.3 W		19.0 W/ 18.0 W				30.0 W/ 35.0 W		41.0 W/ 38.0 W		64.0 W/ 80.0 W		155.0 W/ 212.0 W	1670 W/ 230.0 W
Noise level	41/46 dBa		46/49 dBa				52/48 dBa		54/56 dBa		59/61 dBa		75/76 dBa	
Temperature range	14 °F to 131 °F/– 10 °C to + 55 °C													
Protection ratings per EN 60 529/10.91	IP 43 standard IP X5 using shrouds				IP 43 standard IP X5 using fine filter mats and shrouds									

Part No. EMC exhaust filters SK	**3321.260**	**3322.260**	**3323.260**	**3325.260**	**3326.260**
A (mm)	116.5	148.5	204.0	255.0	323.0
B (mm)	37.0	52.0	77.5	100.0	124.0
C (mm)	90.0	122.5	176.0	222.0	290.0
D (mm)	□ 90.0	□ 120.0	□ 120.0	Ø 150.0	□ 225.0
E (mm)	92.0 $^{+0.8}$	124.0	177.0	224.0	292.0
F (mm)	100.5	132.5	185.0	234.0	302.0
G (mm)	(50.25)	(66.25)	(92.5)	(117.0)	(151.0)

Special voltages available on request. Specifications subject to change. Order RAL 7035 light grey models by changing the last digit of the Part No. to 7.

Accessories	PU	Page												
Replacement filter mats	5	568	3321.700		3322.700		3171.100		3172.100		3173.100		3327.700	
Fine filter mats	5	568	–				3181.100		3182.100		3183.100			
Thermostat	1	571	3110.000											
Digital temperature display	1	570	3114.100	.115	3114.100	.115	3114.100	.115	3114.100	.115	3114.100	.115	3114.100	.115
Speed regulator	1	572	3120.000	.115	3120.000	.115	3120.000	.115	3120.000	.115	3120.000	.115	3120.000	.115
Water guard shroud	1	570	3321.800		3322.800		3323.800		3324.800		3326.800			

Air displacement 15 – 425 cfm; 20 – 700 m³/h

Air displacement	15 cfm	40 cfm	70 cfm	106 cfm	155 cfm	335 cfm	425 cfm
Axial fans	self-starting shaded pole motor					permanent split capacitor motor	
Voltage	see individual Part No.						
Part No. SK (115 V)	**3321.615**	**3322.615**	**3323.615**	**3324.615**	**3325.615**	**3326.615**	**3327.615**
Part No. SK (230 V)	**3321.600**	**3322.600**	**3323.600**	**3324.600**	**3325.600**	**3326.600**	**3327.600**
Exhaust louver	**3321.260**	**3322.260**	**3323.260**	**3325.260**		**3326.260**	

See pages 540/541 for certifications of all EMC filter fans.

The special EMC gasket establishes continuous conductivity between fan housing and installation surface.

The filter fan housing is coated with a metallic layer.

TS 8 internal fan panel for focused air movement

A fan unit built into the TS 8 twin wall for focused air movement in the enclosure. There is the option of installing an additional fan unit in the lower section of the enclosure to boost air circulation. Air flow can easily be changed afterwards by removing/installing cover plates.

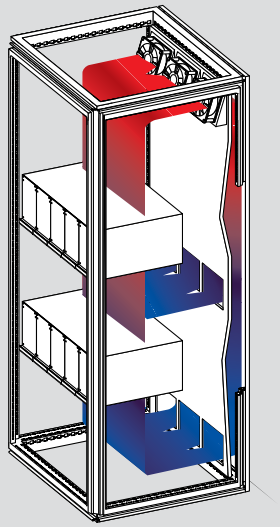
Technical description:
- Rated operating voltage: 230 V, 50/60 Hz; 115 V 50/60 Hz available by special request
- Air displacement, (3 fans): 117/135 cfm; 200/230 m^3/h (unimpeded air flow)

Configuration:
1 PU = 1 internal fan panel,
3 fan assemblies,
3 cover plates.

German Design No. 298 23 345

CE

Dimensions inside panel		Part No. SK
Height	Width	
71″/1800 mm	24″/600 mm	**3347.180**
79″/2000 mm	24″/600 mm	**3347.200**
71″/1800 mm	32″/800 mm	**3348.180**
79″/2000 mm	32″/800 mm	**3348.200**



Fan assembly for TS 8 internal fan panel

For additional capacity to increase air circulation.

Technical description:
- Rated operating voltage: 230 V, 50/60 Hz; 115 V 50/60 Hz available by special request
- Air displacement (3 fans): 117/135 cfm; 200/230 m^3/h (unimpeded air flow)

PU	Part No. SK
3	**3349.100**

CE

German Patent No. 298 23 348

Cover plates for TS 8 internal fan panel

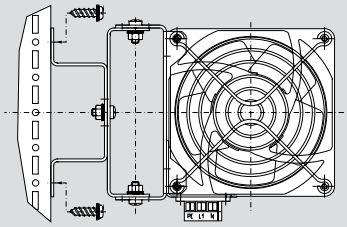
To cover unused fan panel openings.

PU	Part No. SK
3	**3349.300**

Internal fan for TS

This fan is designed around the TS and PS quick installation modular concept. It adjusts on two axes and thereby allows for user configured air flow within the enclosure. Helps eliminate heat pockets.

Configuration:
Complete unit, ready for installation, with tube axial fan and swing bracket as well as installation materials.



CE

Adjustable brackets (2 axis)		
Air displacement (unimpeded)	Rated voltage Volt/Hz	Part No. SK
100 cfm/ 160 m^3/h	230/50/60	**3108.100**
	115/50/60	**3108.115**
	24 V DC	**3108.024**

Fixed bracket		
Air displacement (unimpeded)	Rated voltage Volt/Hz	Part No. SK
100 cfm/ 160 m^3/h	230/50/60	**9965839**
	115/50/60	**9965364**
	24 V DC	**9965816**

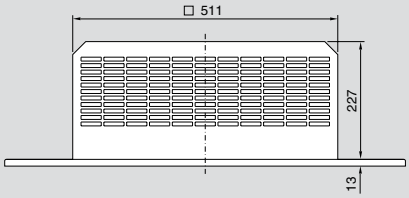
Roof fan for TS

This new roof ventilation system distinguishes itself in our line of built-in enclosure fans through its ease of installation and its performance and cost advantages. The fan is already pre-wired and built into a roof panel and can therefore be retrofitted easily. Installation cutouts are not necessary. The distinguishing factor is its enormous air flow rate in relation to its low noise level. This makes it perfect for the sensible office environment.

Technical description:
- 880 cfm/1500 m³/h flow rate.
- Noise level 40 dBa.
- Built into a TS roof panel.
- Simple assembly; installation cutouts are not necessary.

Configuration:
Pre-wired, ready for installation including installation materials and multi-lingual instruction manual.

CE



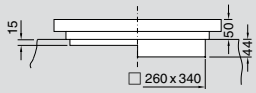
Part No. SK	3164.610	3164.620	3164.810	3164.820	Page
Rated voltage Volt/Hz	115/50/60	230/50/60	115/50/60	230/50/60	
Air displacement (unimpeded air flow)	**880 cfm/1500 m³/h***				
Dimensions (inches/mm) H (H x W x D) W incl. roof panel D	9.4/240 32 /800 32 /800		9.4/240 32 /800 36 /900		
Radial fan					
Noise level	40 dBa				
Temperature range	68 °F to 131 °F/+ 20 °C to + 55 °C				
Color	RAL 7035				
Special voltages available on request. Specifications subject to change.					
Accessories					
19″ temperature display	7109.035				571
Digital temperature display	3114.115	3114.100	3114.115	3114.100	570
Temperature control	3110.000				569
* 470 cfm/800 m³/h with 0.16 static pressure when using two DK 7580.500 louvered panels in the plinth.					

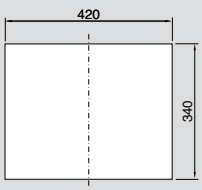
Pagoda roof fans

Technical description:
- The pagoda fan is easily installed via included mounting screws.
- Installation hardware is invisible from outside the enclosure.
- The pagoda fan housing has a large air exhaust area and a labyrinth shaped air flow configuration.
- EMC versions also available: Part Nos. 9967775 (115 V), 9967776 (230 V), 9966891 (no fan).
- Roofmount only (no fan) via Part No. 3148.000 or 9966892.
- The protection rating is IP 43 per EN 60 529/10.91. The use of fan bracket and filter mat SK 3175.000, see page 568, the roof ventilation assembly SK 3148.000 can be rated at IP 44.

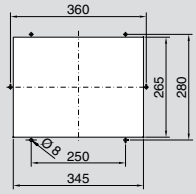
Configuration:
Complete unit, installation ready; built-in fan, gasketing and installation materials,10 ft/3 m power cord, mounting template.

without fan with fan





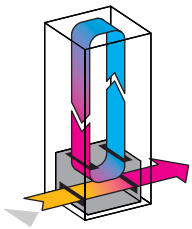
Installation cutout



Part No. SK	3149.000	3169.000	9966814/ 9967775	9966815/ 9967776
Rated voltage Volt/Hz	230/50/60	115/50/60	115/50/60	230/50/60
Air displacement (unimpeded air flow)	**210 cfm/360 m³/h**		**360 cfm/612 m³/h**	
Rated current maximum	0.2 A	0.55 A	0.72 A	0.36 A
Power consumption	42 W	65 W	82 W	
Temperature range	14 °F to 140 °F/– 10 °C to + 60 °C			
Capacitor	1.5 µF	6 µF	–	–
Noise level	53 dBa		59 dBa	
Speed	1400 min⁻¹		3400 min⁻¹	
Weight	17.5 lbs/7.8 kg		20 lbs/9.1 kg	
Color*	RAL 7032, textured			
Special voltages available on request. Specifications subject to change.				
* Order RAL 7035 version with .007 ending (for SK 3149/3169 only).				
CE-Conformity	●	●		

Rackmount air conditioners
The separate interior and exterior circuits prevent dust from entering the enclosure. They produce high cooling capacity under strict safety standards, while taking up very little space.

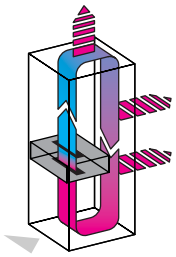
Rackmount air conditioners
for 19″/482.6 mm



Useful cooling capacity		3585 BTU/1050 W	
Dimensions in inches/mm	H W D	10.5/265.9 17.5/445 21.4/542	
Voltage		115 V	230 V
Thermostat control		●	●
Part No. SK		**3278.134**	**3292.134**
Pages		556/557	
CE-Conformity		●	●

Rackmount fans
These fans circulate the air continuously so that heat pockets do not build up. The heat dissipation on the enclosure surface is enhanced via the air movement.

Rackmount fans
for 19″/482.6 mm

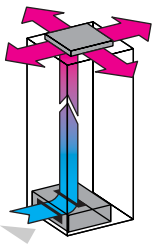


Air displacement	190 cfm/320 m³/h			300 cfm/510 m³/h						
Voltage	24 V DC	115 V	230 V	24 V DC		115 V		230 V		48 V DC
Number of fans	2			3						
Space from front to fan axis in inches/mm	3.34/85				4.17/105	3.35/85	4.17/105	3.35/85	4.17/105	
Part No. rackmount fan SK	**3340.024**	**3340.115**	**3340.230**	**3341.024**	**3342.024**	**3341.115**	**3342.115**	**3341.230**	**3342.230**	**3342.500**
Part No. depth adjustable fan tray SK	**–**			**9965810**		**9965808**		**9965809**		**9965811**
Pages	558/559									
Certifications										
UL	●	●	●	●	●	●	●	●	●	●
CUL	●	●	●	●	●	●	●	●	●	●
CE-Conformity	●	●	●	●	●	●	●	●	●	●

Certification status is current at time of printing.

Blowers
The exterior air is pulled in by a fan and redirected at a 90° angle upwards.
This facilitates an effective heat dissipation and the prevention of heat pockets.

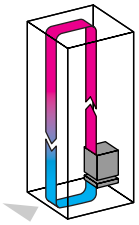
Blowers
for 19″/482.6 mm



Air displacement		185 cfm	320 cfm	185 cfm	320 cfm
Dimensions in inches/mm	H W D	3.5 / 87.2 19 /482.6 6.25/158	5.2/132 19 /482.6 13.7/348	3.5 / 87.2 19 /482.6 6.25/158	5.2/132 19 /482.6 13.7/348
Voltage		115 V		230 V	
Part No. SK		**3145.000**	**9966389**	**3144.000**	**9966966**
Pages		560/561			
CE-Conformity		●		●	

Panel Heaters
These small, but powerful and sturdy panel heaters can help alleviate malfunction, corrosion and frost build-up in enclosures.

Enclosure panel heaters



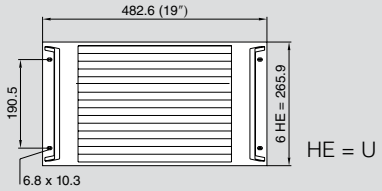
Continuous heat output	**10 W**	**20 W**	**30 W**	**50 W**	**130 W**	**300 W***		**1000 W***	
Rated operating voltage	110 – 240 V					230 V	115 V	230 V	115 V
Part No. panel heaters SK	**3105.000**	**3106.000**	**3115.000**	**3116.000**	**3107.000**	**3102.000**	**3102.110**	**9967054**	**9967053**
Part No. axial fan SK						includes fan			
Pages	562/563								
Certifications									
VDE	●	●	●	●	●	●			
UL	●	●	●	●	●	●	●	●	●
CUL	●	●	●	●	●	●	●	●	●
CE-Conformity	●	●	●	●	●	●	●		

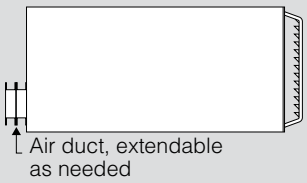
*** Performance for heater with fan.**

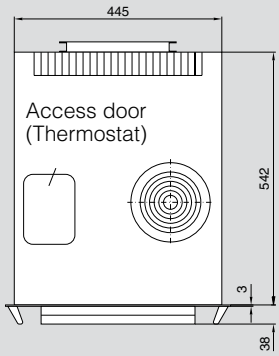
Rittal rackmount air conditioners have been developed especially for 19″ sub-rack systems. They provide a safe operating temperature inside the electronic enclosures. They can be installed inside enclosures, take up very little space, and have a high cooling capacity to ensure a high level of security.

Technical description:
- The unit can be retrofitted into already assembled 19″ racks.
- An access door facilitates setting and checking the thermostat.
- The cooling system is maintenance free.
- The combination high/low pressure monitor (per VBG 20, §7), a thermostatically controlled expansion valve and fans with ball bearings and thermal winding protection ensure a high degree of dependability.
- A low pressure monitor prevents icing of the refrigeration system.

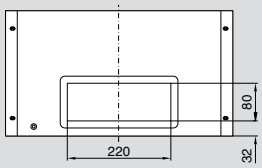
Configuration:
Ready for installation with 10 ft/3 m power cord; mounting template included.



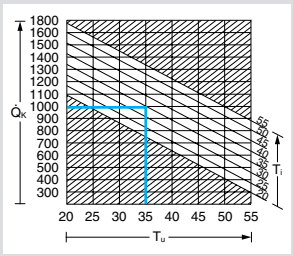




Rear view of unit

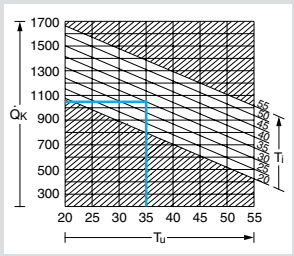


Performance diagram (DIN 3168) (50 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Performance diagram (DIN 3168) (60 Hz)



T_u = Ambient temperature (°C)
$\dot{Q}_K$ = Continuous cooling capacity (W)
T_i = Internal enclosure temperature (°C)

Part No. SK		**3278.134**	**3292.134**
Rated operating capacity Volt/Hz*		115/50/60	230/50/60
Dimensions in inches/mm	H W D	10.47/265.9 equals (6 U) 17.5 /445 21.4 /542	
Useful cooling capacity DIN 3168	**L35 L35 L35 L50**	**3585 BTU/1050 W 2630 BTU/ 770 W**	
Rated current (50 Hz)		8.4 A/10.8 A	3.8 A/ 4.5 A
Starting current (50 Hz)		21.0 A/22.0 A	10.0 A/11.8 A
Pre-fuse T		10.0 A/16.0 A	6.0 A/ 6.0 A
Rated current	L35 L35 L35 L50	615 W/710 W 680 W/800 W	585 W/650 W 650 W/720 W
Refrigerant		R134 a, 24.5 oz/700 g	
Maximum allowable pressure		290 psi/20 bar	
Temperature range		68 °F to 130 °F/+ 20 °C to + 55 °C	
Protection ratings per EN 60 529/10.91		exterior cycle NEMA 2/IP 34; interior cycle NEMA 12/IP 54	
Duty cycle		100%	
Type of connection		cable 10 ft/3 m	
Weight		84 lbs/38 kg	77 lbs/35 kg
Color		RAL 7032	
Air displacement (unimpeded air flow)		exterior cycle 365 cfm/620 m^3/h	
Temperature control		built-in thermostat, settings range from 68 °F to 130 °F/+ 20 °C to + 60 °C factory setting 95 °F/+ 35 °C	

* Special voltages available on request. Specifications subject to change.

Accessories	PU			Page
Foam filter	3	3286.000		567
Front air intake adaptor	1	3259.000		–
Air duct	10	3220.000		–
Digital temperature display	1	3114.115	3114.100	570
Door switch	1	4127.000		573

for 19″/482.6 mm, useful cooling capacity 3585 BTU/1050 W

PRO OZONE ENVIRONMENTALLY FRIENDLY COOLING

Useful cooling capacity		3585 BTU/1050 W	
Dimensions in inches/mm	H W D	10.47/265.9 (6 U) 17.5 /445 21.4 /542	
Voltage		115 V	230 V
Thermostat control		●	●
Part No. SK		**3278.134**	**3292.134**

Additional parts needed:

For the installation into a closed enclosure, a front air intake adaptor and air duct are needed, see page 565.

US Patent No. 4 882 911
Europe Patent No. 0 312 853
valid for DE, FR, IT
Japanese Patent
No. 239 867/88

See page 554 for certifications of all rackmount air conditioners.

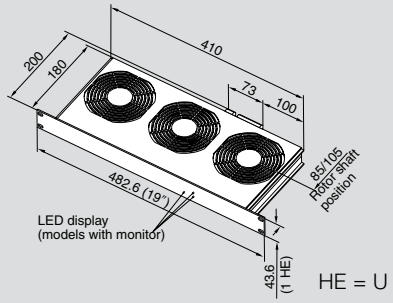
Installation in enclosures with fronts (doors or safety glass) is completed with an adaptor for the air intake.

Two models provide ventilation for individual subracks and complete cabinets and housings.

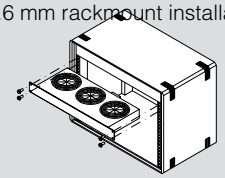
Technical description:
- Available with rotor shaft positions of 3.35″ or 4.13″/85 or 105 mm from front to achieve directed ventilation where it is needed:
  – 3.35″/ 85 mm for 160 mm boards,
  – 4.13″/105 mm for 220 mm boards.
- Part No. SK 3342.500: with fault monitoring via potential free contact and integrated rpm monitor.

Configuration:
Ready for installation, including terminal block and wiring diagram; 6′ power cord/ plug included.

19″ rackmount fan tray
19″/482.6 mm rackmount installation

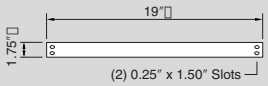


19″/482.6 mm rackmount installation

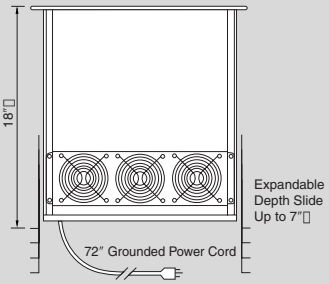


19″ adjustable depth rackmount fan tray
- includes 6′ long power cord and NEMA 5 – 15P plug.

Front view



Top view



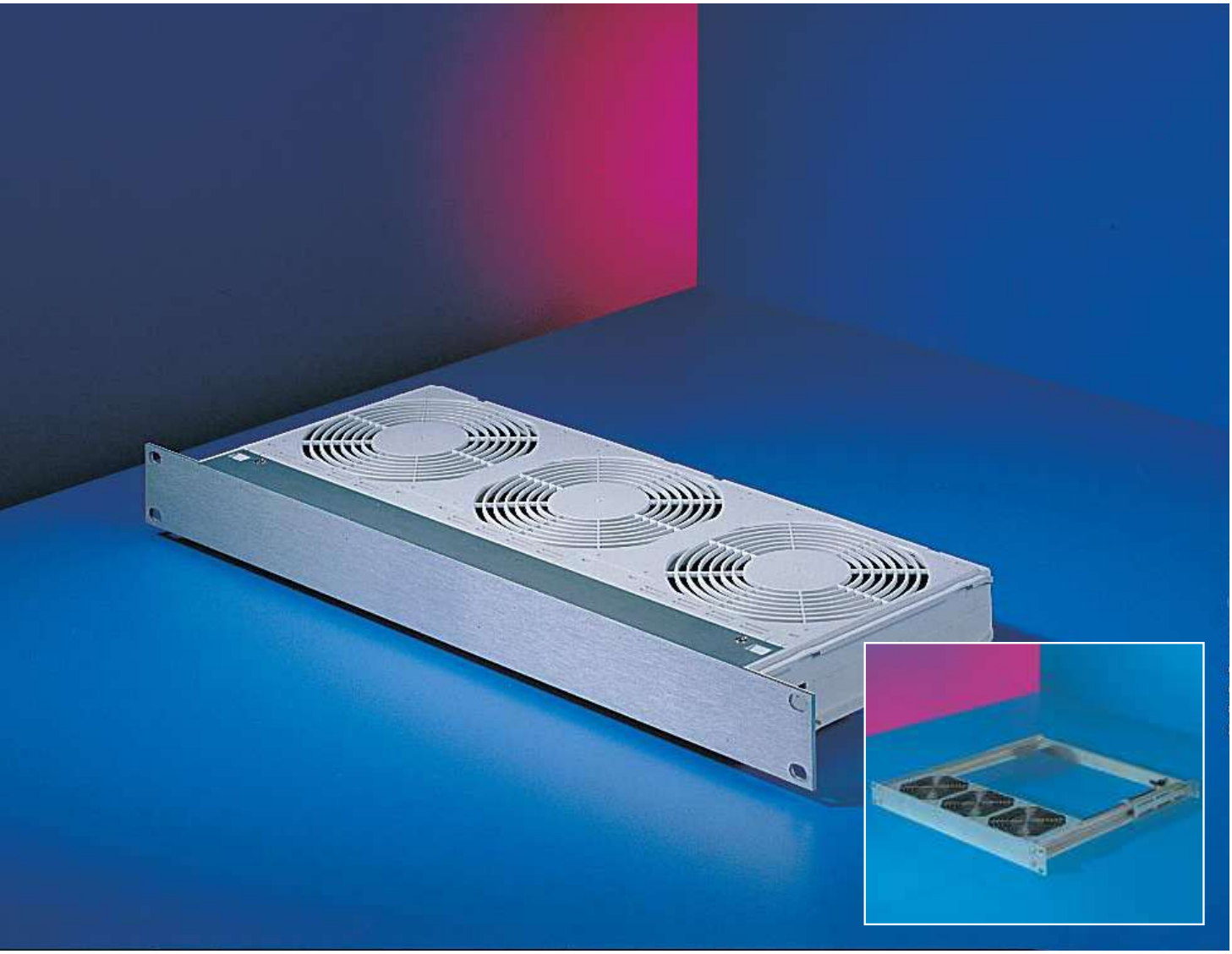
	Rackmount fans				Depth adjustable fan trays		
	Part No. SK				Voltage	Fan tray	3 fan expansion kit
2 fans Rotor shafts at 85 mm	**3340.024**	**3340.115**	**3340.230**	**–**	**115 V**	**9965808**	**9965812**
3 fans Rotor shafts at 85 mm	**3341.024**	**3341.115**	**3341.230**	**–**	**230 V**	**9965809**	**9965813**
3 fans Rotor shafts at 105 mm	**3342.024**	**3342.115**	**3342.230**	**3342.500** [1]	**24 V DC**	**9965810**	**9965814**
Rated operating voltage (Volt)	24 V DC	115 V AC	230 V AC	24 V DC 115 – 230 V AC	**48 V DC**	**9965811**	**9965815**

Accessories	PU					Page
Digital thermostat 230/115 V AC	1	3114.100	3114.115		3114.100	3114.115	570
Temperature control	1	3110.000			3110.000		569
Speed regulator 230/115 V AC	1	3120.000	3120.115		3120.100	3120.115	
Power cord 230/115 V AC	1	9965837	9962136		–		571

Technical data								
Part No. SK	**3340.230**	**3340.115**	**3340.024**	**3341.230 9965809 3342.230 9965813**	**3341.115 9965808 3342.115 9965812**	**3341.024 9965810 3342.024 9965814**	**3342.500** [1]	**9965811 9965815**
Rated voltage Frequency	230 V AC 50/60 Hz	115 V AC 50/60 Hz	24 V DC –	230 V AC 50/60 Hz	115 V AC 50/60 Hz	24 V DC –	24 V DC 230/115 V AC 50/60 Hz	48 V DC
Rated current	0.24 A/0.22 A	0.46 A/0.46 A	0.49 A	0.36 A/0.33 A	0.69 A/0.69 A	0.74 A	0.85 A	0.4 A
Pre-fuse T	6.0 A							
Number of fans	2			3				
Air displacement (unimpeded air flow)	188 cfm/320 m³/h			282 cfm/480 m³/h				
Operating temperature	14 °F to 131 °F/– 10 °C to + 55 °C							
Noise level	51 dBa	52 dBa	51 dBa	51 dBa	52 dBa	51 dBa		

[1] model with monitor

For 19″/482.6 mm rackmount, air displacement 188/282 cfm



Useful air capacity	188 cfm			282 cfm							
Voltage	24 V DC	115 V	230 V	24 V DC		115 V		230 V		24 V DC 230/115 V AC	48 V DC
Number of fans	2			3							
Rotor shaft position	85 mm				105 mm	85 mm	105 mm	85 mm	105 mm		
Part No. rackmount fans	**3340.024**	**3340.115**	**3340.230**	**3341.024**	**3342.024**	**3341.115**	**3342.115**	**3341.230**	**3342.230**	**3342.500**	**–**
Part No. adjustable depth fan tray	**–**			**9965810**		**9965808**		**9965809**		**–**	**9965811**

Configuration:
Mounting frame including connectors and 10 ft/3 m cord, 19″ brackets and installation hardware.

Additional parts needed:
Order the matching mounting frame as indicated in the table.

Certifications for all rackmount fans, see page 554.

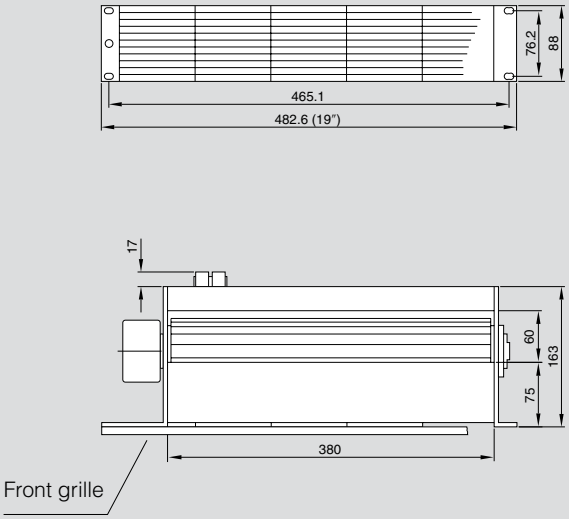
A strong blower draws ambient air through it from grille and filter, redirects it by 90° and forces it upward.
This type of ventilation provides effective heat dissipation and prevents the build-up of heat pockets.

Technical description
SK 3144.000 / SK 3145.000 (2 U):
- Easy installation into the 19″ frame with just four screws.
- The fan motor is located outside the cooling air flow. Moisture protection is provided for the fan motor winding.
- Ambient air can be cleaned through a filter (see accessories).
- Low noise level.
- Even air flow across total enclosure width.
- Exhaust can be through a roofmount SK 3148.000 ventilation pagoda (see page 553), SK 3323.200 vent, or via a wallmount SK 3176.000 (see page 566).

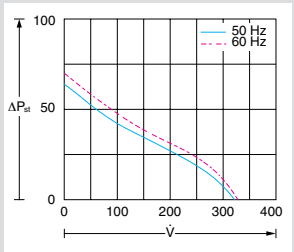
Configuration:
Fully wired and assembled, ready for connection via terminal block. Filters included.

Technical description
SK 9966389 / 9966966:
- Includes aluminum filter.
- Multiple fan motors provide redundancy.

Configuration:
Ready for connection with 6′ power cord and plug.



Performance diagram



V̇ = Air displacement (m³/h)
ΔP$_{st}$ = Static pressure differential (P$_a$)

Part No. SK		**3145.000**	**9966389**	**3144.000**	**9966966**
Rated operating voltage Volt/Hz*		115/50/60		230/50/60	
Dimensions in inches/mm	H W D	3.4/ 87.2 (2 U) 19 /482.6 6.2/158	5.2/132 19 /482.6 13.7/348	3.4/ 87.2 (2 U) 19 /482.6 6.2/158	5.2/132 19 /482.6 13.7/348
Air displacement (unimpeded)		**185 cfm/320 m³/h**	**320 cfm/545 m³/h**	**185 cfm/320 m³/h**	**320 cfm/545 m³/h**
Rated current maximum		0.32 A	0.54 A	0.16 A	0.28 A
Capacity per fan		37 W	62 W	37 W	60 W
Noise level		52 dBa	54 dBa	52 dBa	58 dBa
Number of fans		1	2	1	2
Motor speed		2245 rpm/2245 rpm	3000 rpm/3000 rpm	2245 rpm/2245 rpm	3350 rpm/3050 rpm
Temperature range		14 °F to 131 °F/– 10 °C to + 55 °C			

* Special voltages available on request. Specifications subject to change.

Accessories	PU					Page
Digital temperature display	1	3114.115		3114.100		570
Thermostat	1	3110.000				569
Foam filters	1	3177.000	included	3177.000	included	566
Front exhaust grille 2 U	1	3176.000	3176.000	3176.000	3176.000	566
Roof exhaust	1	3148.000				553
Speed regulator	1	3120.115		3120.000		572
10′ power cord	1	9962136	included	9965837	included	571

Air displacement 185/320 cfm; 320/545 m³/h

PRO OZONE
ENVIRONMENTALLY FRIENDLY COOLING

Air displacement		185 cfm	320 cfm	185 cfm	320 cfm
Dimensions (inches/mm)	H	3.4/ 87.2 (2 U)	5.2/132	3.4/ 87.2 (2 U)	5.2/132
	W	19 /482.6	19 /482.6	19 /482.6	19 /482.6
	D	6.2/158	13.7/348	6.2/158	13.7/348
Voltage		115 V		230 V	
Part No. SK		**3145.000**	**9966389**	**3144.000**	**9966966**

Certifications for all rackmount blowers, see page 555.

A 2 U front exhaust grille can be used for warm air exhaust at the top of the enclosure.

High air displacement in the smallest spaces and low noise operation are the benchmarks of these cross current blowers.

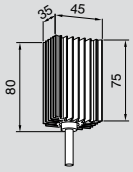
Rittal's small, powerful and sturdy panel heaters can help prevent malfunction, corrosion and frost build-up in enclosures.

Technical description:

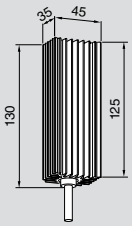
- To achieve exact temperature management inside an enclosure, we recommend installing an SK 3110.000 thermostat.
- To avoid condensation in subracks, we recommend installing an SK 3118.000 hygrostat.
- PTC heating element limits surface temperature.
- All heaters can be easily and quickly installed with screws (included) on mounting panels or snapped into 35 mm deep DIN EN 50 022 rails (except 1000 W model).
- Maximum efficiency can be achieved when panel heaters are installed vertically with cable entry from below.
- To develop the required convection, heaters need at least 2″/50 mm clearance at the top or bottom. Distance from steel side walls should be no less than .39″/10 mm, from thermoplastic materials at least 1.38″/35 mm.
- In larger enclosures, even heat distribution is best achieved when several heaters with smaller output are installed.
- In general, installation of a panel heater is recommended to prevent build up of condensation, even when heat exchangers and air conditioners are used.
- The heater housings are made of sturdy, black anodized aluminum and are virtually maintenance free.

Configuration:
Heater, ready for mounting, with attached 1 ft/0.3 m power cord or terminal block for 300 W and 1000 W model.

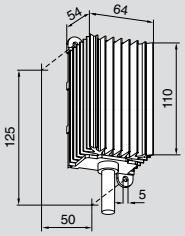
SK 3105.000



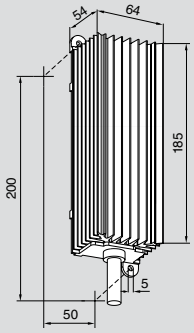
SK 3106.000



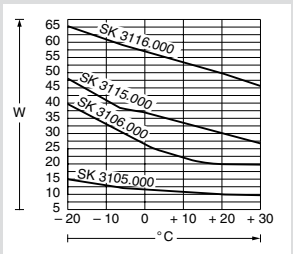
SK 3115.000



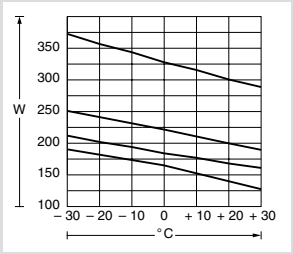
SK 3116.000



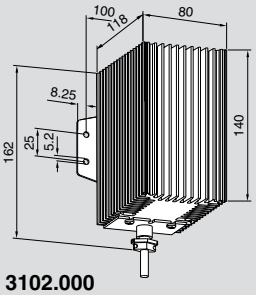
Performance diagram



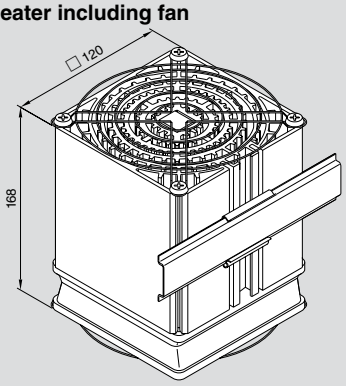
Performance diagram



SK 3107.000

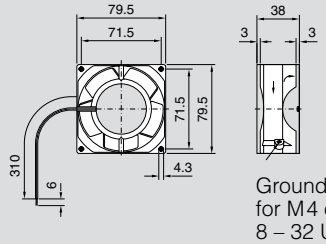


SK 3102.000
Heater including fan



Axial fan SK 3108.000
for panel heater SK 3107.000
Ball bearing construction

Temperature range	–40/185 °F; –40/+ 85 °C
Rated voltage	230 V/50/60 Hz
Power	18 Watt
Noise level	33 dBa
Speed	2800/3300 min^{-1}
Air displacement	30 cfm/50 m^3/h



Ground lug for M4 or 8 – 32 UNC

Part No. SK	**9967053 (includes fan)**	**9937054 (includes fan)**
Rated operating voltage Volt/Hz*	115 V	230 V
Continuous heat output at T_u = 68 °F/+ 20 °C	1000 W**	1000 W**
Pre-fuse T	12.0 A	6.0 A
Dimensions H x W x D in inches/mm	5.7″ x 5.7″ x 4.0″ / 145 x 145 x 102 mm	5.7″ x 5.7″ x 4.0″ / 145 x 145 x 102 mm

Accessories		
10′ power cord	9965837	9962136
Thermostat	3110.000	3110.000

Part No. SK	**3105.000**	**3106.000**	**3115.000**	**3116.000**	**3107.000**	**3102.000 (incl. fan)**	**3102.110 (incl. fan)**
Rated operating voltage Volt/Hz	110 – 240 V AC/DC				110 – 240 V AC/DC	230/50/60	115/50/60
Continuous heat output at T_u = 68 °F/+ 20 °C	10 W	20 W	30 W	50 W	130 W	300 W*	
Pre-fuse T	2.0 A		4.0 A		4.0 A		

* Special voltages available on request. Specifications subject to change.

Accessories	PU				Page
Thermostat	1	3110.000		3110.000	539
Hygrostat	1	3118.000		3118.000	570
Digital temperature display	1	3114.100		3114.100 / 3114.115	570
10′ power cord	1	–		– / 9962136 / 9965837	571

** Performance for heater with fan.

Continuous heat output 10 – 1000 W

Continuous heat output	10 W	20 W	30 W	50 W	130 W	300 W*	300 W*	1000 W*	1000 W*
Voltage	110 – 240 V					230 V	115 V	230 V	115 V
Part No. panel heaters	**3105.000**	**3106.000**	**3115.000**	**3116.000**	**3107.000**	**3102.000**	**3102.110**	**9967054**	**9967053**
Part No. axial fan	**–**	**–**	**–**	**–**	**–**	includes fan			

* Performance with fan.

See page 555
for certifications of
all panel heaters.

Enclosure panel heaters are controlled with a thermostat or a hygrostat.

This heater is supported by an axial fan for best heat distribution in the enclosure.

Vortex Koolers

Description:
Vortex Koolers use compressed air to create a cool stream of air. This cool air is distributed inside the enclosure with a hose ducting kit. These Koolers are especially effective in small enclosures, when an existing source of compressed air exists, when heat loads are low to moderate, or when a NEMA 4/4X cooling solution is required. Vortex Koolers are also effective in applications where EMI/RFI must be minimized.

Configuration:
- Includes Vortex Kooler, thermostat, solenoid, filter and ducting kit.
- 230 V solenoid is available for 230 V operation.

Material:
Stainless steel or aluminum.

Advantages:
- Small physical size
- No EMI/RFI created
- Creates cooled air without refrigerants (CFCs/HFCs)
- Low maintenance
- Maintain NEMA 4, 4X and 12 ratings

UL-listed NEMA 4, 4X and 12 models

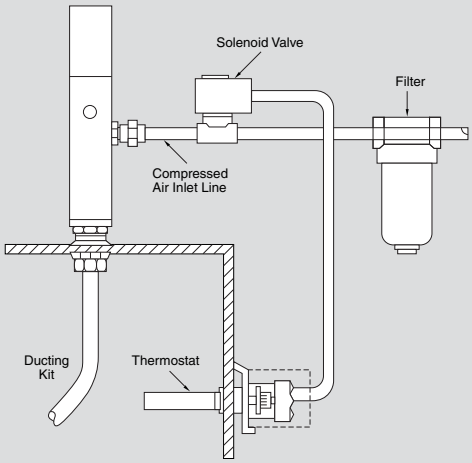
Vortex Koolers

Part No. SK	8012903	8012904	8012905	8012906	8012907	8012908	8012909	8012912	8012913	8012910	8012914	8012915	8012911
NEMA rating	12					4				4X			
Voltage [2]	115/50/60												
Cooling capacity (BTU) [1]	400	900	1500	2500	5000	900	1700	2500	5000	900	1700	2500	5000
Noise level at (dBa) at 100 psi	69	80	83	90	90	83	86	90	90	83	86	90	90
Air consumption SCFM	8	15	25	35	70	15	25	35	70	15	25	35	70
Pressure range psi	70–150												
Port size (inches) NPT	1/8	1/4											

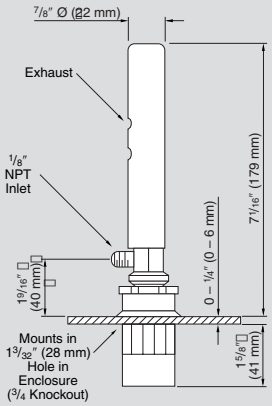
[1] Rated at 100 psig; 70 °F/+ 21 °C inlet air temperature, 90 °F/+ 32 °C thermostat setting, – 40 °F/– 40 °C pressure dew point; derate 30% for HDF ambient, > 2% humidity derate 25% for 80 psig pressure.
[2] 230 V available by substituting 230 V solenoid. 24 V DC and class 1 D.V 2 available by special order.

Accessories

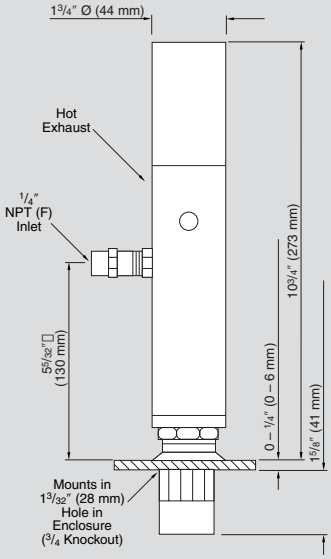
Part No.	Description	Port Size (″) NPT
8012916	5 micron filter for up to 1700 BTU capacity	3/8
8012917	5 micron filter for up to 2500 BTU capacity	3/8
8012918	5 micron filter for up to 5000 BTU capacity	3/4
8012919	Oil filter for up to 1700 BTU capacity	3/8
8012920	Oil filter for up to 5000 BTU capacity	3/8
8012921	Water trap for up to 1700 BTU capacity	3/8
8012922	Water trap for up to 2500 BTU capacity	3/8
8012923	NEMA 12 230 V solenoid for up to 1700 BTU capacity	1/4
8012924	NEMA 4/4X 230 V solenoid for up to 1700 BTU capacity	1/4
8012925	NEMA 4/4X 230 V solenoid for up to 2500 BTU capacity	3/8



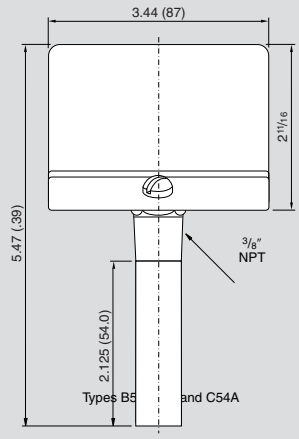
NEMA 12 System



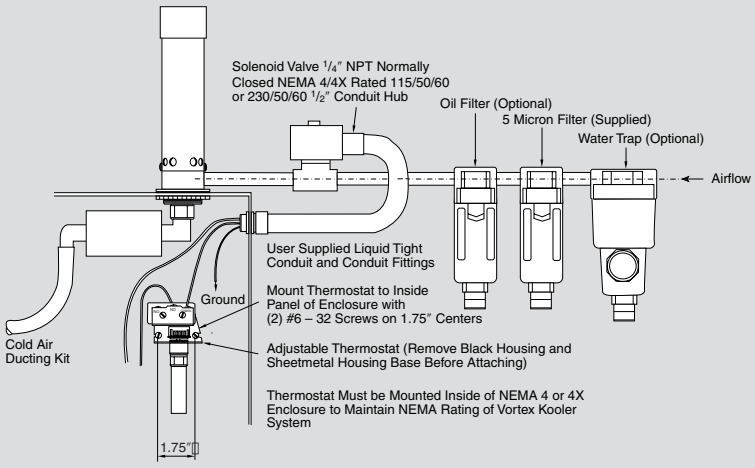
400 BTU Model



900/1500/1700/2500 BTU Models



Thermostat



NEMA 4/4X Enclosure Cooler

Outdoor/NEMA 4 air/air heat exchangers

Provide a low maintenance, high NEMA protection, and lightweight solution for removing heat from enclosures when the allowable internal temperature is higher than the ambient temperature. The epoxy sealed impingement style heat exchanger core meets Telcordia GR 487 salt fog and mil Std 810E blowing dust requirements, and the closed cell neoprene gasketing helps maintain NEMA 4 enclosure protection. A separate internal air path ensures that no dirty air is drawn through the enclosure. Lightweight aluminum housings as well as internal or external mounting options provide for flexible, easy installation.

Advantages:
- NEMA 4 protection category maintained
- Multiple fans offer redundancy
- Lightweight/easy installation
- Separate internal and external air paths
- Easily removable cover for cleaning
- Available in multiple sizes and voltages
- Environmentally hardened fans for external air cycle.

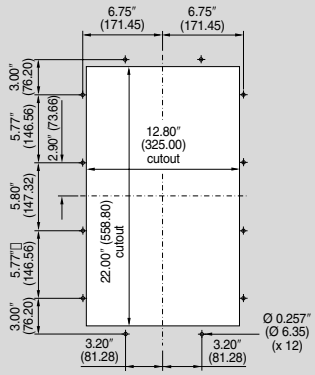
Material:
Aluminum housing/core

Color:
RAL 7032 pebble grey

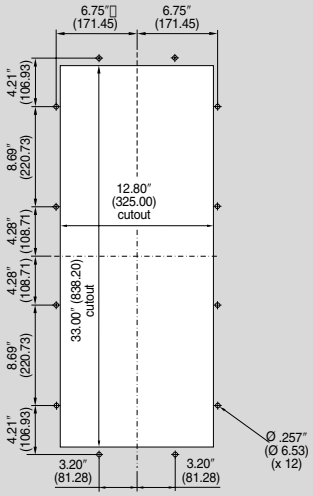
Configuration:
IEC 320 plug at back of heat exchanger. Complete with hardware, 8′ power cord and gasketing.

Part No.		**9967581**	**9967582**	**9967583**	**9967584**	**9967585**	**9967586**	**9967587**	**9967588**	**9967589**
Specific thermal capacity		20 W/C			38 W/C			57 W/C		
Dimensions in inches/mm	H W D	10.25/260 14.25/362 7.4 /188			24.25/616 14.25/362 7.4 /188			35.25/895 14.25/362 7.4 /188		
Electrical specifications										
Voltage		115/50/60	230/50/60	48 DC	115/50/60	230/50/60	48 DC	115/50/60	230/50/60	48 DC
Rated current		0.54 A/ 0.52 A	0.26 A/ 0.28 A	0.84 A	1.1 A/ 1.0 A	0.52 A/ 0.56 A	1.6 A	1.6 A/ 1.5 A	0.8 A/ 0.9 A	1.0 A/ 2.5 A
Pre-fuse T		0.75 A	0.38 A	1.0 A	1.5 A	0.75 A	2.0 A	2.0 A		
Air displacement (unimpeded air flow)										
External cycle (free delivery)		230 cfm/390 m³/h			460 cfm/788 m³/h			690 cfm/1173 m³/h		
Internal cycle (free delivery)										
Noise level Telcordia GR 487		64 dBa			67 dBa			68 dBa		
Temperature range		– 40 °F to 158 °F/– 40 °C to + 70 °C								
Weight		16 lbs			33 lbs			50 lbs		
Connection		8 ft/2.4 m power cord (IEC 320 at heat exchanger)								
Accessories										
Part No.	PU									
Metal filter	1	9968063			9968064			9968065		
External fan wiring kit for temperature control	1	9968069								
Over temperature alarm kit	1	9970203		–	9970203		–	9970203		–
Fan speed control	1	3120.115	3120.000	–	3120.115	3120.000	–	3120.115	3120.000	–

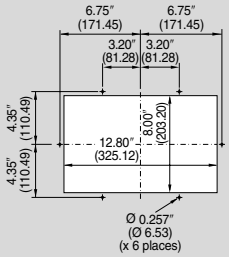
9967584 / 9967585 / 9967586
Recommended panel cutout on the wall mounting

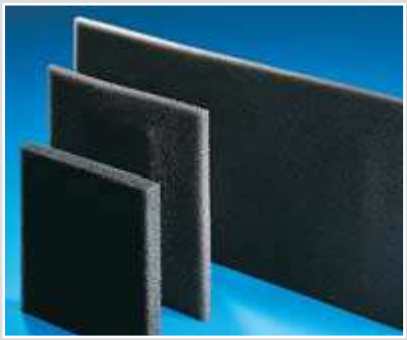


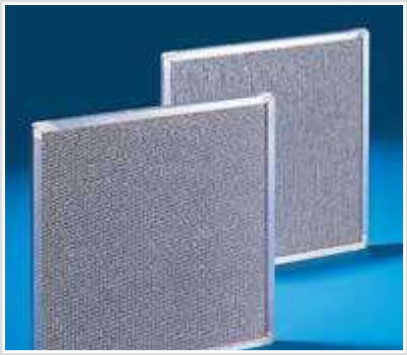
9967587 / 9967588 / 9967589
Recommended panel cutout on the wall mounting



9967581 / 9967582 / 9967583
Recommended panel cutout on the wall mounting







Filters for air conditioners

Rittal air conditioners require very little maintenance and are supplied without filters. Filters may be required for extreme conditions.

Material:
Open cell polyurethane foam with excellent physical and mechanical properties.
Temperature resistant from – 40 °F to 176 °F/ – 40 °C to + 80 °C.
Thickness: 0.4″/10 mm

Metal filters for air conditioners

When air conditioners are used in oily environments, washable metal filters are especially useful. Soiled metal filters can be easily washed with water or grease solvents.

Material:
Aluminum
Thickness: 0.4″/10 mm

Filters for air conditioners				
For air conditioners	PU	**Part No. foam filters SK**	PU	**Part No. metal filters SK**
SK 3296. . . . / SK 3272.100 / SK 3290. . . . / SK 3280.100	3	**3286.100**	1	**3286.210**
SK 3299. . . . / SK 3261. . . .	3	**3286.100**	1	**3286.200**
SK 3265.100 / SK 3266.100	3	**3267.100**		**on request**
SK 3256. . . .	3	**3254.000**	1	**3254.200**
SK 3293. . . . / SK 3281.100 / SK 3298. . . . / SK 3279.100 / SK 3260. . . . / SK 3269. . . . / SK 3262.100 / SK 3393. . . . / SK 3381.100 / SK 3391. . . .	3	**3294.100**	1	**3294.200**
SK 3255. . . . / SK 3395. . . .	3	**3253.000**	1	**3253.200**
SK 3394. . . .	3	**3285.000**	1	**3285.200**
SK 3292.134 / SK 3278.134	3	**3286.000**		**–**
SK 3306. . . .		**–**	1	**3284.200**
SK 3308. . . .		**–**	1	**3288.200**
SK 3309. . . .		**–**	1	**3284.200**
SK 3310. . . .		**–**	1	**3284.200**
SK 3330. . . .		**–**	1	**3289.200**
SK 3331. . . .		**–**	1	**3289.200**
SK 3203. . . .	3	**9965899**	–	**–**
SK 3204. . . .	3			
SK 3205. . . .	3			
SK 3206. . . .	3			
SK 3201/3202/3367	3	**9968464**	–	**–**

Filters for discontinued models		
For air conditioners	PU	**Part No. standard filters SK**
SK 3296.134 / SK 3272.134	3	**3286.000**
SK 3290.134 / SK 3390.134 / SK 3280.134	4	**3291.000**
SK 3293.134 / SK 3393.134 / SK 3281.134	3	**3294.000**
SK 3298.134 / SK 3279.134 / SK 3260.134	3	**3288.000**
SK 3287.134 / SK 3269.134 / SK 3265.134 SK 3270.134 / SK 3262.134 / SK 3266.134	3	**3267.000**

Filters for chillers		
For chillers	PU	**Part No. metal filters SK**
SK 3318.500 / .510	1	**3286.210**
SK 3319.500 / .510		
SK 3320.500	1	**3286.220**
SK 3334.500		

Replacement filters for filter fans

They are made of random filter non-woven polyester and provide reliable filtration of almost all types of dust down to 10 µm grain size.
Temperature resistant up to 212 °F/+ 100 °C, self extinguishing, class F1 per DIN 53 438.

Contaminated air side: open structure
Clean air side: closed structure

Material:
Synthetic fiber

Configuration:
PU = 5 piece

Replacement filters for filter fans		
Filter fans	Exhaust filters	**Part No. SK**
SK 3321....	SK 3321.200	**3321.700**
SK 3322....	SK 3322.200	**3322.700**
SK 3323....	SK 3323.200	**3171.100**
SK 3324.... SK 3325....	SK 3325.200	**3172.100**
SK 3326.... SK 3327....	SK 3326.200	**3173.100**
		3327.700
9964880	9968486	**9968464**

Replacement filters for discontinued models		
Filter fans	Exhaust filters	**Part No. SK**
SK 3150.000 / SK 3165.000 /	SK 3160.000	**3170.000**
SK 3151.000 / SK 3166.000 /	SK 3161.000	**3171.000**
SK 3152.000 / SK 3167.000 /	SK 3162.000	**3172.000**
SK 3153.000 / SK 3168.000 /	SK 3163.000	**3173.000**

Fine filters

They are used for extremely fine dust with particle sizes below 10 µm. Also used when NEMA 12/IP 54 is required. Anticipate higher air resistance when fine filters are used.

Material:
Synthetic fiber

Configuration:
PU = 5 piece

Replacement filters for fans		
Filter fans	Exhaust filters	**Part No. SK**
SK 3323....	SK 3323.200	**3181.100**
SK 3324.... SK 3325....	SK 3325.200	**3182.100**
SK 3326.... SK 3327....	SK 3326.200	**3183.100**

Fine filters for discontinued models		
Filter fans	Exhaust filters	**Part No. SK**
SK 3151.000 / SK 3166.000 /	SK 3161.000	**3181.000**
SK 3152.000 / SK 3167.000 /	SK 3162.000	**3182.000**
SK 3153.000 / SK 3168.000 /	SK 3163.000	**3183.000**

Filter frame with filter for roofmount pagoda SK 3148.000

It can increase the protection rating of a pagoda fan up to NEMA 3R/IP 43 per EN 60 529/10.91.

Material:
Sheet steel

Part No. SK	**3175.000**

Dimensions:
H x W x D
13.4 x 9.6 x 0.6″
or
244 x 340 x 15 mm

Replacement filters for filter frame SK 3175.000

Material:
Synthetic fiber

PU	**Part No. SK**
3	**3174.000**

Exhaust louvers

Can be installed in lower and upper areas of an enclosure to take advantage of ventilation through natural convection.

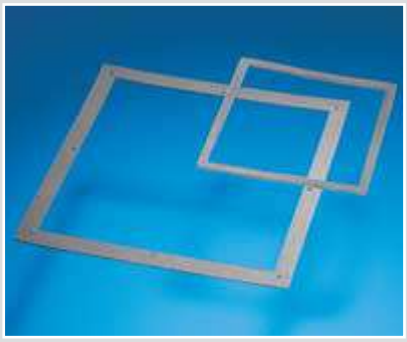
Material:
Noryl, self-extinguishing per UL 94-V0.

Color:
RAL 7032 pebble grey/
RAL 7035 light grey

Dimensions in mm	Part No. SK
☐ 116.5 x 22	**3321.200**
☐ 148.5 x 24.5	**3322.200**
☐ 204 x 30	**3323.200**
☐ 255 x 30	**3325.200**
☐ 323 x 30	**3326.200**

Order RAL 7035 light grey models by changing the Part No. suffix to .207.

For EMC versions, see page 550.



Gaskets for filter fans

They help achieve a protection rating of NEMA 12/IP 54 per EN 60529/10.91 when filter fans are vertically installed.
Filter fan and exhaust filter must be screwed on when a fine filter is used.

Material:
Closed cell polyethylene

Configuration:
PU = 5 with installation material.

Gaskets for 1S filter fans		
Filter fans	Exhaust filters	Part No. SK
SK 3321....	SK 3321.200	**3321.900**
SK 3322....	SK 3322.200	**3322.900**
SK 3323....	SK 3323.200	**3191.100**
SK 3324.... SK 3325....	SK 3325.200	**3192.100**
SK 3326.... SK 3327....	SK 3326.200	**3193.100**

Enclosure thermostat

The enclosure thermostat is particularly suitable to control filter fans, panel heaters and heat exchangers, but can also be used to signal and monitor the temperature inside an enclosure.

Technical description:
Bi-metal sensor acts as temperature sensitive device with thermal feedback.

Contact:
1 pole, spring-loaded switch element.

Max contact load:
Cl. 5–3 (heating) AC 10.0 (4*) A, DC = 30 W
Cl. 5–4 (cooling) AC 5.0 (4*) A, DC = 30 W

* ( ) = inductive load for cos φ = 0.6

Settings range:
41 °F to 131 °F/+ 5 °C to + 55 °C
Weight: approx. 4 oz/105 g
Dimensions: 2.8 x 2.8 x 1.4″/
71 x 71 x 33.5 mm
Temperature variance inside enclosure approx. 1 K ± 08 K (with normal air).

Rated voltage	Part No. SK
230/115/60/48/24 V (AC)	**3110.000**
60/48/24 V (DC)	

Technical description:
- Wide voltage range – only one model is required to cover 24 V to 230 V.
- Easy to connect – terminal block with screw connections on outside.
- Flexible mounting options – snaps directly (with included adaptor) into the PS/ES enclosure profile or can be vertically or horizontally mounted on 35 mm DIN rails per EN 50022.

Installation kit FR 7952.100 is required for mounting on a flexRack frame.

CE

Shroud for filter fans

Installing a shroud over a filter fan and exhaust filter, in combination with a fine filter, increases the protection rating to NEMA 3R/IP 55 per EN 60 529/10.91. Especially suitable for use in the food industry and outdoor applications.
UL file E76083 per UL standard 508.

Material:
Type 304 stainless steel

For filter fans	Dimensions H x W x D in mm	Part No. SK
SK 3321. . . .	260 x 150 x 40	**3321.800**
SK 3322. . . .	270 x 176 x 55	**3322.800**
SK 3323. . . .	410 x 233 x 55	**3323.800**
SK 3324. . . . SK 3325. . . .	500 x 282 x 85	**3324.800**
SK 3326. . . . SK 3327. . . .	560 x 350 x 110	**3326.800**

NEMA 4X/NEMA 3R type protective covers

for air conditioners (.100 models only)
Made of stainless steel, this cover protects wallmount air conditioners or air/water heat exchangers as well as the inside of an enclosure in a "hose down" environment. AC should be derated 20% when using NEMA 4X covers (UL file E170282). NEMA 3R type protective cover for air conditioners (.100).

Material:
Type 304 stainless steel

For SK air conditioners	Dimensions H x W x D in mm	Part No. SK (NEMA)
3203 / 3205. . . .	565 x 365 x 165	**9965915 (4X)** **–**
3262 / 3269. . . .	710 x 460 x 305	**9965418 (4X)** **9968075 (3R)**
3281.100 / 3293.100	1010 x 505 x 300	**9965351 (4X)** **9968075 (3R)**
3279.100 / 3298.100	1325 x 505 x 300	**9965352 (4X)** **9968075 (3R)**
3390.100 3390.115 3392.100 3392.115	–	**–** **9968075 (3R)**

Louver panel

For ventilation by convection.
Can be easily retrofit with 4 screws.

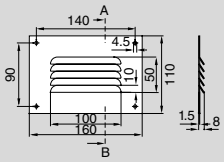
Material:
Sheet steel

Color:
RAL 7032 pebble grey/RAL 7035 light grey

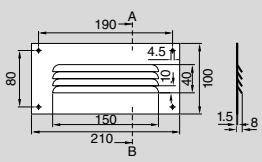
PU	Part No. SK
4	**2541.200**
4	**2542.200**
4	**2543.200**

Order primered versions with Part No. ending in .300, RAL 7035 versions with Part No. ending in .235.

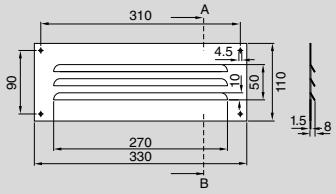
SK 2541.200



SK 2542.200



SK 2543.200



Digital temperature display

It can be installed – or retrofitted – on enclosure doors or walls as well as on air conditioners or heat exchangers.

Technical description:
- Small dimensions (H x W x D: 1.4″ x 2.8″ x 3.15″ / 36 x 72 x 80 mm).
- 7-segment LCD is 0.5″/13 mm high and easy to read.
- Temperature reading range from 50 °F to 158 °F/+ 10 °C to + 70 °C.
- 5 ft/1500 mm long sensor lead.
- Stores max. and min. temperatures (SK 3114.100 only).
- A switching contact serves as a potential free change-over contact (maximum 250 V, 8 A).
- Switch margin approx. 4 K.

Rated voltage	Part No. SK
100 – 400 V AC	**3114.100**
115 V AC	**3114.115**
24 V DC	**3114.024**

CE

- The switching can be set after front has been removed. Settings range from: 50 °F to 140 °F/+ 10 °C to + 60 °C.
- Installation cutout: 2.7″ x 1.3″/68 x 33 mm.
- Switchable °F/°C (SK 3114.100 only).
- Dual control settings (SK 3114.100 only).

Condensate evaporator

Evaporates condensate at a rate of 8 oz/h for applications where electrical evaporation of condensate is preferred. Mounts to side of enclosure below air conditioner (12″ spacing between evaporator and bottom of air conditioner).

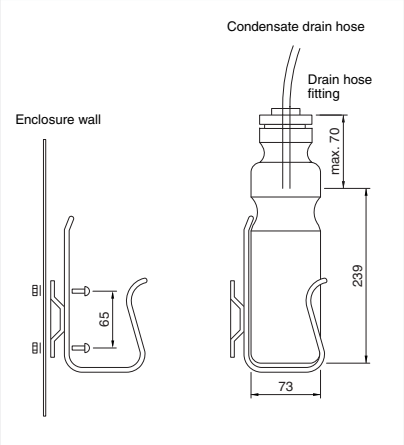
Dimensions:
● H x W x D in inches: 8 x 15.75 x 4.7

Material:
Cold rolled steel housing

Color:
RAL 7032 pebble grey

Voltage V/Hz	Part No. SK
115/50/60	**9962961**
230/50/60	**9962962**

Configuration:
Evaporator (housed in KL 1532 enclosure); 14″ power lead;
installation hardware included.



Condensate collection bottle

Collects condensate from air conditioners or air/water heat exchangers. Mounts to side of enclosure below air conditioner.

Configuration:
24 fl ounce polyethylene collection bottle with overflow fitting, mounting bracket, installation hardware included.

PU	Part No. SK
1	**3301.600**

Power cord

115 V version:
16 ga power cord has NEMA 5 – 15, 3-prong plug and can be used for filter fans and other climate control devices that have terminal block connection.

230 V version:
16 ga power cord with stripped ends and CEE (European) color code for 230 V fans and other climate control devices that have terminal block connection.

Voltage	PU	Part No. SK
115	1	**9962136**
230	1	**9965837**

Roof fan

Mounts easily into any enclosure roof. Requires round cutout, 232 mm diameter, plus 4 x 5 mm mounting holes at 246 mm diameter.

Material/finish:
Fan housing of black painted sheet steel with chrome plated finger guards.

Configuration:
Fan assembly; 10′ power cord with plug; grounding strap, 2 finger guards, installation hardware.

Part No. SK	**9964163**	**9967868**
Rated voltage	115/60	230/50/60
Dimensions in inches/mm H x W x D	10 /254 10 /254 3.5/ 89	10 /254 10 /254 3.5/ 89
Air displacement	500 cfm	
Rated current	0.5 A	0.3 A
Noise level	50 dBa	
Protection rating	NEMA 1	

Hygrostat

It switches panel heaters or fans on when the relative humidity in an enclosure exceeds a preset value. This maintains the relative humidity in the enclosure above the dew point and prevents condensation in sub-racks or electronic component assemblies.

Technical description:
Contact: single pole spring loaded switch element.
Max. contact load:
AC ~ 5 (0.2)* A
DC = max. 20 W
Settings range: 50 – 100% relative humidity.

Installation kit FR 7952.100 is required for mounting on a flexRack.

Variance: approximately 4%
Weight: approximately 4 oz/100 g
Dimensions H x W x D:
2.8 x 2.8 x 1.4″/71 x 71 x 3.5 mm

* ( ) = inductive load for cos φ = 0.6

Rated voltage	Part No. SK
24 – 230 V AC/DC	**3118.000**

Technical description:
- Wide voltage range – only one model is required to cover 24 V to 230 V.
- Easy to connect – terminal block with screw connections on outside.
- Flexible mounting options – snaps directly (with included adaptor) into the PS/ES enclosure profile or can be vertically or horizontally mounted on 35 mm DIN rails per EN 50 022.

Bottom mounted adaptor for thermostat SK 3110.000 and hygrostat SK 3118.000

Bottom mounted adaptor with the option of installing PG cable glands for targeted cable entry. In conjunction with PG cable glands, it is also suitable for use as strain relief. This adaptor ensures optimum cable entry of appropriate equipment, such as SK filter fans units and enclosure heaters.

Part No. SK	3110.200

Configuration:
1 bottom mount adaptor

Speed regulator

It regulates the motor speed of 230 V AC or 115 V AC Rittal fans and air/air heat exchangers – dependent on the temperature – to reduce noise and save energy on light duty operation.

Technical description:
- Mounts on 35 mm EN 50 022 DIN rails
- Dimensions H x W x D:
  2.2 x 3.7 x 7.1″/57 x 94 x 180 mm
- Rated operating voltage:
  230 V AC or 115 V AC models available
- Settings range:
  68 °F to 130 °F/+ 20 °C to + 55 °C
- Phase junction with microcontroller
- Maximum power 250 W or 1.2 A

Configuration:
- Speed regulator, built-into a PK housing 9512.100, NTC-probe, length 6 ft/1.80 m

Rated voltage	Part No. SK
230 V (AC)	**3120.000**
115 V (AC)	**3120.115**

PU	Part No. DK
1 set	**7526.964**

Mounting adaptor for speed regulator:
The mounting bracket SK 3120.000 allows you to install the speed regulator directly into the vertical upright of a network enclosure.

Material:
Sheet steel, galvanized, chromated.

Configuration:
Bracket and installation hardware.

Audible over temperature alarm

provides chirping 100 dB (from 2 ft distance) audible alarm in the event of enclosure heating. User adjustable setpoint of 41 °F to 131 °F/+ 5 °C to + 55 °C. Can be used either with perforated door/roof or solid door with cutout in door/sidewall. Mounts to TS 8 frame. Operates off 115 V 50/60 Hz.

PU	Part No. DK
1	**9968496**

Configuration:
Over temperature alarm, 8′ power cord/plug, installation hardware included.

Door switch

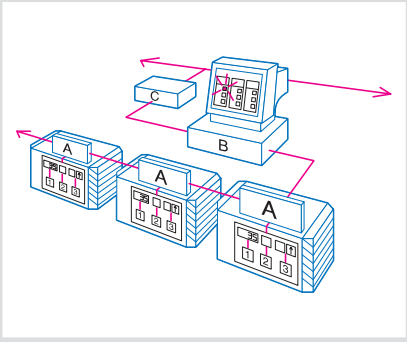
It switches the enclosure light on when the door is opened, and switches air conditioners off to prevent condensation.
Includes installation hardware – can be installed without drilling.
UL recognized.

	Part No. PS
Door switch with hardware	**4127.000**

Door alignment wheel for TS/PS/ES

It fastens to the door frame and makes closing the door easier when heavy components such as air conditioners are mounted to a door.

PU	Part No. PS
10	**4538.000**



Rittal SK climate control BUS system

It provides many advantages by networking Rittal type .500 enclosure air conditioners manufactured after 4/97 (3 ~ after 7/97) in a master/slave configuration to achieve optimum functionality.

Technical description:
With a master/slave configuration, the user can select collective on/off switching via a door switch or parallel on/off switching according to a preset temperature, regulate a selective fault alarm, and organize centralized temperature records. Installation of a Rittal SK climate control BUS also eliminates the need for complicated and time consuming wiring.

Part No. SK	3124.000

Configuration:
9.8'/3 m shielded interface cable, includes instruction manual to program the air conditioners.

$n_B = n_K - 1$
n_B: Number of climate control BUS units that must be ordered
n_K: Number of air conditioners that must be networked

Therm and Advanced Thermal Modeling

Overheating of sensitive electronic components in control systems can result in costly down time. This often happens because calculations to determine the proper climate control requirements of enclosures have been neglected.

Rittal's Therm software makes it easy to quickly and accurately determine the correct and effective climate control requirements of enclosures.

This program also provides full documentation of all calculations.

Detailed documentation can be printed out or transferred to your favorite work processing program.

All calculations are in accordance with VDE 0660, part 507 and DIN 3168 for enclosure air conditioners.

Rittal offers advanced thermal modeling via cfd modeling methods.
Contact Rittal for more details.

The program calculates:
- Exact area of enclosure surfaces
- Amount of heat dissipated to the environment
- Amount of heat absorbed from the environment
- The resulting required cooling capacity
- The temperature inside the enclosure with climate control measures

. . . and generates:
A proposal for all possible alternatives to solve your particular enclosure climate control requirements. All you have to do is decide which is the optimum solution for your application.

System requirements:
- PC with Windows Version 3.1 or higher

Configuration:
- CD-ROM
- User's guide

Version	Part No. SK
US/CAN	**3121.000**

! Additional parts needed:

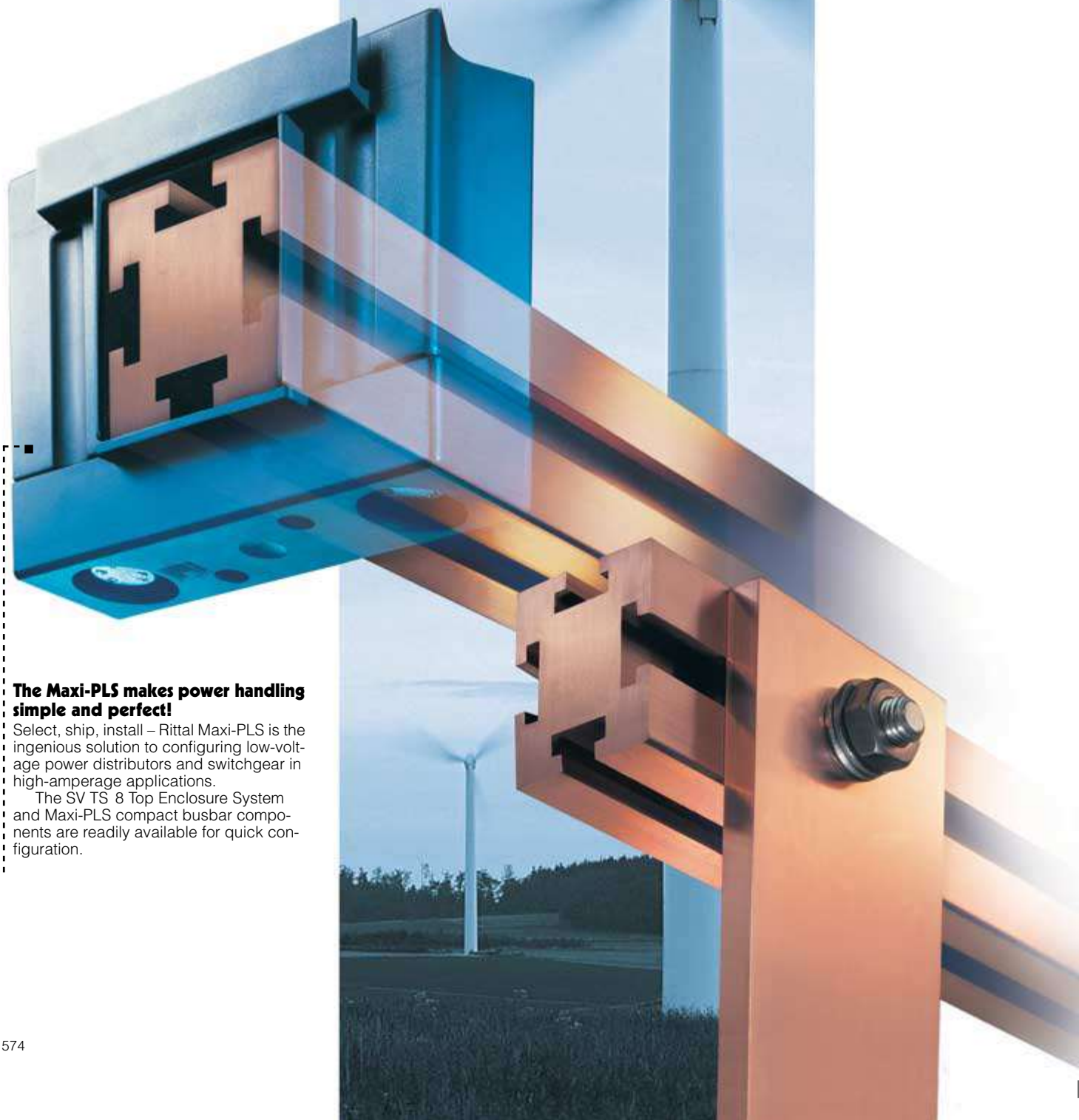
PC to air conditioner connector cable
Part No. SK 3159.000.

Safe, economical, complete!

- From 40 to 185 mm busbar center distance
- Up to 3200 A

The clear forecast for the next year is: energy requirements will be rising! The economical and technical advantages of performance power distribution will therefore become more and more important.

Rittal offers a broad program with convincing advantages for low-voltage power distribution.



The Maxi-PLS makes power handling simple and perfect!

Select, ship, install – Rittal Maxi-PLS is the ingenious solution to configuring low-voltage power distributors and switchgear in high-amperage applications.

The SV TS 8 Top Enclosure System and Maxi-PLS compact busbar components are readily available for quick configuration.

Table of contents
Rittal power distribution components

Universal adaptors!
Rittal offers the appropriate device adaptor for practically any power circuit-breaker/starter combination.
Exactly positioned or adaptable support rails, with feeds from the top or bottom, in any possible width required. The overview, starting on page 660 lists the adaptors required.

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■ **System overview**	**576 – 579**
■ **Busbar systems 40 mm, overview**	**580 – 581**
Mini-PLS busbar system up to 250 A	582 – 583
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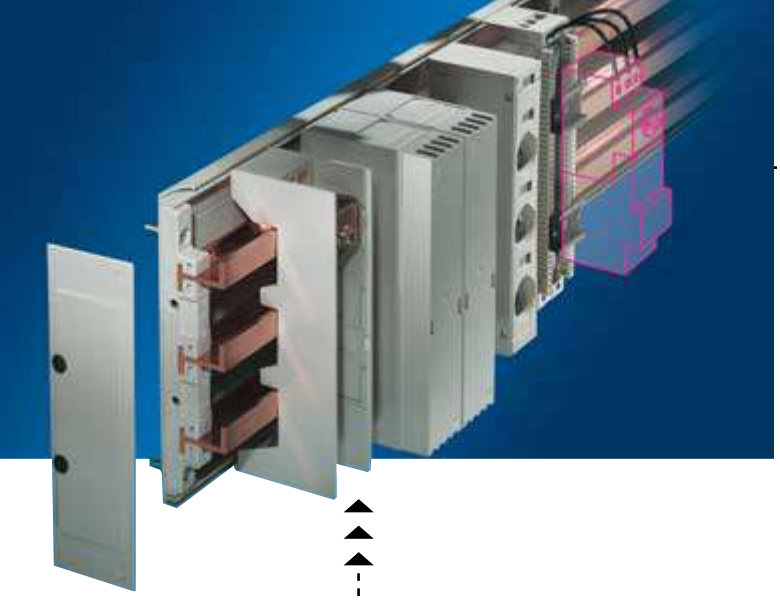
Rittal PLS has more to offer!
Don't lose sight of the Mini-PLS, PLS and Maxi-PLS, with the special Rittal busbars. It will be worth your while!
- Quick and extremely compact installation
- High thermal and static load limits
- Effortless and safe contacting, which is one of the most prominent advantages of the PLS.

■ **Literature and software tools:**

Rittal Software "SV Plan" and "Power Plan"	1062
Rittal's product line catalog "PANEL BUS"	1062



■ Busbar systems 40 mm

	Mini-PLS busbar systems up to 250 A	Busbar systems up to 360 A
Busbar center distance	**40 mm**	**40 mm**
Technical features	■ One-piece busbar support ■ T-shaped special busbars ■ High static and thermal load limits ■ The special busbars are simply pushed into the special support and locked into position	■ Two-piece busbar support including inserts for flat copper busbars 12 x 5, 12 x 10, 15 x 5 and 15 x 10 mm ■ The busbars are placed into the two-piece support
Applications	Low-voltage distribution up to 250 A with the following Mini-PLS components: ■ Connection adaptor up to 250 A ■ Bus-mounted fuse base D 02-E18 and NEMA style ■ Component adaptor 12/25/40 A ■ Quick-fit component adaptor 25 A (32 A) ■ Component adaptor 100 A with mounting panel ■ NH fused isolator, size 00C	Low-voltage distribution up to 360 A with the following Rittal components: ■ Connection adaptor up to 360 A ■ Conductor connection clamp ■ Bus-mounted fuse base D 02-E18 ■ Multi-functional component adaptor up to 12/25/40 A ■ NH fused isolator, size 00C
User benefits	 ■ Extremely compact design ■ Quick mount of all components via plug-in connections from the front ■ Contact hazard protection with complete cover of the busbars	 ■ An especially economical design for the use of four different copper profiles ■ Easy mounting of components from the front via snap-in fastening or plug-in installation ■ All around contact hazard protection
	Pages 582 – 587	**Pages 588 – 593**

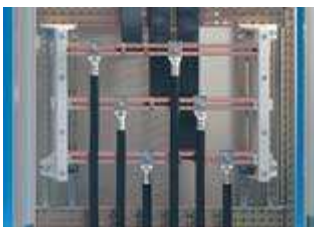
Busbar systems 60 mm

Flat busbar systems 200 to 800 A	PLS busbar systems up to 800 A/1600 A
60 mm	**60 mm**
■ Two-piece busbar supports 1-pole, 2-pole, 3-pole, 4-pole and 5-pole (combination of 2-pole and 3-pole) ■ Inserts facilitate the accommodation of all common millimeter formats to the 12 x 5 mm size within the maximum busbar capacity of 30 x 10 mm ■ The busbars lay in the two-part support	■ One-piece busbar support ■ High static and thermal load capacity as a result of our special busbar configuration ■ Optimal heat dissipation as a result of the special copper busbars' large surface area ■ 60 mm busbar center distance with a load capacity of up to 1600 A ■ The special busbars simply snap into the one-part support and lock into position
Low-voltage distribution up to 800 A with the use of the following Rittal components: ■ Connection adaptor up to 800 A ■ Connector clamps ■ Bus-mounted fuse bases (IEC and NEMA) ■ Multi-functional component adaptor 12/25/40 A ■ Component adaptor 50/63 A ■ Component adaptor 100/160/250 A with mounting panel ■ Component support ■ NH fused isolator size 00C ■ NH bus-mounted fused isolators sizes 00, 1, 2 and 3 ■ NH fused strip isolators size 00	Low-voltage distribution up to 800 A/1600 A with the use of the following Rittal PLS components: ■ Connection adaptor up to 1600 A ■ Connector connection clamps ■ Bus-mounted fuse bases (IEC and NEMA) ■ Multi-functional component adaptor 12/25/40 A ■ Component adaptor 50/63 A ■ Component adaptor 100/160/250 A with mounting panel ■ Component support ■ NH component support size 00C ■ NH bus-mounted fused isolators sizes 00, 1, 2 and 3 ■ NH fused strip isolators size 00
 ■ Commercially available copper rails may be used with this system and therefore make it especially economical ■ Our program includes end covers, support covers, system covers and busbar cover profiles for contact hazard protection	 ■ Unlimited top mounting of the PLS busbar support with power distribution components. Planning is made simpler, because the support does not need to be in a specific location. It can also provide more stability if necessary and uses the available space very effectively ■ The end covers, base tray and system cover sections provide full contact hazard protection ■ PLS expansion connectors guarantee the balance of thermal and mechanical connections between enclosures
Pages 596 – 599	**Pages 600 – 629**

■ Flat busbar systems 100/185/150 mm

	Busbar systems up to 1250 A	Busbar systems up to 1600 A
Busbar center distance	**100 mm**	**185 mm**
Technical features	■ Two-piece busbar support ■ Inserts facilitate a profile reduction from 60 x 10 to 50/40/30 x 10 mm.	■ Five-piece busbar support ■ Inserts facilitate a profile reduction from 80 x 10 to 60/50 x 10 mm.
Applications	Low-voltage distribution up to 1250 A with the use of the following components: ■ Connector clamps ■ NH bus-mounted fused isolators, sizes 00, 1, 2, 3 ■ NH fused strip isolators, size 00	Low-voltage distribution up to 1600 A with the use of the following components: ■ Connector clamps ■ NH fused strip isolators, sizes 00, 1, 2, 3
User benefits	 ■ End covers, support covers, system covers and busbar cover profiles are available for contact hazard protection	 ■ The special design of the busbar support makes the seamless top mounting of components across the support possible ■ Isolator, busbar and support are all fastened with one screw ■ Individual modules of the busbar support may be used as a single-pole support
	Pages 634 – 645	**Pages 646 – 649**

POWER DISTRIBUTION COMPONENTS – OVERVIEW

	■ Independent	■ Maxi-PLS
Busbar systems up to 2500 A/3000 A	**Components for mounting panel installation**	**Maxi-PLS compact busbar system up to 2000 A/3200 A**
150 mm		**100 mm/150 mm**
■ Two-piece busbar support ■ Maximum busbar capacity 80 x 10 mm or 100 x 10 mm	■ Busbar independent NH fused isolators ■ Without fuse monitoring ■ With electronic fuse monitoring ■ With electronic fuse monitoring and LED display	Rittal SV TS 8/Maxi-PLS complete modular system: ■ SV TS 8 enclosure system, SV TS 8 fastening technology ■ Maxi-PLS compact busbars with supports, connector elements and contact hazard protection Rittal SV TS 8/Maxi-PLS system concept: ■ Standardized, economical, large scale production elements ■ Type testing of the system technology ■ Standardized contact hazard protection ■ Compact busbar with four connection surfaces, side length customized according to enclosure dimensions ■ T-grooves for infinite connection possibilities ■ Connector bars, ready to be installed and match the power circuit-breakers
■ Low-voltage distribution up to 3000 A	■ NH fused isolators in the sizes 00C, 00, 1, 2, 3	Low-voltage distribution and switchgear in high-amperage areas: ■ Ideal connecting link between power supply and power distribution ■ Suitable for most common power circuit-breaker ■ Integrated mounting areas for NH fused isolators ■ NH fused isolators
		
■ Spacer elements reduce busbar profile to 60 x 10 mm	■ Direct installation onto mounting panels or other support areas	■ Increased productivity (simplifies custom projects – no constructing of manual busbar connectors and connecting points, quick installation) ■ High safety standard ■ Compact design and easy access to all connection points ■ Contact hazard protection simply snaps on
Pages 650 – 651	**Pages 652 – 655**	**Pages 670 – 687**

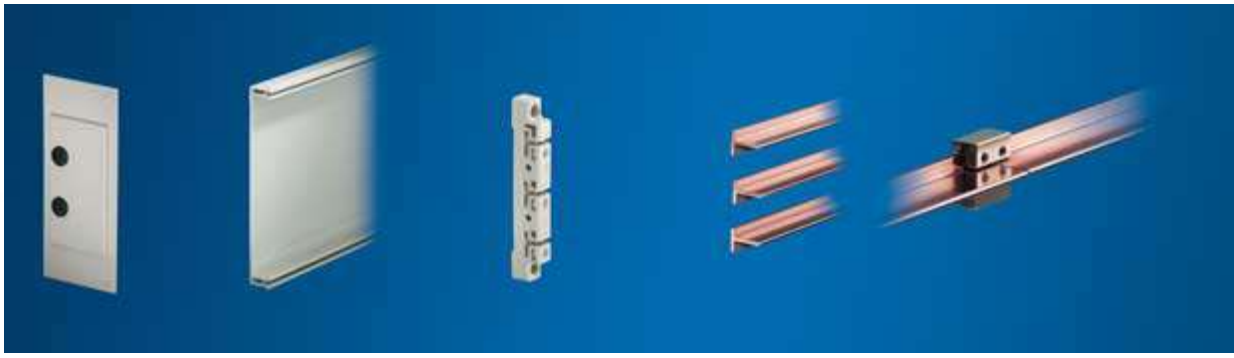
The most significant feature of the busbar system with 40 mm busbar center distance is its compact, space saving design.

Mini-PLS busbar system up to 250 A

The elements

The unique space utilization and quick installation of the Mini-PLS busbar system are its most impressive features.
The busbar concept:

- T-support concept produces a high degree of static and thermal load capacity.
- The special busbars are simply slid into the one-piece holders and locked into place.
- Contact hazard protection via all around covers. The end caps simply snap into the side panels of the holder. The base tray section provides shock protection from the rear and is used to securely fasten the cover profile.
- Perfectly fitted installation, since the height (160 mm) is customized to the installation needs.



Mini-PLS end covers

Mini-PLS base tray section

Mini-PLS busbar supports up to 250 A, 3-pole

Mini-PLS special busbars E-Cu 250 A, 120 mm²

Mini-PLS busbar connector kit up to 250 A

Flat busbar systems up to 360 A

The elements

An especially economical system for the use of four different copper sections.

- The busbars are placed into the two-part holder.
- Integral plug-in inserts makes using busbars of various dimensions possible: 12 x 5, 12 x 10 and 15 x 5 mm. Without the inserts the maximum busbar profile of 15 x 10 mm will be used.
- All around shock protection as in Rittal's Mini-PLS. Busbar cover sections may be used as an alternative.

End covers

Base tray section

Busbar supports up to 360 A, 3-pole

Busbars made of E-Cu 57

Busbar cover sections

Overview

The components

- The Mini-PLS support system and busbar connector set are easily fitted with top-mounting components.
- The components are simply inserted from the front and locked into position.
- Rittal Mini-PLS components: Connection adaptor, component adaptor and quick-fit component adaptor, bus-mounted fuse base, adaptor for the mounting of NH fused isolators, size 00C.

Mini-PLS cover sections

Mini-PLS connection adaptor up to 63 A and up to 250 A

Mini-PLS bus-mounted fuse base D 02-E 18

Mini-PLS bus-mounted fuse base NEMA style R, J and CC

Mini-PLS component adaptor 12/25/40/100 A

Mini-PLS quick-fit component adaptor 25 A (32 A)

Mini-PLS busbar adaptor

NH fused isolators size 00C

The components

- Easy component mounting via plug-in installation from the front.
- Modern multi-functional component adaptors (snap-on mounting) for the sensible mounting of protection and switching equipment.
- Other components: connection adaptor, bus-mounted fuse base, adaptor for the installation of NH fused isolator, size 00C.

Cover sections

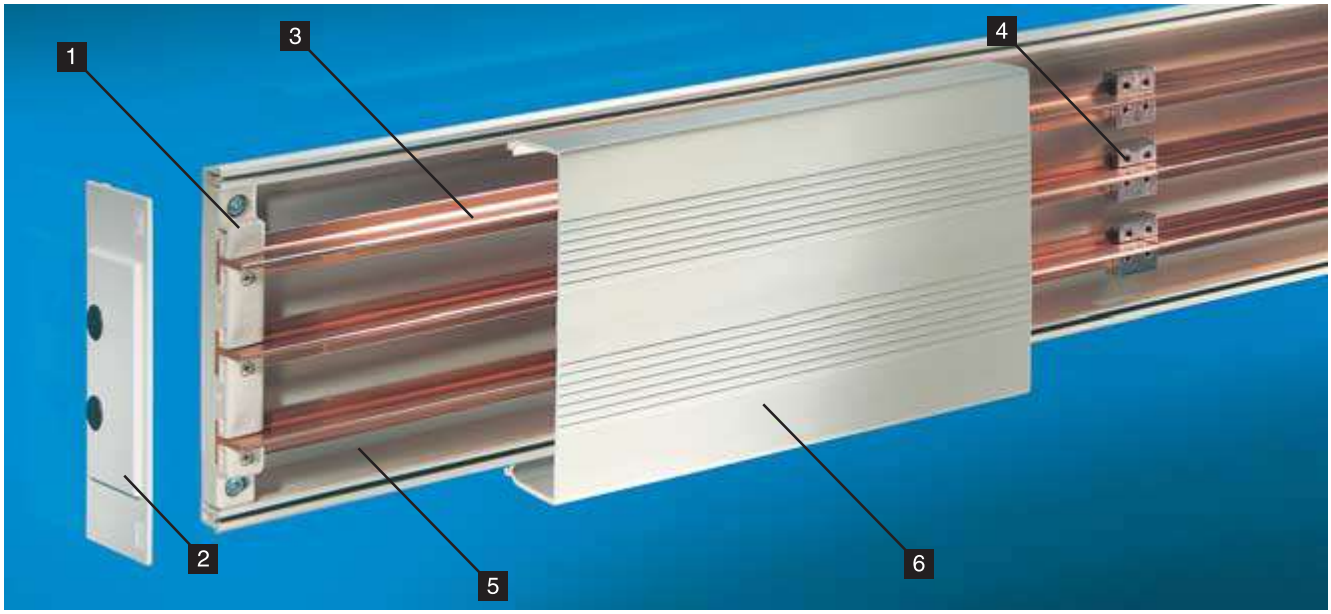
Connection adaptor up to 360 A

Bus-mounted fuse base D 02-E 18

Multi-functional component adaptor 12/25/40 A

Busbar adaptor

NH fused isolators size 00C



1 Mini-PLS busbar support up to 250 A, 3-pole

40 mm busbar center distance. Rated current up to 250 A, rated operating voltage of up to 690 V~, 50/60 Hz according to VDE 0660.

Material:
Polyamide (PA 6.6),
30% fiberglass-reinforced.
Continuous operating temperature:
maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

PU	Part No. SV
4	**9600.000**

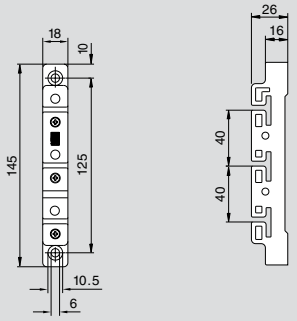
Short-circuit protection diagram, see page 658.

2 Mini-PLS end covers

For contact hazard protection on the sides of the Mini-PLS up to 250 A, designed for easy snap-on mounting to the SV 9600.000.

PU	Part No. SV
2	**9610.000**

SV 9600.000



3 Mini-PLS special busbars E-Cu 250 A, 120 mm²

.12″/3 mm busbar thickness.

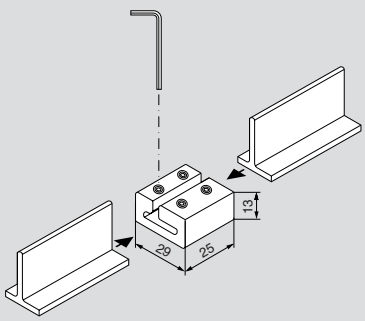
Length	PU	Part No. SV
500 mm	3	**9601.000**
700 mm	3	**9602.000**
1100 mm	3	**9603.000**
1500 mm	3	**9624.000**

4 Mini-PLS busbar connector kit up to 250 A

For connecting the Mini-PLS special busbars without drilling.
Maximum tightening torque: 18 in.lbs

PU	Part No. SV
3	**9611.000**

SV 9611.000



5 Mini-PLS base tray sections

For Mini-PLS installation of up to 250 A.

Length	PU	Part No. SV
250 mm	1	**9604.000**
500 mm	1	**9605.000**
700 mm	1	**9606.000**
1100 mm	1	**9607.000**

6 Mini-PLS cover sections

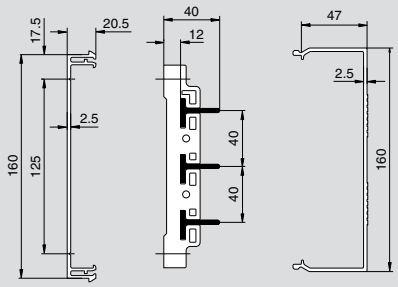
Custom cut, for snap-on mounting onto the Mini-PLS base tray sections.

Length	PU	Part No. SV
250 mm	1	**9608.000**
500 mm	1	**9609.000**

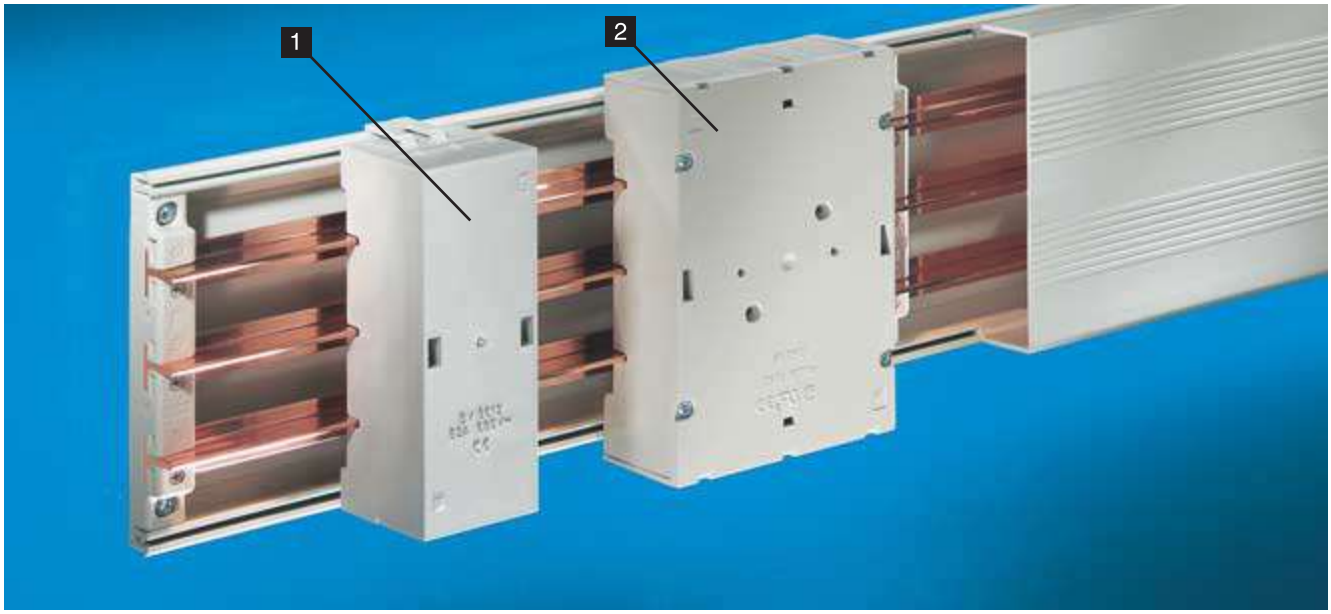
Material:
Mini-PLS base tray
Thermally modified hard PVC.
Continuous operating temperature
maximum of 212 °F/100 °C.
Fire protection according to UL 94-V0.

SV 9604.000 – SV 9607.000

SV 9608.000 SV 9609.000



Up to 250 A



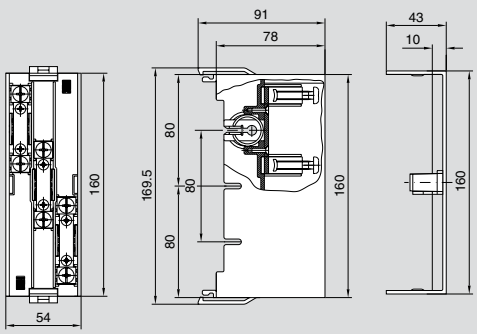
Mini-PLS connector adaptor

Includes cover	1	2
Rated current maximum up to	63 A	250 A
Rated operating voltage	690 V~	690 V~
Connection	top/bottom	top/bottom
Connection of round conductors up to	AWG 2	250 MCM
Clamping area for laminated copper busbars	10 x 8 mm	17 x 17 mm
Tightening torque ● Terminal screw	18 – 26 in.lbs	18 – 26 in.lbs
PU	1	1
Part No. SV	**9613.000**	**9612.000**

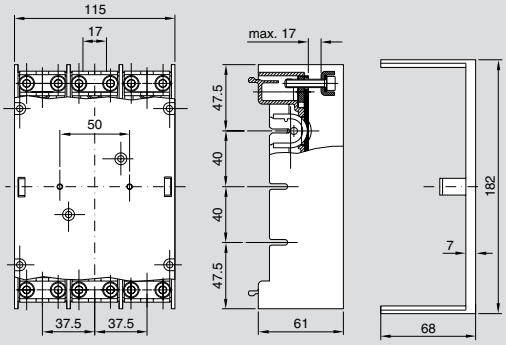
Material:
Polyamide (PA 6.6),
30% fiberglass-reinforced.
Continuous operating temperature:
maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

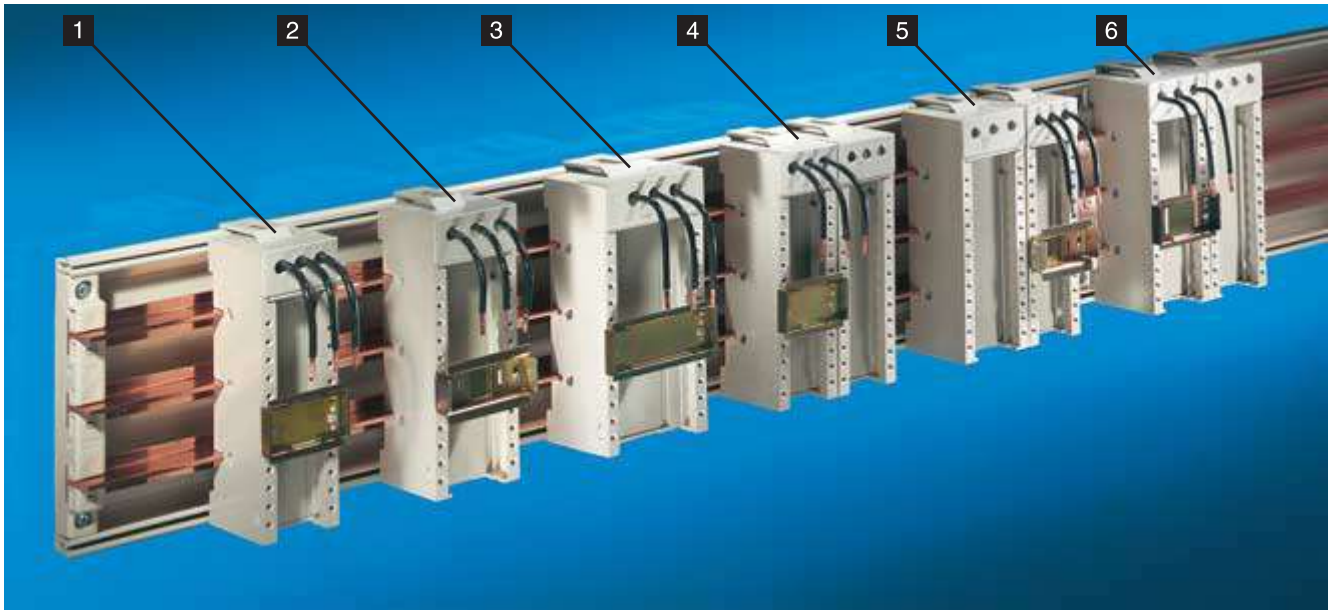
Accessories:
Rittal Flexibar laminated copper busbars,
see page 657.

SV 9613.000



SV 9612.000





Mini-PLS component adaptors 12 A/25 A

Cable outlet at the top.

Installation width		1 45 mm			2 54 mm		3 72 mm		4 90 mm	5 99 mm	6 108 mm
Rated current maximum up to		12 A	25 A	25 A	25 A	25 A	25 A	25 A	25 A	25 A	25 A
Rated voltage		690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	690 V~
Connection cables*		AWG 14	AWG 12	AWG 12	AWG 12	AWG 12	AWG 12	AWG 12	AWG 12	AWG 12	AWG 12
Support rails	Quantity	1	1	1	1	1	1	1	1	1	1
	Height	7.5 mm	7.5 mm	15 mm	7.5 mm	15 mm	7.5 mm	15 mm	7.5 mm	15 mm	7.5 mm
PU		1	1	1	1	1	1	1	1	1	1
Part No. SV		**9614.110**	**9614.100**	**9615.100**	**9614.000**	**9615.000**	**9625.000**	**9626.000**	**9629.010**	**9629.020**	**9629.030**

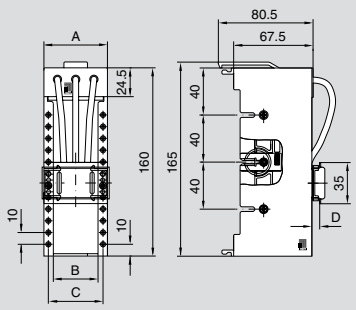
For power circuit-breakers/starter combinations
Make (for equipment types see page 660)

Moeller		●	●		●	●	●	●		●
Siemens	●	●	●		●			●	●	
ABB		●	●	●	●					
AEG		●	●	●	●					
Allen Bradley		●	●					●		
Telemecanique		●	●				●	●		●
Universal application	●	●	●	●	●	●	●	●	●	●

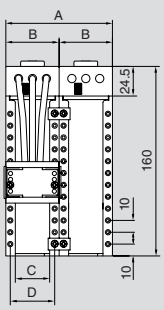
* AWG = American Wire Gauges
AWG 14 = 2.08 mm² ≈ 2.5 mm²
AWG 12 = 3.31 mm² ≈ 4 mm²

Material:
Polyamide (PA 6.6),
30% fiberglass-reinforced.
Continuous operating temperature
maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

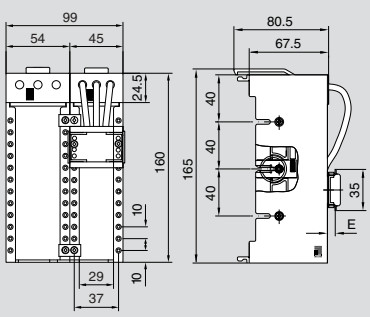
SV 9614.000 – SV 9626.000



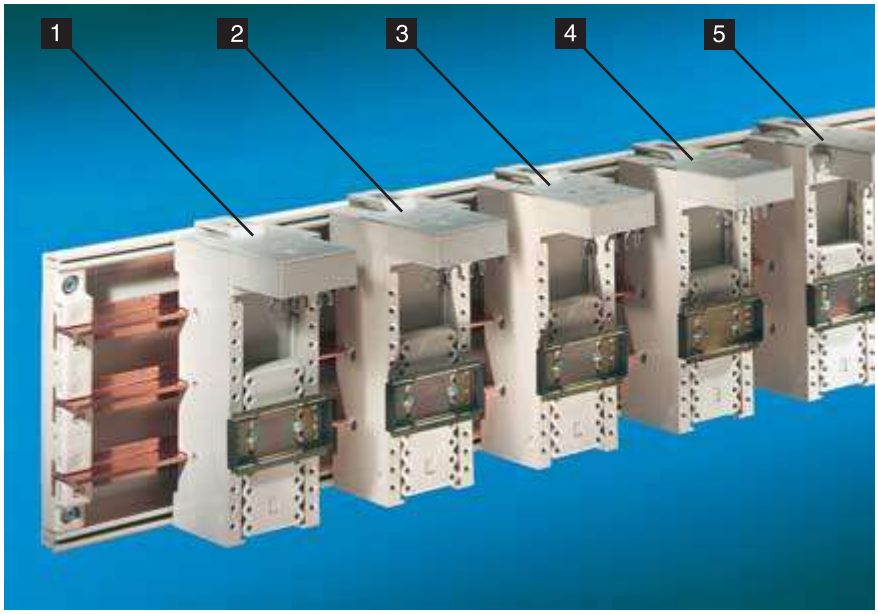
SV 9629.010
SV 9629.030



SV 9629.020



Part No. SV	A	B	C	D	E
9614.000	54	38	46.5	7.5	–
9614.100	45	29	37	7.5	–
9614.110	45	29	37	7.5	–
9615.000	54	38	46.5	15	–
9615.100	45	29	37	15	–
9625.000	72	56	64.5	7.5	–
9626.000	72	56	64.5	15	–
9629.010	90	45	29	37	7.5
9629.020	–	–	–	–	15
9629.030	108	54	38	46.5	7.5



Mini-PLS quick-fit component adaptor 25 A (32 A)

With mounting slide for quick plug-in connections to the respective component contact block.

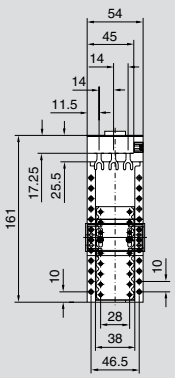
Installation width		1 54 mm	2 54 mm	3 54 mm	4 54 mm	5 54 mm
Rated current up to		25 A with 95 °F/35 °C ambient temperature 32 A with 77 °F/25 °C ambient temperature				
Rated operating voltage		690 V~				
Support rails	Quantity	1				
	Height	7.5 mm				
PU		1	1	1	1	1
Part No. SV		**9618.000**	**9619.000**	**9620.000**	**9621.000**	**9622.000**

For power circuit-breakers/starter combinations
Make (for equipment types see page 661)

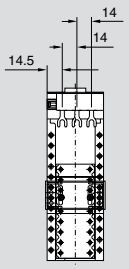
Moeller		●	●		
Siemens					●
ABB					●
AEG	●				
Allen Bradley			●		
General Electric	●				
Schiele	●				
Telemecanique				●	●
Universal application	●	●	●	●	●

Material:
Polyamide (PA 6.6), 30% fiberglass-reinforced.
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

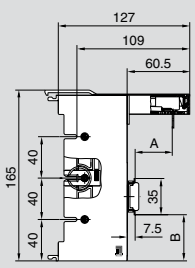
SV 9618.000 – SV 9621.000



SV 9622.000



SV 9618.000 – SV 9622.000



Part No. SV	A	B
9618.000	23	45
9619.000	30	40
9620.000	39	41
9621.000	27	46
9622.000	33	43

Accessories:

Insert strip

To extend the installation width of the Mini-PLS component adaptor and quick-fit component adaptor.

Width	PU	Part No. SV
9 mm	2	**9623.000**

Support rails

For Mini-PLS component adaptor.
Height: .30″/7.5 mm.
Includes installation hardware.

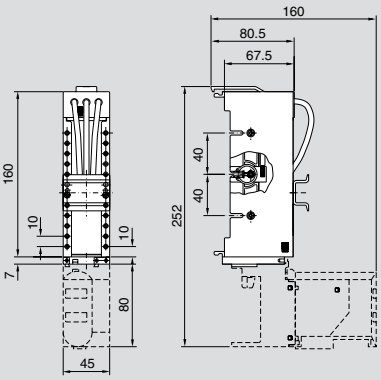
Width	PU	Part No. SV
45 mm	10	**9320.150**
54 mm	10	**3548.000**
72 mm	10	**3549.000**

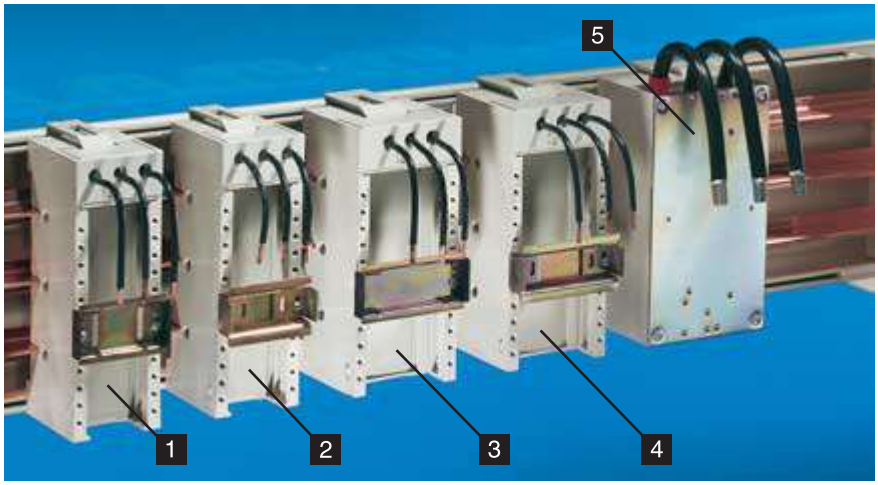
Plug-in connector

For fitting the AS-interface I/O module with corresponding carrier type 3RK1 901-3CA00, Siemens brand, to the Mini-PLS component adaptor with 45 and 54 mm installation width.

PU	Part No. SV
1	**9623.100**

SV 9614.000 – SV 9615.100 with SV 9623.100





Mini-PLS component adaptors 40 A/100 A

Cable outlet at the top.

Installation width	1 54 mm	2 54 mm	3 72 mm	4 72 mm	5 90 mm	5 90 mm	5 90 mm
Rated current maximum up to	40 A	40 A	40 A	40 A	100 A	100 A	100 A
Rated voltage	690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	690 V~
Connection cables	AWG 10*	AWG 10*	AWG 10*	AWG 10*	AWG 2	AWG 2	AWG 2
Support rails Quantity	1	1	1	1	–	–	–
Support rails H	7.5 mm	15 mm	7.5 mm	15 mm	–	–	–
PU	1	1	1	1	1	1	1
Part No. SV	**9616.000**	**9617.000**	**9627.000**	**9628.000**	**9629.000**	**9968.177**	**9968.178**

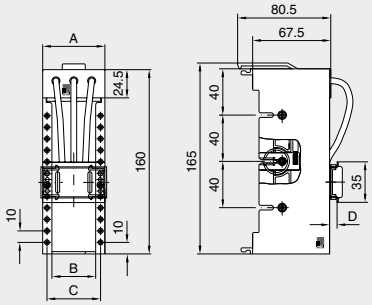
For power circuit-breakers/starter combinations Make (for equipment types see page 660)

Moeller		●	●	●	●		
Siemens		●			●		
Siemens (ITE)						●	
ABB		●			●		
AEG					●		
Cutler-Hammer						●**	
GE						●**	
Allen Bradley	●	●			●		
Merlin Gerin					●		
Square D							●**
Telemecanique				●	●		
Universal application	●	●	●	●	●		

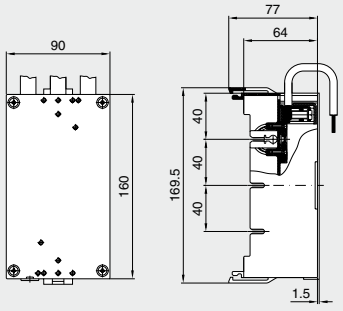
* AWG = American Wire Gauges
AWG 10 = 5.26 mm² ≈ 6 mm²
** Requires 9623.000 insert strips.

Material: Polyamide (PA 6.6), 30% fiberglass-reinforced. Continuous operating temperature maximum 284 °F/ 140 °C. Fire protection according to UL 94-V0.

SV 9616.000 / SV 9617.000
SV 9627.000 / SV 9628.000



SV 9629.000 / SV 9968.177 / SV 9968.178



Part No. SV	A	B	C	D
9616.000	54.0	38.0	46.5	7.5
9617.000	54.0	38.0	46.5	15.0
9627.000	72.0	56.0	64.5	7.5
9628.000	72.0	56.0	64.5	15.0

Accessories:

Insert strip

To extend the installation width of the Mini-PLS component adaptor 40 A.

Width	PU	Part No. SV
9 mm	2	**9623.000**

Support rail

For Mini-PLS component adaptor.
Height: .30″/7.5 mm.
Includes installation hardware.

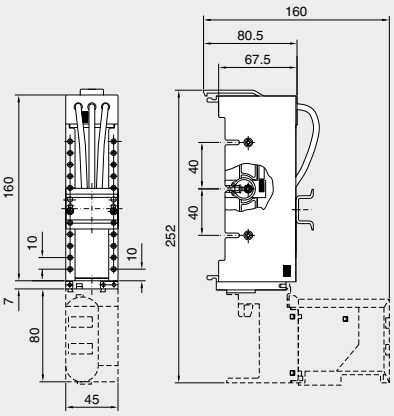
Width	PU	Part No. SV
54 mm	10	**3548.000**
72 mm	10	**3549.000**

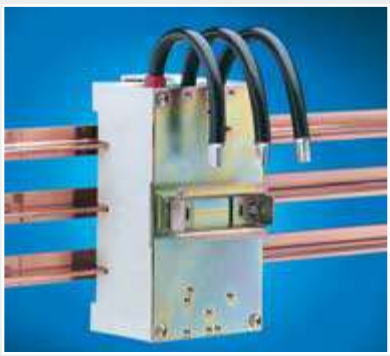
Plug-in connector

For fitting the AS-interface I/O module corresponding carrier type 3RK1 901-3CA00, Siemens brand, to the Mini-PLS component adaptor with 45 and 54 mm installation width.

PU	Part No. SV
1	**9623.100**

SV 9616.000 / SV 9617.000 with SV 9623.100

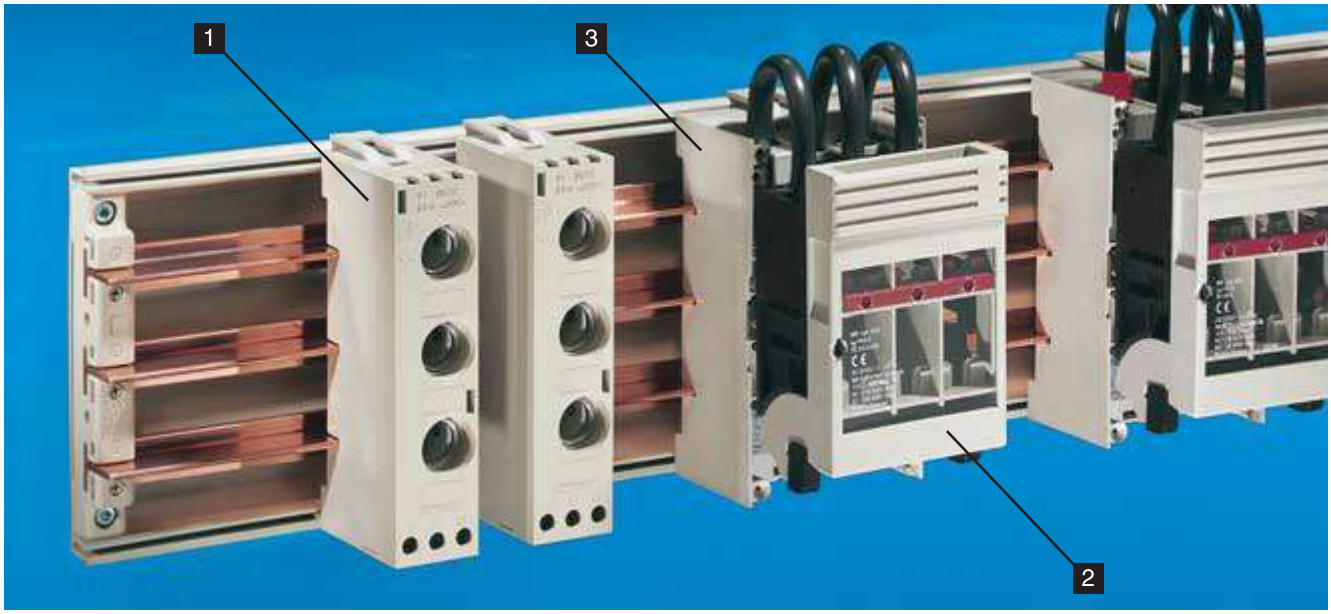




Support rails

For the installation of power circuit-breakers (for component types see page 660) onto SV 9629.000.
Width: 2.83″/72 mm, height: .59″/15 mm.
Includes installation hardware.

PU	Part No. SV
5	**9320.120**



1 Mini-PLS bus-mounted fuse base D 02-E 18

Rated current up to 63 A,
Rated operating voltage 400 V~.
Terminal for round conductors up to AWG 6.

Material:
Polyamide (PA 6.6),
30% fiberglass-reinforced.
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

PU	Part No. SV
1	**9630.000**

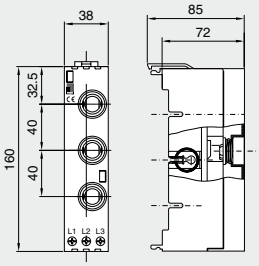
Configuration: Cover.

Accessories:

Identification labels for SV 9630.000

PU	Part No. SV
100	**9320.080**

SV 9630.000



2 NH fused isolator, size 00C

Model: Size 00C, 100 A, 690 V~.
Cable output top/bottom.
Connection: Terminal up to AWG 1/∅.
Tightening torque: 26 in.lbs.

PU	Part No. SV
1	**3431.000**

3 Mini-PLS busbar adaptor

For mounting the SV 3431.000 onto the Rittal Mini-PLS.
Built-in AWG 2 connection cables included as standard.

PU	Part No. SV
1	**9629.100**

Accessories:

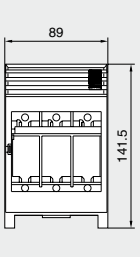
Microswitch

To monitor the switch position of NH unit, size 00C (lid unit).

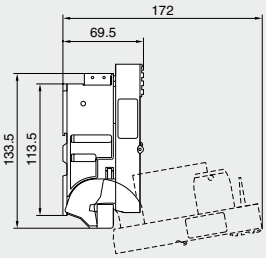
PU	Part No. SV
5	**3071.000**

Technical specifications and material properties, see pages 664 – 665.
When using gR-fuse inserts (VDE 0636/23) in NH components, please note the information on page 666.

SV 3431.000



SV 9629.100



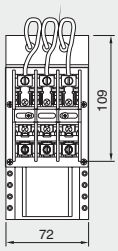
4 Mini-PLS NEMA bus-mounted fuse bases (not pictured)

Includes touch safe covers.

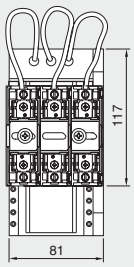
Class	R	J	CC
Width	126 mm	81 mm	72 mm
Rated current	30 A	30 A	30 A
Rated voltage	600 V~	600 V~	600 V~
Cable outlet	bottom	bottom	bottom
Part No.	**9627.632**	**9627.631**	**9627.630**

Material:
Fiberglass-reinforced polyester (PRT) continuous operating temperature maximum 284 °F/140 °C (125 °C with fuse covers).

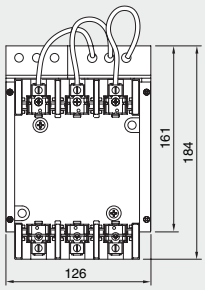
SV 9627.630



SV 9627.631



SV 9627.632



1 Busbar supports up to 360 A, 3-pole

40 mm busbar center distance.
Rated current maximum up to 360 A,
Rated voltage up to 1000 V~,
50/60 Hz according to VDE 0660.
Busbar accommodation: 12 x 5 to 15 x 10 mm with plug-in inserts included.

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

PU	Part No. SV
4	**9350.000**

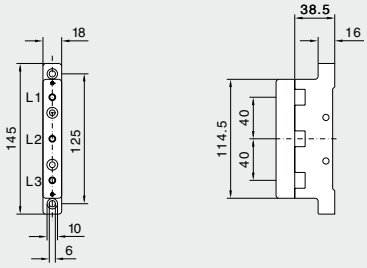
Short-circuit protection diagram, see page 658.

2 End cover

For contact hazard protection from the sides of the busbar assembly.
Pluggable onto SV 9350.000.

PU	Part No. SV
2	**9610.000**

SV 9350.000



3 Busbars of E-Cu 57

To DIN 1759, DIN 40 500.
Length: 94.49″/2400 mm/busbar.

Dimensions	PU	Part No. SV
12 x 5 mm	6	**3580.000**
12 x 10 mm	6	**3580.100**
15 x 5 mm	6	**3581.000**
15 x 10 mm	6	**3581.100**

* Single busbar available upon request.

4 Base tray sections

Length	PU	Part No. SV
250 mm	1	**9604.000**
500 mm	1	**9605.000**
700 mm	1	**9606.000**
1100 mm	1	**9607.000**

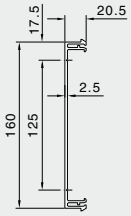
5 Cover sections

May be cut to length as required; for clip-on mounting to the base tray section.

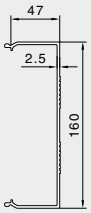
Length	PU	Part No. SV
250 mm	1	**9608.000**
500 mm	1	**9609.000**

Material:
Base tray and cover sections
Thermally modified hard-PVC.
Continuous operating temperature maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.

SV 9604.000 – SV 9607.000



SV 9608.000 SV 9609.000



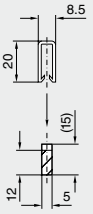
Busbar covers

Contact hazard protection by covering the busbars. May be cut to length as required.
Length: approx. 3 ft/1 m/section.

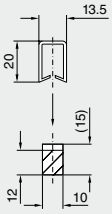
Material:
Thermally modified hard-PVC.
Continuous operating temperature maximum 212 °F/100 °C.
Fire protection corresponding to UL 94-V0.

For busbars E-Cu	PU	Part No. SV
12/15 x 5 mm	4	**9350.010**
12/15 x 10 mm	4	**9350.060**

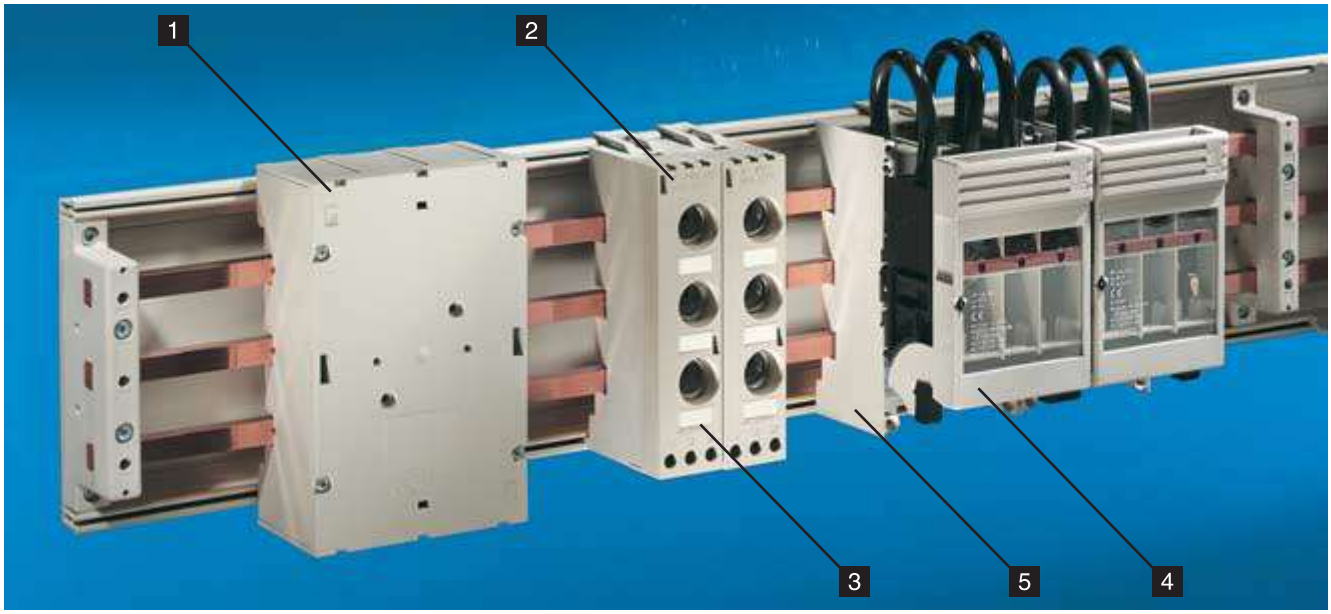
SV 9350.010



SV 9350.060



Up to 360 A



1 Busbar connection adaptor up to 360 A

To connect round conductors of up to 250 MCM (maximum 250 A) and laminated copper busbars (maximum 360 A).
Connection area: 17 x 17 mm.
Connection cables: top/bottom.
Rated voltage 690 V~.
Tightening torque:
Conductor connection screw
18 – 26 in.lbs.

Material:
Polyamide (PA 6.6),
30% fiberglass-reinforced.
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

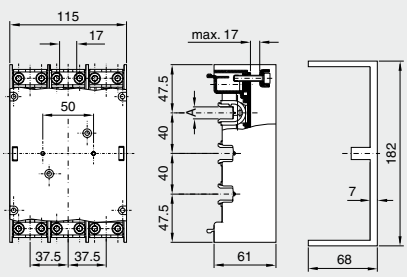
For busbars E-Cu	PU	Part No. SV
12 x 5/10 mm	1	**9350.020**
15 x 5/10 mm	1	**9350.030**

Configuration: Cover.

Accessories:

Rittal Flexibar laminated copper busbars, see page 657.

SV 9350.020
SV 9350.030



2 Bus-mounted fuse base D 02-E 18

Rated current maximum 63 A,
Rated voltage 400 V~.
Terminal for round conductors of up to AWG 5.
For busbars E-Cu 12 x 5 mm and 12 x 10 mm.

Material:
Polyamide (PA 6.6),
30% fiberglass-reinforced.
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

PU	Part No. SV
1	**9350.050**

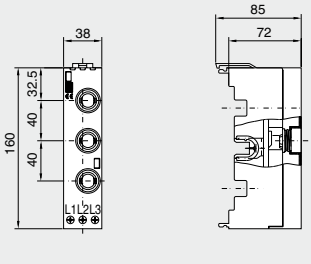
Configuration: Cover.

Accessories:

3 Identification labels

PU	Part No. SV
100	**9320.080**

SV 9350.050



4 NH fused isolators size 00C

Model: size 00C, 100 A, 690 V~.
Output terminal top/bottom.
Connection: terminal up to AWG 1/∅.
Tightening torque: 26 in.lbs

PU	Part No. SV
1	**3431.000**

Technical specifications and material properties, see pages 664/665.
When using gR safety use inserts (VDE 0636/23), please observe the information on page 666.

5 Busbar adaptor

For the installation of SV 3431.000 onto 40 mm busbar systems.
The AWG 2 connection cable is included in the standard configuration.

For busbars E-Cu	PU	Part No. SV
12 x 5/10 mm	1	**9350.400**
15 x 5/10 mm	1	**9350.410**

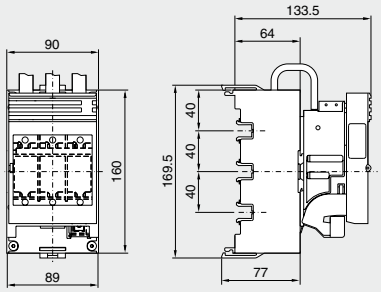
Accessories:

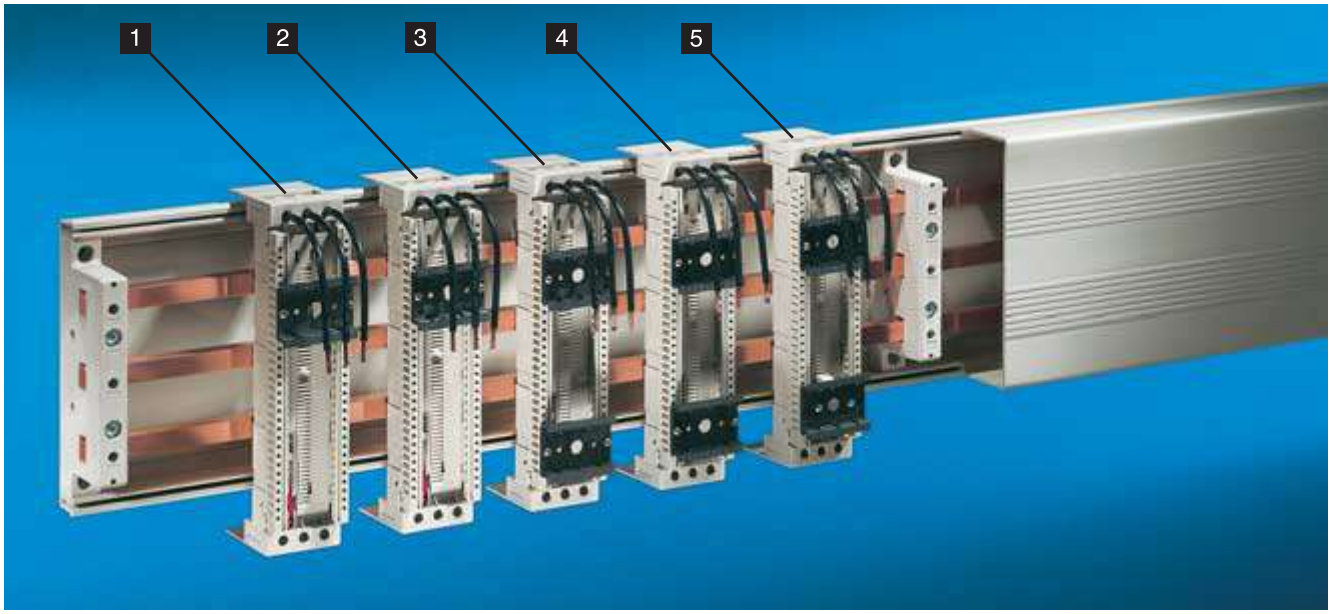
Microswitch for SV 3431.000

To signal the switching position of the NH unit (lid unit).

PU	Part No. SV
5	**3071.000**

SV 3431.000 with
SV 9350.400 / SV 9350.410





Multi-functional component adaptor 12 A/25 A

For snap-on mounting.

Installation width		1 45 mm	2 45 mm	3 45 mm	4 45 mm	5 45 mm
Rated current maximum up to		12 A	25 A	25 A	25 A	25 A
Rated operating voltage		690 V~	690 V~	690 V~	690 V~	690 V~
Cable outlet		top	top	top	top	top
Connection cables*		AWG 14	AWG 12	AWG 12	AWG 12	AWG 12
Support rails	Quantity	1	1	2	2	2 (1 variable)
	Height	10 mm	10 mm	10 mm	10 mm	10 mm
PU		1	1	1	1	1
For 5 mm busbar thickness **Part No. SV**		**9350.080**	**9350.100**	**9350.120**	**9350.260**	**9350.140**
For 10 mm busbar thickness **Part No. SV**		**9350.090**	**9350.110**	**9350.130**	**9350.270**	**9350.150**

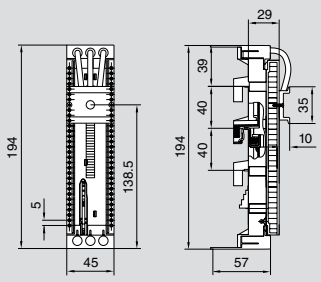
For power circuit-breakers/starter combinations
Make (for equipment types see page 661)

Moeller		●			
Siemens	●	●			
AEG		●			
Allen Bradley		●		●	
Telemecanique		●		●	
Universal application	●	●	●	●	●

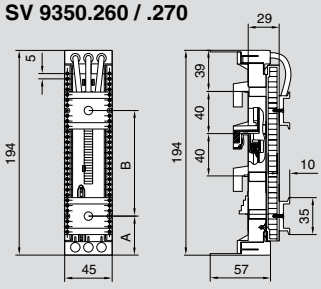
* AWG = American Wire Gauges
AWG 14 = 2.08 mm² ≈ 2.5 mm²
AWG 12 = 3.31 mm² ≈ 4 mm²

Material:
Polyamide (PA 6.6),
30% fiberglass-reinforced.
Continuous operating temperature
maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

SV 9350.080 / .090
SV 9350.100 / .110

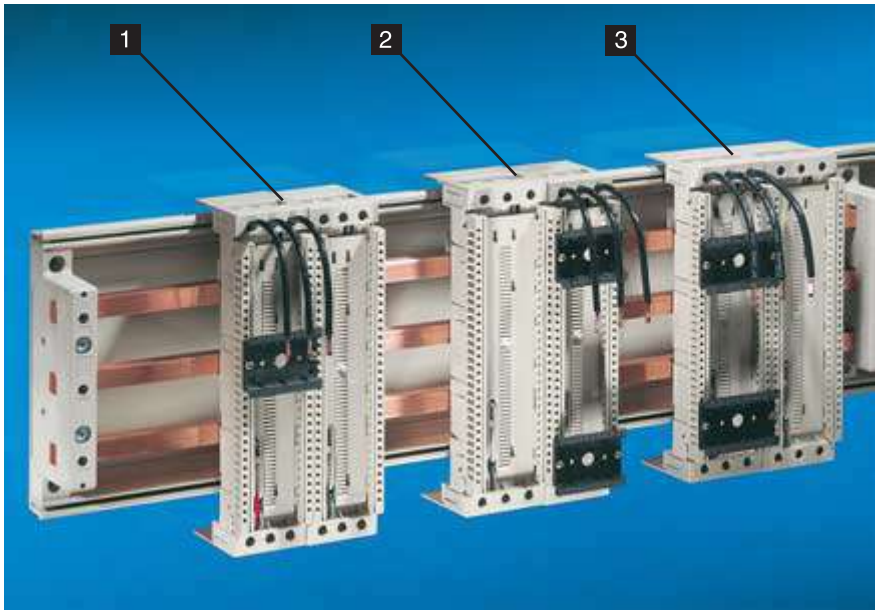


SV 9350.120 / .130
SV 9350.140 / .150
SV 9350.260 / .270



Part No. SV	A	B
9350.120 / .130	38.5	100
9350.140 / .150	variable	
9350.260 / .270	28.0	125

Multi-functional component adaptor 12 A/25 A



Multi-functional component adaptor 25 A

For snap-on mounting.

		1 90 mm	2 99 mm	3 108 mm
Installation width				
Rated current maximum up to		25 A	25 A	25 A
Rated voltage		690 V~	690 V~	690 V~
Cable outlet		top	top	top
Connection cables*		AWG 12	AWG 12	AWG 12
Support rails	Quantity	1	2	2
	Height	10 mm	10 mm	10 mm
PU		1	1	1
For 5 mm busbar thickness **Part No. SV**		**9350.280**	**9350.300**	**9350.320**
For 10 mm busbar thickness **Part No. SV**		**9350.290**	**9350.310**	**9350.330**

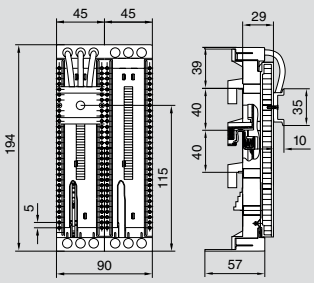
For power circuit-breakers/starter combinations Make (for equipment types see page 661)

Moeller	●		●
Siemens	●	●	
AEG			
Allen Bradley	●		
Telemecanique	●		●
Universal application	●	●	●

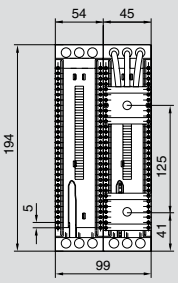
* AWG = American Wire Gauges
AWG 12 = 3.31 mm² ≈ 4 mm²

Material:
Polyamide (PA 6.6),
30% fiberglass-reinforced.
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

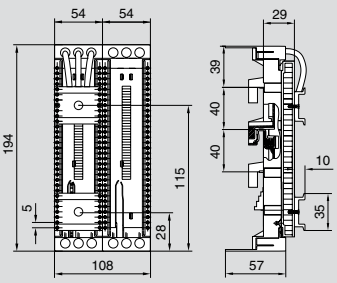
SV 9350.280
SV 9350.290



SV 9350.300
SV 9350.310



SV 9350.320
SV 9350.330



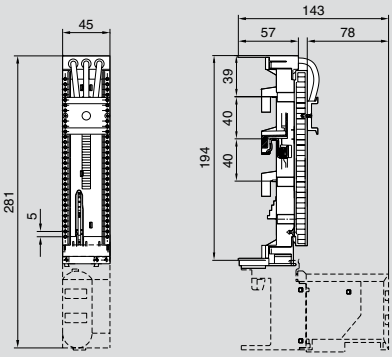
Accessories:

Plug-in

For fitting the AS-interface I/O module with corresponding carrier type 3RK1 901-3CA00, Siemens brand, to the Mini-PLS component adaptor with 45 and 54 mm installation width.

PU	Part No. SV
1	**9320.110**

SV 9350.080 – SV 9350.270 with SV 9320.110



Mounting clip

For additional securing of motor starter combinations on support rails, 45 mm wide.

PU	Part No. SV
5	**9320.140**

Support rails

For multi-functional component adaptor with 45 mm installation width.

Height	PU	Part No. SV
7.5 mm	10	**9320.150**
10 mm	5	**9320.090**

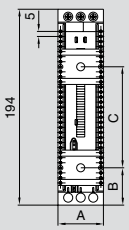
Multi-functional component adaptor 25 A

For snap-on mounting.

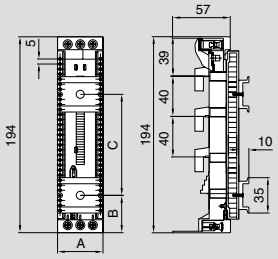
Installation width		45 mm	
Rated current maximum up to		25 A	25 A
Rated voltage		690 V~	690 V~
Cable outlet		top	top/bottom
Connection to round connectors of up to		AWG 6	AWG 6
Support Rails	Quantity	2 (1 variable)	2
	Height	10 mm	10 mm
PU		1	1
For 5 mm busbar thickness **Part No. SV**		**9350.160**	**9350.180**
For 10 mm busbar thickness **Part No. SV**		**9350.170**	**9350.190**

Material:
Polyamide (PA 6.6), 30% fiberglass-reinforced.
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

SV 9350.160
SV 9350.170



SV 9350.180
SV 9350.190



Part No. SV	A	B
9350.160 **9350.170**	variable	
9350.180 **9350.190**	38.5	100

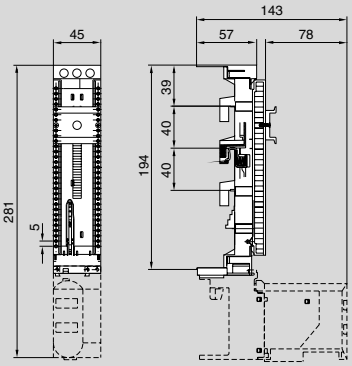
Accessories:

Plug-in connector

For fitting the AS-interface I/O module with corresponding carrier type 3RK1 901-3CA00, Siemens brand, to the Mini-PLS component adaptor with 45 and 54 mm installation width.

PU	Part No. SV
1	**9320.110**

SV 9350.160/SV 9350.170 with SV 9320.110



Mounting clip

For additional securing of motor starter combinations on support rails, 45 mm width.

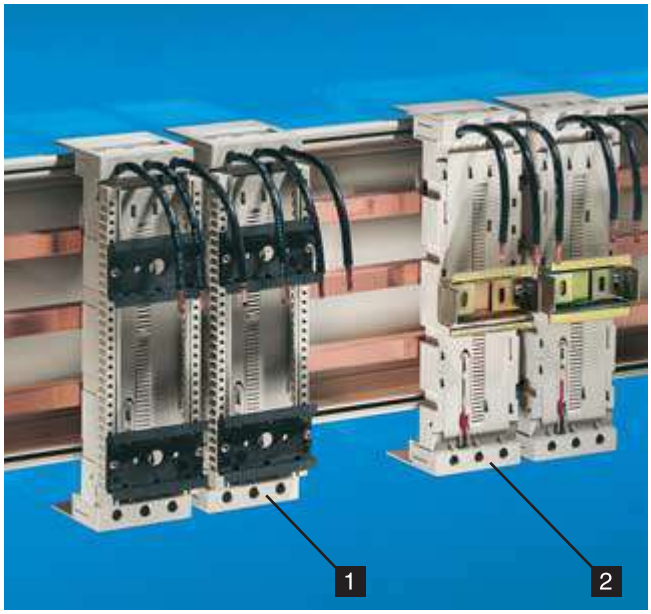
PU	Part No. SV
5	**9320.140**

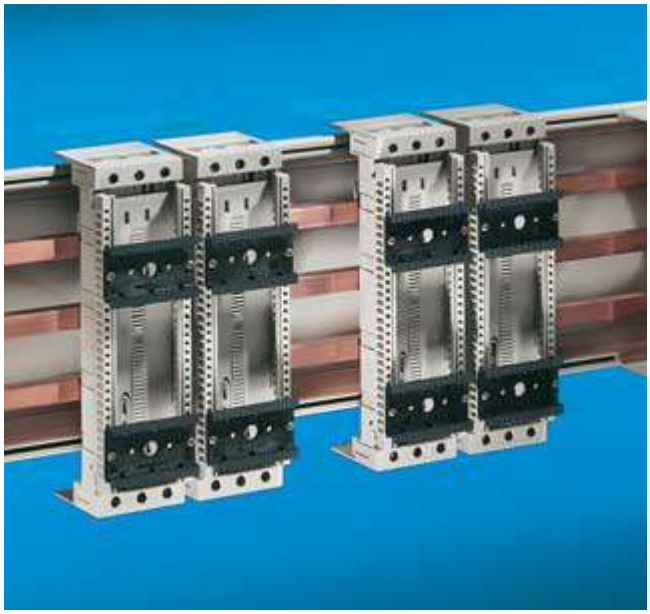
Support rails

For multi-functional component adaptor with 45 mm installation width.

Height	PU	Part No. SV
7.5 mm	10	**9320.150**
10 mm	5	**9320.090**

Multi-functional component adaptor 25 A/40 A





Multi-functional component adaptor 40 A

For snap-on mounting.

Installation width		**1** 54 mm	**2** 54 mm
Rated current maximum up to		40 A	40 A
Rated voltage		690 V~	690 V~
Cable outlet		top	top
Connection cables*		AWG 10	AWG 10
Support rails	Quantity	2	1
	Height	10 mm	15 mm
PU		1	1
For 5 mm busbar thickness **Part No. SV**		**9350.200**	**9350.340**
For 10 mm busbar thickness **Part No. SV**		**9350.210**	**9350.350**

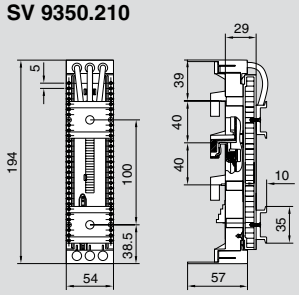
For power circuit-breakers/starter combinations
Make (for equipment types see page 661)

Moeller		●
Siemens		●
ABB	●	●
AEG	●	
Allen Bradley	●	
Universal application	●	●

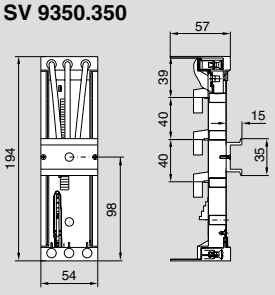
* AWG = American Wire Gauges
AWG 10 = 5.26 mm² ≈ 6 mm²

Material:
Polyamide (PA 6.6),
30% fiberglass-reinforced.
Continuous operating temperature
maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

SV 9350.200
SV 9350.210



SV 9350.340
SV 9350.350



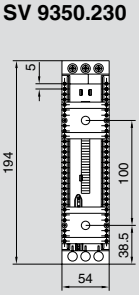
Multi-functional component adaptor 40 A

For snap-on mounting.

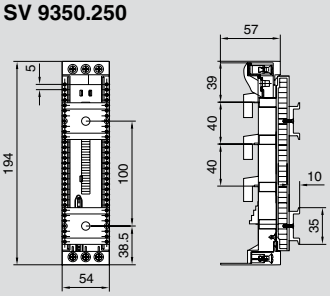
Installation width		54 mm	
Rated current maximum up to		40 A	40 A
Rated voltage		690 V~	690 V~
Cable outlet		top	top/bottom
Connection of round conductors of up to		AWG 6	AWG 6
Support rails	Quantity	2	2
	Height	10 mm	10 mm
PU		1	1
For 5 mm busbar thickness **Part No. SV**		**9350.220**	**9350.240**
For 10 mm busbar thickness **Part No. SV**		**9350.230**	**9350.250**

Material:
Polyamide (PA 6.6),
30% fiberglass-reinforced.
Continuous operating temperature
maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

SV 9350.220
SV 9350.230



SV 9350.240
SV 9350.250



Rittal offers an exceptional range of solutions in the key application of low-voltage distribution.

Flat busbar systems 200 to 800 A

The elements

This system is especially economical since commercially available flat copper busbars may be used.

- Two-part busbar supports 1-pole, 2-pole, 3-pole, 4-pole and 5-pole (combination of 2-pole and 3-pole).
- Plug-in components prepare the busbar supports for the appropriate flat copper busbars. Without the plug-in elements, the maximum busbar profiles are used, for instance the 3-pole support up to 800 A, holds a maximum of 30 x 10 mm E-Cu busbars, when using the plug-in elements it can hold E-Cu 12 – 30 x 5 mm.
- End covers, support covers, system covers and busbar cover profiles provide contact hazard protection.

Busbar support, 1-pole
Busbar support, 2-pole

Busbar support, 3-pole
End cover
Support cover

Busbar support, 4-pole
End cover

Busbar support, 5-pole

Plug-in element kits
Busbar cover sections
System cover

PLS busbar systems up to 800 A/1600 A

The elements

The most distinguishing factors of the Rittal PLS are the efficient use of space, the high safety reserve and the contact hazard protection.

- The special busbars are simply snapped into the one-piece holder and locked into position.
- High-static and thermal load capacity because of the special profile configuration.
- Optimum heat dissipation because the large surface of the specially designed copper busbars.
- The configuration can easily be disassembled for transportation. The PLS expansion connectors guarantee the thermal and mechanical balance of the PLS special busbars from enclosure to enclosure.
- All around protection through end caps, base tray sections and cover sections.

PLS end covers
PLS busbar support up to 800 A, 3-pole
PLS base tray section

PLS special busbars E-Cu 800 A, 300 mm²
PLS busbar connector kit
PLS expansion connector

PLS end cover
PLS busbar support up to 1600 A, 3-pole
PLS base tray section

PLS busbars E-Cu 1600 A, 900 mm²

PLS busbar connector kit
PLS expansion connector
PLS cover sections

The components

An individual assortment of various components for 3-pole installation with 60 mm busbar center distance adds to the multitude of support elements (1-pole up to 5-pole) and copper busbar profiles (12 x 5 up to 30 x 10 mm):

- For the intake terminal connection adaptor and conductor connection clamps.
- Bus-mounted fuse base.
- Component adaptor and multi-functional component adaptor for the compact installation and the connection of commercial fuse and switch gear.
- Component carrier (without contacting system).
- NH fused isolators, size 00 up to 3 with and without fuse monitoring.
- NH fused isolators, size 00C.
- NH fused strip isolators, size 00.
- Unlimited top-mounting capabilities for PLS busbar supports with power distribution components.
  Planning is greatly simplified, since the switch may be located anywhere. It can offer more stability if needed and uses available space most effectively.

Rittal PLS and the 60 mm flat copper busbar system components are identical.

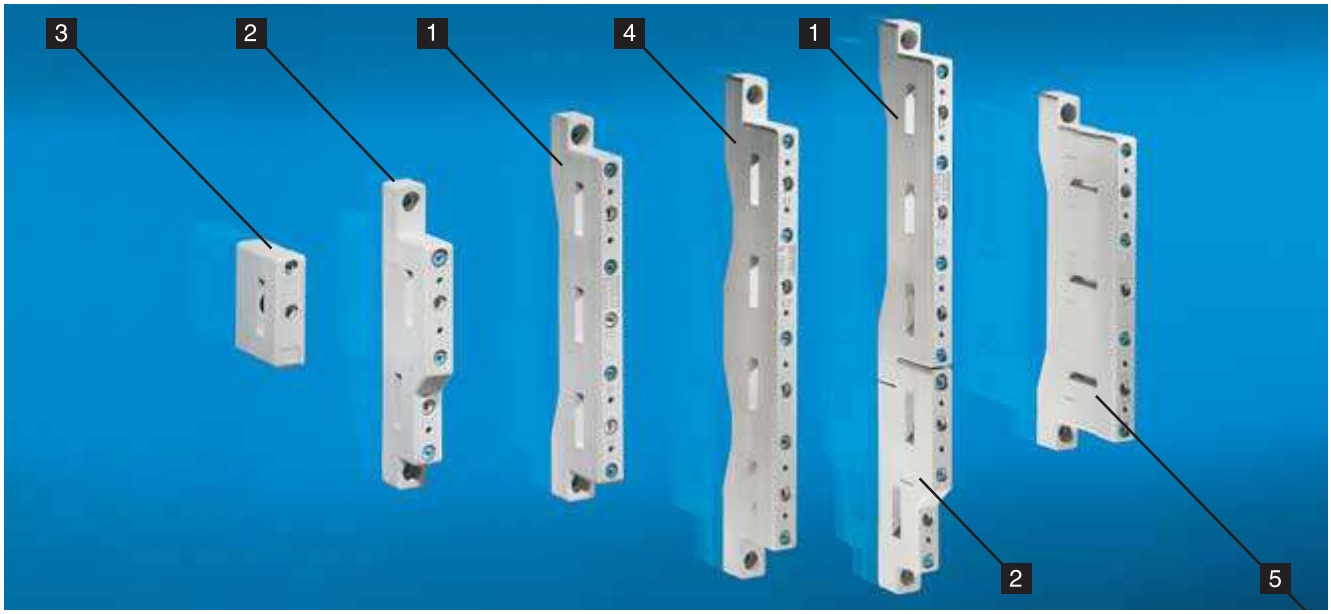
Connection adaptor 63 A up to 1600 A
Conductor connection clamp
Plate clamp

Bus-mounted fuse base
IEC and NEMA style

Multi-functional component adaptor 12/25/40 A
Component adaptor 50/63 A
Component support without contact system
Component adaptor 100/160/250 A

NH fused isolators, size 00C
Busbar adaptor for NH fused isolators, size 00C
NH bus-mounted fused isolators, sizes 00, 1, 2 and 3

Busbar adaptor for NH fused strip isolators, size 00
NH fused strip isolators, size 00



Busbar supports

	1	2	3	4	5
Rated current maximum up to	800 A	800 A	800 A	800 A	450 A
Rated operating voltage up to	1000 V~, 50/60 Hz according to VDE 0660				
Number of poles	3-pole	2-pole	1-pole	4-pole	3-pole
Busbar center distance	60 mm	60 mm	–	60 mm	60 mm
Maximum busbar capacity without plug-in insert	30 x 10 mm	30 x 10 mm	30 x 10 mm	30 x 10 mm	30 x 5 mm
Tightening torque ● Mounting screw ● Cover fastening	 26 – 44 in.lbs 9 – 26 in.lbs	 26 – 44 in.lbs 9 – 26 in.lbs	 44 – 70 in.lbs 9 – 26 in.lbs	 26 – 44 in.lbs 9 – 26 in.lbs	 26 – 44 in.lbs 9 – 26 in.lbs
PU	4	4	4	3	4
Part No. SV	**3000.000**	**3050.000***	**3078.000**	**3064.000**	**3066.000**

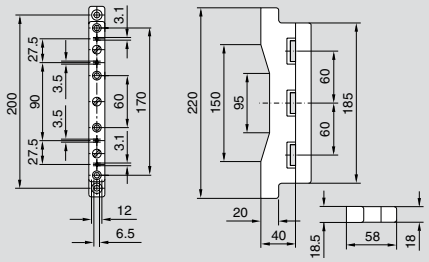
***** N/GND support.

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

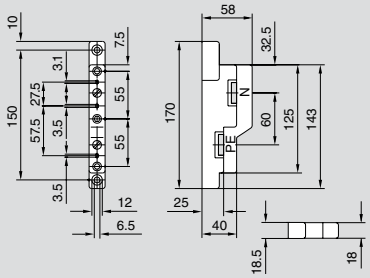
Additional parts needed:

Insert kits for busbars smaller than 30 x 10 mm (excluding **5**), see page 597.

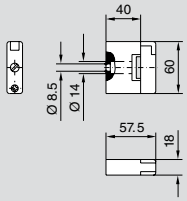
SV 3000.000



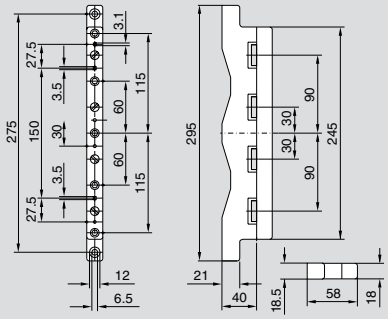
SV 3050.000



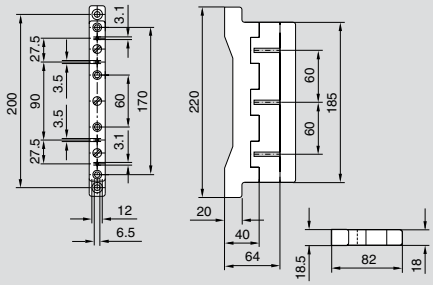
SV 3078.000



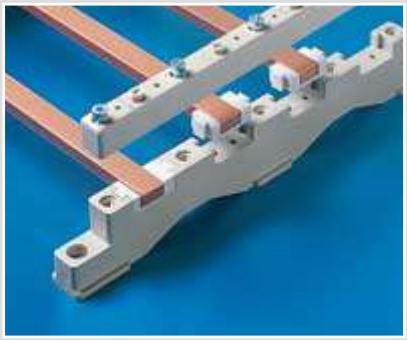
SV 3064.000



SV 3066.000



Short-circuit protection diagram, see page 658.



Insert kits for busbar supports SV 3000.000, SV 3050.000, SV 3064.000, SV 3078.000

For busbar E-Cu mm	Rated base current*	Part No. SV
30 x 5	447 A	**3001.000**
25 x 5	384 A	**3002.000**
20 x 10	497 A	**3003.000***
20 x 5	319 A	**3004.000**
16 x 8	397 A	**3005.000**
16 x 3/4/5	198/225/280 A	**3006.000**
15 x 3/4/5	187/210/260 A	**3007.000**
12 x 10	340 A	**3008.000***
12 x 5	210 A	**3009.000**

* Per DIN 43671

For busbar E-Cu mm (inches)	Rated current	Part No. SV
9.53 x 25.40 ($^3/_8$ x 1″)	599 A	**3012.000***
6.35 x 25.40 ($^1/_4$ x 1″)	449 A	**3013.000**
4.76 x 25.40 ($^3/_{16}$ x 1″)	349 A	**3014.000**
3.18 x 25.40 ($^1/_8$ x 1″)	299 A	**3015.000**
9.53 x 19.05 ($^3/_8$ x $^3/_4$″)	449 A	**3016.000***
6.35 x 12.70 ($^1/_4$ x $^1/_2$″)	249 A	**3017.000**

Configuration:
PU = 12
* PU = 12 pair

End covers

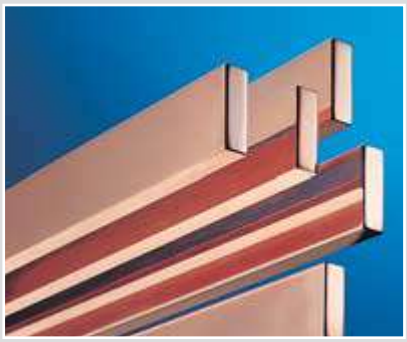
For side contact protection cover on the sides of the busbar support. Simple snap-on mounting.

For busbar supports	PU	Part No. SV
SV 3000.000	10	**3080.000**
SV 3064.000	10	**3084.000**

Support cover

The support cover ensures the side contact hazard protection of the installed bus-mounted “D” style fuse bases. Same height as the bus-mounted fuse bases including contact protection cover.

For busbar supports	PU	Part No. SV
SV 3000.000	4	**3089.000**



Busbars of E-Cu 57

Per DIN 1759, DIN 40 500.
Length: 94.49″/2400 mm / bar.

Dimensions	PU*	Part No. SV
30 x 10 mm	6	**3586.000**
30 x 5 mm	6	**3584.000**
25 x 5 mm	6	**3583.000**
20 x 10 mm	6	**3585.000**
20 x 5 mm	6	**3582.000**
15 x 5 mm	6	**3581.000**
12 x 10 mm	6	**3580.100**
12 x 5 mm	6	**3580.000**

* For single busbars (12 x 5 mm up to 30 x 10 mm), replace the last digit of the Part No. with a 1, (i.e. 3580.000 to 3580.001).

Bar connectors

To connect busbars 20 x 5 up to 30 x 10 mm without drilling.
For technical and material specifications, see page 656.

For	PU	Part No. SV
Simple connection	3	**9320.020**
Bayed connection**	3	**9320.030**

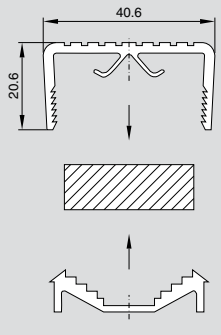
** Between enclosures (TS 8/PS)

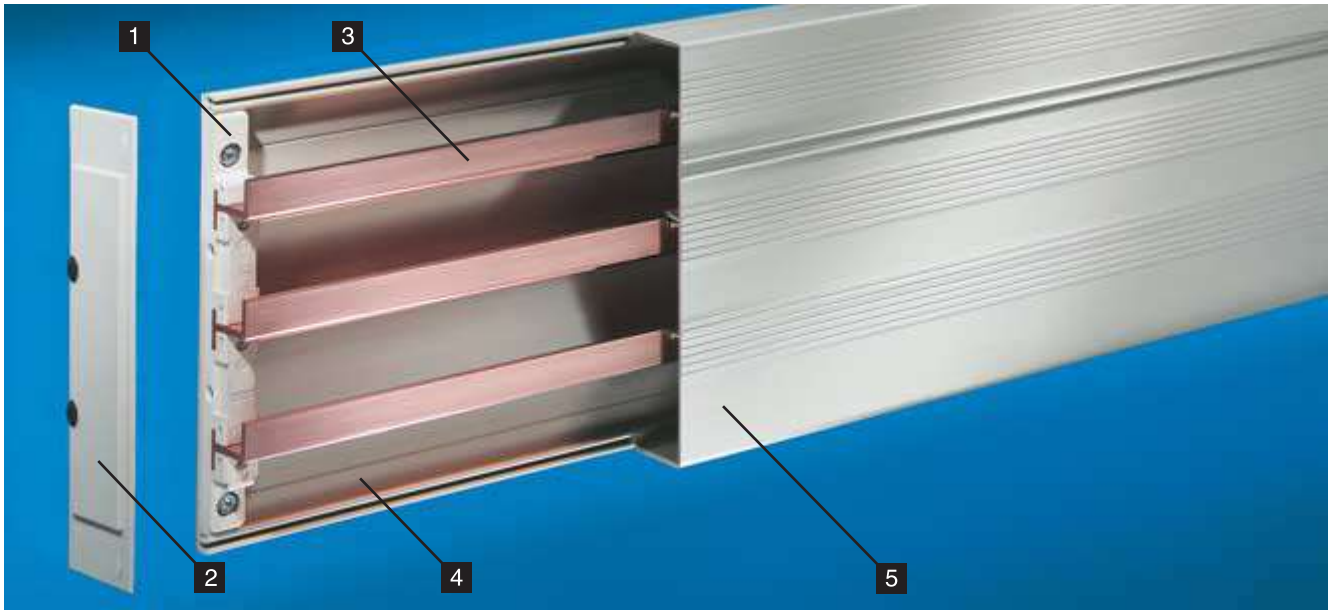
Busbar cover sections

Contact hazard protection cover profile completely sheathes the busbars. May be cut to length.

Material:
Thermally modified hard PVC.
Continuous operating temperature maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.

For busbars	PU	Part No. SV
12 x 5 up to 30 x 10 mm	10 @ 3 ft/1 m	**3092.000**





1 PLS busbar supports up to 800 A, 3-pole

60 mm busbar center distance.
Rated current maximum up to 800 A,
Rated voltage up to 1000 V~, 50/60 Hz according to VDE 0660.

Material:
Thermally modified hard PVC.
Continuous operating temperature maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.

PU	Part No. SV
4	**3500.000**

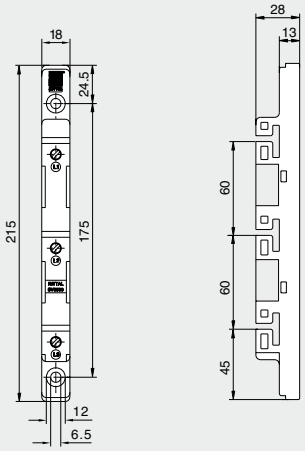
Short-circuit protection diagram, see page 659.

2 PLS end cover

For contact protection cover of PLS assemblies of up to 800 A, for simple snap-on installation of SV 3500.000.

PU	Part No. SV
2	**3501.000**

SV 3500.000



3 PLS special busbars E-Cu 800 A, 300 mm²

5 mm busbar thickness.

Length	For enclosure width	PU	Part No. SV
E-Cu			
2400 mm	variable	1	**3509.000**
495 mm	600 mm*	3	**3524.000**
695 mm	800 mm*	3	**3525.000**
1095 mm	1200 mm*	3	**3526.000**
E-Cu tin-plated			
2400 mm	variable	1	**3024.000**
495 mm	600 mm*	3	**3026.000**
695 mm	800 mm*	3	**3027.000**
1095 mm	1200 mm*	3	**3028.000**

* For Rittal TS 8/PS/ES enclosure systems

4 PLS base tray sections

For PLS installation up to 800 A.

Length	PU	Part No. SV
500 mm	2	**3502.000**
700 mm	1	**3503.000**
1100 mm	1	**3518.000**

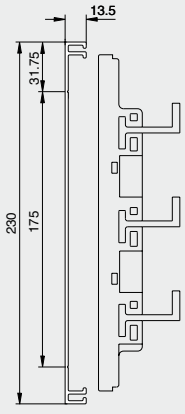
5 PLS cover profiles

May be cut to length, for snap-on mounting onto the PLS base tray sections.

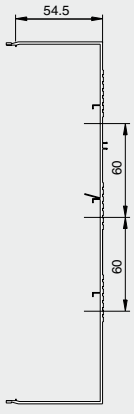
Length	PU	Part No. SV
250 mm	2	**3506.000**
500 mm	2	**3507.000**
700 mm	1	**3508.000**

Material:
PLS base tray and cover profile
Thermally modified hard PVC.
Continuous operating temperature maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.

SV 3502.000
SV 3503.000
SV 3518.000



SV 3506.000
SV 3507.000
SV 3508.000



Up to 800 A

PLS busbar connector set up to 800 A

To connect the PLS special busbars up to 800 A.
Tightening torque: 88 – 132 in.lbs.

For	PU	Part No. SV
Simple connections	3	**3504.000**
Bayed connections*	3	**3505.000**

* From enclosure to enclosure (TS 8/PS).

PLS expansion connectors

For the thermal and mechanical connection of PLS special busbars up to 800 A from enclosure to enclosure (TS 8/PS).
Two PLS SV 3504.000 busbar connectors are required per extension connector.

PU	Part No. SV
3	**9320.060**

PLS base tray section infill

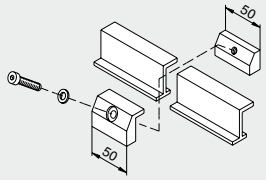
For rear contact hazard protection.
When connecting PLS 800 A special busbars from enclosure to enclosure (TS 8/PS).
Width: 4″/100 mm.

Material:
Thermally modified hard PVC.
Continuous operating temperature maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.

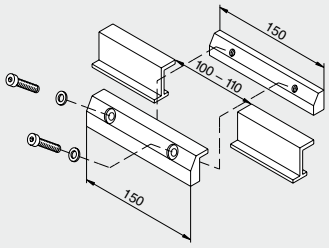
PU	Part No. SV
1	**3523.000**

Configuration:
Assembly hardware included.

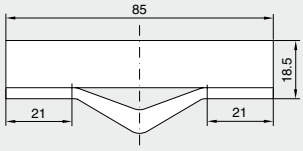
SV 3504.000



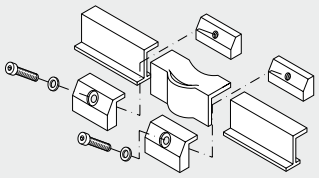
SV 3505.000



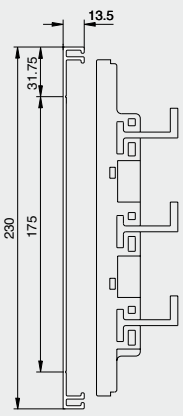
SV 9320.060

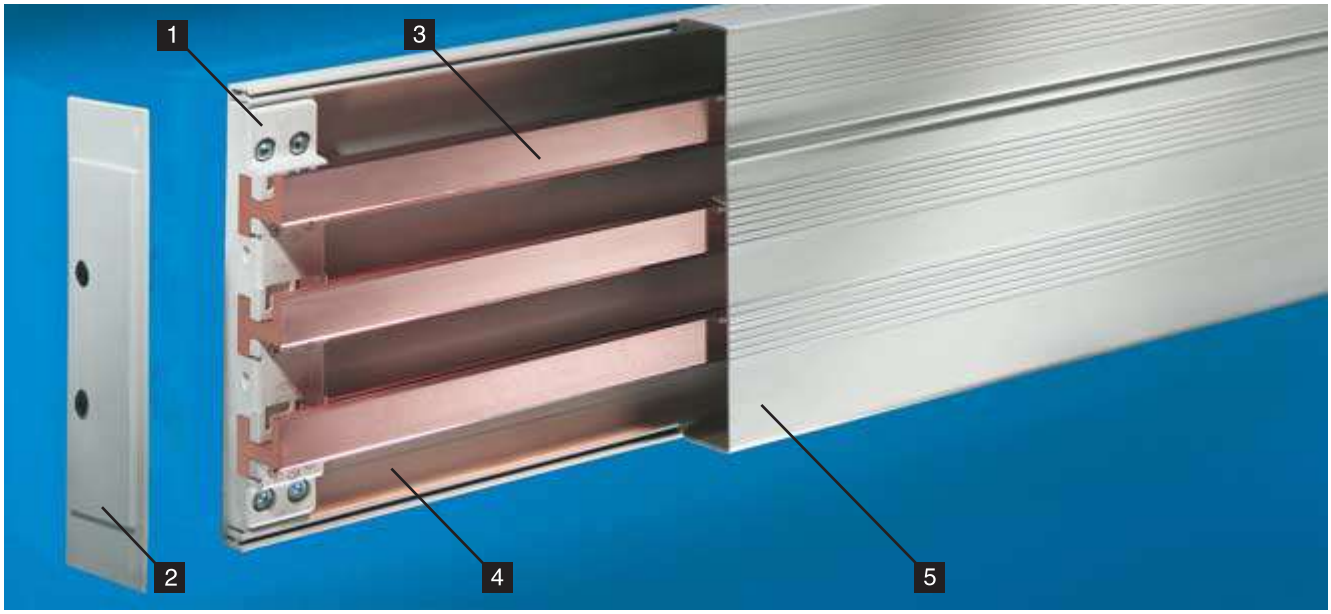


SV 9320.060 with SV 3504.000



SV 3502.000





1 PLS busbar supports up to 1600 A, 3-pole

60 mm busbar center distance.
Rated current maximum up to 1600 A,
Rated operating voltage up to 1000 V~,
50/60 Hz according to VDE 0660.

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

PU	Part No. SV
4	**3510.000**

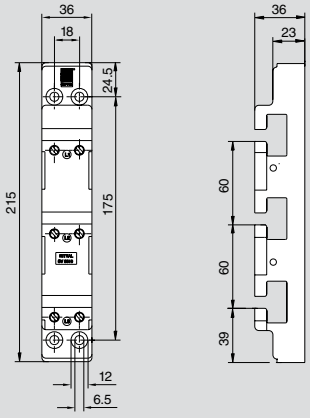
Short-circuit protection diagram
see page 659.

2 PLS end cover

For side contact hazard protection at the sides of PLS assemblies up to 1600 A; simply snaps onto the SV 3510.000.

PU	Part No. SV
2	**3511.000**

SV 3510.000



3 PLS special busbars E-Cu 1600 A, 900 mm²

10 mm busbar thickness.

Length	For enclosure width	PU	Part No. SV
E-Cu			
2400 mm	variable	1	**3516.000**
495 mm	600 mm*	3	**3527.000**
695 mm	800 mm*	3	**3528.000**
1095 mm	1200 mm*	3	**3529.000**
E-Cu tin-plated			
2400 mm	variable	1	**3025.000**
495 mm	600 mm*	3	**3033.000**
695 mm	800 mm*	3	**3034.000**
1095 mm	1200 mm*	3	**3035.000**

* For Rittal TS 8/PS/ES enclosure systems

4 PLS base tray sections

For PLS assemblies up to 1600 A.

Length	PU	Part No. SV
500 mm	2	**3512.000**
700 mm	1	**3513.000**
1100 mm	1	**3519.000**

5 PLS cover sections

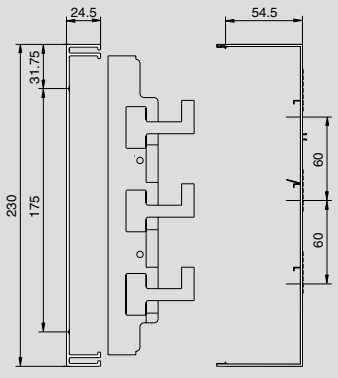
For the snap-on mounting of the PLS base tray sections; may be cut to size.

Length	PU	Part No. SV
250 mm	2	**3506.000**
500 mm	2	**3507.000**
700 mm	1	**3508.000**

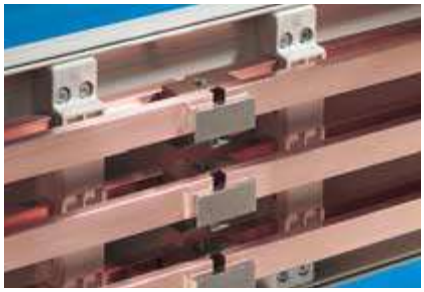
Material:
PLS base tray and cover sections
Thermally modified hard PVC.
Continuous operating temperature maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.

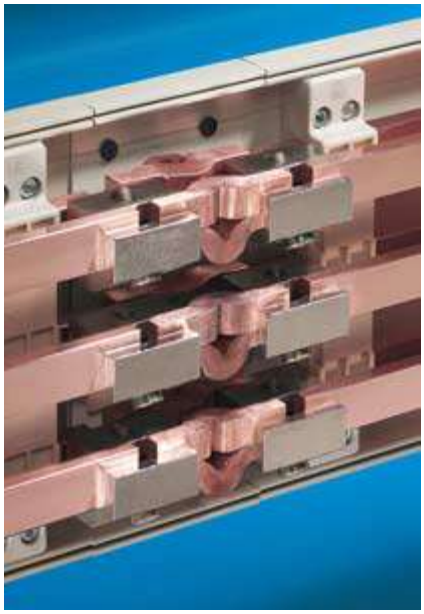
SV 3512.000
SV 3513.000
SV 3519.000

SV 3506.000
SV 3507.000
SV 3508.000



800 A up to 1600 A





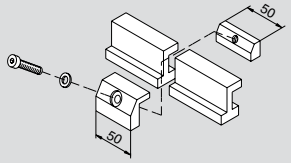
PLS busbar connector set up to 1600 A

For the connection of PLS special busbars up to 1600 A.
Tightening torque: 132 – 176 in.lbs.

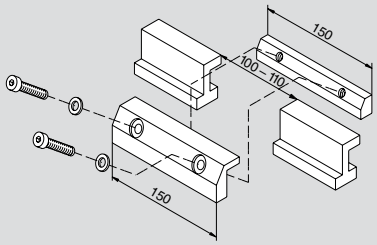
For	PU	Part No. SV
Simple connections	3	**3514.000**
Baying connection*	3	**3515.000**

* From enclosure to enclosure (TS 8/PS).

SV 3514.000



SV 3515.000

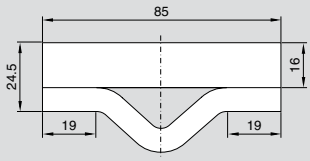


PLS expansion connector

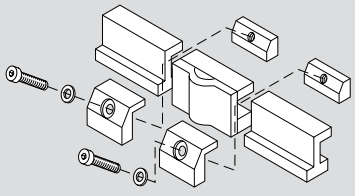
For the thermal and mechanical connection of PLS special busbars up to 1600 A from enclosure to enclosure (TS 8/PS). Two PLS SV 3514.000 busbar connectors are required per extension connector.

PU	Part No. SV
3	**9320.070**

SV 9320.070



SV 9320.070 with SV 3514.000



PLS base tray section filler panel

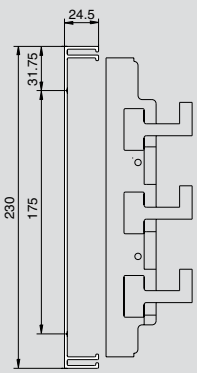
For contact hazard protection from the rear when PLS 1600 A special busbars are connected from enclosure to enclosure (TS 8/PS).
Width: 4″/100 mm.

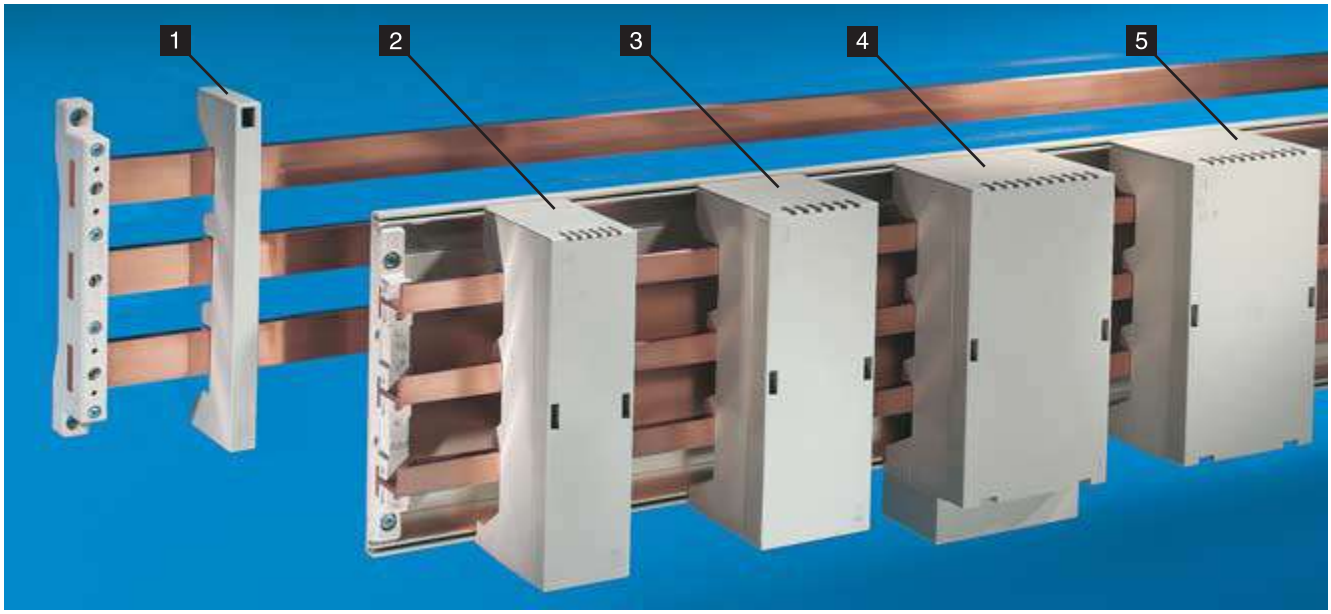
Material:
Thermally modified hard PVC.
Continuous operating temperature maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.

PU	Part No. SV
1	**3533.000**

Configuration:
Includes installation hardware.

SV 3533.000





Connection adaptor

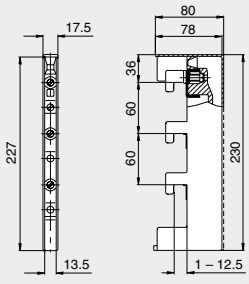
Including cover	1	2	3	4	5
Rated current maximum up to	63 A	125 A	250 A	800 A	800 A
Rated operating voltage	690 V~	690 V~	690 V~	690 V~	690 V~
Connection	bottom	bottom	bottom	bottom	bottom
Connection of round conductors of up to	AWG 8/ 2 x AWG 10	AWG 2	AWG 2/∅	300 MCM*	500 MCM**
Clamping area for laminated copper busbars	–	11 x 14 mm	16 x 15 mm	–	30 x 25 mm
Tightening torque ● Mounting screw ● Connection screw	18 – 26 in.lbs 18 in.lbs	35 – 44 in.lbs 44 – 62 in.lbs	44 – 53 in.lbs 70 – 88 in.lbs	44 – 53 in.lbs 132 – 176 in.lbs	44 – 53 in.lbs 88 – 106 in.lbs
PU	1	1	1	1	1
For 5 – 10 mm busbar thickness **Part No. SV**	**3443.000**	**3444.000**	**3442.000**	**3440.000**	**3441.000**

* With M10 ring terminal (for bolt-on connection)
** With properly press-fitted wire end ferrule

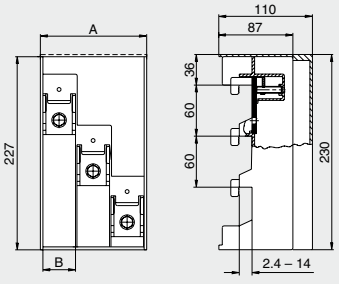
Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

Accessories:
Rittal Flexibar laminated copper busbars, see page 657.

SV 3443.000

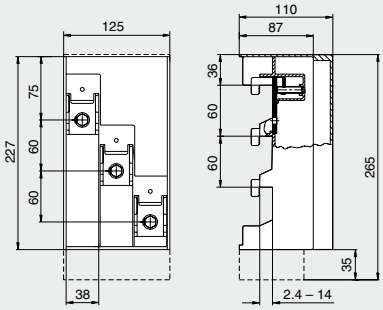


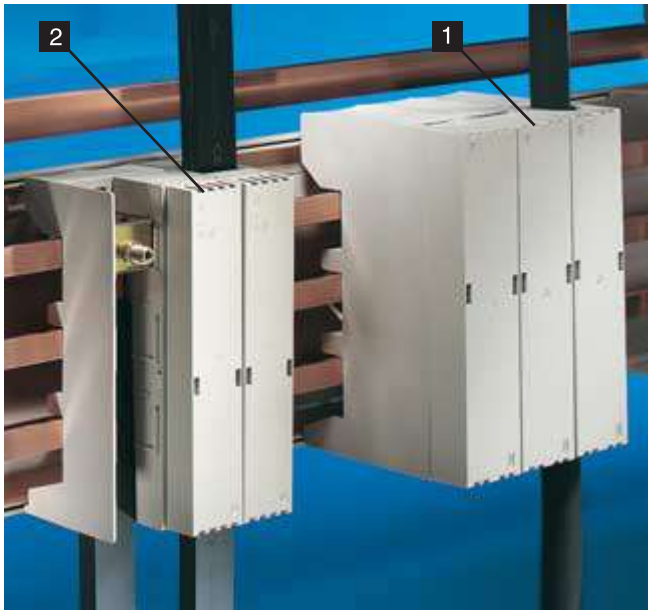
SV 3442.000
SV 3444.000



Part No. SV	A	B
3442.000	85	25
3444.000	61	17

SV 3440.000
SV 3441.000





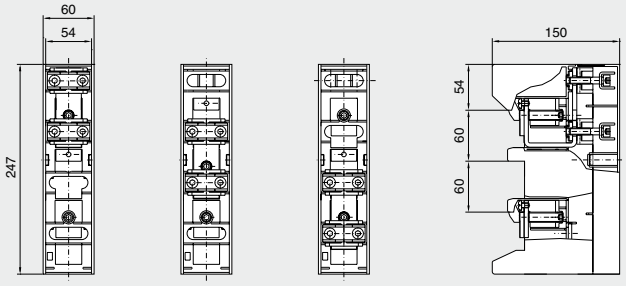
Connection adaptor

Including cover	1	2
Rated current maximum up to	800 A	800 A
Rated voltage	690 V~	690 V~
Round conductors of up to	500 MCM	–
Clamping space for laminated copper busbars ● for 5 mm busbar thickness ● for 10 mm busbar thickness	 – –	 34 x 21 mm 34 x 16 mm
Tightening torque ● Mounting screw ● Connection screw	 105 – 132 in.lbs 132 in.lbs	 – 88 – 105 in.lbs
PU	1 set (3)	1 set (3)
For 5 – 10 mm busbar thickness **Part No. SV**	**3439.010**	**3439.000**

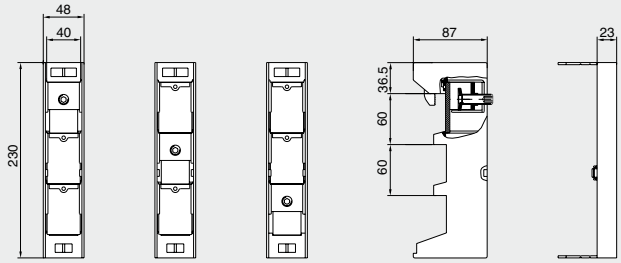
Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum: 284 °F/140 °C.
Fire protection according to UL 94-V0.

Accessories:
Rittal Flexibar laminated copper busbars, see page 657.

SV 3439.010



SV 3439.000



Connection adaptor up to 1600 A

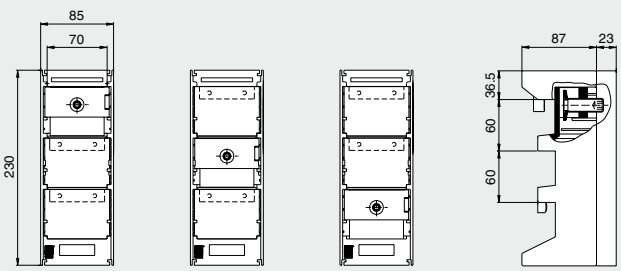
Only suitable for Rittal PLS 1600 A.
Rated current maximum up to 1600 A,
Rated operating voltage 690 V~.
Clamping area for laminated copper busbars: 65 x 21 mm.
Tightening torque: Terminal screw 132 – 176 in.lbs including cover.

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

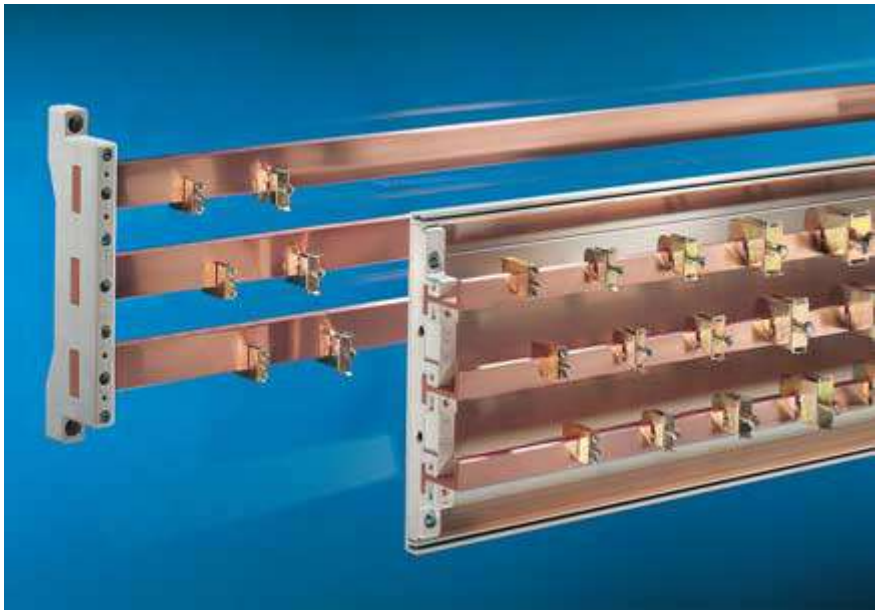
PU	Part No. SV
1 set (3)	**3517.000**

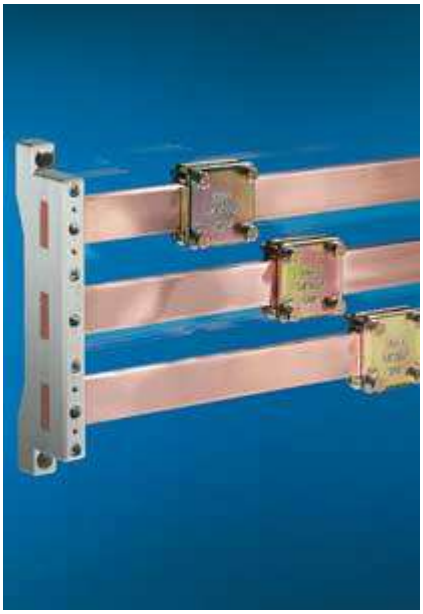
Accessories:
Rittal Flexibar laminated copper busbars, see page 657.

SV 3517.000



CONDUCTOR CONNECTION CLAMPS – 60 mm





Conductor connection clamps

For busbar thickness	Connection of round conductors *	Clamping area for laminated copper busbars	Tightening torque	PU	Part No. SV
5 mm	AWG 18-12	–	18 in.lbs	15	**3450.500**
5 mm	AWG 14-6	8 x 8 mm	26 in.lbs	15	**3451.500**
5 mm	AWG 6-1/∅	10.5 x 11 mm	53 – 70 in.lbs	15	**3452.500**
5 mm	AWG 2-2/∅	16.5 x 15 mm	88 – 106 in.lbs	15	**3453.500**
5 mm	AWG 2/∅ -350 MCM	22.5 x 20 mm	106 – 132 in.lbs	15	**3454.500**
6 – 10 mm	AWG 18-12	–	18 in.lbs	15	**3455.500**
10 mm	AWG 14-6	8 x 8 mm	26 in.lbs	15	**3456.500**
10 mm	AWG 6-1/∅	10.5 x 11 mm	53 – 70 in.lbs	15	**3457.500**
10 mm	AWG 2-2/∅	16.5 x 20 mm	88 – 106 in.lbs	15	**3458.500**
10 mm	AWG 2/∅ -350 MCM	22.5 x 20 mm	106 – 132 in.lbs	15	**3459.500**

* Wire end ferrules should be used with fine wire conductors.

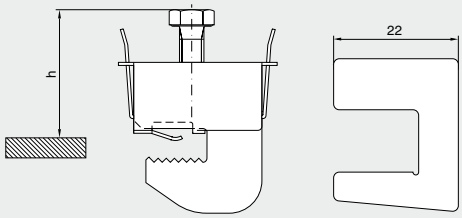
Material:
Sheet steel, zinc-plated, yellow chromated
(SV 3450.500 – SV 3459.500),
Brass
(SV 3550.000 / SV 3555.000).

see page 657.

Accessories:

Rittal Flexibar laminated copper busbars,

**SV 3450.500 –
SV 3459.500**



$h_{min.}$ mm	$h_{max.}$ mm	Width mm	Part No. SV
17	23	11.0	**3450.500 3455.500**
22	29	14.0	**3451.500 3456.500**
26	39	18.5	**3452.500 3457.500**
39	57	24.5	**3453.500 3458.500**
44	66	30.5	**3454.500 3459.500**

Plate clamps

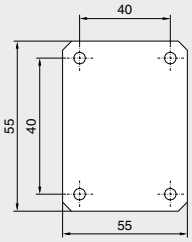
For busbars E-Cu 12 x 5 – 30 x 10 mm.
Clamping area for laminated copper busbars: 34 x 10 mm.
Tightening torque: 53 – 70 in.lbs.

Material:
Sheet steel, zinc-plated, passivated.

PU	Part No. SV
3	**3554.000**

Accessories:

Rittal Flexibar laminated copper busbars, see page 657.



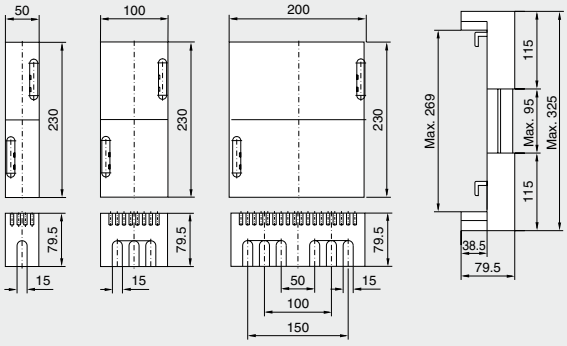
System covers
For conductor connection and plate clamps.

Material:
ABS.
Continuous operating maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.

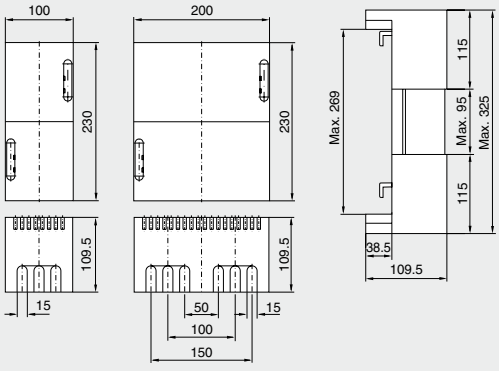
Width	Height	PU	**Part No. SV**
50 mm	80 mm	4	**3086.000**
100 mm	80 mm	4	**3087.000**
100 mm	110 mm	4	**3090.000***
200 mm	80 mm	4	**3088.000**
200 mm	110 mm	4	**3091.000***

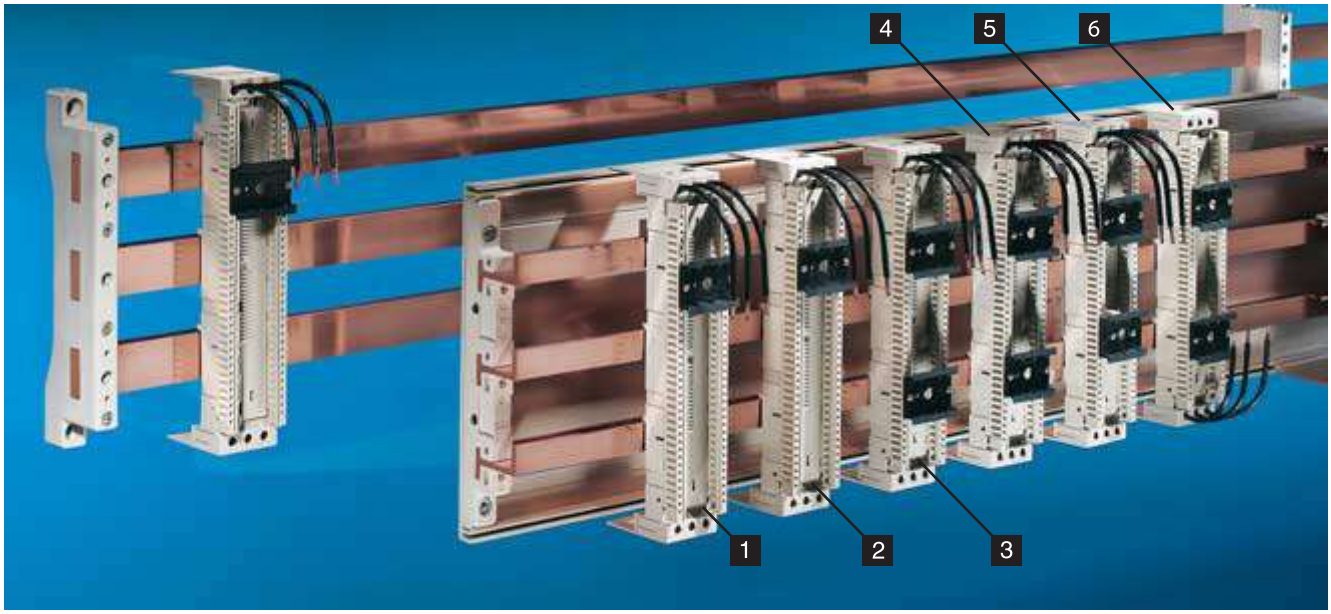
* To cover 3453.500, 3454.500, 3458.500 and 3459.500 connection clamps, use 110 mm height system covers.

SV 3086.000 / SV 3087.000 / SV 3088.000



SV 3090.000 / SV 3091.000





Multi-functional component adaptor 12 A/25 A

For snap-on mounting.

Construction width		**1** 45 mm	**2** 45 mm	**3** 45 mm	**4** 45 mm	**5** 45 mm	**6** 45 mm
Rated current maximum up to		12 A	25 A	25 A	25 A	25 A	25 A
Rated voltage		690 V~	690 V~	690 V~	690 V~	690 V~	690 V~
Cable outlet		top	top	top	top	top	bottom
Connection cables*		AWG 14	AWG 12	AWG 12	AWG 12	AWG 12	AWG 12
Support rails	Quantity	1	1	2	2	2 (1 variable)	2
	Height	10 mm	10 mm	10 mm	10 mm	10 mm	10 mm
PU		1	1	1	1	1	1
For 5 mm busbar thickness **Part No. SV**		**9320.160**	**9320.180**	**9320.200**	**9320.440**	**9320.220**	**9320.240**
For 10 mm busbar thickness **Part No. SV**		**9320.170**	**9320.190**	**9320.210**	**9320.450**	**9320.230**	**9320.250**

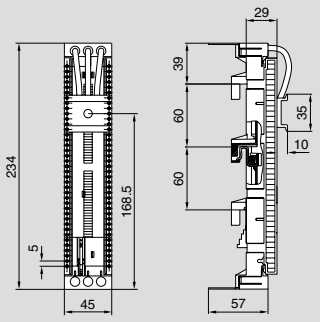
For power circuit-breakers/starter combinations Make (for equipment types see page 662)

Moeller		●				
Siemens	●	●				
AEG		●				
ABB		●				
Allen Bradley		●		●		
Telemecanique		●		●		
Universal application	●	●	●	●	●	●

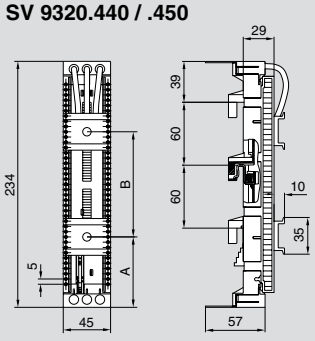
* AWG = American Wire Gauges
AWG 14 = 2.08 mm² ≈ 2.5 mm²
AWG 12 = 3.31 mm² ≈ 4 mm²

Material:
Polyamide (PA 6.6), 30% fiberglass-reinforced.
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

SV 9320.160 / .170
SV 9320.180 / .190

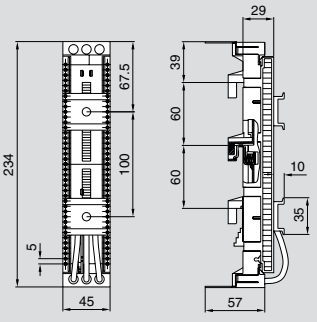


SV 9320.200 / .210
SV 9320.220 / .230
SV 9320.440 / .450

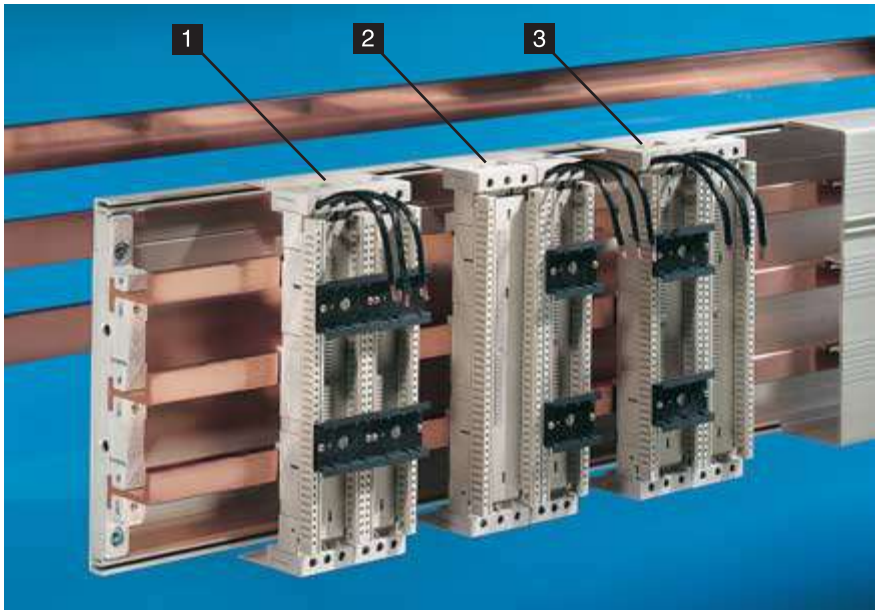


Part No. SV	A	B
9320.200 9320.210	68.5	100
9320.220 9320.230	variable	
9320.440 9320.450	55.0	125

SV 9320.240 / .250



Multi-functional component adaptor 12 A/25 A



Multi-functional component adaptor 25 A

For snap-on mounting.

		1 90 mm	2 99 mm	3 108 mm
Construction width				
Rated current maximum up to		25 A	25 A	25 A
Rated voltage		690 V~	690 V~	690 V~
Cable outlet		top	top	top
Connection cables*		AWG 12	AWG 12	AWG 12
Support rails	Quantity	2	2	2
	Height	10 mm	10 mm	10 mm
PU		1	1	1
For 5 mm busbar thickness **Part No. SV**		**9320.380**	**9320.400**	**9320.420**
For 10 mm busbar thickness **Part No. SV**		**9320.390**	**9320.410**	**9320.430**

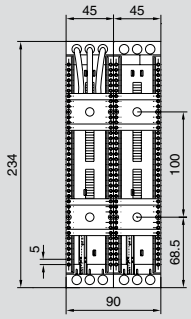
For power circuit-breakers/starter combinations Make (for equipment models see page 662)

Moeller	●		●
Siemens	●	●	
Allen Bradley	●		
Telemecanique	●		●
Universal application	●	●	●

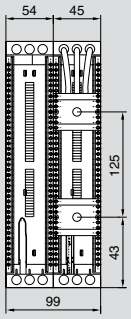
* AWG = American Wire Gauges
AWG 12 = 3.31 mm² ≈ 4 mm²

Material:
Polyamide (PA 6.6),
30% fiberglass-reinforced.
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

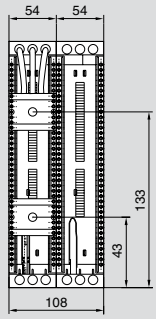
SV 9320.380 / .390

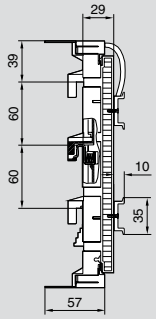


SV 9320.400 / .410



SV 9320.420 / .430





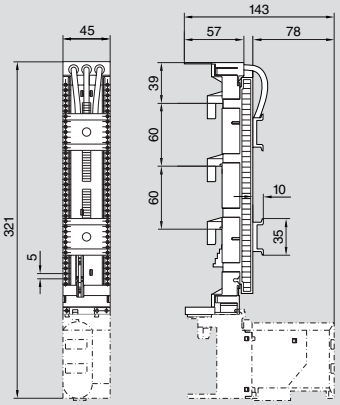
Accessories:

Plug-in connector

For fitting the AS-interface I/O module with matching support 3RK1 901-3CA00, (Siemens) to the multi-functional component adaptor with 45 mm construction width.

PU	Part No. SV
1	**9320.110**

SV 9320.160 – SV 9320.250 with SV 9320.110



Mounting clip

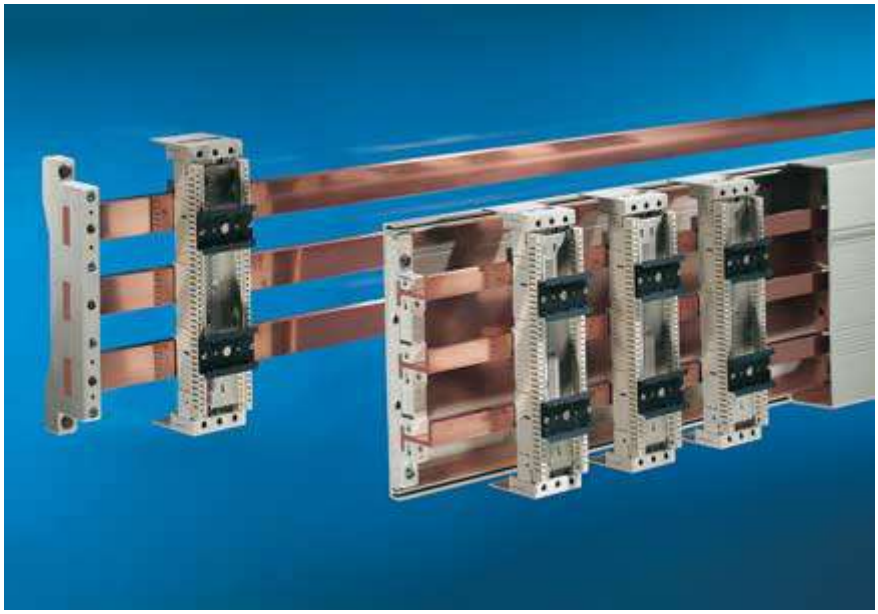
For additional locking of motor starter combinations on support rails 45 mm wide.

PU	Part No. SV
5	**9320.140**

Support rails

For multi-functional component adaptors with 45 mm construction width.

Height	PU	Part No. SV
7.5 mm	10	**9320.150**
10 mm	5	**9320.090**



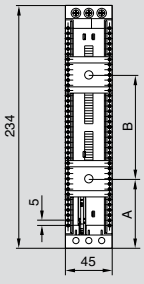
Multi-functional component adaptor 25 A

For snap-on mounting.

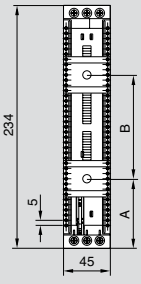
Construction width		45 mm	45 mm
Rated current maximum		25 A	25 A
Rated voltage up to		690 V~	690 V~
Cable outlet		top	top/bottom
Connection of round conductors of up to		AWG 6	AWG 6
Support rails	Quantity	2 (1 variable)	2
	Height	10 mm	10 mm
PU		1	1
For 5 mm busbar thickness **Part No. SV**		**9320.260**	**9320.280**
For 10 mm busbar thickness **Part No. SV**		**9320.270**	**9320.290**

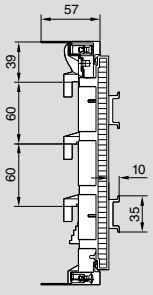
Material:
Polyamide (PA 6.6), 30% fiberglass-reinforced.
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

SV 9320.260
SV 9320.270



SV 9320.280
SV 9320.290





Part No. SV	A	B
9320.260 **9320.270**	variable	
9320.280 **9320.290**	68.5	100

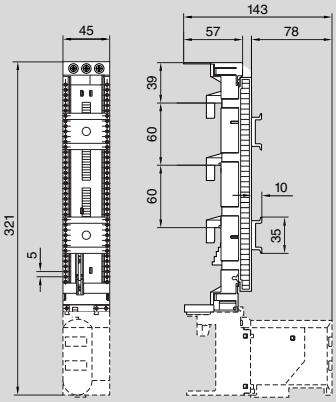
Accessories:

Plug-in connector

For fitting the AS-interface I/O module with corresponding carrier type 3RK1 901-3CA00, Siemens brand, to the multi-functional component adaptor with 45 and 54 mm installation width.

PU	Part No. SV
1	**9320.110**

SV 9320.260 / SV 9320.270
with SV 9320.110



Mounting clip

For additional locking of motor starter combinations on support rails 45 mm wide.

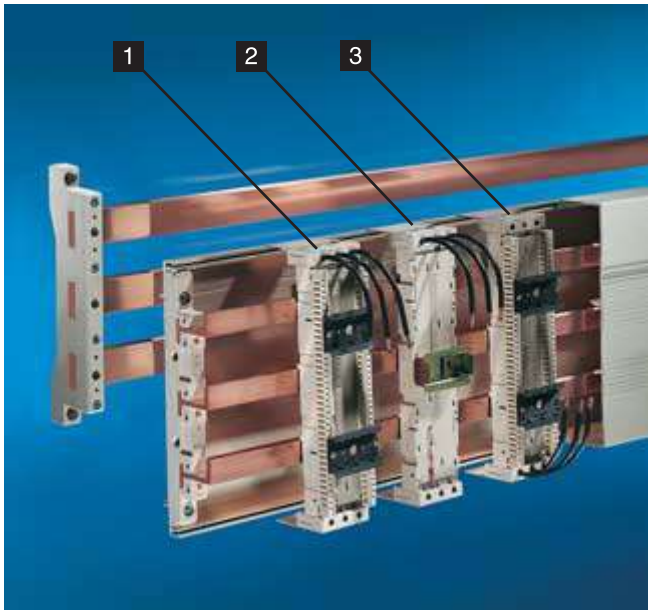
PU	Part No. SV
5	**9320.140**

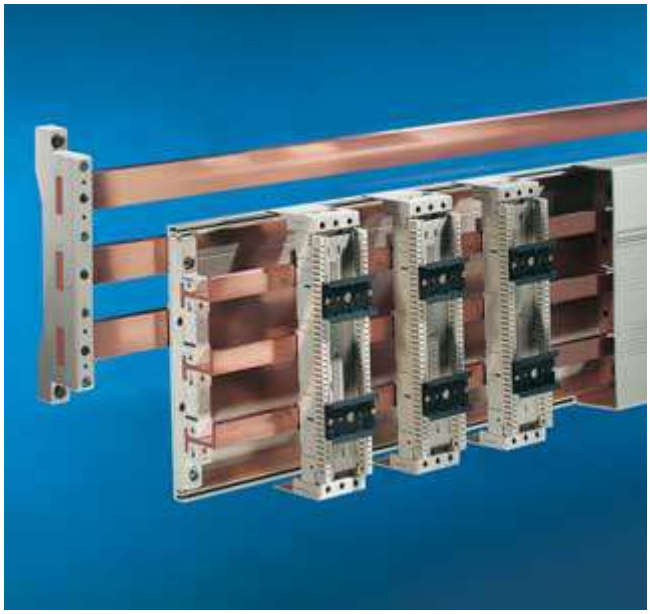
Support rails

For multi-functional component adaptors with 45 mm construction width.

Height	PU	Part No. SV
7.5 mm	10	**9320.150**
10 mm	5	**9320.090**

Multi-functional component adaptor 25 A/40 A





Multi-functional component adaptor 40 A

For snap-on mounting.

Construction width		1 54 mm	2 54 mm	3 54 mm
Rated current maximum		40 A	40 A	40 A
Rated voltage		690 V~	690 V~	690 V~
Cable outlet		top	top	bottom
Connection cables*		AWG 10	AWG 10	AWG 10
Support rails	Quantity	2	1	2
	Height	10 mm	15 mm	10 mm
PU		1	1	1
For 5 mm busbar thickness **Part No. SV**		**9320.300**	**9320.460**	**9320.320**
For 10 mm busbar thickness **Part No. SV**		**9320.310**	**9320.470**	**9320.330**

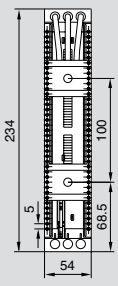
For power circuit-breakers/starter combinations Make (for equipment models see page 662)

Moeller		●	
Siemens		●	
ABB	●	●	
AEG	●		
Allen Bradley	●		
Universal application	●	●	●

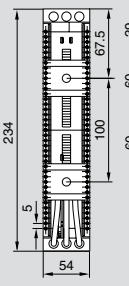
* AWG = American Wire Gauges
AWG 10 = 5.26 mm² ≈ 6 mm²

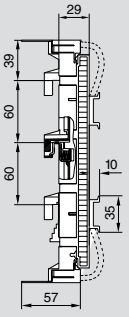
Material:
Polyamide (PA 6.6), 30% fiberglass-reinforced.
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

SV 9320.300
SV 9320.310

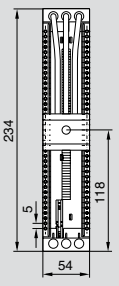


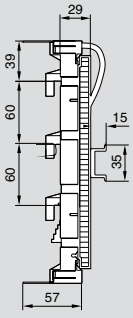
SV 9320.320
SV 9320.330





SV 9320.460
SV 9320.470





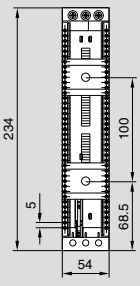
Multi-functional component adaptor 40 A

For snap-on mounting.

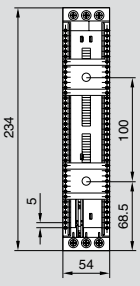
Construction width		54 mm	54 mm
Rated current maximum		40 A	40 A
Rated voltage		690 V~	690 V~
Cable outlet		top	top/ bottom
Connection of round conductors up to		AWG 6	AWG 6
Support rails	Quantity	2	2
	Height	10 mm	10 mm
PU		1	1
For 5 mm busbar thickness **Part No. SV**		**9320.340**	**9320.360**
For 10 mm busbar thickness **Part No. SV**		**9320.350**	**9320.370**

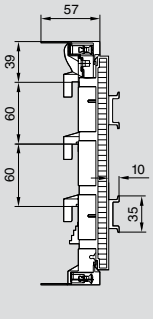
Material:
Polyamide (PA 6.6), 30% fiberglass-reinforced.
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

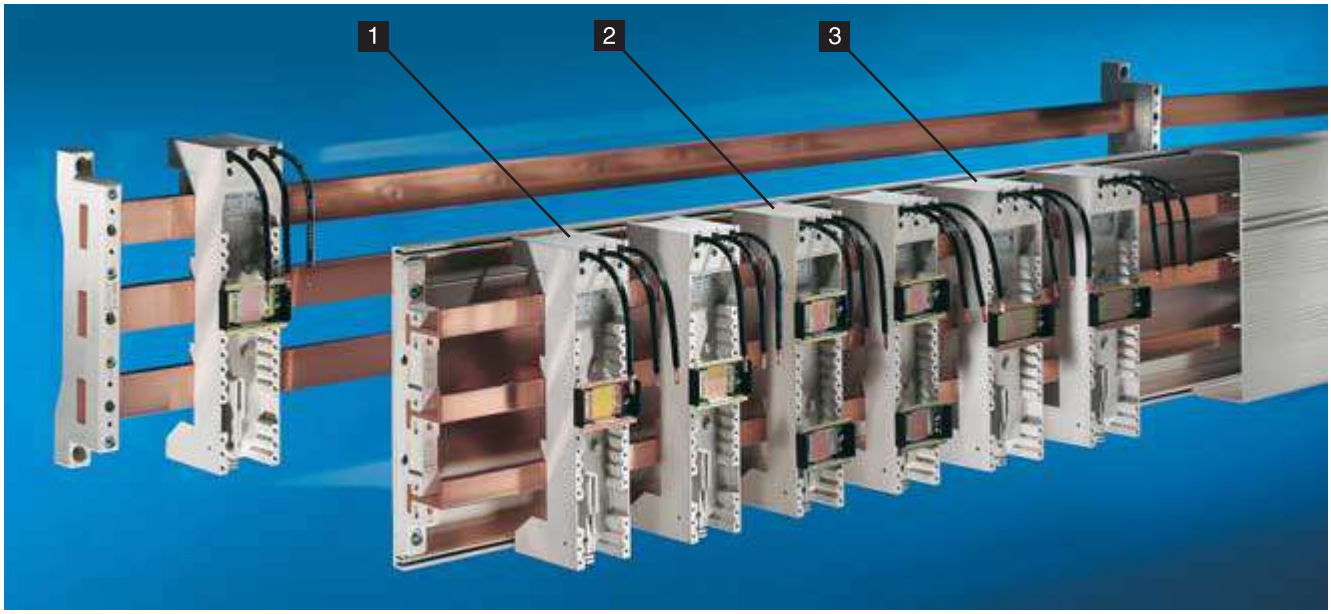
SV 9320.340
SV 9320.350



SV 9320.360
SV 9320.370







Component adaptor 50 A

For snap-on mounting. With additional terminals up to AWG 8.

		1 54 mm	2 54 mm	3 72 mm
Construction width				
Rated current maximum up to		50 A	50 A	50 A
Rated voltage		690 V~	690 V~	690 V~
Cable outlet		top	top	top
Connection cables*		AWG 10	AWG 10	AWG 10
Support rails	Quantity	1	2	1
	Height	7.5 mm	7.5 mm	7.5 mm
PU		1	1	1
For 5 mm busbar thickness **Part No. SV**		**3540.000**	**3040.000**	**3544.000**
For 10 mm busbar thickness **Part No. SV**		**3541.000**	**3041.000**	**3545.000**

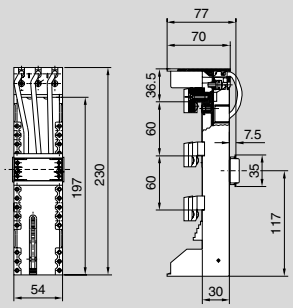
For power circuit-breakers/starter combinations
Make (for equipment models see page 663)

Moeller			●
Siemens		●	
ABB	●		
AEG	●		
Allen Bradley	●		
Universal application	●	●	●

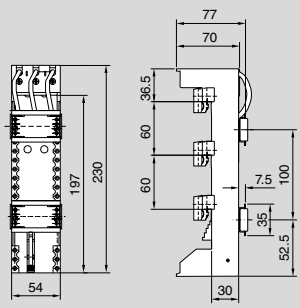
* AWG = American Wire Gauges
AWG 10 = 5.26 mm² ≈ 6 mm²

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

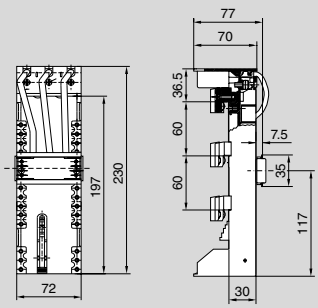
SV 3540.000
SV 3541.000

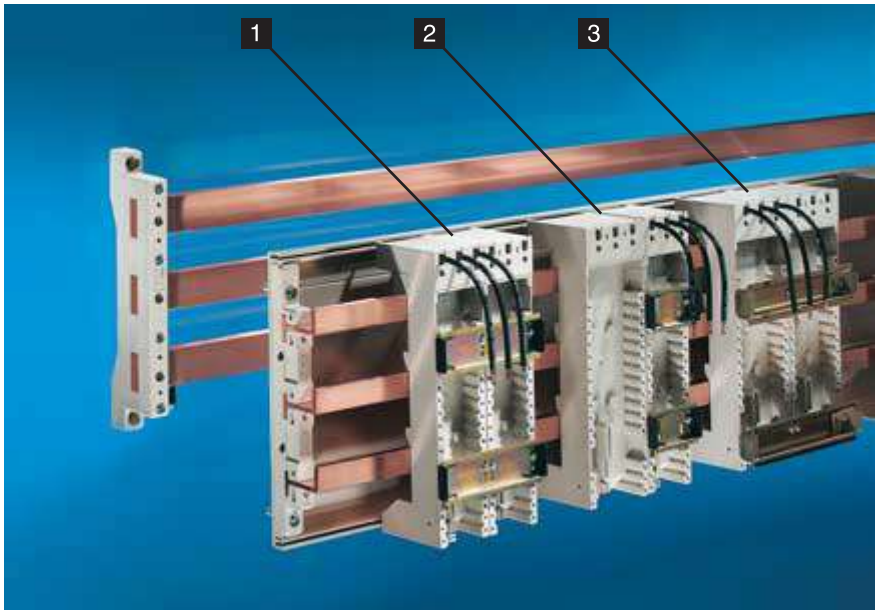


SV 3040.000
SV 3041.000



SV 3544.000
SV 3545.000





Component adaptor 50 A

For snap-on mounting. With additional terminals up to AWG 8.

		1 108 mm	2 126 mm	3 144 mm
Construction width				
Rated current maximum up to		50 A	50 A	50 A
Rated voltage		690 V~	690 V~	690 V~
Cable outlet		top	top	top
Connection cables*		AWG 10	AWG 10	AWG 10
Support rails	Quantity	2	2	2
	Height	7.5 mm	7.5 mm	15 mm
PU		1	1	1
For 5 mm busbar thickness **Part No. SV**		**3042.000**	**3069.000**	**3044.000**
For 10 mm busbar thickness **Part No. SV**		**3043.000**	**3070.000**	**3045.000**

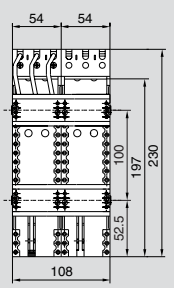
For power circuit-breakers/starter combinations Make (for equipment models see page 663)

Moeller	●		
Siemens		●	
Telemecanique	●		
Universal application	●	●	●

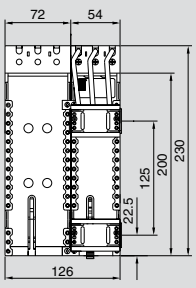
* AWG = American Wire Gauges
AWG 10 = 5.26 mm² ≈ 6 mm²

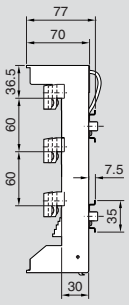
Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

SV 3042.000
SV 3043.000

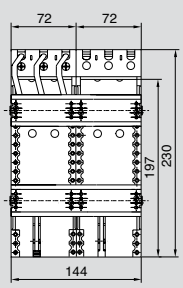


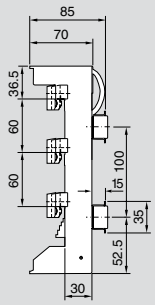
SV 3069.000
SV 3070.000





SV 3044.000
SV 3045.000





Accessories:

Insert strip

To extend the construction of the component adaptors.

Width	PU	Part No. SV
9 mm	1	**3538.000**

Cover strip

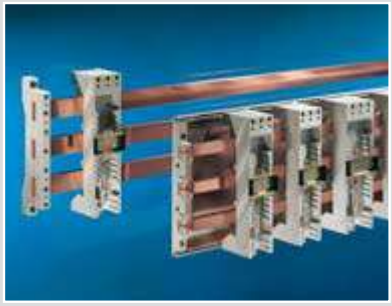
For component adaptors.

Width	PU	Part No. SV
54 mm	20	**3536.000**
72 mm	20	**3537.000**

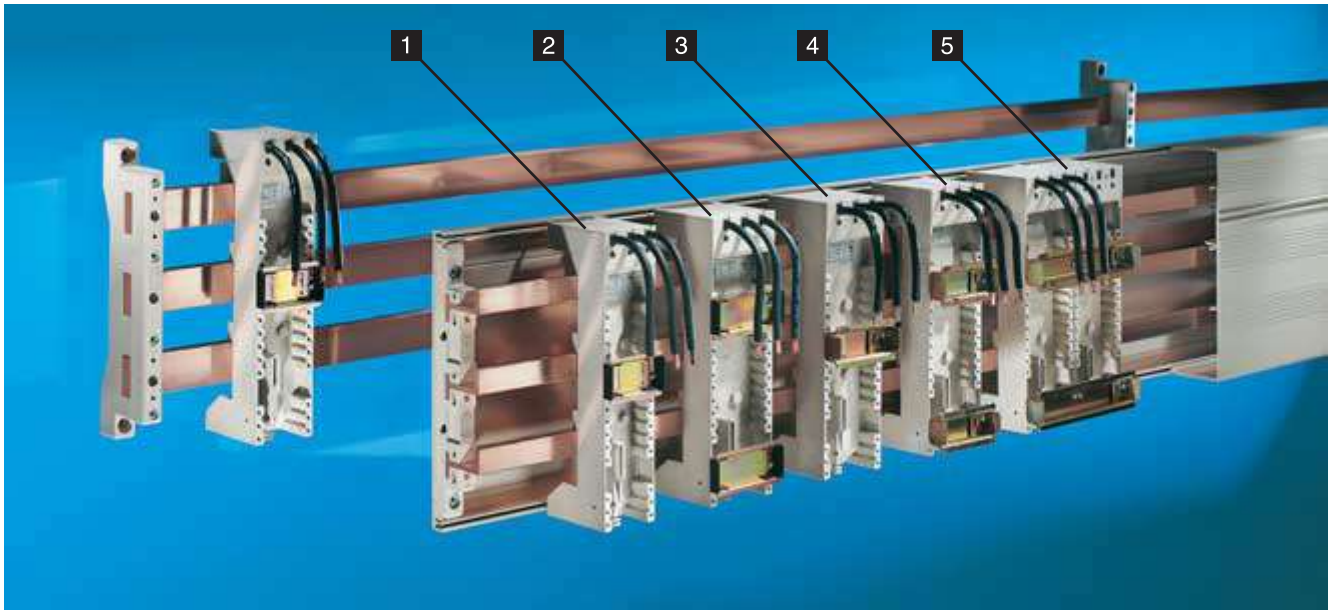
Support rails

For Part No. SV	Height mm	Width mm	Part No. SV
3540.000 3541.000	7.5	54	**3548.000**
3544.000 3545.000	7.5	72	**3549.000**

Configuration:
PU = 10 pieces
assembly screws included.



Component support (without contact system)
see page 617.



Component adaptor 63 A

For snap-on mounting. With additional terminals up to AWG 8.

Construction width		1 54 mm	2 72 mm	3 72 mm	4 72 mm	5 144 mm
Rated current maximum up to		63 A	63 A	63 A	63 A	63 A
Rated voltage		690 V~	690 V~	690 V~	690 V~	690 V~
Cable outlet		top	top	top	top	top
Connection cables*		AWG 8	AWG 8	AWG 8	AWG 8	AWG 8
Support rails	Quantity	1	2	1	2	2
	Height	7.5 mm	7.5 mm	15 mm	15 mm	15 mm
PU		1	1	1	1	1
For 5 mm busbar thickness **Part No. SV**		**3036.000**	**3038.000**	**3067.000**	**3046.000**	**3048.000**
For 10 mm busbar thickness **Part No. SV**		**3037.000**	**3039.000**	**3068.000**	**3047.000**	**3049.000**

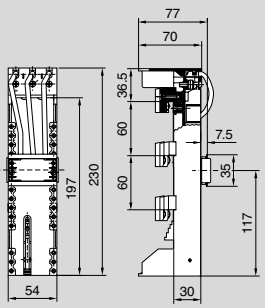
For power circuit-breakers/starter combinations
Make (for equipment models see page 663)

Moeller	●			●	●
Siemens	●		●		
ABB	●		●		
Telemecanique			●		
Universal application	●	●	●	●	●

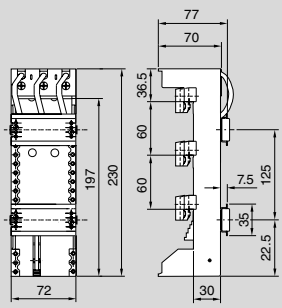
* AWG = American Wire Gauges
AWG 8 = 8.37 mm² ≈ 10mm²

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

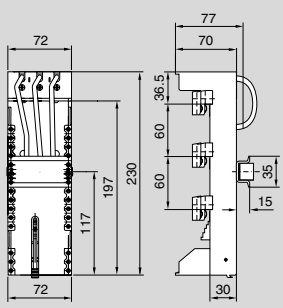
SV 3036.000
SV 3037.000



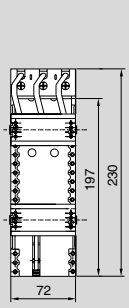
SV 3038.000
SV 3039.000



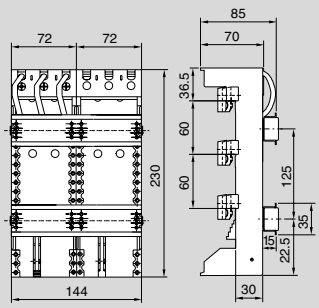
SV 3067.000
SV 3068.000

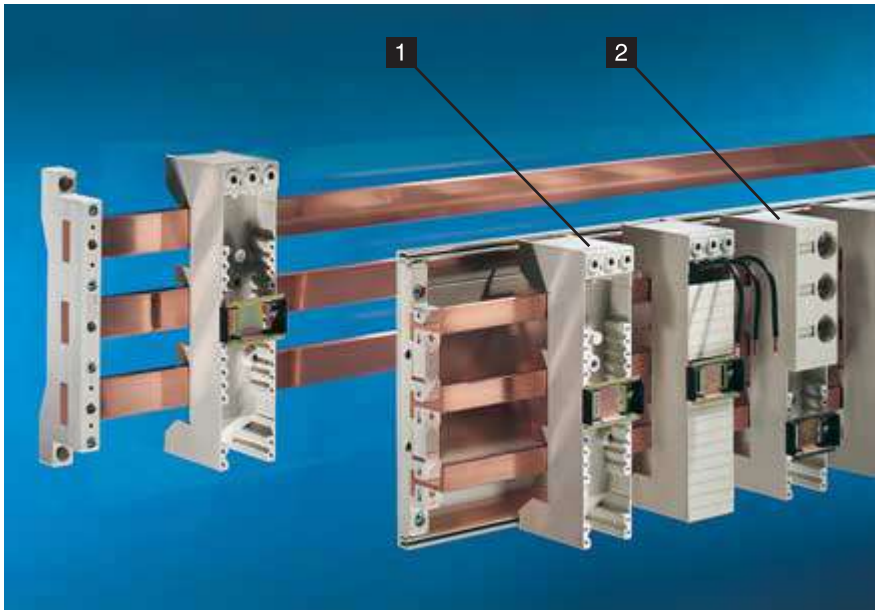


SV 3046.000
SV 3047.000



SV 3048.000
SV 3049.000





Component adaptor 63 A

For screw-on clamp mounting.

Construction width		1 54 mm	2 54 mm
With pre-fuse element		–	D 02-E 18
Rated current maximum up to		63 A	63 A
Rated voltage		690 V~	400 V~
Cable outlet		top	top
Connection of round conductors up to		AWG 16-8	AWG 16-8
Support rails	Quantity	1	1
	Height	7.5 mm	7.5 mm
Tightening torque ● Mounting screw ● Connection screw		 18 in.lbs 18 in.lbs	 18 in.lbs 18 in.lbs
PU		1	1
For 3 – 10 mm busbar thickness **Part No. SV**		**3445.000***	**3446.000****

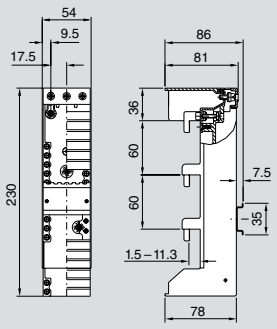
For power circuit-breakers/starter combinations
Make (for equipment models see page 663)

Moeller	●	
Siemens	●	
ABB	●	●
AEG	●	●
Allen Bradley	●	●
Universal application	●	●

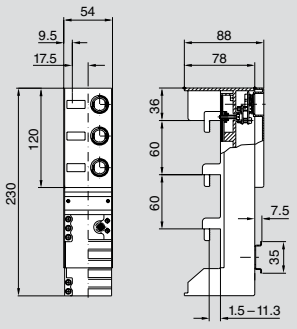
Configuration:
* Ships with connection cables (AWG 10 = 5.26 mm² ≈ 6 mm²) and cover strips.
** Cover strips included.

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C; Fire protection according to UL 94-V0.

SV 3445.000



SV 3446.000



Accessories:

Insert strips

To extend the construction width of the component adaptors.

For Part No. SV	Width mm	PU	Part No. SV
3036.000 – 3049.000	9.0	1	**3538.000**
3445.000 3446.000	17.5	1	**3448.000***

* Includes extended support rail and cover strips.

Cover strips

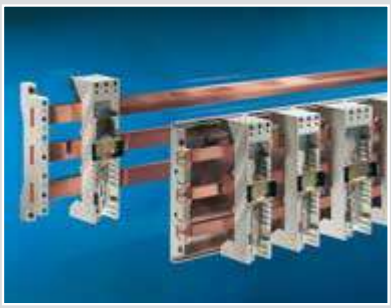
For component adaptors.

Width	PU	Part No. SV
54 mm	20	**3536.000**
72 mm	20	**3537.000**

Support rails

For Part No. SV	Height mm	Width mm	Part No. SV
3445.000 3446.000	7.5	54	**3447.000**
3445.000 / 3446.000 with 3448.000	7.5	70	**3496.000**

Configuration:
PU = 10 pieces
assembly screws included.



Component support (without contact system)
see page 617.

1 Component adaptor 100 A

For snap-on mounting.

Construction width	1 90 mm	3 90 mm	4 90 mm
Rated current maximum up to	100 A	100 A	100 A
Rated voltage	690 V~	690 V~	
Connection cables	AWG 10-2/∅	AWG 10-2/∅	AWG 10-2/∅
PU	1	1	1
For 5 mm busbar thickness **Part No. SV**	**9320.000**	**9968.179**	**9968.180**
For 10 mm busbar thickness **Part No. SV**	**9320.010**	**9967.181**	**9698.182**

For power circuit-breakers

Make		Type
ABB	1	Sace (LNA 32, LNA 63, LNA 100)*, MS495-..**, MS496-..**, MS497-..**
AEG	1	Mbs100**
Allen Bradley	1	140-CMN-....**
Cutler-Hammer	3	F Frame ***
GE	3	SE 150 Frame***
Merlin Gerin	1	Compact NS 80H-MA
Moeller	1	NZM 7
Siemens	1	S3 (3RV1. 4.-4..10, 3RW30 4.-1AB..)**
Siemens (ITE)	3	ED Frame
Square D	4	GJL or F Frame***
Telemecanique	1	GV3-M...**, GK3-EF..**

Accessories:

Support rails
For mounting power circuit-breakers on SV 9320.000/SV 9320.010
Height: 0.59″/15 mm, Width: 2.83″/72 mm

Configuration:
Includes installation hardware.

* Mounting of power circuit-breakers for fixed installation is only possible with ABB mounting bracket (Part No. UXAB 169264 R005).

** Mounting only possible with support rail – see above.

*** Requires 2 x 3528.000 insert strips.

2 Component adaptor 160 A

For clamping screw fixing.

Construction width	1 110 mm	2 110 mm	3 110 mm
Rated current maximum up to	160 A	160 A	160 A
Rated voltage	690 V~	690 V~	
Connection of round conductors up to	AWG 10-2/∅	AWG 10-2/∅	AWG 10-2/∅
Clamping area for laminated copper busbars	13 x 10 mm	13 x 10 mm	13 x 10 mm
Tightening torque ● Mounting screw ● Terminal screw	35 – 53 in.lbs 18 – 26 in.lbs	35 – 53 in.lbs 18 – 26 in.lbs	35 – 53 in.lbs 18 – 26 in.lbs
PU	1	1	1
For 5 – 10 mm busbar thickness **Part No. SV**	**3438.000**	**3539.000**	**9967.800**

For power circuit-breakers

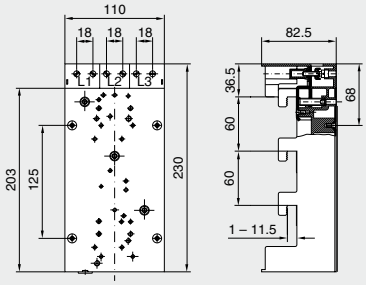
Make		Type
ABB	1	Sace (S 1, S 2, S 3, LNA 32, LNA 63, LNA 100)
AEG	1	MC 128, MC 128 MM, MC 167 N, MC 167 S, MC 168, MCL 128 H, MCL 167 N
Cutler-Hammer	3	F Frame
Delta	1	Size E and F
GE	3	SE 150 Frame
Merlin Gerin	1	Compact NS 80 H-MA, Compact NS 100, Compact NS 160
Moeller	2	NZM 6, NZM 7, ZM 6
Siemens	2	3VE4, 3VE5, 3VF3, 3VN4, 3VN5, 3VT4, 3VT5, 3VP5
Siemens (ITE)	3	ED Frame
Square D	3	GJL or F Frame
Vynckier	1	JF 1, JF 2, JS 1, JS 2, JS 3, XF 1, XF 2, XH 3, XS 1, XS 2, XS 3

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C;
Fire protection according to UL 94.

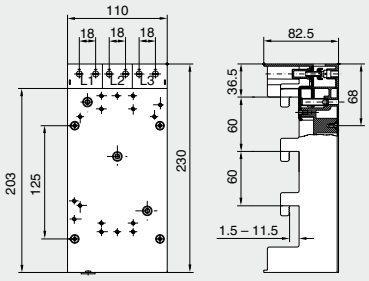
Accessories:

Rittal Flexibar laminated copper busbars, see page 657.

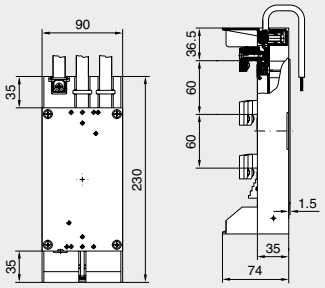
SV 9367.800 / SV 3438.000



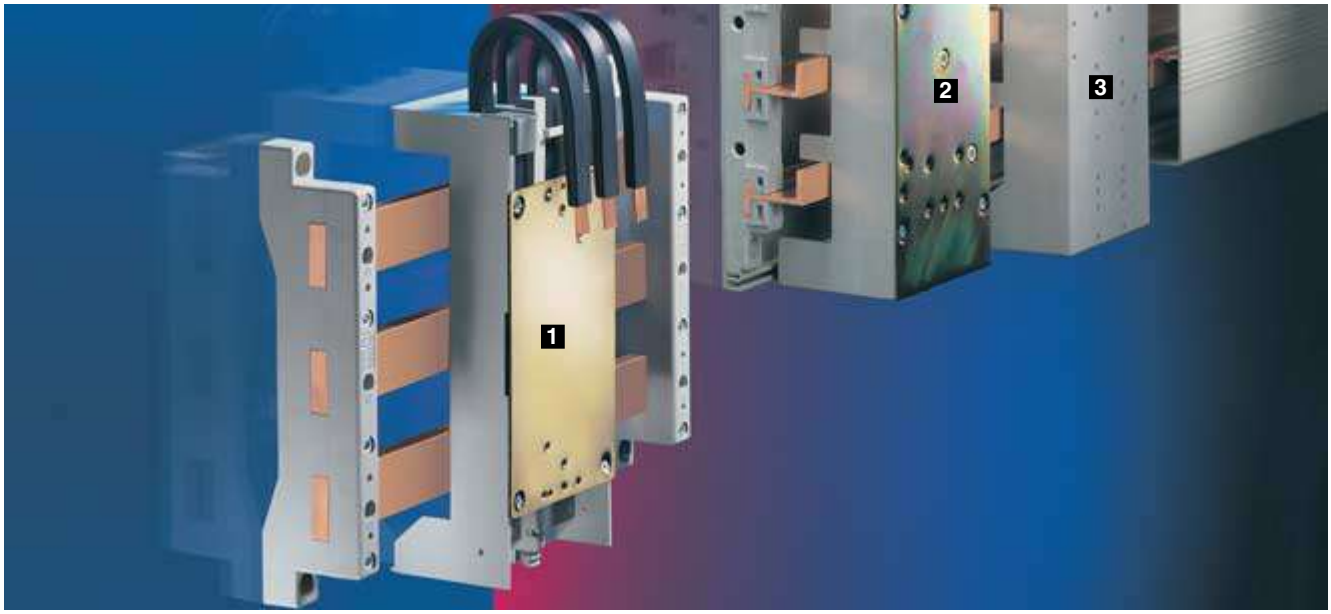
SV 3539.000



SV 9320.000 – SV 9320.010
SV 9968.179 – SV 9968.182



100 A/160 A/250 A



3 Component adaptor 250 A

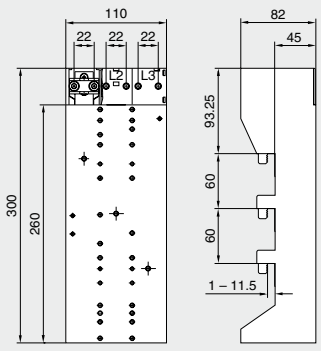
For screw-on clamp mounting.

Construction width	110 mm
Rated current maximum up to	250 A
Rated operating voltage	690 V~
Connector cables	AWG 1/∅ – 250 MCM
PU	1 set
Tightening torque ● Mounting screw ● Terminal screw	 35 – 53 in.lbs 70 – 88 in.lbs
For 5 – 10 mm busbar thickness **Part No. SV**	**3437.000**

For power-circuit breakers

Make	Type
ABB	Sace (S3, S4)
AEG	MC 168M, MC 257, MC 258, MCL 168H
Cutler Hammer	J frame
Delta	Size J
GE	SF frame
Merlin Gerin	Compact NX 250, Vigicompact NS 250
Moeller	NZM 6, NZM 7, NZM H6, NZM S6
Siemens	3VF3, 3VF4
Siemens (ITE)	FD frame
Sprecher & Schuh	KTA 3-250S
Square D	FIL or K frame

SV 3437.00



Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C;
Fire protection according to UL 94-V0.

Accessories:
Rittal Flexibar laminated copper busbars, see page 657.

Required accessories:

Assembly kit
For mounting power circuit-breakers on SV 3437.000

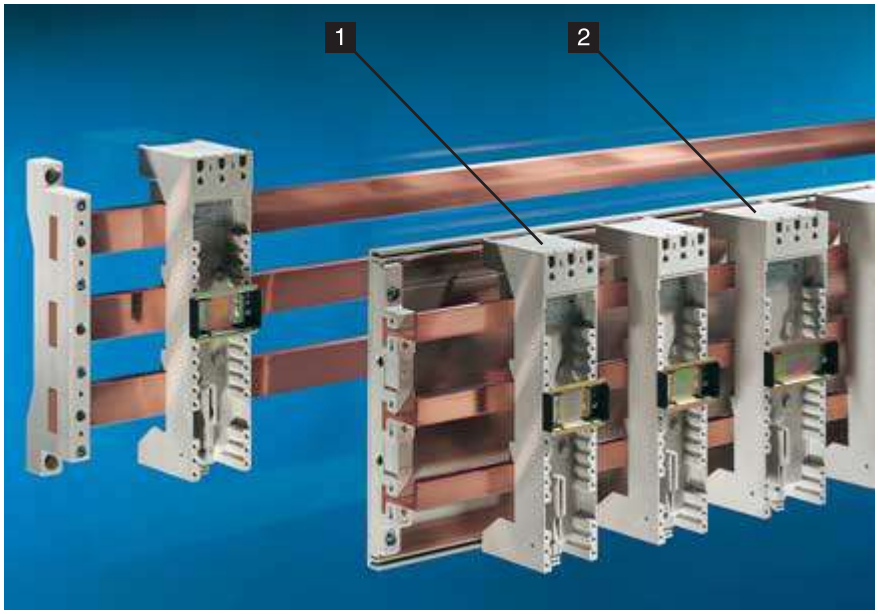
For power circuit-breakers	Part No. SV
Moeller Siemens (3VF3)	**3018.000**
AEG Delta Sprecher & Schuh	**3019.000**
ABB Merlin Gerin Siemens	**3063.000**

Configuration:
PU = 1 set

Mounting plate:
For mounting U.S. circuit-breakers on SV 3437.000.

For power circuit-breakers	Part No. SV
Cutler Hammer GE	**9967.801**
Siemens Square D	**9967.802**

COMPONENT SUPPORT – 60 mm

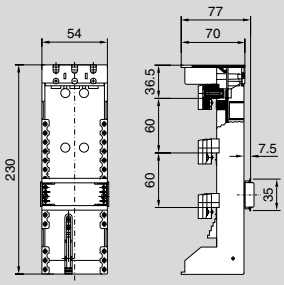


Component support (without contact system)
For snap-on mounting.

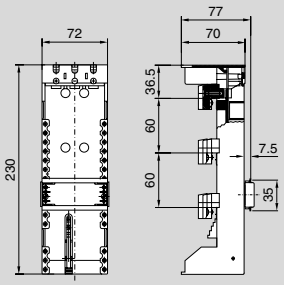
Installation width		1 54 mm	2 72 mm
Support rails	Quantity	1	1
	Height	7.5 mm	7.5 mm
PU		1	1
For 5 mm busbar thickness **Part No. SV**		**3542.000**	**3546.000**
For 10 mm busbar thickness **Part No. SV**		**3543.000**	**3547.000**

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C;
Fire protection according to UL 94-V0.

SV 3542.000
SV 3543.000



SV 3546.000
SV 3547.000



Accessories:

Insert strip
For expanding the construction width of the support rails.

Width	PU	Part No. SV
9 mm	1	**3538.000**

Cover strip
For support rails.

Width	PU	Part No. SV
54 mm	20	**3536.000**
72 mm	20	**3537.000**

Support rail

For Part No. SV	Height	Width	Part No. SV
3542.000 3543.000	7.5 mm	54 mm	**3548.000**
3546.000 3547.000	7.5 mm	72 mm	**3549.000**

Configuration:
PU = 10 pieces
Installation hardware included.

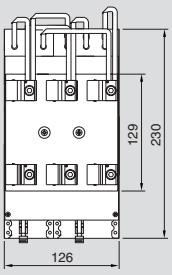
NEMA style bus-mounted fuse bases

Class	R			J			CC	
Rated current	100 A	60 A	30 A	100 A	60 A	30 A	60 A	30 A
Rated operating voltage	600 V~			600 V~			600 V~	
Cable outlet	bottom			bottom			bottom	
For 5 mm busbar thickness **Part No. SV**	**3038.612**	**3038.662**	**3544.632**	**3038.611**	**3038.661**	**3544.631**	**3038.660**	**3544.630**
For 10 mm busbar thickness **Part No. SV**	**3039.612**	**3039.662**	**3545.632**	**3039.611**	**3039.661**	**3545.631**	**3039.660**	**3545.630**

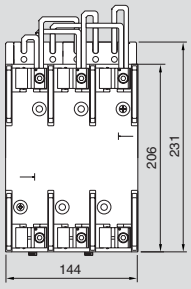
Includes touch-safe fuse covers.

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT)
(phonocic fuse holder for R fuse bases).
Continuous operating maximum 284 °F/140 °C with covers.
Fire protection according to UL 94-V0.

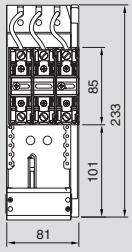
SV 3038.611
SV 3039.611



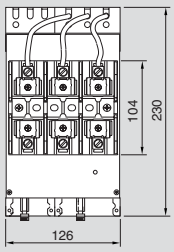
SV 3038.612
SV 3039.612



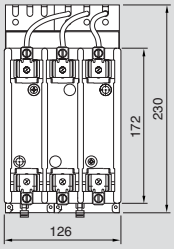
SV 3038.660
SV 3039.660



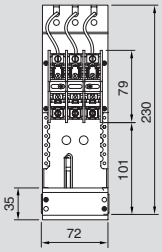
SV 3038.661
SV 3039.661



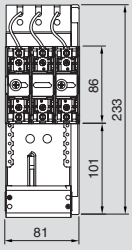
SV 3038.662
SV 3039.662



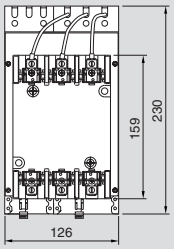
SV 3544.630
SV 3545.630

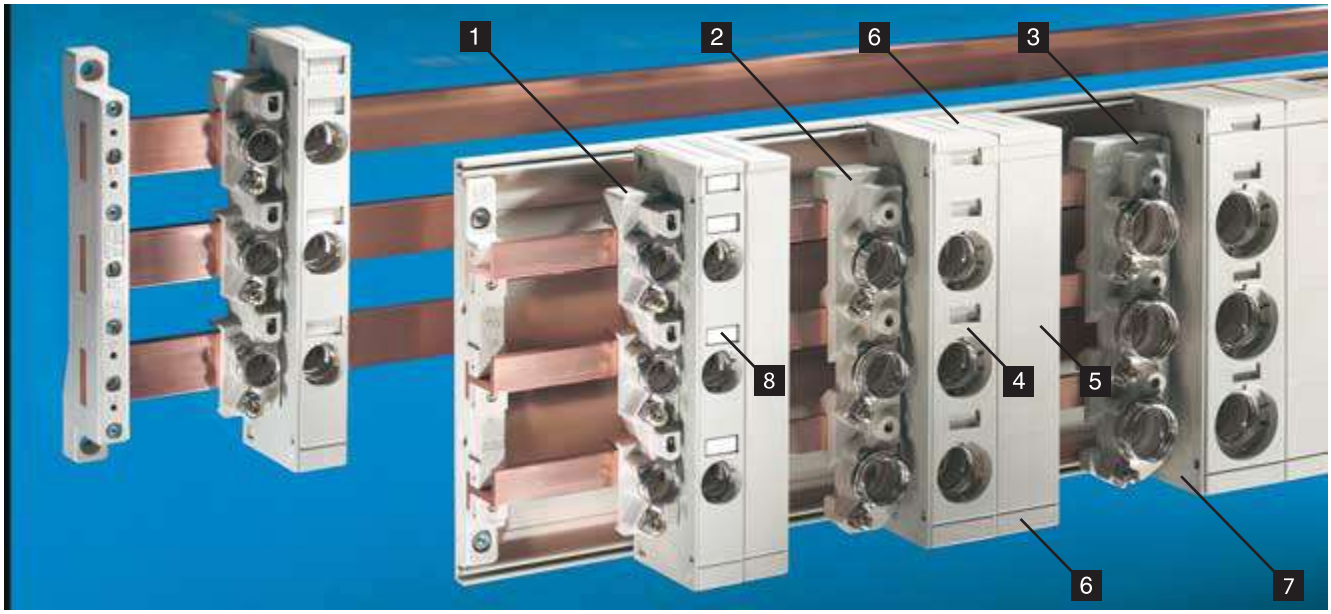


SV 3544.631
SV 3545.631



SV 3544.632
SV 3545.632





Bus-mounted fuse bases

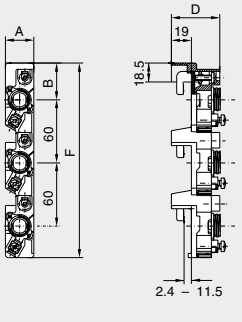
For screw-on clamp mounting.

Type	1 D 02-E 18 (adaptor sleeve)	2 D II-E 27 (adaptor screw)	3 D III-E 33 (adaptor screw)
Rated current maximum	63 A	25 A	63 A
Rated voltage	400 V~	500 V~	690 V~
Terminal for round conductors	AWG 16-6	AWG 16-6	AWG 16-6
Tightening torque ● Mounting screw ● Terminal screw	 18 in.lbs 18 in.lbs	 18 in.lbs 22 in.lbs	 18 in.lbs 22 in.lbs
PU	10	10	10
For 3 – 10 mm busbar thickness **Part No. SV**	**3418.000**	**3427.000**	**3433.000**

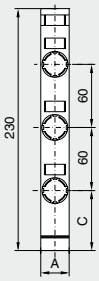
⊞ Accessories	PU	Part No. SV	Part No. SV	Part No. SV
4 Contact hazard protection cover	10	**3419.000**	**3428.000**	**3434.000**
5 Extension cover	10	**3421.000**	**3430.000**	**3436.000**
6 End caps	10	**3420.000**	**3429.000**	**3435.000**
7 Side cover	10	**3093.000**	**3093.000**	**3093.000**
8 Identification labels	100	**9320.080**	**9320.080**	**9320.080**

Material properties – see page 667.

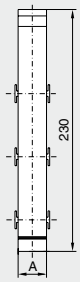
SV 3418.000
SV 3427.000
SV 3433.000



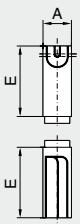
SV 3419.000
SV 3428.000
SV 3434.000



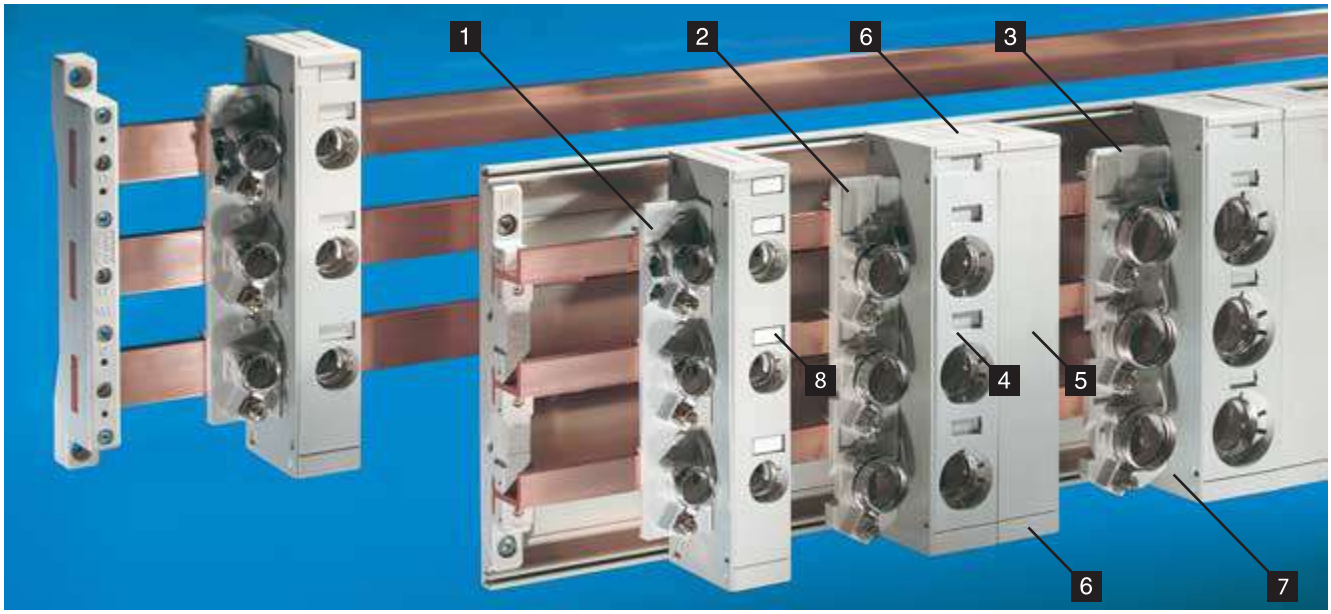
SV 3421.000
SV 3430.000
SV 3436.000



SV 3420.000
SV 3429.000
SV 3435.000



Part No. SV	A	B	C	D	E	F
3418.000	27	35	–	46	–	185
3419.000 **3421.000**	27	–	57	–	–	–
3420.000	27	–	–	–	67	–
3427.000	42	42.5	–	51	–	205
3428.000 **3430.000**	42	–	40	–	–	–
3429.000	42	–	–	–	71.5	–
3433.000	57	42.5	–	51	–	205
3434.000 **3436.000**	57	–	40	–	–	–
3435.000	57	–	–	–	71.5	–



Bus-mounted fuse bases

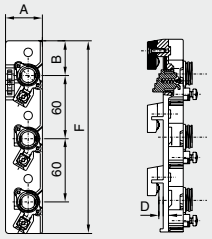
For snap-on mounting.

Type	1 D 02-E 18 (adaptor sleeve)	2 D II-E 27 (gauge ring)	3 D III-E 33 (gauge ring)
Rated current maximum	63 A	25 A	63 A
Rated voltage	400 V~	500 V~	690 V~
Box terminal for round conductors	AWG 16-6	AWG 16-6	AWG 16-6
Tightening torque ● Terminal screw	22 in.lbs	22 in.lbs	22 in.lbs
PU	10	10	10
For 5 mm busbar thickness **Part No. SV**	**3422.000**	**3520.000**	**3530.000**
For 10 mm busbar thickness **Part No. SV**	**3423.000**	**3521.000**	**3531.000**

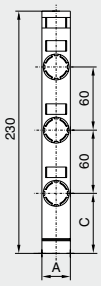
⊞ Accessories	PU	Part No. SV	Part No. SV	Part No. SV
4 Contact hazard protection cover	10	**3424.000**	**3522.000**	**3532.000**
5 Extensions cover	10	**–**	**3430.000**	**3436.000**
6 End caps	10	**3425.000**	**3429.000**	**3435.000**
7 Side cover	10	**3093.000**	**3093.000**	**3093.000**
8 Identification labels	100	**9320.080**	**9320.080**	**9320.080**

Material properties – see page 667.

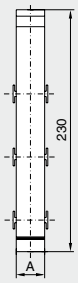
SV 3422.000/SV 3423.000
SV 3520.000/SV 3521.000
SV 3530.000/SV 3531.000



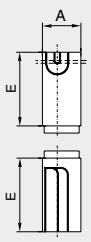
SV 3424.000
SV 3522.000
SV 3532.000



SV 3430.000
SV 3436.000

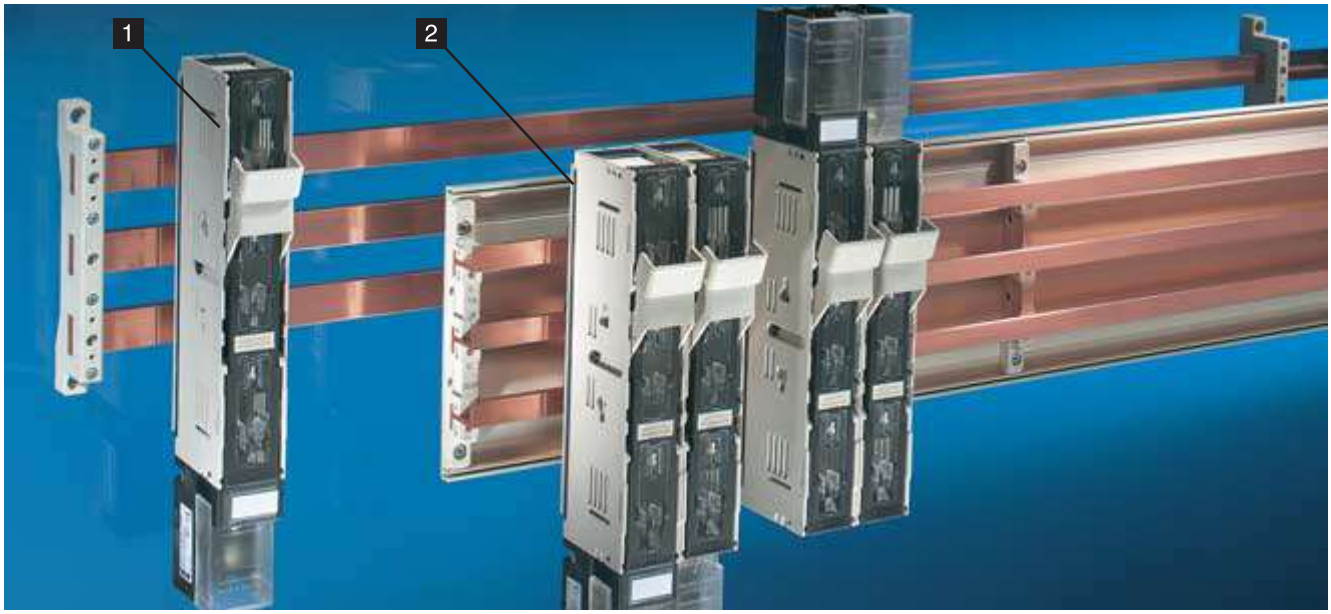


SV 3425.000
SV 3429.000
SV 3435.000



Part No. SV	A	B	C	D	E	F
3422.000 **3423.000**	36	35	–	5/10	–	183
3424.000	36	–	57	–	–	–
3425.000	36	–	–	–	67	–
3520.000 **3521.000**	42	51	–	5/10	–	205
3522.000 **3430.000**	42	–	40	–	–	–
3429.000	42	–	–	–	71.5	–
3530.000 **3531.000**	57	51	–	5/10	–	205
3532.000 **3436.000**	57	–	40	–	–	–
3435.000	57	–	–	–	71.5	–

NH fused strip isolator, size 00



1 NH fused strip isolator, size 00

Size	00	00
Rated current maximum	125 A	160 A
Rated voltage	690 V~	690 V~
Cable outlet	top/bottom	top/bottom
Type of connection	clamps up to AWG 2/∅	screw M8
Tightening torque ● Mounting screw ● Terminal screw	 123 in.lbs 26 in.lbs	 123 in.lbs 53 in.lbs
PU	1	1
Part No. SV	**3592.000**	**3591.000**

Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 gR (VDE 0636/23) when using NH fuse inserts.

Additional parts needed:

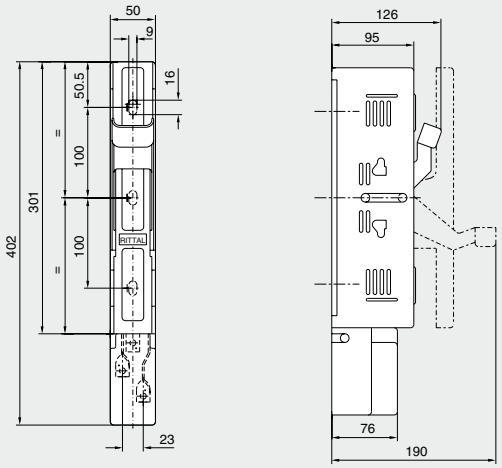
Busbar adaptor,
see right-hand column.

Accessories:

- PLS cover
- Microswitch
- Identification label holder

see pages 630/631.

SV 3591.000
SV 3592.000



NEW NH fused strip isolator size 00, 160 A, 690 V~

For direct mounting.
Terminal screw M8.

Cable outlet on top
Part No. SV 3591.020

Cable outlet on bottom
Part No. SV 3591.030

Accessories:

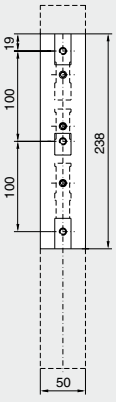
- Clamp-type terminal connection **(Part No. SV 3592.010)**
- Clamp-type terminal connection parts **(Part No. SV 3592.020)**
- Identification label holder **(Part No. SV 3595.010)**

2 Busbar adaptor

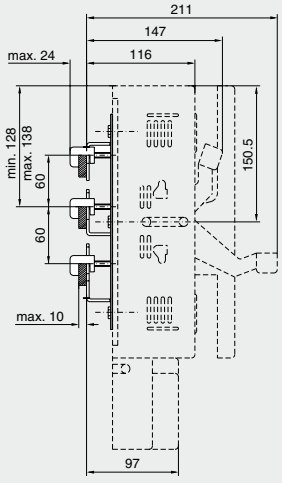
For the installation of SV 3591.000 / SV 3592.000 on 60 mm busbar systems.
Tightening torque 53 in.lbs.

For busbar thickness	PU	Part No. SV
5 – 10 mm	1	**3593.000**

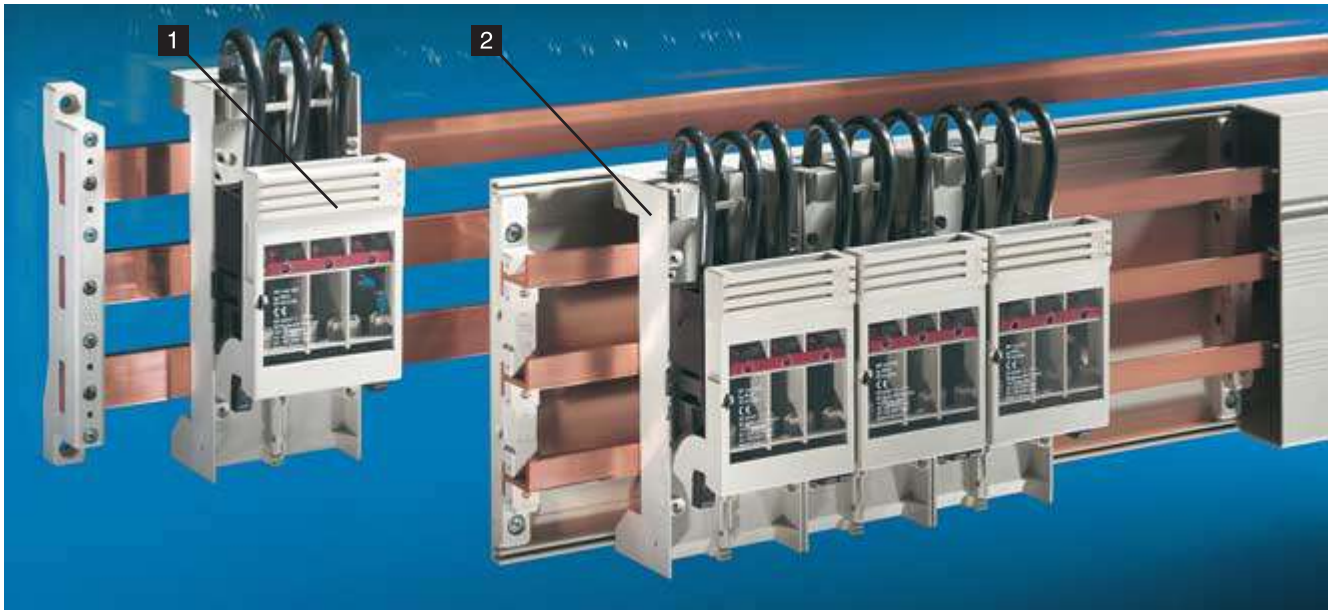
SV 3593.000



SV 3591.000 / SV 3592.000 with SV 3593.000



NH fused isolator, size 00C



1 NH fused isolator, size 00C

Size	00C
Rated current maximum	100 A 160 A (at 3/∅ terminal diameter)*
Rated voltage	690 V~
Cable outlet	top/bottom
Type of connection	terminal up to AWG 1/∅
Tightening torque ● Terminal screw	 26 in.lbs
PU	1
Part No. SV	**3431.000**

* 3/∅ connector pieces upon request.

Technical specifications and material properties,
see pages 664/665.
Please note the information on page 666 when using gR fuse inserts (VDE 0636/23) in NH equipment.

Additional parts needed:

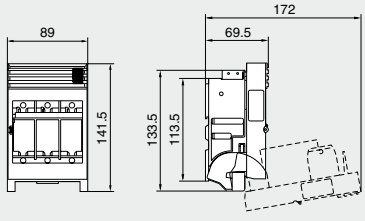
Busbar adaptor,
see right hand column.

Accessories:

- Microswitch
- Mounting kit

see pages 630/631.

SV 3431.000



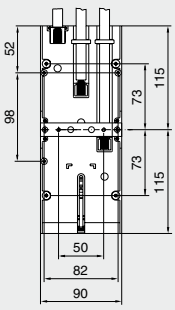
2 Busbar adaptor

For mounting SV 3431.000 on 60 mm busbar systems.
AWG 2 connection cable fitted as standard.

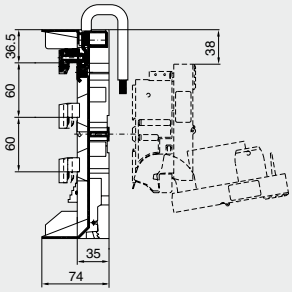
Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C;
Fire protection according to UL 94-V0.

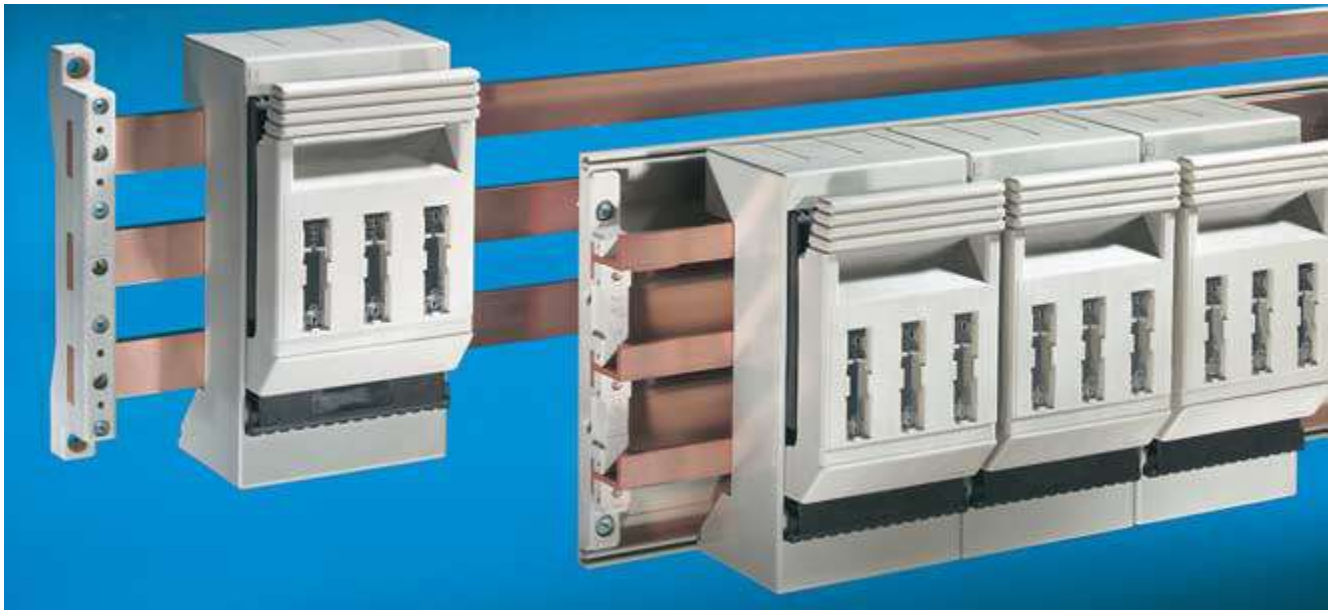
For bar thickness	PU	Part No. SV
5 mm	1	**9320.040**
10 mm	1	**9320.050**

SV 9320.040
SV 9320.050



SV 3431.000 with
SV 9320.040 / SV 9320.050





NH bus-mounted fused isolator, size 00

Size	00		00	
Rated current maximum	160 A		160 A	
Rated voltage	690 V~		690 V~	
Cable outlet	top	bottom	top	bottom
Type of connection	terminal screw M8		clamp-type terminal connection up AWG 2/∅	
Tightening torque ● Mounting screw ● Terminal screw	 44 – 53 in.lbs 88 – 132 in.lbs	 44 – 53 in.lbs 88 – 132 in.lbs	 44 – 53 in.lbs 18 – 26 in.lbs	 44 – 53 in.lbs 18 – 26 in.lbs
For busbar thickness	5 – 10 mm	5 – 10 mm	5 – 10 mm	5 – 10 mm
PU	1	1	1	1
Part No. SV	**3400.000**	**3401.000**	**3402.000**	**3403.000**

Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Accessories:

- Contact hazard protection frame
- Microswitch

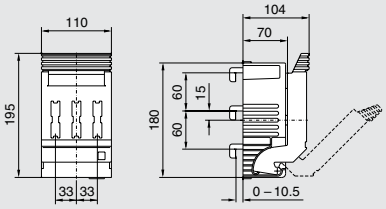
see page 630.

NH bus-mounted fuse base

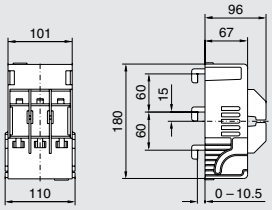
Note: Component mounting with an isolator lid is not possible.

Size	00		00	
Rated current maximum	160 A		160 A	
Rated voltage	690 V~		690 V~	
Cable outlet	top	bottom	top	bottom
Type of connection	terminal screw M8 up to AWG 4/∅		clamp-type terminal connector AWG 2/∅	
Tightening torque ● Mounting screw ● Terminal screw	 44 – 53 in.lbs 88 – 132 in.lbs	 44 – 53 in.lbs 88 – 132 in.lbs	 44 – 53 in.lbs 18 – 26 in.lbs	 44 – 53 in.lbs 18 – 26 in.lbs
For busbar thickness	5 – 10 mm	5 – 10 mm	5 – 10 mm	5 – 10 mm
PU	1	1	1	1
Part No. SV	**3406.000**	**3407.000**	**3404.000**	**3405.000**

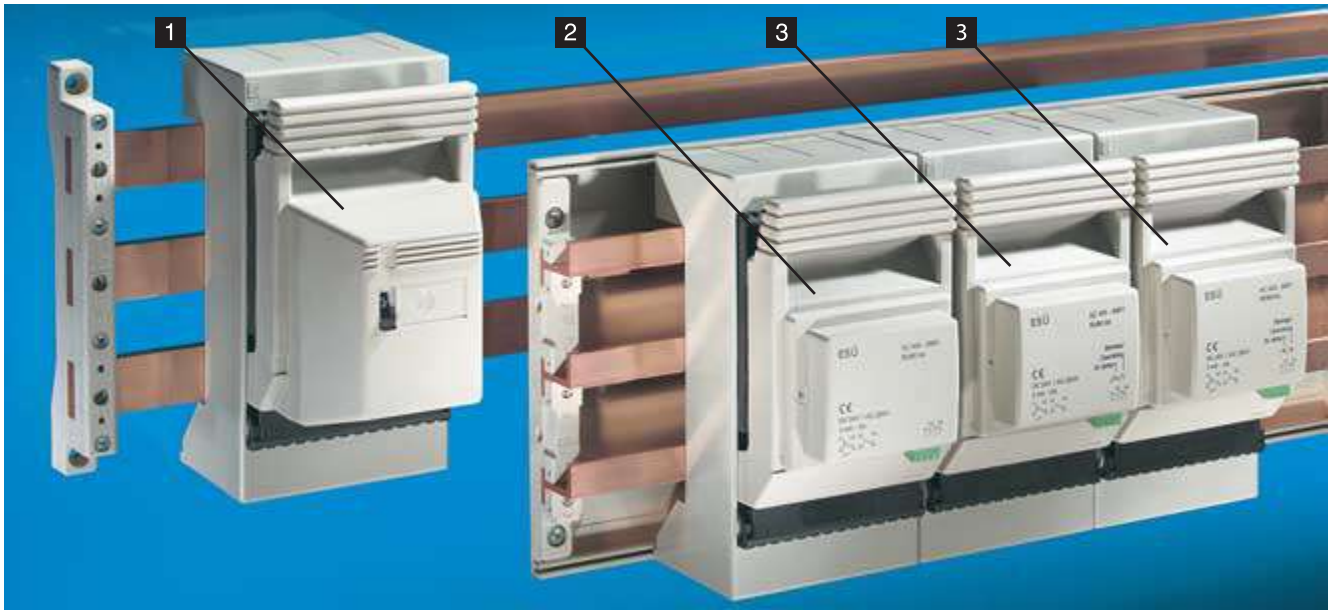
SV 3400.000 – SV 3403.000



SV 3404.000 – SV 3407.000



NH bus-mounted fused isolator, size 00



NH bus-mounted fused isolator, size 00 with fuse monitoring

Size	00		00	
Rated current maximum	160 A		160 A	
Rated voltage	690 V~		690 V~	
Cable outlet	top	bottom	top	bottom
Type of connection	terminal screw M8 up to AWG 2/∅		clamp-type terminal connection up to AWG 2/∅	
Tightening torque ● Mounting screw ● Terminal screw	 44 – 53 in.lbs 88 – 132 in.lbs	 44 – 53 in.lbs 88 – 132 in.lbs	 44 – 53 in.lbs 18 – 26 in.lbs	 44 – 53 in.lbs 18 – 26 in.lbs
For busbar thickness	5 – 10 mm	5 – 10 mm	5 – 10 mm	5 – 10 mm
PU	1	1	1	1
1 with electromechanical fuse monitoring				
Part No. SV	**3490.000**	**3491.000**	**3492.000**	**3493.000**
2 with electronic fuse monitoring				
Part No. SV	**3490.200**	**3491.200**	**3492.200**	**3493.200**
3 with electronic fuse monitoring and LED display				
Part No. SV	**3490.210**	**3491.210**	**3492.210**	**3493.210**

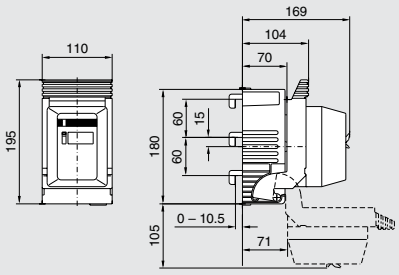
Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Accessories:

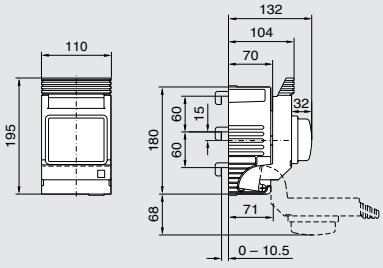
- Contact hazard protection frame
- Microswitch

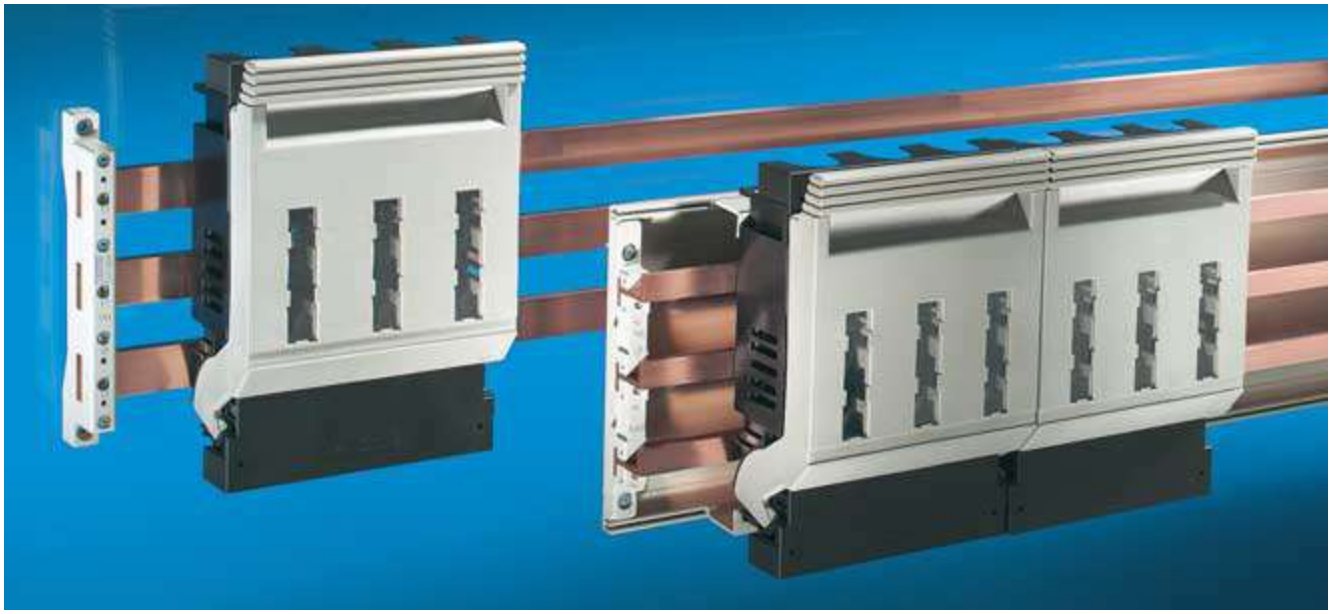
see page 630.

SV 3490.000 – SV 3493.000



SV 3490.200 – SV 3493.200
SV 3490.210 – SV 3493.210





NH bus-mounted fused isolator, size 1

Size	1	1
Rated current maximum	250 A	250 A
Rated voltage	690 V~	690 V~
Cable outlet	top	bottom
Type of connection	terminal screw M10	terminal screw M10
Tightening torque ● Mounting screw ● Terminal screw	 70 – 88 in.lbs 132 – 176 in.lbs	 70 – 88 in.lbs 132 – 176 in.lbs
For busbar thickness	5 – 10 mm	5 – 10 mm
PU	1	1
Part No. SV	**3411.000**	**3410.000**

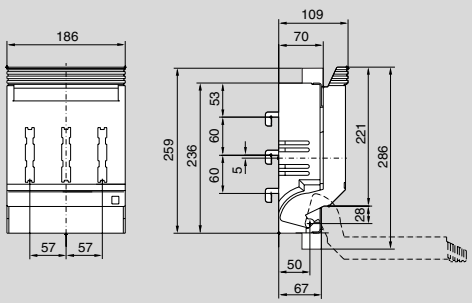
Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Accessories:

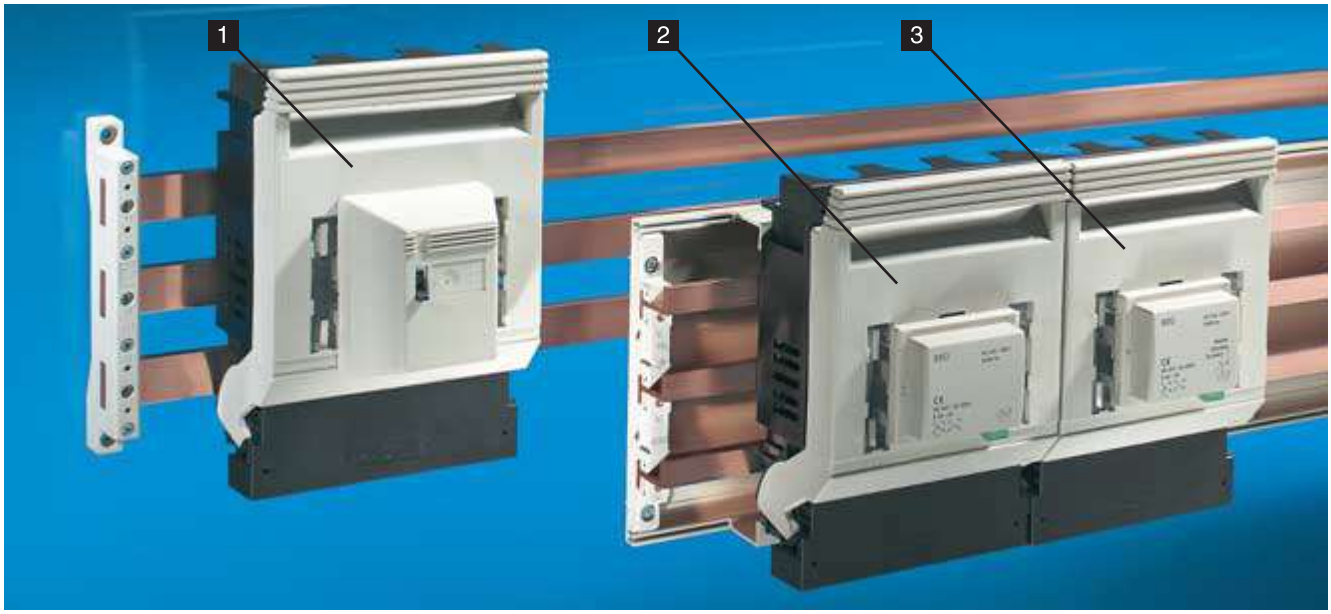
- Clamp-type terminal connection
- Microswitch
- PLS cover

see pages 630/631.

SV 3410.000
SV 3411.000



NH bus-mounted fused isolator, size 1



NH bus-mounted fused isolator, size 1 with fuse monitoring

Size	1	1
Rated current maximum	250 A	250 A
Rated voltage	690 V~	690 V~
Cable outlet	top	bottom
Type of connection	terminal screw M10	terminal screw M10
Tightening torque ● Mounting screw ● Terminal screw	 70 – 88 in.lbs 132 – 176 in.lbs	 70 – 88 in.lbs 132 – 176 in.lbs
For busbar thickness	5 – 10 mm	5 – 10 mm
PU	1	1
1 with electromechanical fuse monitoring		
Part No. SV	**3495.000**	**3494.000**
2 with electronic fuse monitoring		
Part No. SV	**3495.200**	**3494.200**
3 with electronic fuse monitoring and LED display		
Part No. SV	**3495.210**	**3494.210**

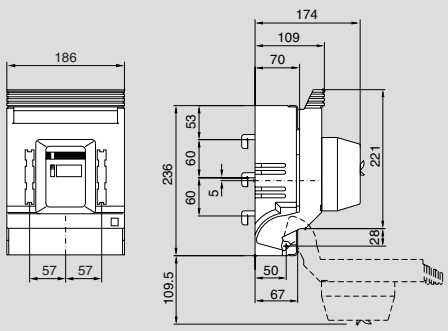
Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Accessories:

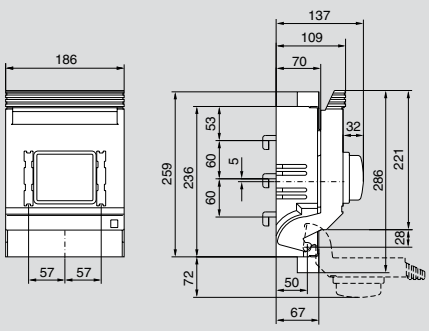
- Clamp-type terminal connection
- Microswitch
- PLS cover

see page 630/631.

SV 3494.000
SV 3495.000



SV 3494.200 / SV 3494.210
SV 3495.200 / SV 3495.210



NH bus-mounted fused isolator, size 2

Size	2	2
Rated current maximum	400 A	400 A
Rated voltage	690 V~	690 V~
Cable outlet	top	bottom
Type of connection	terminal screw M10	terminal screw M10
Tightening torque ● Mounting screw ● Terminal screw	 123 in.lbs 282 in.lbs	 123 in.lbs 282 in.lbs
For busbar thickness	5 – 10 mm	5 – 10 mm
PU	1	1
Part No. SV	**3415.020**	**3415.030**

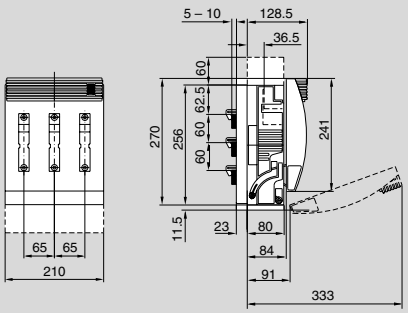
Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Accessories:

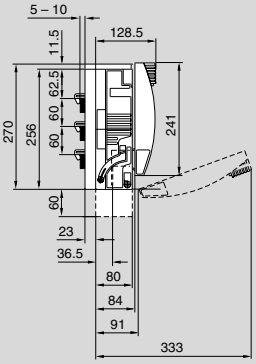
- Clamp-type terminal connection parts
- Clamp-type terminal connection
- Microswitch
- PLS covers

see pages 630/631.

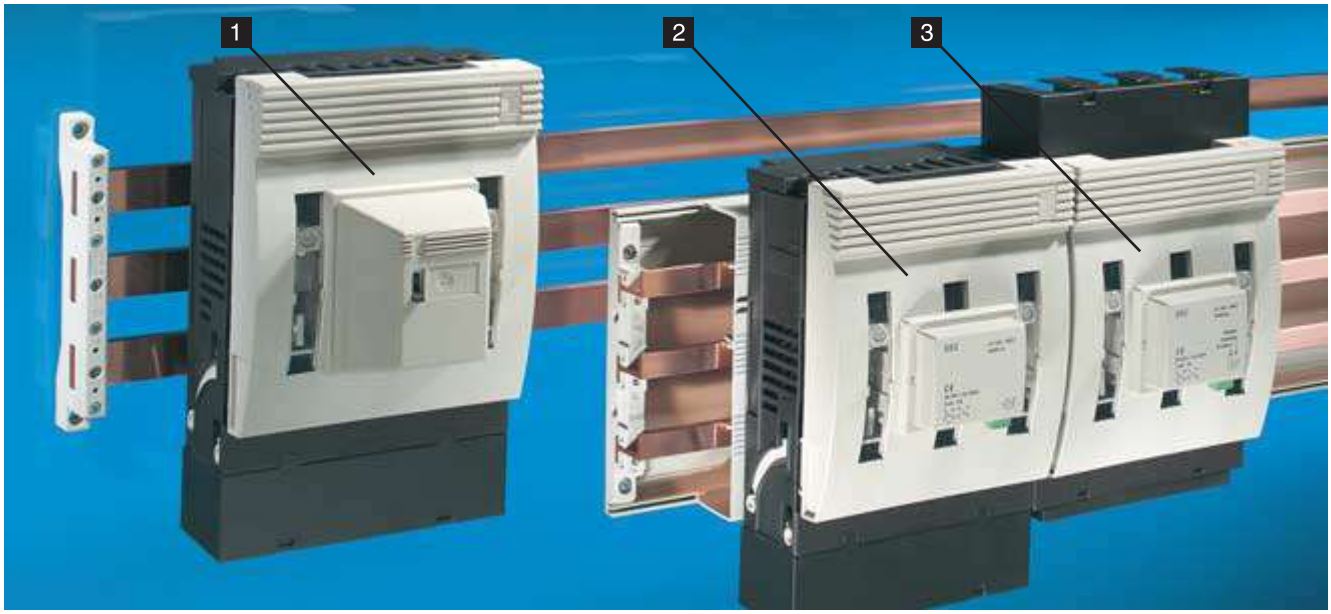
SV 3415.020



SV 3415.030



NH bus-mounted fused isolator, size 2



NH bus-mounted fused isolator, size 2 with fuse monitoring

Size	2	2
Rated current maximum	400 A	400 A
Rated voltage	690 V~	690 V~
Cable outlet	top	bottom
Type of connection	terminal screw M10	terminal screw M10
Tightening torque ● Mounting screw ● Terminal screw	 123 in.lbs 282 in.lbs	 123 in.lbs 282 in.lbs
For busbar thickness	5 – 10 mm	5 – 10 mm
PU	1	1
1 with electromechanical fuse monitoring		
Part No. SV	**3415.120**	**3415.130**
2 with electronic fuse monitoring		
Part No. SV	**3415.200**	**3415.220**
3 with electronic fuse monitoring and LED display		
Part No. SV	**3415.210**	**3415.230**

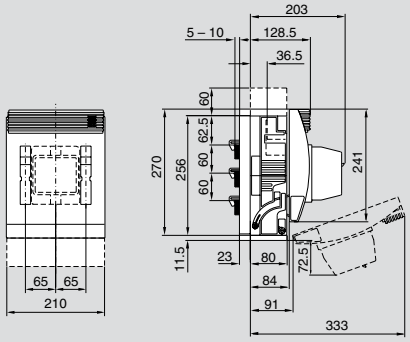
Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Accessories:

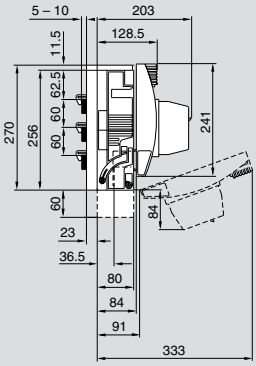
- Clamp-type terminal connection parts
- Clamp-type terminal connection
- Microswitch
- PLS covers

see pages 630/631.

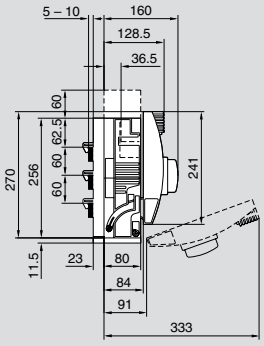
SV 3415.120



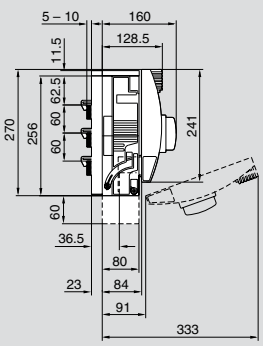
SV 3415.130



SV 3415.200
SV 3415.210



SV 3415.220
SV 3415.230



NH bus-mounted fused isolator, size 3

Size	3	3
Rated current maximum	630 A	630 A
Rated voltage	690 V~	690 V~
Cable outlet	top	bottom
Type of connection	terminal screw M10	terminal screw M10
Tightening torque ● Mounting screw ● Terminal screw	 123 in.lbs 282 in.lbs	 123 in.lbs 282 in.lbs
For busbar thickness	5 – 10 mm	5 – 10 mm
PU	1	1
Part No. SV	**3095.020**	**3095.030**

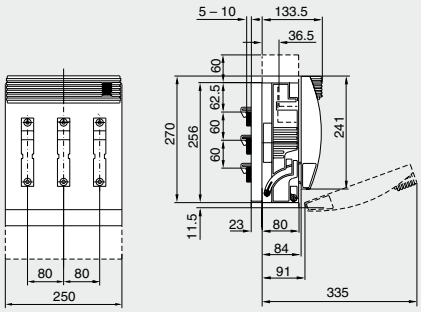
Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Accessories:

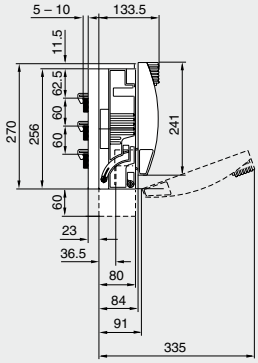
- Clamp-type terminal connection parts
- Clamp-type terminal connection
- Microswitch
- PLS covers

see pages 630/631.

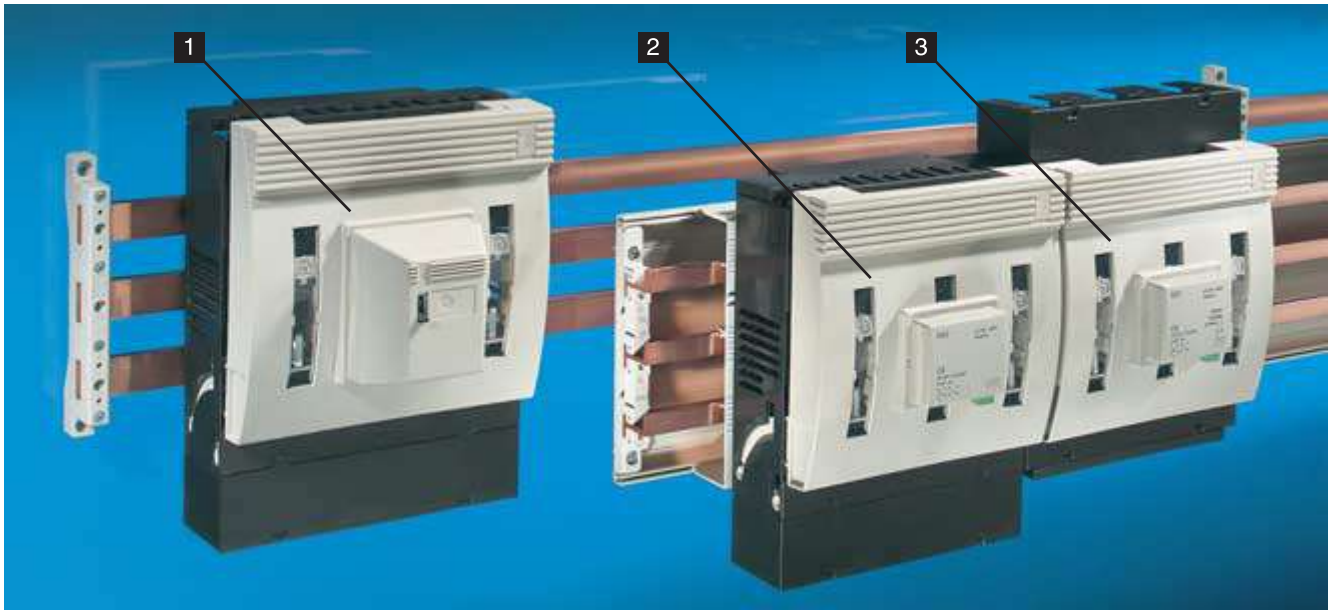
SV 3095.020



SV 3095.030



NH bus-mounted fused isolator, size 3



NH bus-mounted fused isolator, size 3 with fuse monitoring

Size	3	3
Rated current maximum	630 A	630 A
Rated voltage	690 V~	690 V~
Cable outlet	top	bottom
Type of connection	terminal screw M10	terminal screw M10
Tightening torque ● Mounting screw ● Terminal screw	 123 in.lbs 282 in.lbs	 123 in.lbs 282 in.lbs
For busbar thickness	5 – 10 mm	5 – 10 mm
PU	1	1
1 with electromechanical fuse monitoring		
Part No. SV	**3095.120**	**3095.130**
2 with electronic fuse monitoring		
Part No. SV	**3095.200**	**3095.220**
3 with electronic fuse monitoring and LED display		
Part No. SV	**3095.210**	**3095.230**

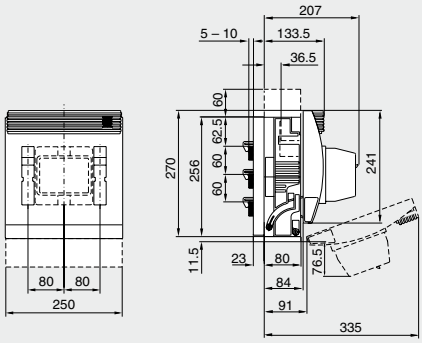
Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Accessories:

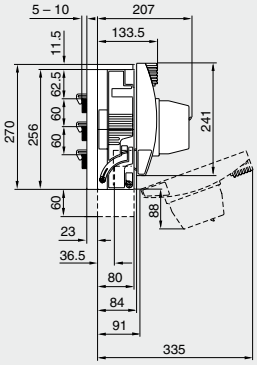
- Clamp-type terminal connection parts
- Clamp-type terminal connection
- Microswitch
- PLS covers

see pages 630/631.

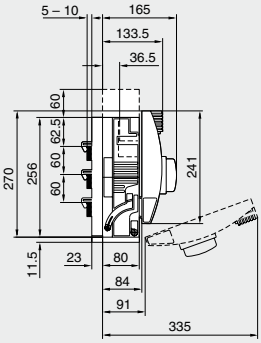
SV 3095.120



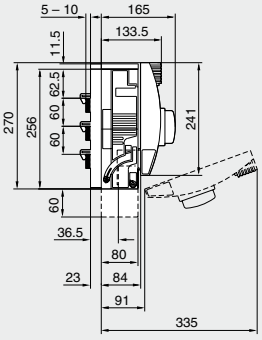
SV 3095.130



SV 3095.200
SV 3095.210



SV 3095.220
SV 3095.230

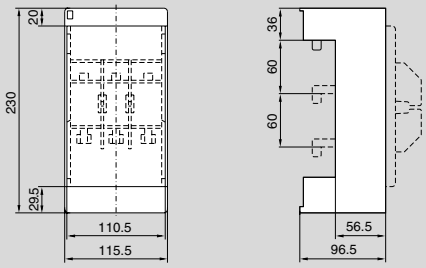


Contact hazard protection frame

For NH bus-mounted fused isolators, size 00.

PU	Part No. SV
1	**3408.000**

Material:
ABS.
Continuous operating temperature maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.



PLS cover

For NH bus-mounted fused isolators, size 1 up to 3/NH isolator, size 00.

The PLS cover guarantees the additional contact hazard protection for the special busbars, when used in NH equipment on Rittal PLS 800 A/1600 A.
Easy clip-on mounting onto the PLS base tray sections.

Material:
Thermally modified hard PVC.
Continuous operating temperature maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.

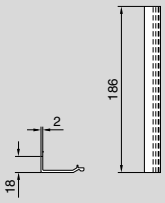
For NH bus-mounted fused isolators

Size	PU	Part No. SV
1	2	**3099.000**
2	1	**3499.040**
3	1	**3499.050**

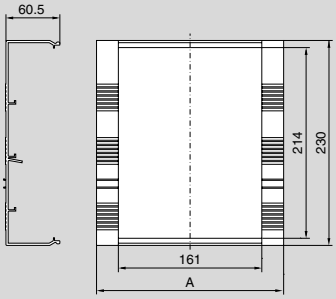
For NH fused strip isolators

Size	PU	Part No. SV
00	1	**3499.060**

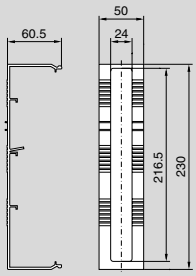
SV 3099.000



SV 3499.040 (A = 210)
SV 3499.050 (A = 250)



SV 3499.060



Microswitch for NH strip isolators/NH fused isolators

To indicate the switch position of the NH unit (lid unit).

PU	Part No. SV
5	**3071.000**

Clamp-type terminal connection parts for NH isolators, size 1 to 3

For connecting laminated copper busbars and round conductors up to AWG 2/∅.

For NH isolators	Clamping-area	Part No. SV
Size 1	16 x 12 mm	**3414.000**
Size 2, 3	21 x 11 mm	**3499.000**

Configuration: PU = 1 set

Clamp-type terminal connection for NH isolators, size 2 and 3

For connecting round conductors of up to 500 MCM.

PU	Part No. SV
1 set	**3499.010**

Mounting kit for NH isolators, size 00C

For mounting NH fused isolators, size 00C on 35 mm support rails to EN 50 022 (7.5 mm/15 mm high).

PU	Part No. SV
1	**3432.000**

Identification label holder for NH fused strip isolators, size 00

Clips onto the fused strip isolator housing.

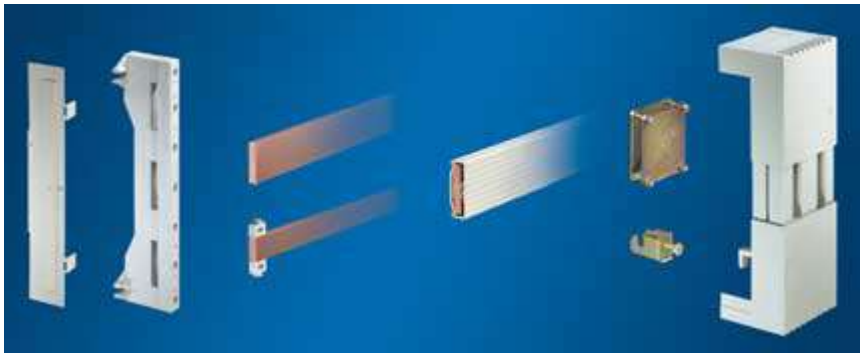
PU	Part No. SV
6	**3595.000**

These systems have been designed for NH fused isolators and NH fused strip isolators, as well as for safe power transmission and distribution.

Flat busbar systems up to 1250 A

The busbar system with 100 mm center busbar distance is used for mounting NH isolators, sizes 00, 1, 2 and 3 as well as NH fused strip isolators, size 00.

Without the use of inserts, the busbar support is designed for a busbar cross-section of 60 x 10 mm. When using inserts, this can be reduced to 50 x 10 mm, 40 x 10 mm or 30 x 10 mm sizes.



End covers
Busbar supports up to 1250 A, 3-pole

Busbars made of E-Cu 57
Inserts for busbar supports

Busbar cover sections

Connection clamps
System covers

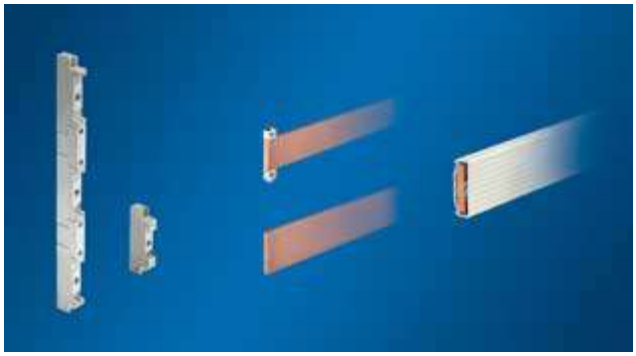
Busbar adaptor for NH bus-mounted fused isolators, sizes 00 – 3

NH bus-mounted fused isolators, sizes 00 – 3

Flat busbar systems supports 1000 to 1600 A

The busbar system with 185 mm busbar center distance is designed for mounting the NH fused strip isolators in sizes 00, 1, 2 and 3.
A busbar with cross-section of 80 x 10 mm may be installed in the busbar supports as standard. Inserts enable reduction to 60 x 10 mm or 50 x 10 mm.

The special design of the busbar supports facilitates seamless top mounting in the vicinity of the support. For this purpose, the isolator, busbar and support are screwed together with a single screw.
In addition the individual modules of the busbar support may also be used as single-pole support.



Busbar support 1000 to 1600 A, 3-pole

Inserts for busbar supports
Busbars made from E-Cu 57

Busbar cover sections

Plate clamps
Conductor connection clamps

Busbar adaptor for NH fused strip isolators, size 00

NH fused strip isolators, size 00

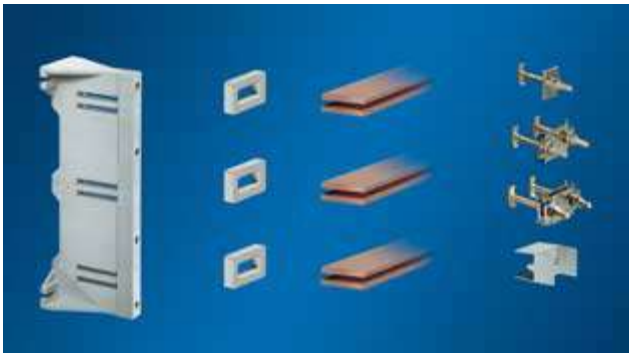
■ Flat busbar systems up to 2500 A/3000 A

For current transmission and distribution, there is a choice of two support variations with 150 mm busbar center distance:

- 2 x 3-pole up to 2500 A
- 2 x 3-pole up to 3000 A

Busbar adaptor for NH fused strip isolators, size 00

NH fused strip isolators, size 00



Busbar support up to 2500 A

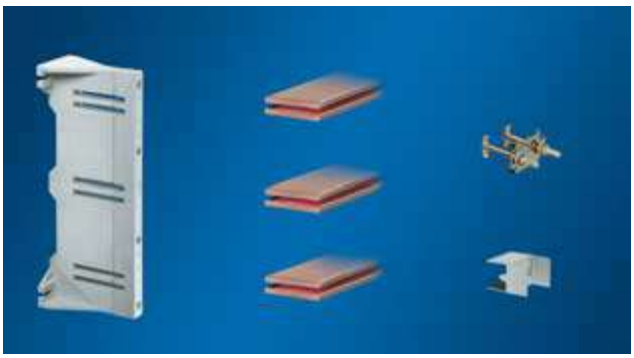
Spacing piece

Busbars made from E-Cu

Connection plates

Busbar insulation

NH fused strip isolators, sizes 1 – 3

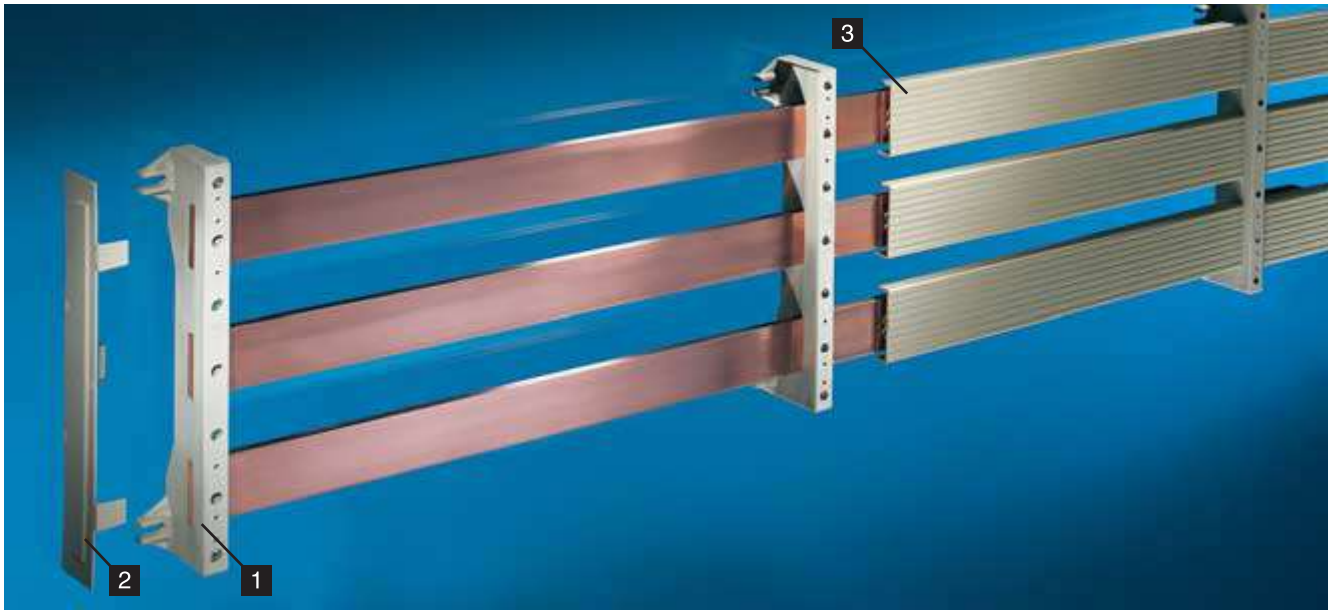


Busbar support up to 3000 A

Commercially available busbars of E-Cu

Connection plates

Busbar insulation



1 Flat busbar supports up to 1250 A, 3-pole

100 mm busbar center distance.
Rated current maximum for 1250 A,
Rated voltage up to 1000 V~, 50/60 Hz
in accordance with VDE 0660.
Maximum, busbar accommodations without inserts 60 x 10 mm.

Tightening torque:
- Mounting screw 70 – 88 in.lbs
- Cover attachment 9 – 26 in.lbs

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

PU	Part No. SV
4	**3073.000**

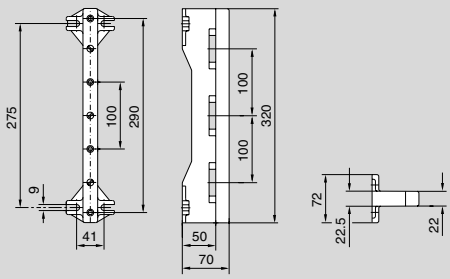
Short-circuit protection diagram,
see page 659.

2 End covers

For side contact hazard protection of the busbar assembly.
Simple clip-on mounting on the SV 3073.000.

PU	Part No. SV
10	**3083.000**

SV 3073.000



Insert for SV 3073.000
Busbars made of E-Cu 57
To DIN 1759, DIN 40 500.
Length: 2400 mm/busbar.

Maximum rated current	Busbar dimensions	Insert kits [1]	Busbar [2]
		Part No. SV	**Part No. SV**
800 A	30 x 10 mm	**3074.000**	**3586.000**[3]
850 A	40 x 10 mm	**3075.000**	**3587.000**
1000 A	50 x 10 mm	**3076.000**	**3588.000**
1250 A	60 x 10 mm	**–**	**3589.000**

Configuration:
[1] PU = 24 pieces
[2] PU = 3 pieces
[3] PU = 6 pieces

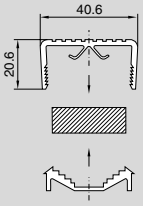
3 Busbar cover sections

Contact hazard protection thanks to the all-round encapsulations of the busbars. May be cut to the required length.

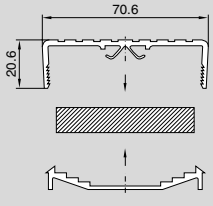
Material:
Thermally modified hard PVC.
Continuous operating temperature: maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.

For busbar	PU	Part No. SV
30 x 10 mm	10 @ 1 m	**3092.000**
40 – 60 x 10 mm	10 @ 1 m	**3085.000**

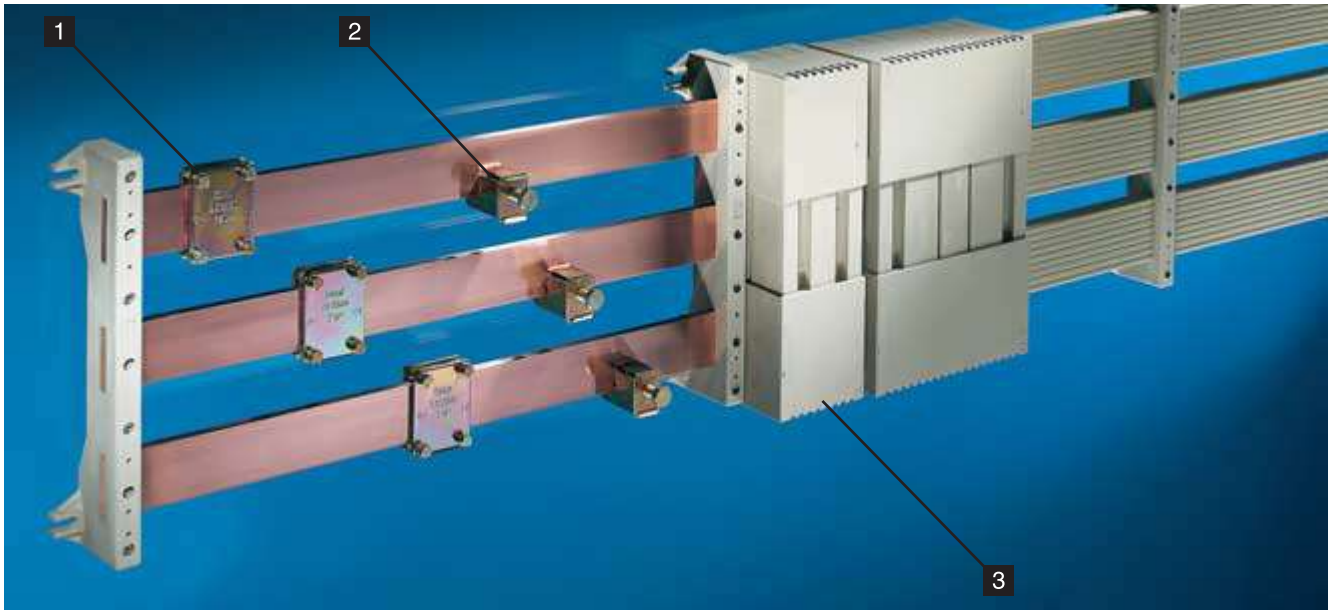
SV 3092.000



SV 3085.000



Up to 1250 A



1 Plate clamps

For connecting laminated copper busbars to flat copper busbars; no drilling required.

Material:
Sheet steel, yellow chromated.

For busbars	Clamping area for laminated copper busbars	Tightening torque	PU	Part No. SV
30 x 10 mm	34 x 10 mm	53 – 70 in.lbs	3	**3554.000**
40 x 10 mm	34 x 10 mm	53 – 70 in.lbs	3	**3559.000**
50 x 10 mm	34 x 10 mm	53 – 70 in.lbs	3	**3560.000**
50 x 10 mm	54 x 10 mm	53 – 70 in.lbs	3	**3562.000**
60 x 10 mm	34 x 10 mm	53 – 70 in.lbs	3	**3561.000**
60 x 10 mm	54 x 10 mm	53 – 70 in.lbs	3	**3563.000**

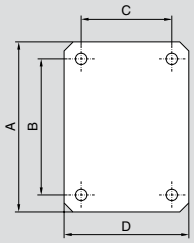
Accessories:

Rittal Flexibar laminated copper busbars,
see page 657.

2 Conductor connection clamps

For 10 mm busbar thickness, see page 604.

SV 3554.000
SV 3559.000 – SV 3563.000



Part No. SV	A	B	C	D
3554.000	55	40	40	55
3559.000	65	50	40	55
3560.000	75	60	40	55
3561.000	85	70	40	55
3562.000	75	60	60	75
3563.000	85	70	60	75

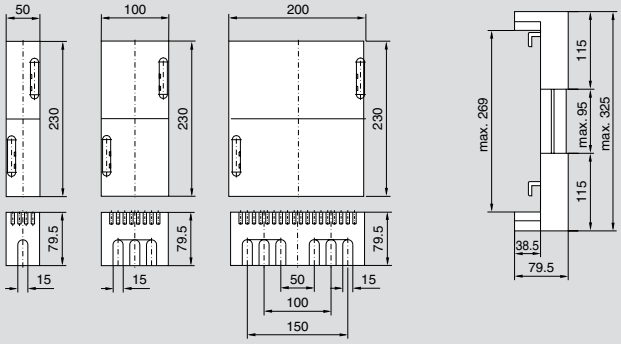
3 System covers

For conductor connection clamps and plate clamps.

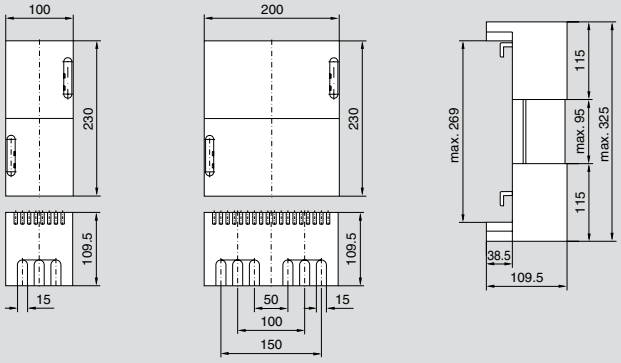
Material:
ABS.
Continuous operating temperature maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.

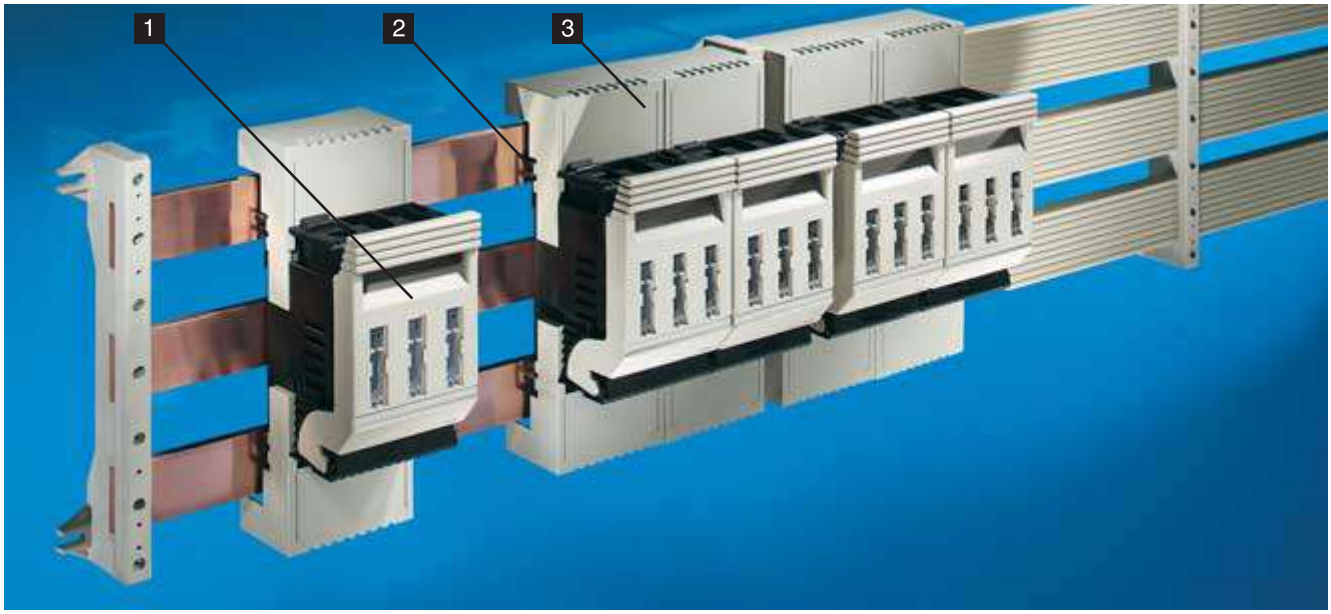
Width	Height	PU	Part No. SV
50 mm	80 mm	4	**3086.000**
100 mm	80 mm	4	**3087.000**
100 mm	110 mm	4	**3090.000**
200 mm	80 mm	4	**3088.000**
200 mm	110 mm	4	**3091.000**

SV 3086.000 / SV 3087.000 / SV 3088.000



SV 3090.000 / SV 3091.000





1 NH bus-mounted fused isolator, size 00

Size	00		00	
Rated current maximum	160 A		160 A	
Rated voltage	690 V~		690 V~	
Cable outlet	top	bottom	top	bottom
Type of connection	terminal screw M8		clamp-type terminal connection up to AWG 2/∅	
Tightening torque ● Mounting screw ● Terminal screw	 44 – 53 in.lbs 88 – 132 in.lbs	 44 – 53 in.lbs 88 – 132 in.lbs	 44 – 53 in.lbs 18 – 26 in.lbs	 44 – 53 in.lbs 18 – 26 in.lbs
PU	1	1	1	1
Part No. SV	**3400.000**	**3401.000**	**3402.000**	**3403.000**

Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Additional parts needed:

Busbar adaptor,
see right-hand column.

Accessories:

Microswitch,
see page 645.

2 Busbar adaptor

For mounting SV 3400.000 – SV 3403.000 on 100 mm busbar systems.

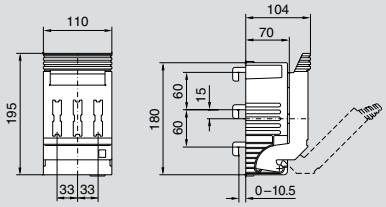
PU	Part No. SV
1	**3412.000**

3 Cover for SV 3412.000

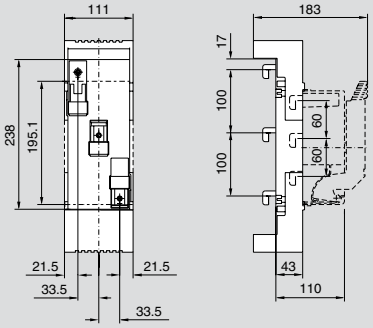
To comply with contact hazard protection, plug-type.

PU	Part No. SV
1 set	**3413.000**

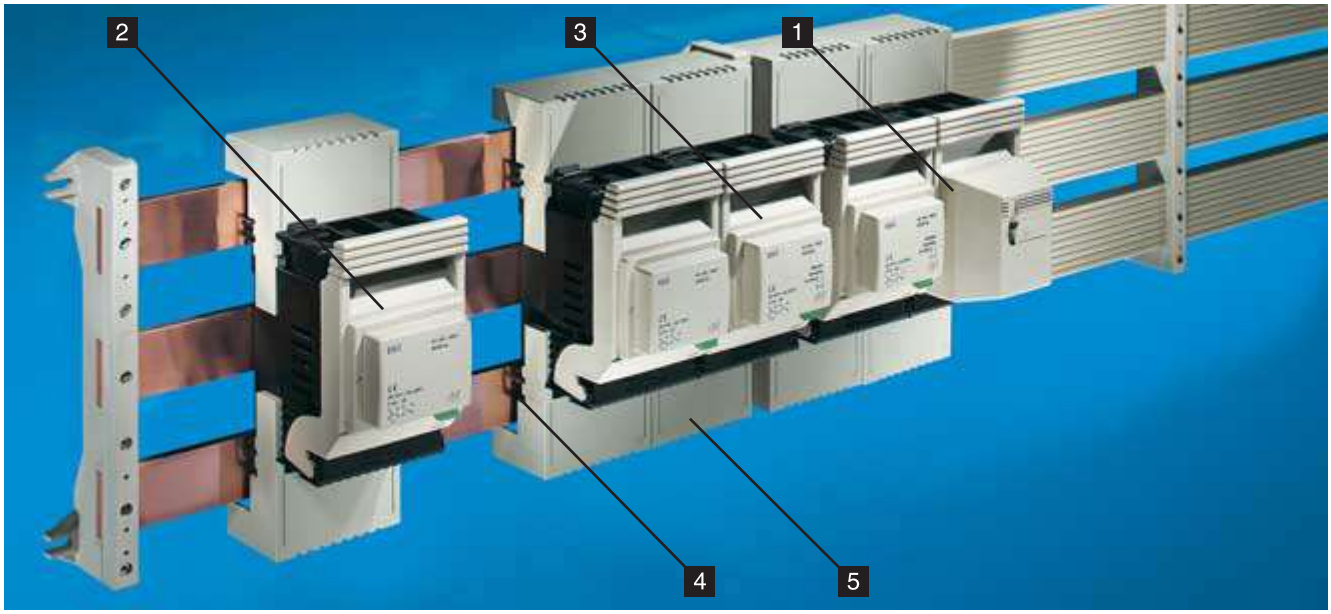
SV 3400.000 – SV 3403.000



SV 3412.000 with SV 3413.000



NH bus-mounted fused isolator, size 00



NH bus-mounted fused isolator, size 00 with fuse monitoring

Size	00		00	
Rated current maximum	160 A		160 A	
Rated voltage	690 V~		690 V~	
Cable outlet	top	bottom	top	bottom
Type of connection	terminal screw M8		clamp-type terminal connector up to AWG 2/∅	
Tightening torque ● Mounting screw ● Terminal screw	 44 – 53 in.lbs 88 – 132 in.lbs	 44 – 53 in.lbs 88 – 132 in.lbs	 44 – 53 in.lbs 18 – 26 in.lbs	 44 – 53 in.lbs 18 – 26 in.lbs
PU	1	1	1	1
1 with electromechanical fuse monitoring				
Part No. SV	**3490.000**	**3491.000**	**3492.000**	**3493.000**
2 with electronic fuse monitoring				
Part No. SV	**3490.200**	**3491.200**	**3492.200**	**3493.200**
3 with electronic fuse monitoring and LED display				
Part No. SV	**3490.210**	**3491.210**	**3492.210**	**3493.210**

Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

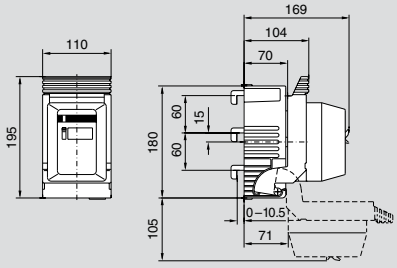
Additional parts needed:

Busbar adaptor,
see right hand column.

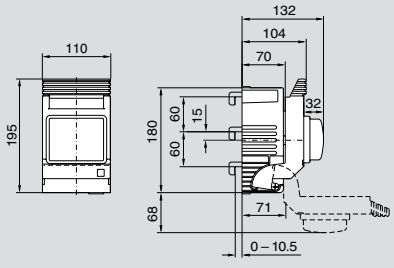
Accessories:

Microswitch,
see page 645.

SV 3490.000 – SV 3493.000



SV 3490.200 – SV 3493.200
SV 3490.210 – SV 3493.210



4 Busbar adaptor

For mounting SV 3490.000 – SV 3493.210 on 100 mm busbar systems.

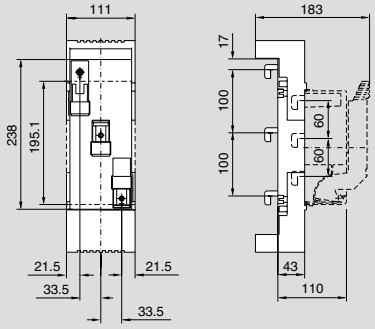
PU	Part No. SV
1	**3412.000**

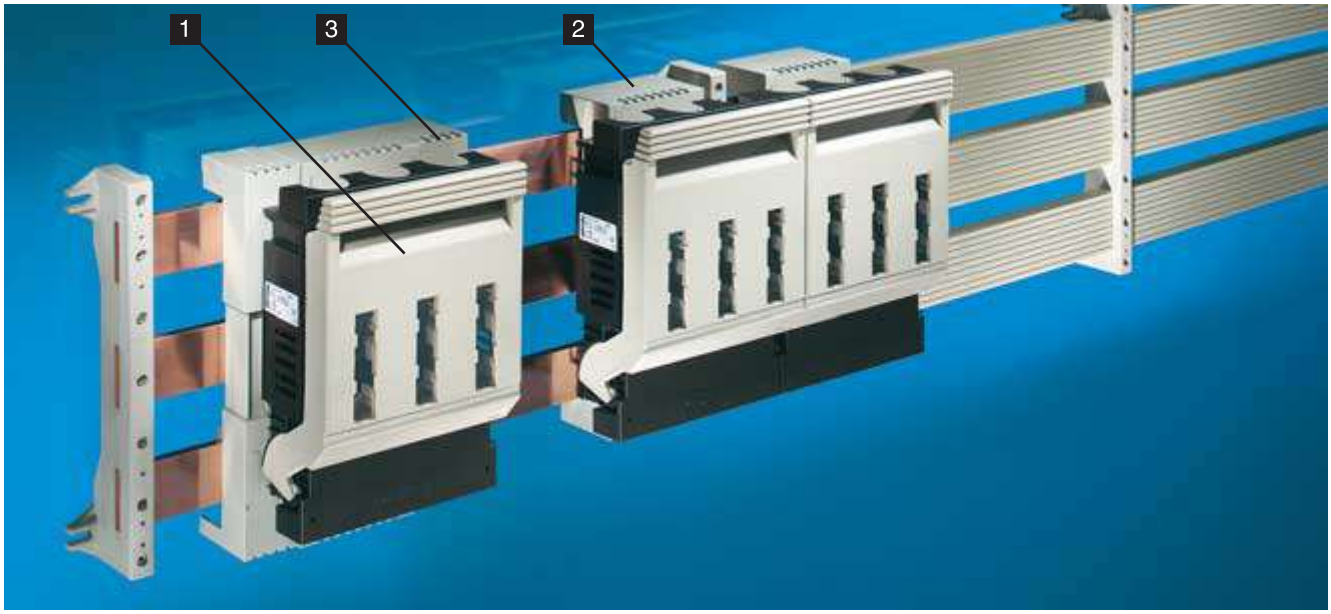
5 Cover for SV 3412.000

To comply with contact hazard protection, plug-type.

PU	Part No. SV
1 set	**3413.000**

SV 3412.000 with SV 3413.000





1 NH bus-mounted fused isolator, size 1

Size	1	1
Rated current maximum	250 A	250 A
Rated voltage	690 V~	690 V~
Cable outlet	top	bottom
Type of connection	terminal screw M10	
Tightening torque ● Mounting screw ● Terminal screw	 70 – 88 in.lbs 132 – 176 in.lbs	 70 – 88 in.lbs 132 – 176 in.lbs
PU	1	1
Part No. SV	**3411.000**	**3410.000**

Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

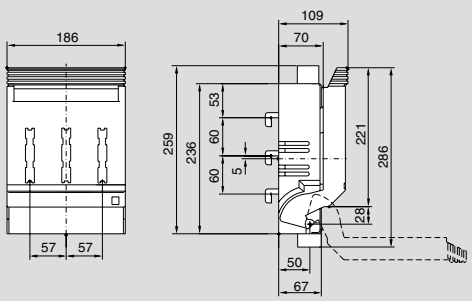
Additional parts needed:

Busbar adaptor,
see right hand column.

Accessories:

● Clamp-type connection parts
● Microswitch
see page 645.

SV 3410.000
SV 3411.000



Busbar adaptor

For mounting SV 3410.000 / SV 3411.000 on 100 mm busbar systems.

PU	Part No. SV
1	**3412.000**

2 Cover for SV 3412.000

To comply with contact hazard protection, plug-type.

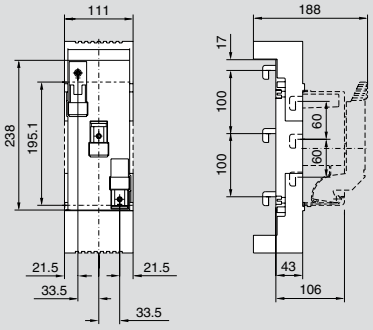
PU	Part No. SV
1 set	**3413.000**

3 System cover

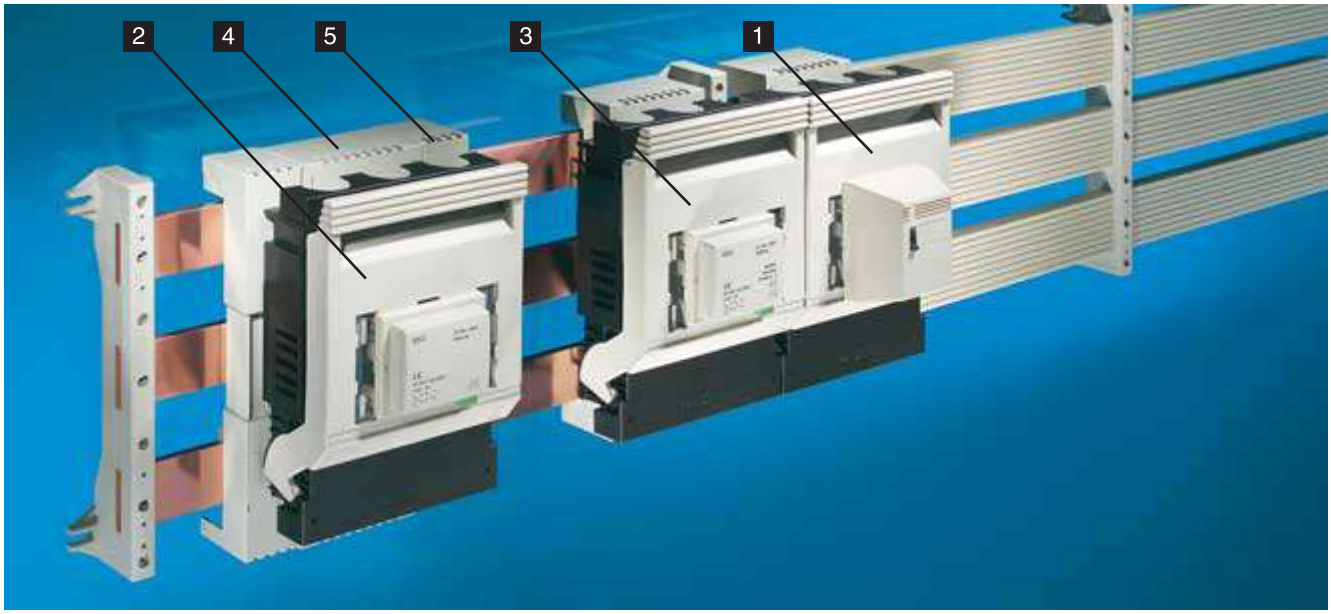
Width: 50 mm.
Technical information
see page 635.

PU	Part No. SV
4	**3086.000**

SV 3412.000 with SV 3413.000



NH bus-mounted fused isolator, size 1



NH bus-mounted fused isolator, size 1 with fuse monitoring

Size	1	1
Rated current maximum	250 A	250 A
Rated voltage	690 V~	690 V~
Cable outlet	top	bottom
Type of connection	terminal screw M10	
Tightening torque ● Mounting screw ● Terminal screw	 70 – 88 in.lbs 132 – 176 in.lbs	 70 – 88 in.lbs 132 – 176 in.lbs
PU	1	1
1 with electromechanical fuse monitoring		
Part No. SV	**3495.000**	**3494.000**
2 with electronic fuse monitoring		
Part No. SV	**3495.200**	**3494.200**
3 with electronic fuse monitoring and LED display		
Part No. SV	**3495.210**	**3494.210**

Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

! Additional parts needed:

Busbar adaptor,
see right-hand column.

+ Accessories:

- Clamp-type terminal connection parts
- Microswitch

see page 645.

Busbar adaptor

For mounting SV 3494.000 – SV 3495.210 on 100 mm busbar systems.

PU	Part No. SV
1	**3412.000**

4 Cover for SV 3412.000

To comply with contact hazard protection, plug-type.

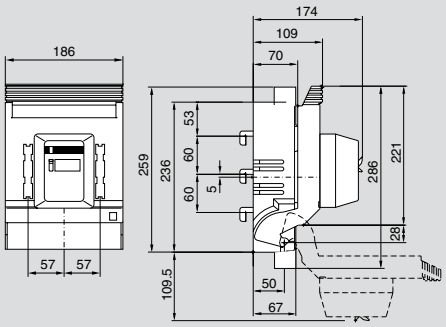
PU	Part No. SV
1 set	**3413.000**

5 System cover

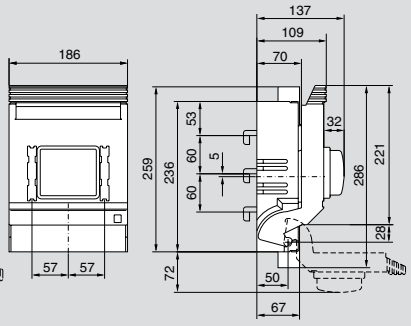
Width: 50 mm.
Technical information
see page 635.

PU	Part No. SV
4	**3086.000**

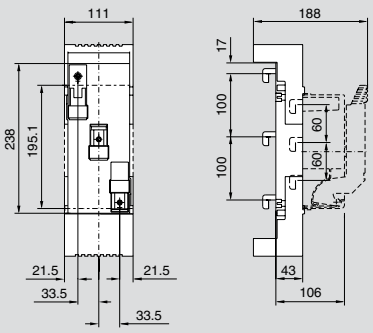
SV 3494.000
SV 3495.000



SV 3494.200 / SV 3494.210
SV 3495.200 / SV 3495.210



SV 3412.000 with SV 3413.000



NH bus-mounted fused isolator, size 2

Size	2
Rated current maximum	400 A
Rated voltage	690 V~
Cable outlet	top/bottom
Type of connection	terminal screw M10
Tightening torque ● Mounting screw ● Terminal screw	 123 in.lbs 282 in.lbs
PU	1
Part No. SV	**3415.010**

Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Additional parts needed:

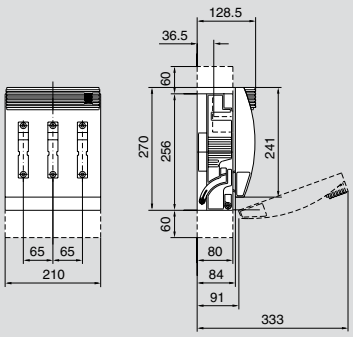
Busbar adaptor,
see right hand column.

Accessories:

- Clamp-type terminal connection parts
- Clamp-type terminal connection
- Microswitch

see page 645.

SV 3415.010

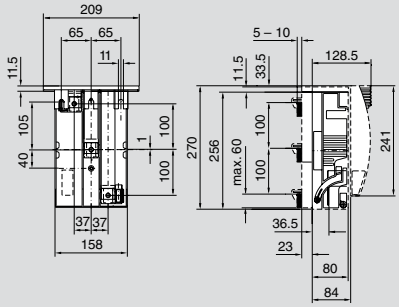


Busbar adaptor

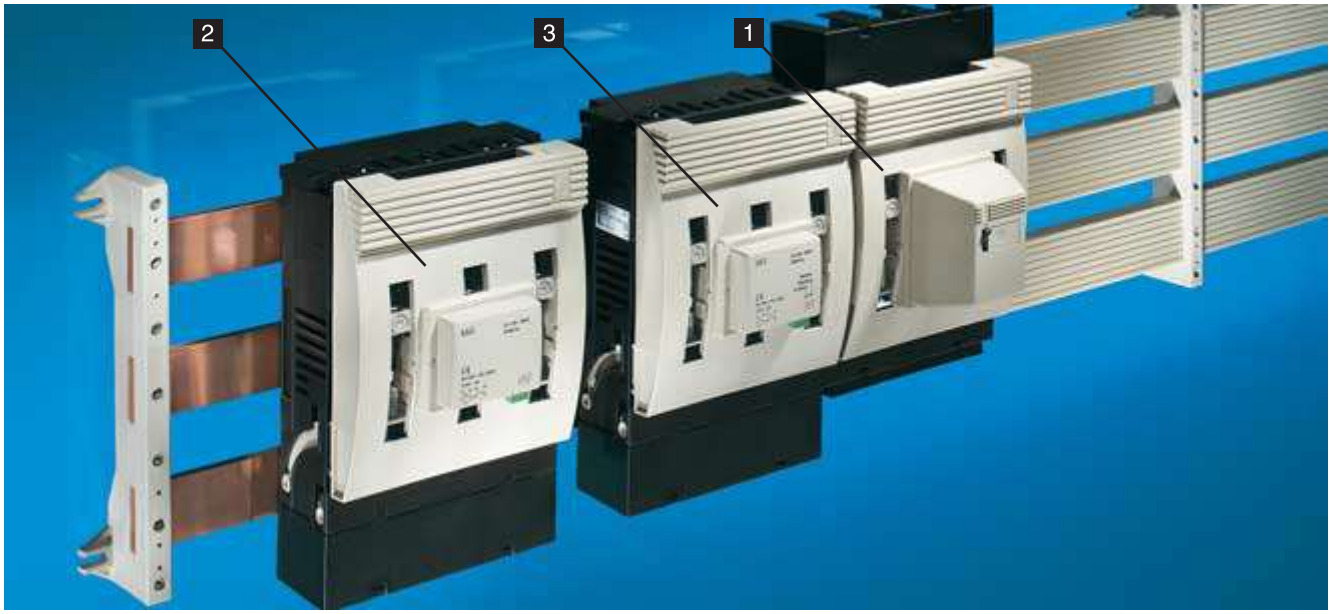
For mounting SV 3415.010 on
100 mm busbar systems.
Outlet at top/bottom.

PU	Part No. SV
1	**3499.020**

SV 3499.020



NH bus-mounted fused isolator, size 2



NH bus-mounted fused isolator, size 2 with fuse monitoring

Size	2
Rated current maximum	400 A
Rated voltage	690 V~
Cable outlet	top/bottom
Type of connection	terminal screw M10
Tightening torque ● Mounting screw ● Terminal screw	 123 in.lbs 282 in.lbs
PU	1
1 with electromechanical fuse monitoring	
Part No. SV	**3415.110**
2 with electronic fuse monitoring	
Part No. SV	**3415.300**
3 with electronic fuse monitoring and LED display	
Part No. SV	**3415.310**

Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Additional parts needed:

Busbar adaptor,
see right hand column.

Accessories:

- Clamp-type terminal connection parts
- Clamp-type terminal connection
- Microswitch

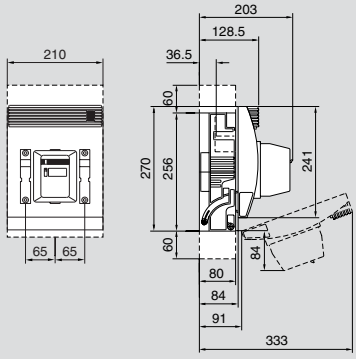
see page 645.

Busbar adaptor

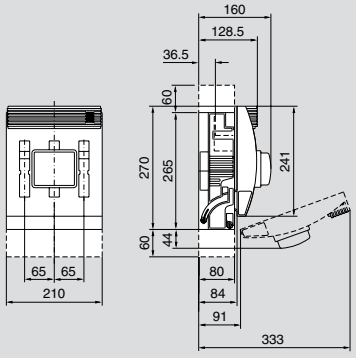
For mounting SV 3415.110 – SV 3415.310 on 100 mm busbar systems.
Outlet at top/bottom.

PU	Part No. SV
1	**3499.020**

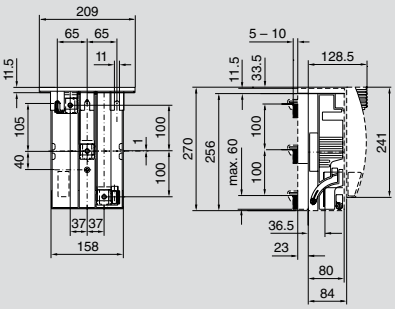
SV 3415.110

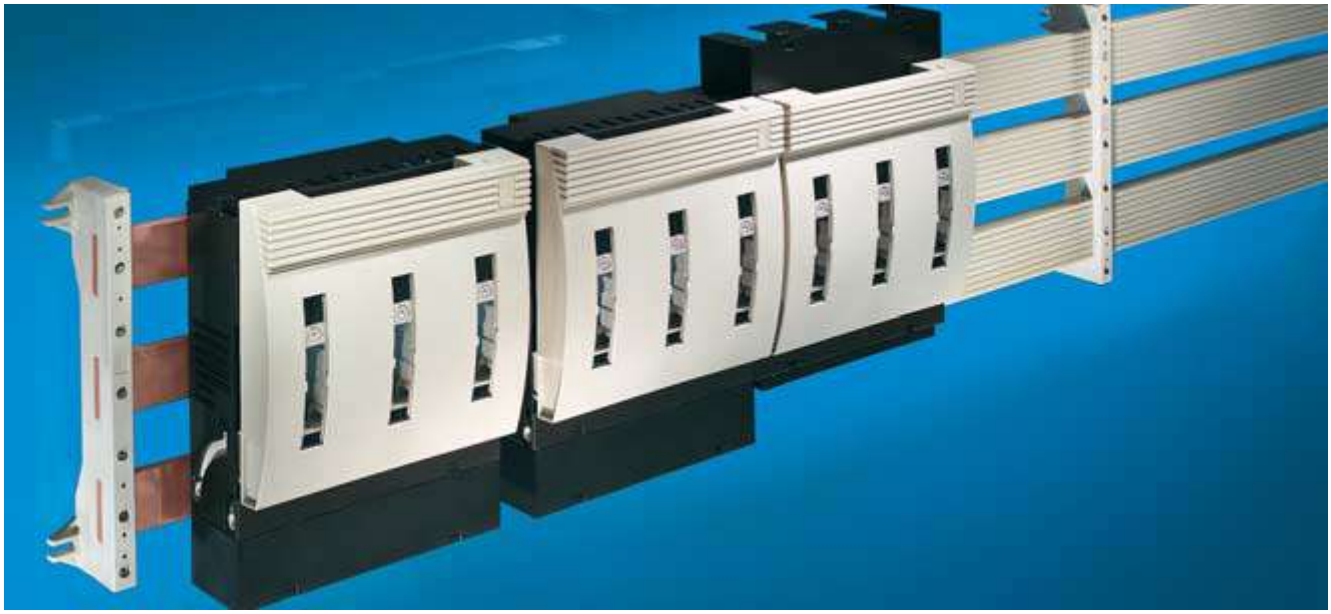


SV 3415.300
SV 3415.310



SV 3499.020





NH bus-mounted fused isolator, size 3

Size	3
Rated current maximum	630 A
Rated voltage	690 V~
Cable outlet	top/bottom
Type of connection	terminal screw M10
Tightening torque ● Mounting screw ● Terminal screw	 123 in.lbs 282 in.lbs
PU	1
Part No. SV	**3095.010**

Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Additional parts needed:

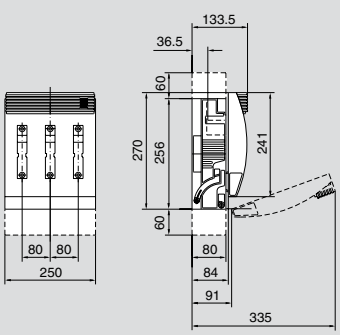
Busbar adaptor,
see right hand column.

Accessories:

- Clamp-type terminal connection parts
- Clamp-type terminal connection
- Microswitch

see page 645.

SV 3095.010

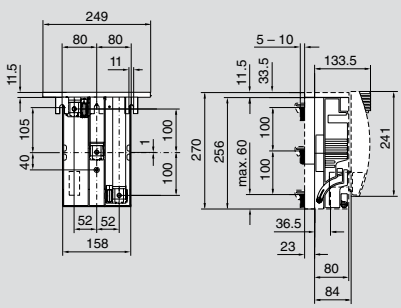


Busbar adaptor

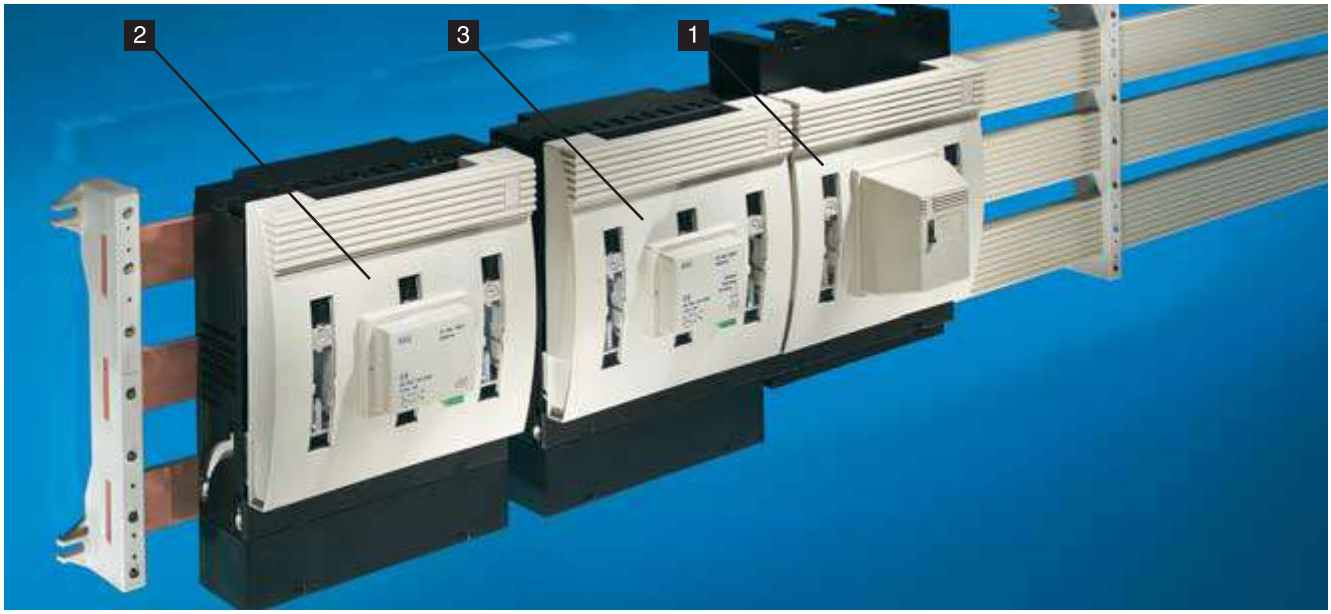
For mounting SV 3095.010 on
100 mm busbar systems.
Outlet at top/bottom.

PU	Part No. SV
1	**3499.030**

SV 3499.030



NH bus-mounted fused isolator, size 3



NH bus-mounted fused isolator, size 3 with fuse monitoring

Size	3
Rated current maximum	630 A
Rated voltage	690 V~
Cable outlet	top/bottom
Type of connection	terminal screw M10
Tightening torque ● Mounting screw ● Terminal screw	 123 in.lbs 282 in.lbs
PU	1
1 with electromechanical fuse monitoring	
Part No. SV	**3095.110**
2 with electronic fuse monitoring	
Part No. SV	**3095.300**
3 with electronic fuse monitoring and LED display	
Part No. SV	**3095.310**

Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Additional parts needed:

Busbar adaptor,
see right hand column.

Accessories:

- Clamp-type terminal connection parts
- Clamp-type terminal connection
- Microswitch

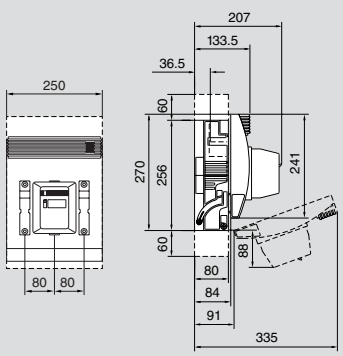
see page 645.

Busbar adaptor

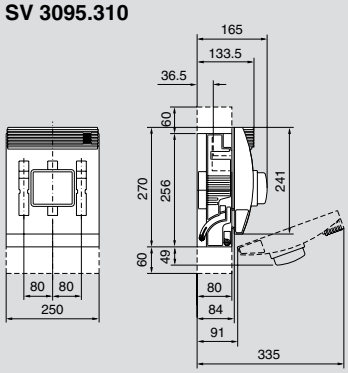
For mounting SV 3095.110 – SV 3095.310 on 100 mm busbar systems.
Outlet at top/bottom.

PU	Part No. SV
1	**3499.030**

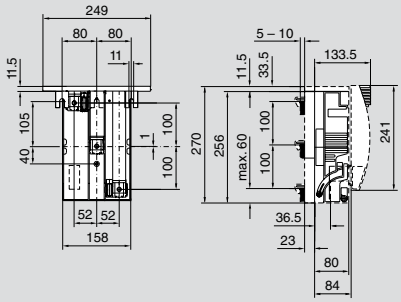
SV 3095.110



SV 3095.300
SV 3095.310



SV 3499.030



NH fused strip isolator, size 00

NH fused strip isolator, size 00

Size	00	00
Rated current maximum	125 A	160 A
Rated voltage	690 V~	690 V~
Cable outlet	top/bottom	top/bottom
Type of connection	clamp-type terminal up to AWG 2/∅	screw M8
Tightening torque ● Mounting screw ● Terminal screw	 53 in.lbs 26 in.lbs	 53 in.lbs 123 in.lbs
PU	1	1
Part No. SV	**3592.000**	**3591.000**

Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Additional parts needed:

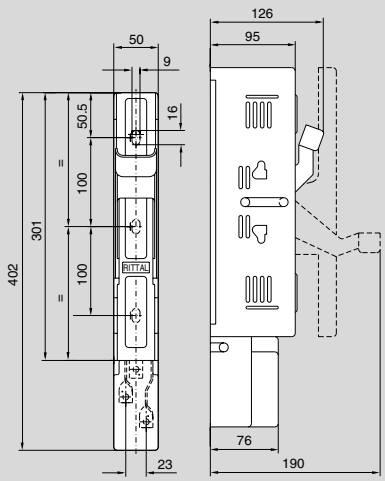
Clamping screw components, see right hand column.

Accessories:

- Microswitch
- Identification label holder

see page 645.

SV 3591.000
SV 3592.000



NEW NH fused strip isolators, size 00, 160 A, 690 V~

Direct mount.
Cable outlet top/bottom.
Terminal screw M8.
Part No. SV 3591.010

Accessories:

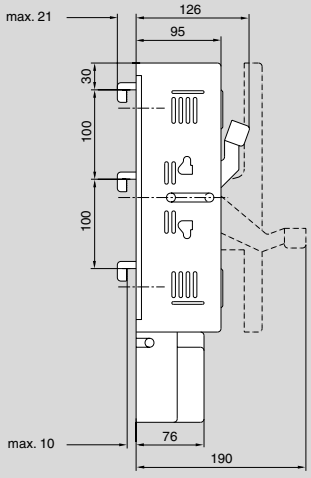
- Clamp-type terminal connection parts **(Part No. SV 3592.010)**
- Clamp-type terminal connection **(Part No. SV 3592.020)**
- Identification label holder **(Part No. SV 3595.010)**

Clamping screw components

For mounting SV 3591.000 / SV 3592.000 on 100 mm busbar systems.

PU	Part No. SV
3	**3594.000**

SV 3591.000 / SV 3592.000 with SV 3594.000



Microswitch for NH strip isolators/NH fused isolator

To indicate the switch position of the NH unit (cover unit).

PU	Part No. SV
5	**3071.000**

Clamp-type terminal connection parts for NH isolators, size 1 to 3

For connecting laminated copper busbars and round conductors up to AWG 2/∅.

For NH isolator	Clamping area	Part No. SV
Size 1	16 x 12 mm	**3414.000**
Size 2, 3	21 x 11 mm	**3499.000**

Configuration: PU = 1 set

Clamp-type terminal connection for NH isolators, sizes 2 and 3

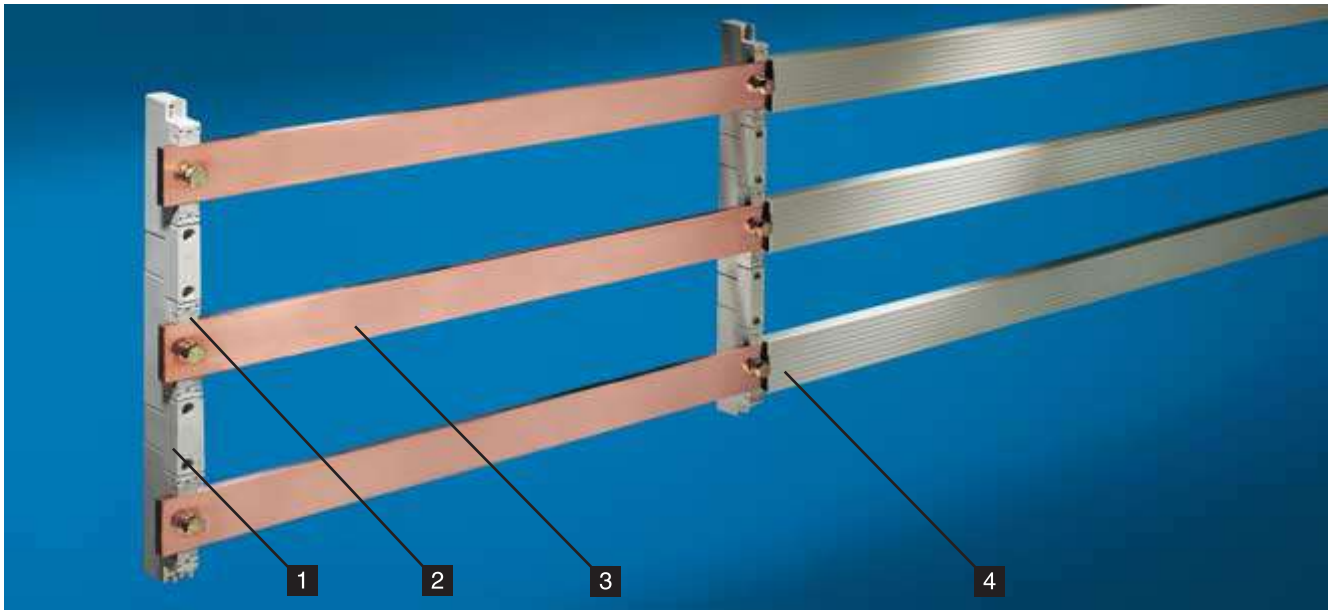
For connecting round conductors up to 500 MCM.

PU	Part No. SV
1 set	**3499.010**

Identification label holder for NH fused strip isolators, size 00

For clip-mounting on the fused isolator housing.

PU	Part No. SV
6	**3595.000**



1 Flat busbar support 1000 to 1600 A, 3-pole

185 mm busbar center distance.
Rated current maximum up to 1600 A, rated operating voltage up to 1000 V~, 50/60 Hz per VDE 0660.
Maximum busbar capacity without inserts 80 x 10 mm.

Tightening torque:
- Mounting screw 26 – 44 in.lbs
- Busbar mounting screw 352 in.lbs

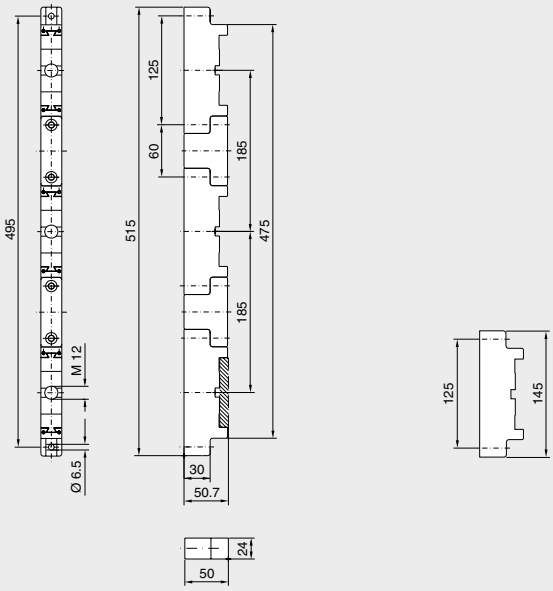
Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating temperature maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

PU	Part No. SV
2	**3052.000**

Short-circuit protection diagram,
see page 659.

Note:
The base component of the busbar support may be used as a single-pole support.

SV 3052.000



2 Insert kits for SV 3052.000
3 Busbar made of E-Cu 57

To DIN 1759, DIN 40 500.
Length: 2400 mm/busbar.

Rated current maximum	Busbar dimensions	Insert kits*	Busbars **
		Part No. SV	**Part No. SV**
1000 A	50 x 10 mm	**3074.000**	**3588.000**
1250 A	60 x 10 mm	**3075.000**	**3589.000**
1600 A	80 x 10 mm	**–**	**3590.000**

Configuration:
* PU = 24 pieces
** PU = 3 pieces

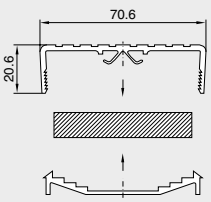
4 Busbar cover profile

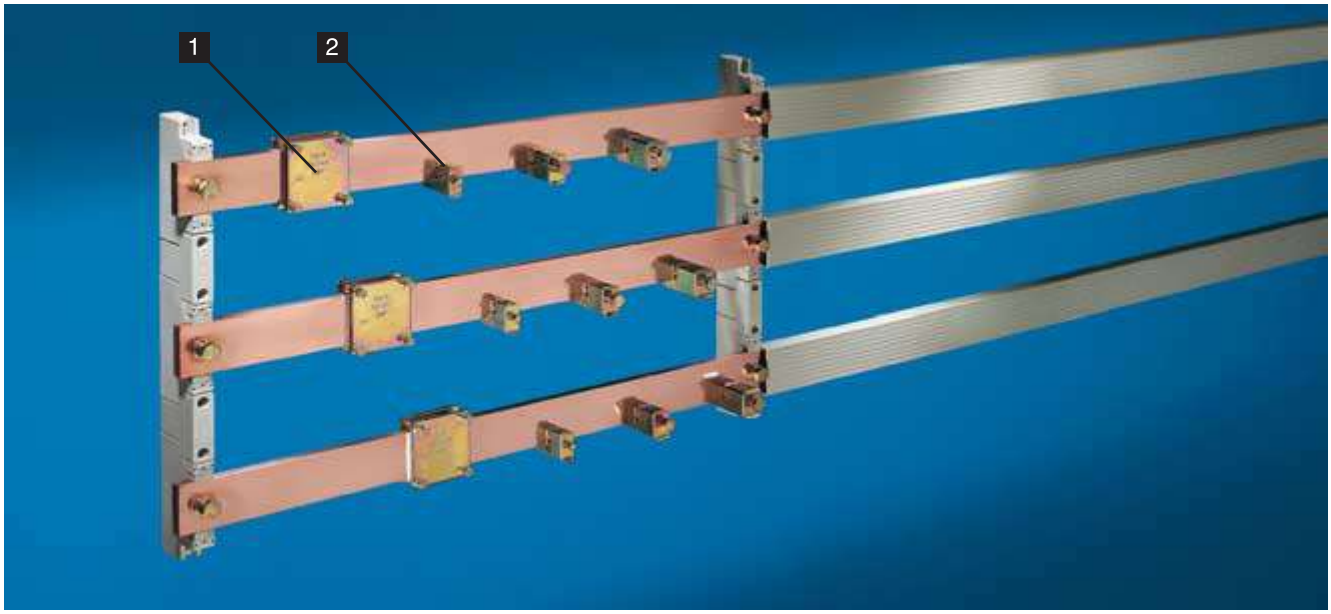
Contact hazard protection via complete sheathing of busbars.
May be cut to length.

Material:
Thermally modified hard PVC.
Continuous operating temperature, maximum 212 °F/100 °C.
Fire protection according to UL 94-V0.

For busbars	PU	Part No. SV
50 – 60 x 10 mm	10 @ 1 m	**3085.000**

SV 3085.000





1 Plate clamps

For mounting copper busbars, no drilling required.

For Busbars	Clamping area for copper busbars	Tightening torque	PU	Part No. SV
50 x 10 mm	34 x 10 mm	53 – 70 in.lbs	3	**3560.000**
50 x 10 mm	54 x 10 mm	53 – 70 in.lbs	3	**3562.000**
60 x 10 mm	34 x 10 mm	53 – 70 in.lbs	3	**3561.000**
60 x 10 mm	54 x 10 mm	53 – 70 in.lbs	3	**3563.000**
80 x 10 mm	65 x 10 mm	53 – 70 in.lbs	3	**3460.500**

Material:
Sheet steel, yellow chromated.

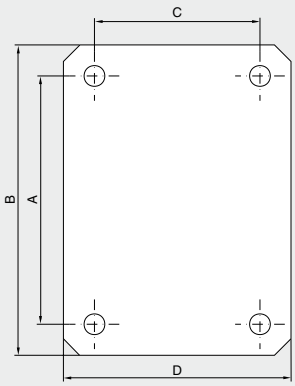
Accessories:

Rittal Flexibar laminated copper busbars, see page 657.

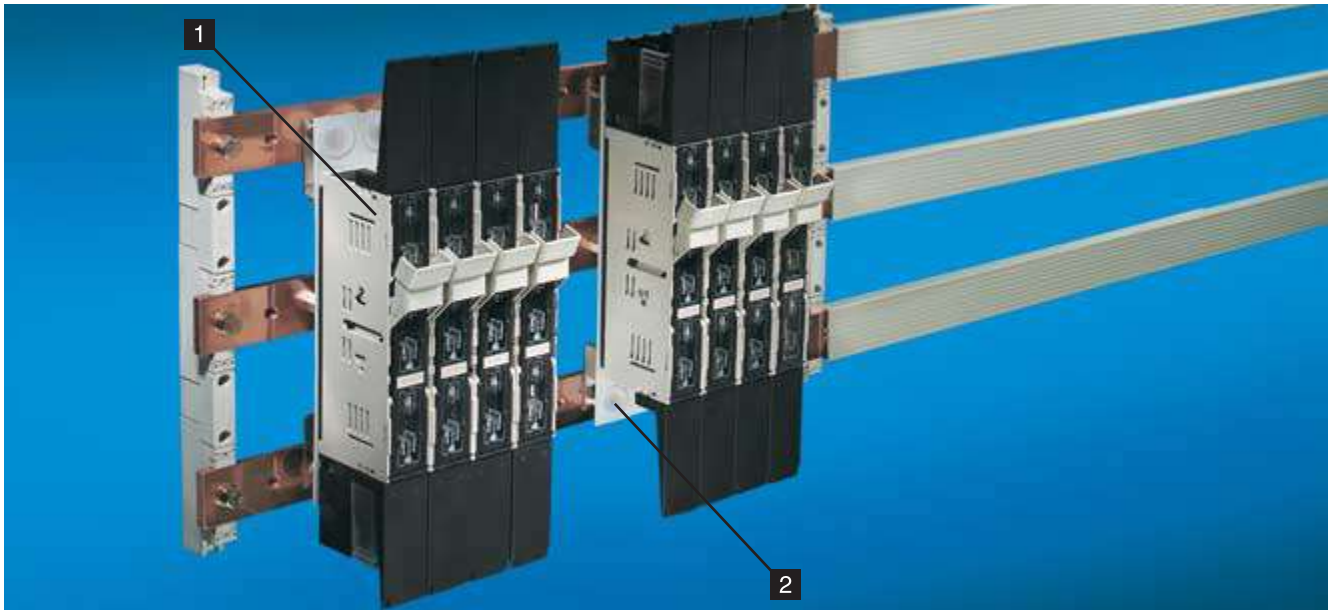
2 Conductor connector clamps

For 10 mm busbar thickness,
see page 604.

SV 3560.000 – 3563.000
SV 3460.500



Part No. SV	A	B	C	D
3560.000	60	75	40	55
3561.000	70	85	40	55
3562.000	60	75	60	75
3563.000	70	85	60	75
3460.500	90	105	71	86



1 NH fused strip isolator, size 00

Size	00	00
Rated current maximum	125 A	160 A
Rated voltage	690 V~	690 V~
Cable outlet	top/bottom	top/bottom
Type of connection	clamp-type terminal up to AWG 2/∅	screw M8
Tightening torque ● Mounting screw ● Terminal screw	 123 in.lbs 26 in.lbs	 123 in.lbs 123 in.lbs
PU	1	1
Part No. SV	**3592.000**	**3591.000**

Technical specifications and material properties, see pages 664/665. Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Additional parts needed:

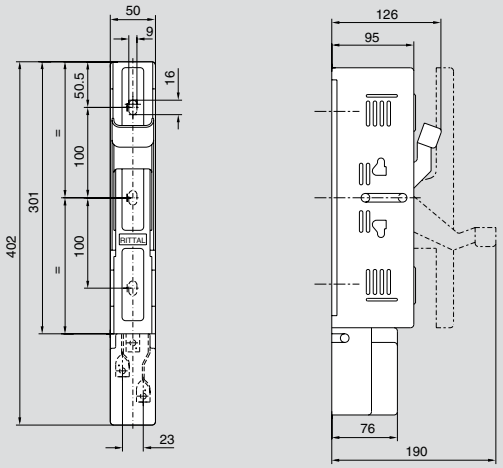
Busbar adaptor, see right-hand column.

Accessories:

- Microswitch
- Identification label holder

see page 649.

SV 3591.000
SV 3592.000



NEW NH fused strip isolator, size 00, 160 A, 690 V~

Outlet at top/bottom. Terminal screw M8.

Configuration: 1 busbar, 1 individual adaptor, offset trim.
Part No. SV 3591.040

Configuration: 2 busbars, 1 double adaptor, offset trim.
Part No. SV 3591.050

Accessories:

- Clamp-type terminal connection parts **(Part No. SV 3592.020)**
- Clamp-type terminal connection **(Part No. SV 3592.010)**
- Identification label holder **(Part No. SV 3595.010)**

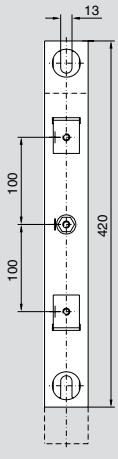
2 Busbar adaptor

For mounting SV 3591.000 / SV 3592.000 on 185 mm busbar systems.
Tightening torque 220 in.lbs.

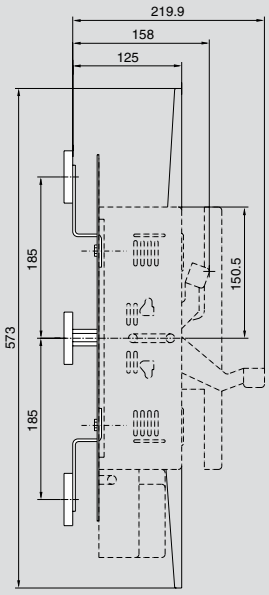
PU	Part No. SV
1	**3030.000**

Configuration: includes compensation panels.

SV 3030.000



SV 3591.000/SV 3592.000 with SV 3030.000



NH fused strip isolator, sizes 00/1/2/3

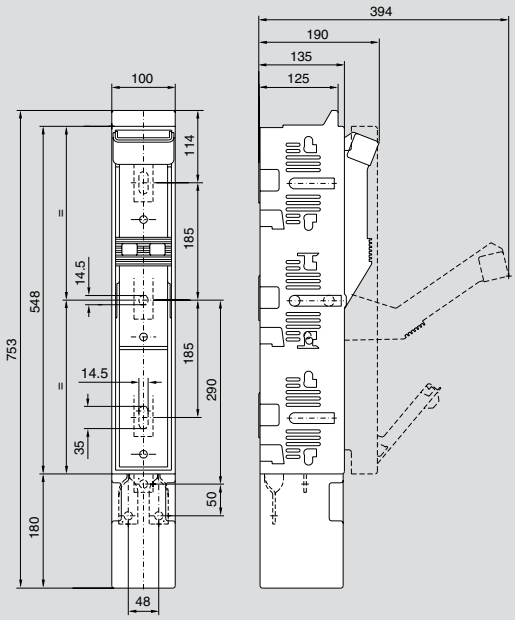
NH fused strip isolator, sizes 1 – 3

Size	1	2	3
Rated current maximum	250 A	400 A	630 A
Rated voltage	690 V~	690 V~	690 V~
Cable outlet	top/bottom	top/bottom	top/bottom
Type of connection	screw M12	screw M12	screw M12
Tightening torque ● Mounting screw ● Terminal screw	 352 in.lbs 352 in.lbs	 352 in.lbs 352 in.lbs	 352 in.lbs 352 in.lbs
PU	1	1	1
Part No. SV	**3485.000**	**3486.000**	**3487.000**

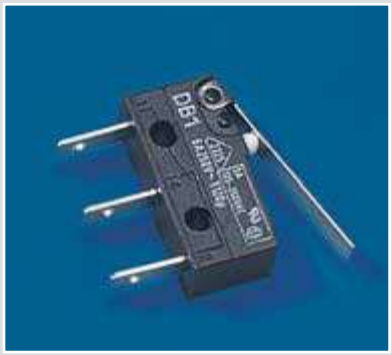
Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Accessories:
Microswitch, see right-hand column.

SV 3485.000 / SV 3486.000 / SV 3487.000



Accessories:

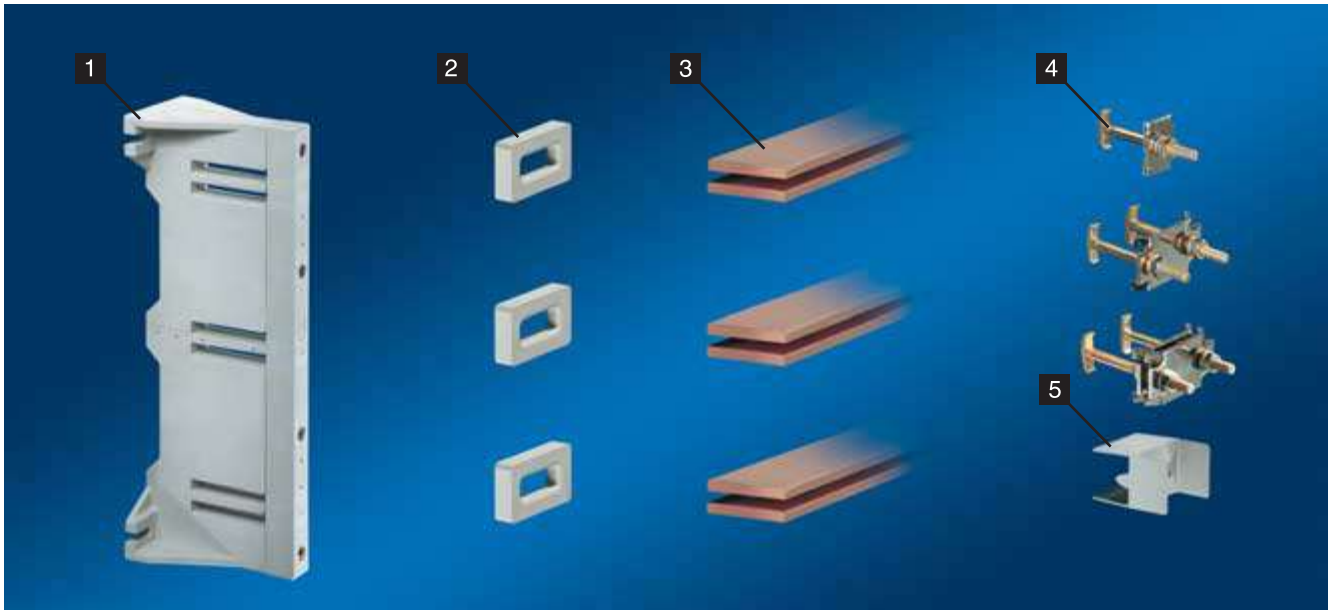


Microswitch for NH fused isolator
To indicate the switch position of the NH unit (lid unit).

PU	Part No. SV
5	**3071.000**

Identification label holder for NH fused isolator 00
For clip-on mounting on the fused isolator housing.

PU	Part No. SV
6	**3595.000**



1 Flat busbar supports up to 2500 A

150 mm busbar center distance.
Rated current maximum up to 2500 A,
Rated voltage
up to 1000 V~, 50/60 Hz per VDE 0660.

Tightening torque:
- Mounting screw 70 – 88 in.lbs
- Cover attachment 44 – 88 in.lbs

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

Busbar capacity	PU	Part No. SV
3 x 2 x 80 x 10 mm	2	**3055.000**

Short-circuit protection diagram,
see page 659.

2 Spacer elements

For mounting of copper busbars 60 x 10 mm in busbars SV 3055.000.

PU	Part No. SV
12	**3056.000**

3 Busbars made from E-Cu 57

To DIN 1759, DIN 40 500.
Length: 2400 mm/busbar.

Dimensions	PU	Part No. SV
60 x 10 mm	3	**3589.000**
80 x 10 mm	3	**3590.000**

Accessories:

4 Connector plates

Tightening torque: 88-132 in.lbs

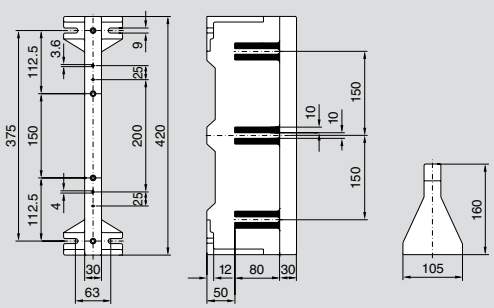
Connection	PU	Part No. SV
Cable clamp up to 500 MCM M10	3 set	**3058.000***
Cable clamp up to 500 MCM 2 x M10	3 set	**3059.000***
Laminated flat copper busbars up to 40 x 10 mm	3 set	**3061.000****

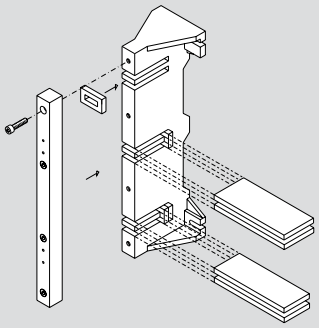
T-head (hammer head) screws:
* M10 x 100 mm
** M10 x 120 mm

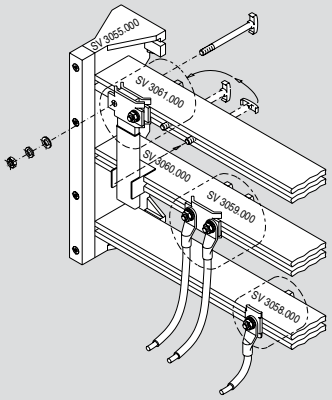
5 Busbar insulation

For connection wire routing, plug-in type.

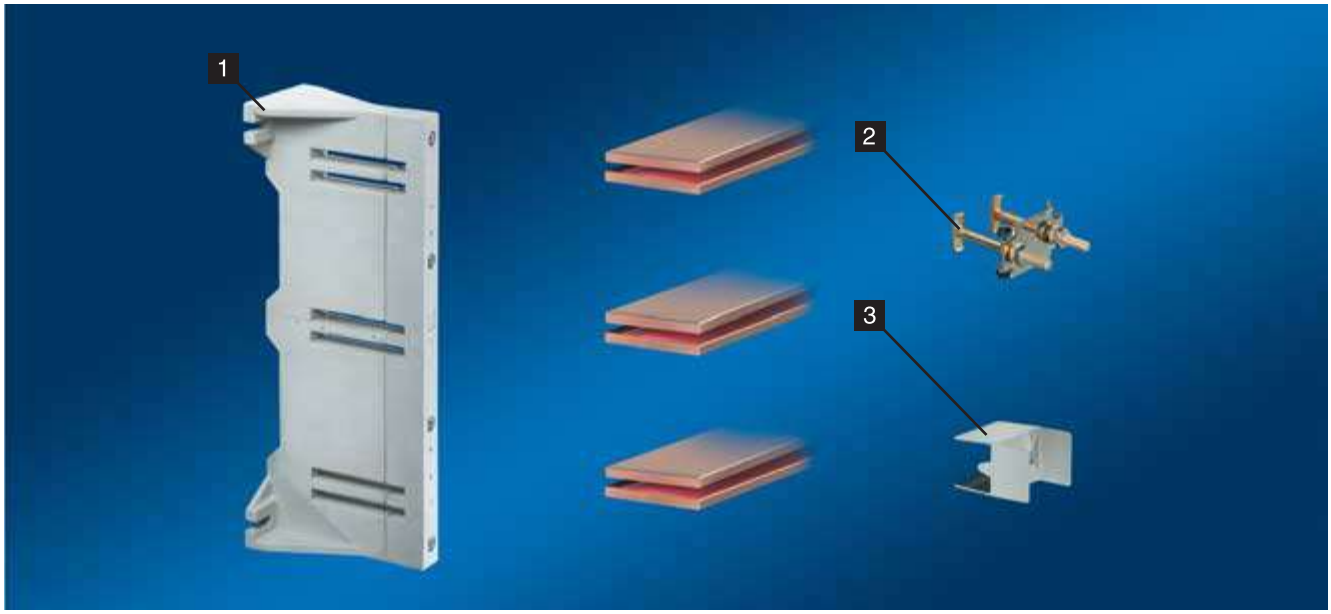
PU	Part No. SV
9	**3060.000**







Up to 2500 A/3000 A



1 Flat busbar supports up to 3000 A

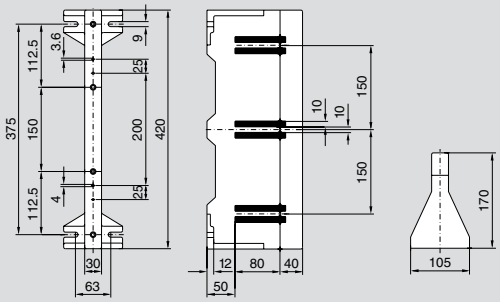
150 mm busbar center distance.
Rated current maximum up to 3000 A,
Rated voltage up to 1000 V~, 50/60 Hz
per VDE 0660.

Tightening torque:
- Mounting screw 70 – 88 in.lbs
- Cover attachment 44 – 88 in.lbs

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Continuous operating maximum 284 °F/140 °C.
Fire protection according to UL 94-V0.

Busbar capacity	PU	Part No. SV
3 x 2 x 100 x 10 mm	2	**3057.000**

Short-circuit protection diagram,
see page 659.



Accessories:

2 Connector plates

Tightening torque: 88 – 132 in.lbs

Note:
Only one connector plate will be needed (see in comparison:
page 650 – SV 3059.000).

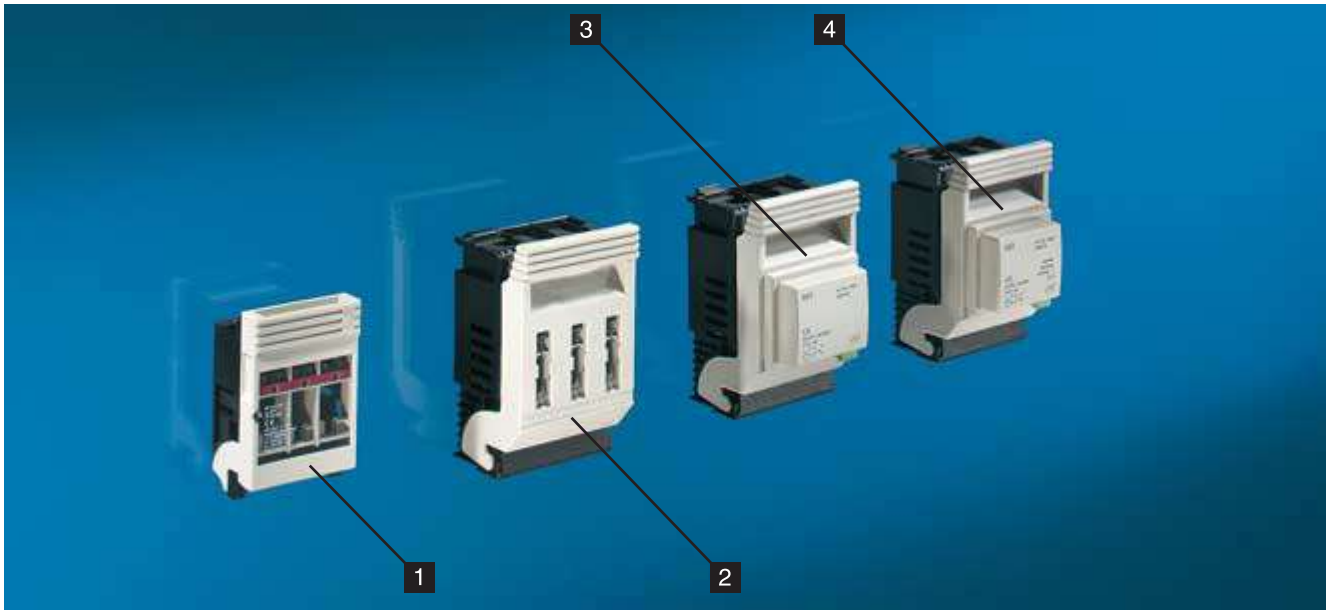
Connection	PU	Part No. SV
Cable clamps up to 500 MCM 2 x M10	3 set	**3061.000***

T-head (hammer head) screws:
* M10 x 120 mm

3 Busbar insulation

For connection wire routing, plug-in type.

PU	Part No. SV
9	**3060.000**



NH fused isolator, sizes 00C/00

Size		00C	00		00	
Rated current maximum		100 A (160 A*)	160 A		160 A	
Rated voltage		690 V~	690 V~		690 V~	
Cable outlet		top/bottom	top/bottom	bottom	top/bottom	bottom
Type of connection	box terminal up to	AWG 1/∅	–		–	
	terminal screw	–	M8		–	
	clamp-type terminal clamp up to	–	–		AWG 2/∅	
Tightening torque	● Mounting screw ● Terminal screw	– 26 in.lbs	26 – 44 in.lbs 88 – 132 in.lbs		26 – 44 in.lbs 18 – 26 in.lbs	
PU		1	1		1	
Part No. SV		**1 3431.000**	**2 3488.000**	**–**	**2 3489.000**	**–**
3 with electronic fuse monitoring						
Part No. SV		**–**	**–**	**3488.300**	**–**	**3489.300**
4 with electronic fuse monitoring and LED display						
Part No. SV		**–**	**–**	**3488.310**	**–**	**3489.310**

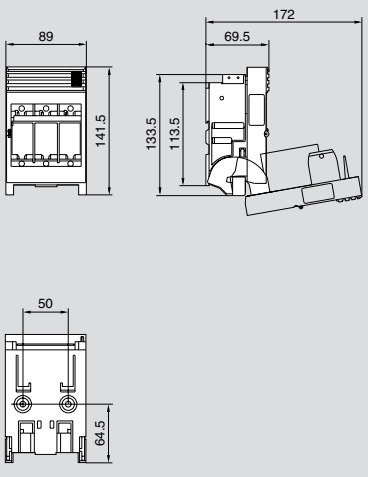
* 160 A with AWG 3/∅ wiring cross section (AWG 3/∅ connectors upon request).

Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

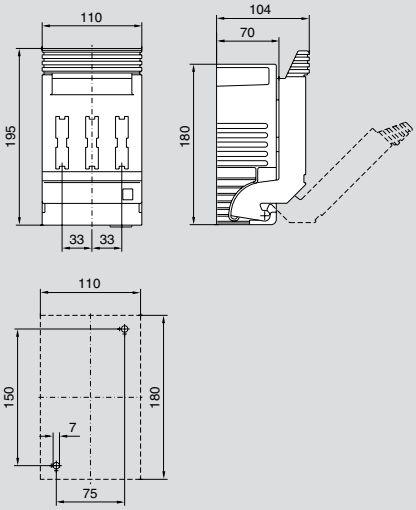
Accessories:

Microswitch, see page 645.

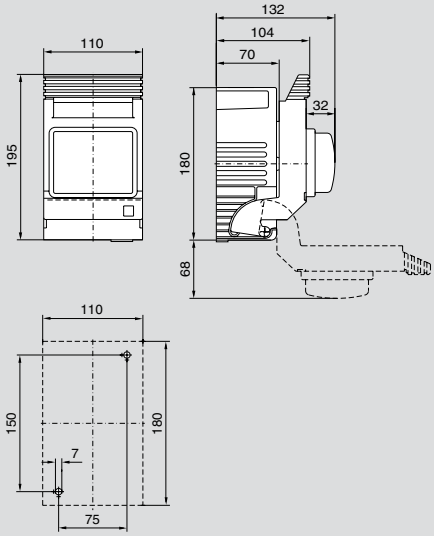
SV 3431.000



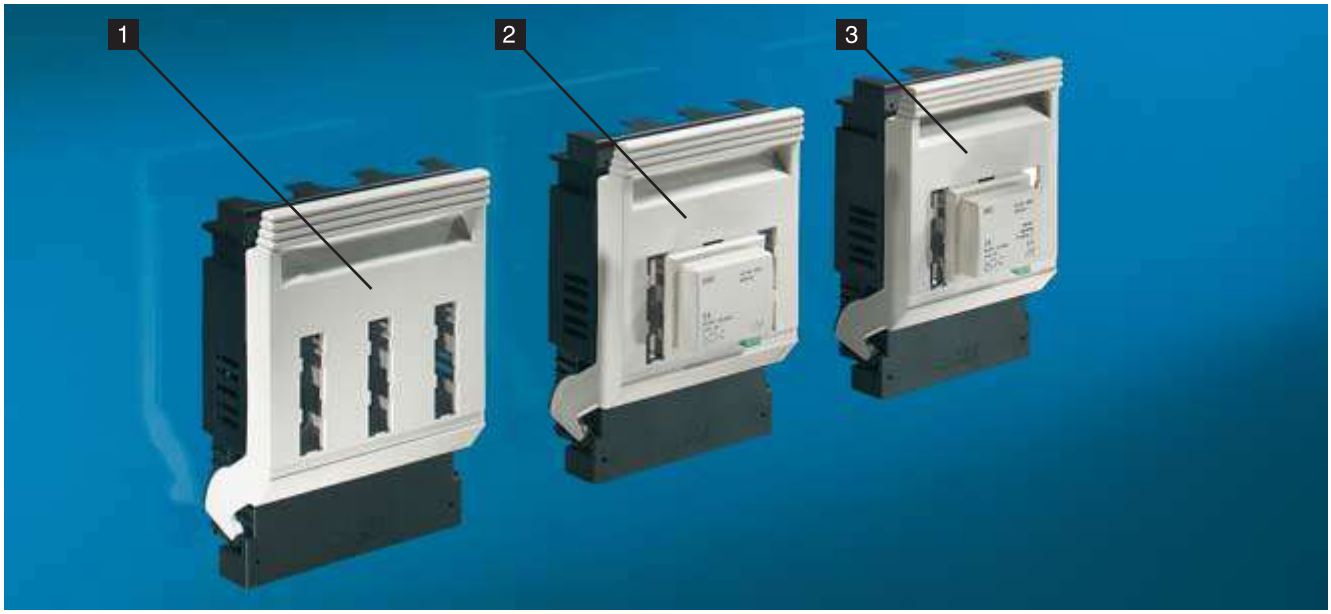
SV 3488.000
SV 3489.000



SV 3488.300 / SV 3488.310
SV 3489.300 / SV 3489.310



NH fused isolator, size 00C/00/1



1 NH fused isolators, size 1

Size	1	
Rated current maximum	250 A	
Rated voltage	690 V~	
Cable outlet	top/bottom	bottom
Type of connection	terminal screw M10	
Tightening torque ● Mounting screw ● Terminal screw	 26 – 44 in.lbs 132 – 176 in.lbs	
PU	1	
Part No. SV	**3409.000**	**–**
2 with electronic fuse monitoring		
Part No. SV	**–**	**3409.300**
3 with electronic fuse monitoring and LED display		
Part No. SV	**–**	**3409.310**

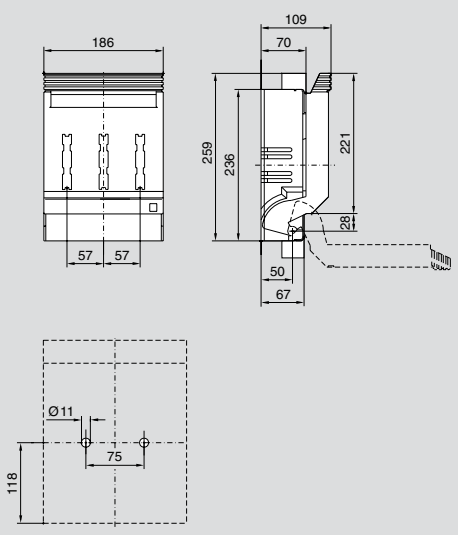
Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Accessories:

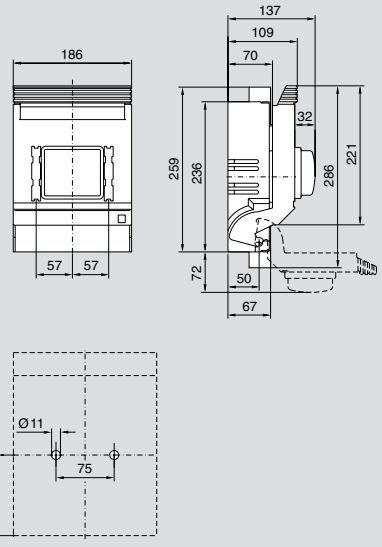
- Clamp-type terminal connection parts
- Microswitch

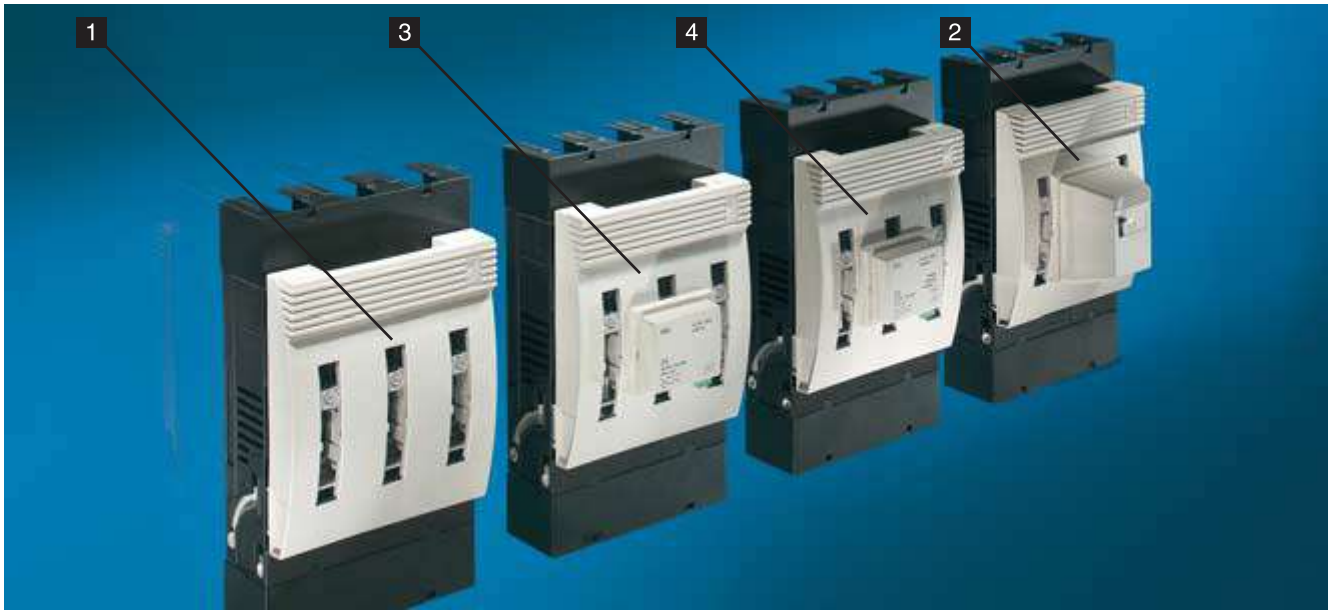
see page 645.

SV 3409.000



SV 3409.300 / SV 3409.310





1 NH fused isolator, size 2

Size	2	
Rated current maximum	400 A	
Rated voltage	690 V~	
Cable outlet	top/bottom	bottom
Type of connection	terminal screw M10	
Tightening torque ● Mounting screw ● Terminal screw	 123 in.lbs 282 in.lbs	
PU	1	
Part No. SV	**3415.010**	**–**
2 with electromechanical fuse monitoring		
Part No. SV	**3415.110**	**–**
3 with electronic fuse monitoring		
Part No. SV	**–**	**3415.300**
4 with electronic fuse monitoring and LED display		
Part No. SV	**–**	**3415.310**

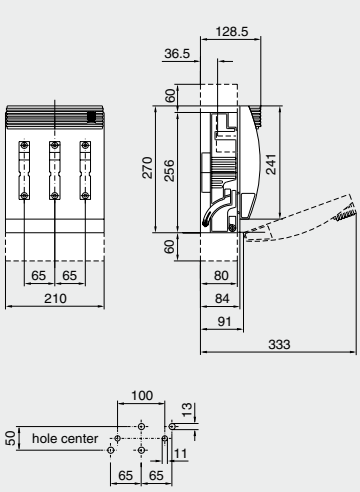
Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Accessories:

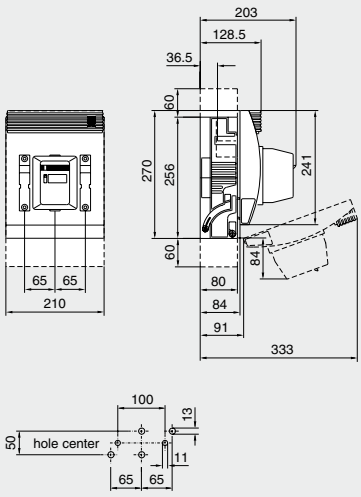
- Clamp-type terminal connection parts
- Clamp-type terminal connection
- Microswitch

see page 645.

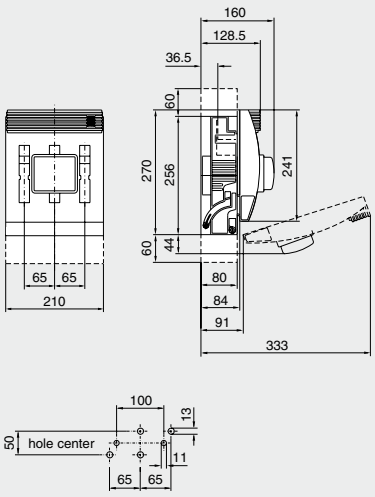
SV 3415.010



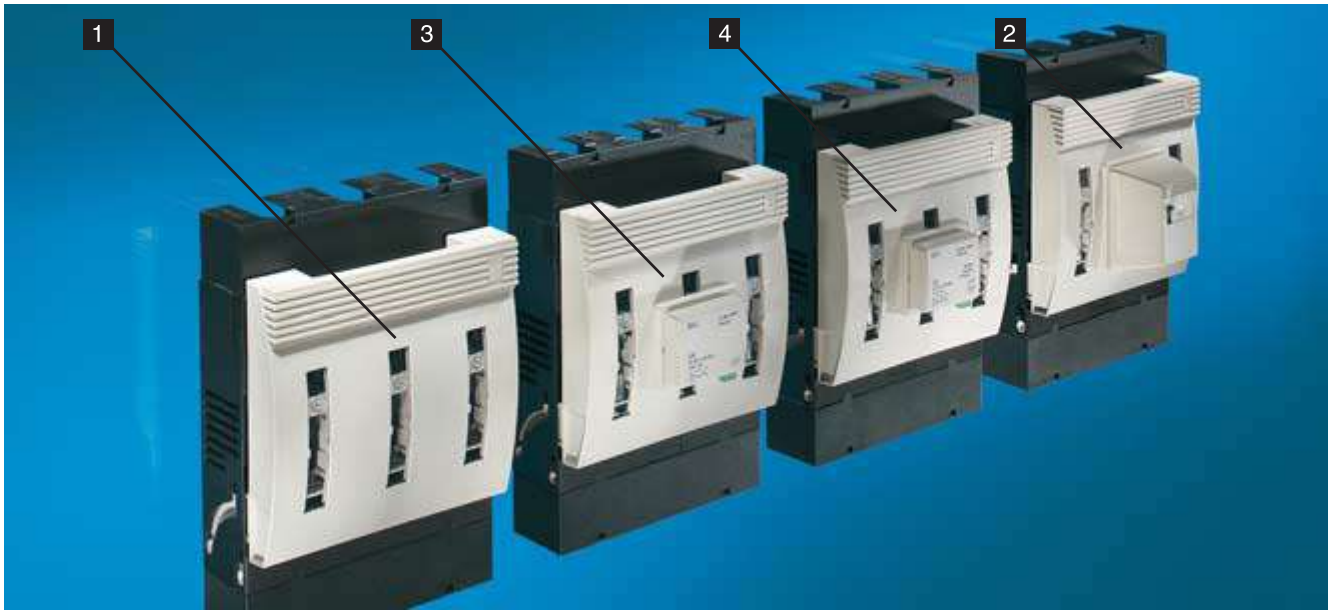
SV 3415.110



SV 3415.300 / SV 3415.310



NH fused isolator, sizes 2/3



1 NH fused isolators, size 3

Size	3	
Rated current maximum	630 A	
Rated voltage	690 V~	
Cable outlet	top/bottom	bottom
Type of connection	terminal screw M10	
Tightening torque ● Mounting screw ● Terminal screw	 123 in.lbs 282 in.lbs	
PU	1	
Part No. SV	**3095.010**	**–**
2 with electromechanical fuse monitoring		
Part No. SV	**3095.110**	**–**
3 with electronic fuse monitoring		
Part No. SV	**–**	**3095.300**
4 with electronic fuse monitoring and LED display		
Part No. SV	**–**	**3095.310**

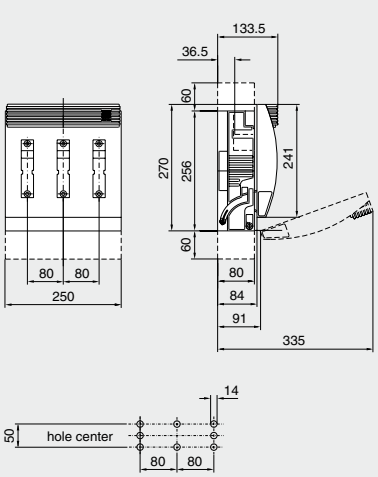
Technical specifications and material properties, see pages 664/665.
Please note the information on page 666 when using gR fused inserts (VDE 0636/23) in NH equipment.

Accessories:

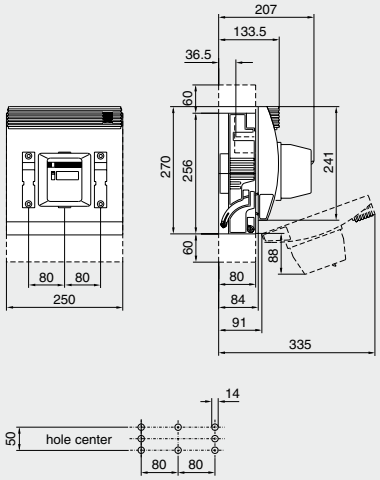
- Clamp-type terminal connection parts
- Clamp-type terminal connection
- Microswitch

see page 645.

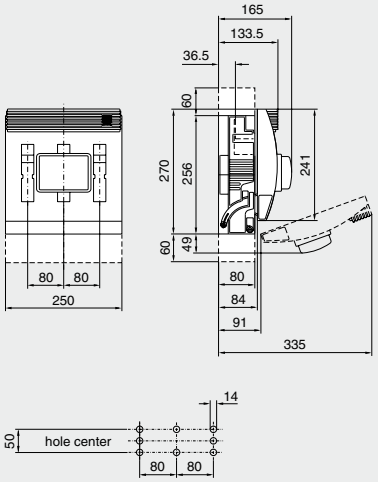
SV 3095.010

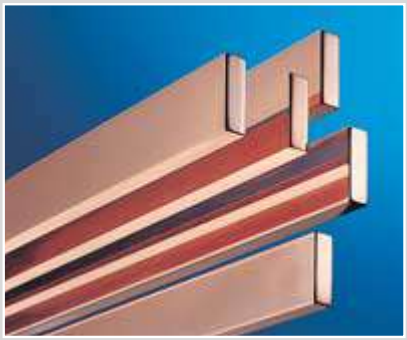


SV 3095.110



SV 3095.300 / SV 3095.310





Busbars made of E-Cu 57

To DIN 1759, DIN 40 500. Length: 2400 mm/bar.

Dimensions	Weight per busbar	PU	Part No. SV
12 x 5 mm	2.82 lbs/ 1.28 kg	6	**3580.000***
15 x 5 mm	3.53 lbs/ 1.60 kg	6	**3581.000***
20 x 5 mm	4.72 lbs/ 2.14 kg	6	**3582.000***
25 x 5 mm	5.88 lbs/ 2.67 kg	6	**3583.000***
30 x 5 mm	7.05 lbs/ 3.20 kg	6	**3584.000***
12 x 10 mm	5.64 lbs/ 2.56 kg	6	**3580.100***
15 x 10 mm	7.05 lbs/ 3.20 kg	6	**3581.100***
20 x 10 mm	9.42 lbs/ 4.27 kg	6	**3585.000***
30 x 10 mm	14.13 lbs/ 6.41 kg	6	**3586.000***
40 x 10 mm	18.85 lbs/ 8.55 kg	3	**3587.000**
50 x 10 mm	23.55 lbs/10.68 kg	3	**3588.000**
60 x 10 mm	28.26 lbs/12.82 kg	3	**3589.000**
80 x 10 mm	37.68 lbs/17.09 kg	3	**3590.000**

* For single busbars (12 x 5 mm up to 30 x 10 mm), replace the last digit of the Part No. with a 1, (i.e. 3580.000 to 3580.001).

Busbar connectors

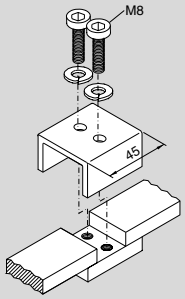
For joining PLS busbars from 20 x 5 to 30 x 10 mm. No drilling required.
Tightening torque 176 in.lbs.

Material:
Sheet steel, yellow chromated (top)
Silver plated E-Cu (contact plate).

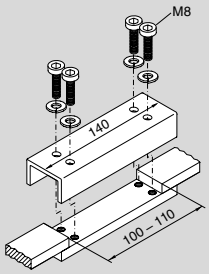
For	PU	Part No. SV
Single connection	3	**9320.020**
Baying connection*	3	**9320.030**

* From enclosure to enclosure (TS 8/PS).

SV 9320.020



SV 9320.030



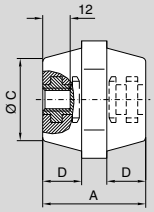
Base isolators

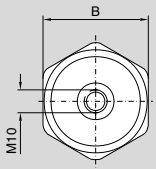
For configuring busbar systems with any given busbar center distances and for assembling PE/GND busbars.

Material:
Duroplastic polyester (UP resin).
Continuous operating temperature: maximum 275 °F/135 °C.

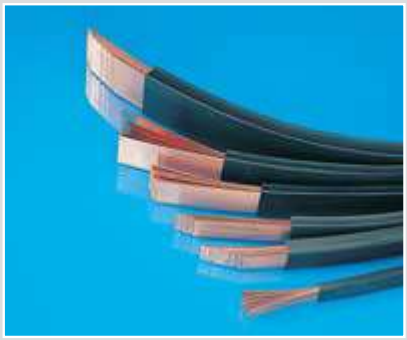
Technical specifications		
Rated voltage	1 kV	1 kV
Tensile strength	2698 lbs	2923 lbs
Torsional strength	660 in.lbs	792 in.lbs
Bending strength	1349 lbs	1349 lbs
Tightening torque	352 in.lbs	352 in.lbs
Part No. SV	**3031.000**	**3032.000**

Configuration: PU = 6 pieces





Part No. SV	A	B	Ø C	D
3031.000	40	SW 36	32	15
3032.000	50	SW 50	42	19



Rittal Flexibar laminated copper busbars

Length: 2000 mm/busbar
* Length: 3000 mm/busbar.

Configuration [1] mm	I_n at 50 K [2]	I_n at 30 K [2]	I_n at 10 K [2]	Characteristic curve (short-circuit resistance)	Installation type	Part No. SV copper	Part No. SV tin plated
6 x 9.0 x 0.8	250 A	220 A	120 A	–	–	**3565.000**	**3565.902**
6 x 13.0 x 0.5	200 A	150 A	110 A	–	–	**3566.000**	**3566.902**
4 x 15.5 x 0.8	300 A	210 A	140 A	–	–	**3567.000**	**3567.902**
6 x 15.5 x 0.8	350 A	290 A	170 A	a	1	**3568.000**	**3568.902**
10 x 15.5 x 0.8	450 A	350 A	190 A	a	1	**3569.000**	**3569.902**
5 x 20.0 x 1.0	400 A	300 A	180 A	a	1	**3570.000**	**3570.903***
5 x 24.0 x 1.0	450 A	370 A	230 A	a	1	**3571.000**	**3571.903***
10 x 24.0 x 1.0	800 A	600 A	340 A	b	1	**3572.000**	**3572.903***
5 x 32.0 x 1.0	550 A	470 A	280 A	b	2/3	**3573.000**	**3573.903***
10 x 32.0 x 1.0	1000 A	800 A	460 A	c	2/3	**3574.000**	**3574.903***
5 x 40.0 x 1.0	800 A	600 A	340 A	b	2/3	**3575.000**	**3575.903***
10 x 40.0 x 1.0	1200 A	950 A	500 A	c	2/3	**3576.000**	**3576.903***
5 x 50.0 x 1.0	900 A	700 A	400 A	b	2/3	**3577.000**	**3577.903***
10 x 50.0 x 1.0	1400 A	1000 A	600 A	c	2/3	**3578.000**	**3578.903***
10 x 63.0 x 1.0	1600 A	1240 A	715 A	d	2/3	**3579.000**	**3579.903***

[1]) Number of laminate x laminate width x laminate thickness
[2]) The conductor temperature of the laminated copper busbar is derived from the sum total of the ambient temperature and the temperature increase.
Contact your Rittal representative for availability.

Example: SV 3565.000 loaded with 220 A, i.e. the temperature increases by 30 K. At an ambient temperature of 95 °F/35 °C, this produces a resultant conductor temperature of 35 °C + 30 K = 65 °C or 149 °F.

Configuration: PU = 1 piece

Material:

Cu lamina
- High-purity electrolyte copper F20

Insulation
- High-strength vinyl compound
- Expansion 370 %
- Temperature range: 86 °F to 221 °F/– 30 °C to + 105 °C
- Flame retardant version per UL 94-V0
- Dielectric strength: 20 kV/mm

Made-to-order Flexibar

Rittal can provide pre-formed Flexibar solutions made to your specifications. Simply provide Rittal with a CAD drawing or even just a sketch and we will generate drawings and specifications that you can verify before the order is received. Rittal made-to-order Flexibar is great for:

- OEM machine and projects
- MRO applications
- Custom electrical connections

Advantages:
- Reduces assembly time
- Requires less panel space than cable
- Increases overall safety
- Eliminates costly installation clamps
- Gives designers more options
- Requires no tooling

Material:
Conductor: tinned electrolytic copper
Insulation: polyvinyl chloride
Temperature range: – 30 °F to 221 °F/– 30 °C to + 105 °C
Self-extinguishing per UL 94 VO
Dielectric resistance: 20 kV/mm

Contact your local Rittal representative for details.

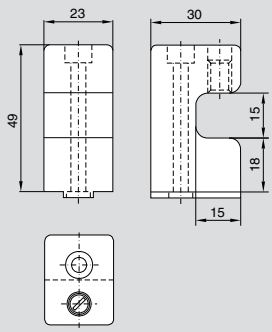
Universal support

For the attachment of laminated copper busbars from 20 x 5 to 63 x 10 mm.

Material:
Fiberglass-reinforced, thermoplastic polyester (PBT).
Fire protection according to UL 94-V0.

Includes installation hardware and “U” slide nut for mounting on PS/TS mounting rails.

PU	Part No. SV
3	**3079.000**



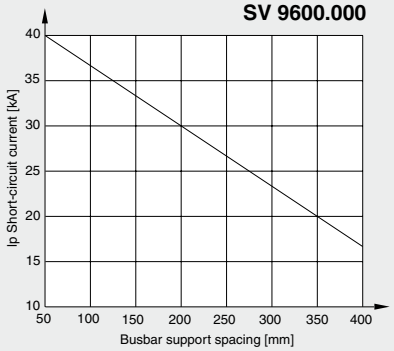
Mini-PLS busbar support up to 250 A, 3-pole

40 mm busbar center distance.
Rated current maximum up to 250 A,
Rated voltage up to 690 V~,
50/60 Hz per VDE 0660.

Basis of test:
VDE 0660 section 500/IEC 60 439.

Test implemented:
Dynamic short-circuit resistance to IEC 60 439.

SV 9600.000

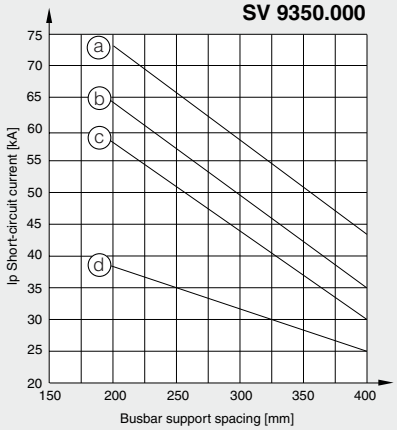


Flat busbar support up to 360 A, 3-pole

40 mm busbar center distance.
Rated current maximum up to 360 A,
Rated voltage up to 1000 V~,
50/60 Hz per VDE 0660.

Calculation basis:
VDE 0103/IEC 60 865.

SV 9350.000



Busbar E-Cu	Rated current maximum up to	Curve
12 x 5 mm	210 A	ⓓ
12 x 10 mm	340 A	ⓑ
15 x 5 mm	260 A	ⓒ
15 x 10 mm	360 A	ⓐ

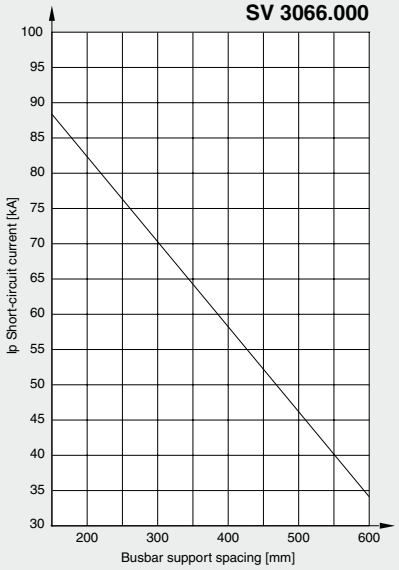
Flat busbar support up to 450 A, 3-pole

60 mm busbar center distance.
Rated current maximum up to 450 A,
Rated voltage up to 1000 V~,
50/60 Hz per VDE 0660.
Busbar accommodation 30 x 5 mm.

Basis of test:
VDE 0660 section 500/IEC 60 439.

Test implemented:
Dynamic short-circuit resistance to IEC 60 439.

SV 3066.000



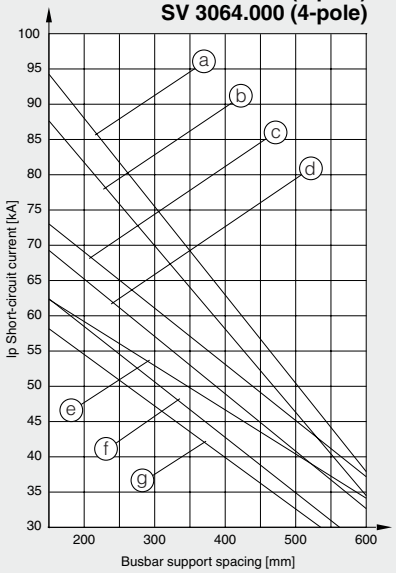
Flat busbar support 200 to 800 A

60 mm busbar center distance.
Rated current maximum up to 800 A,
Rated voltage up to 1000 V~,
50/60 Hz per VDE 0660.

Basis of test:
VDE 0660 section 500/IEC 60 439.

Test implemented:
Dynamic short-circuit resistance to IEC 60 439.

SV 3000.000 (3-pole)
SV 3050.000 (2-pole)
SV 3064.000 (4-pole)



Busbar E-Cu	Rated current*	Curve
12 x 5 mm	210 A	ⓖ
12 x 10 mm	340 A	ⓕ
15 x 3 mm	187 A	ⓕ
15 x 4 mm	210 A	ⓕ
15 x 5 mm	260 A	ⓕ
16 x 3 mm	198 A	ⓕ
16 x 4 mm	225 A	ⓕ
16 x 5 mm	280 A	ⓕ
16 x 8 mm	397 A	ⓔ
20 x 5 mm	319 A	ⓔ
20 x 10 mm	497 A	ⓒ
25 x 5 mm	384 A	ⓓ
30 x 5 mm	447 A	ⓑ
30 x 10 mm	676 A	ⓐ

* Base rated currents per (DIN 43 671).

Busbar E-Cu mm (inches)	Rated current*	Curve
9.53 x 25.40 ($^3/_8$ x 1″)	599 A	ⓐ
6.35 x 25.40 ($^1/_4$ x 1″)	449 A	ⓓ
4.76 x 25.40 ($^3/_{16}$ x 1″)	349 A	ⓓ
3.18 x 25.40 ($^1/_8$ x 1″)	299 A	ⓓ
9.53 x 19.05 ($^3/_8$ x $^3/_4$″)	449 A	ⓐ
6.35 x 12.70 ($^1/_4$ x $^1/_2$″)	249 A	ⓕ

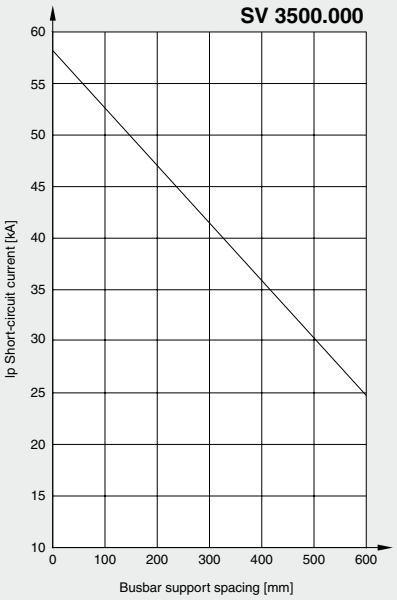
* Base rated currents per (DIN 43 671).

PLS busbar support up to 800 A, 3-pole

60 mm busbar center distance.
Rated current maximum up to 800 A,
Rated voltage up to 1000 V~,
50/60 Hz per VDE 0660.

Basis of test:
VDE 0660 section 500/IEC 60 439.

Test implemented:
Dynamic short-circuit resistance to IEC 60 439.

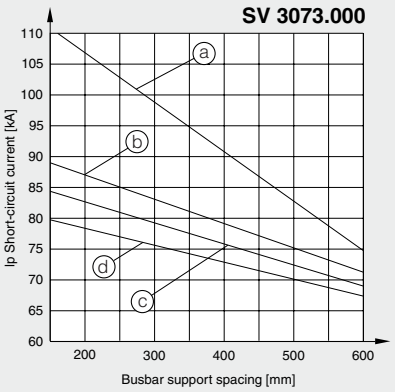


Flat busbar support up to 1250 A, 3-pole

100 mm busbar center distance.
Rated current maximum up to 1250 A,
Rated voltage up to 1000 V~,
50/60 Hz per VDE 0660.

Basis of test:
VDE 0660 section 500/IEC 60 439.

Test implemented:
Dynamic short-circuit resistance to IEC 60 439.



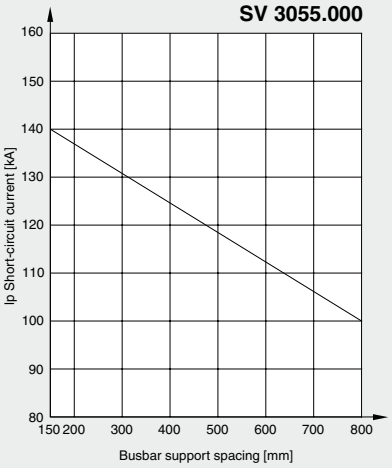
Busbar E-Cu	Rated current maximum up to	Curve
30 x 10 mm	800 A	ⓓ
40 x 10 mm	850 A	ⓒ
50 x 10 mm	1000 A	ⓑ
60 x 10 mm	1250 A	ⓐ

Flat busbar support up to 2500 A, 3-pole

150 mm busbar center distance.
Rated current maximum up to 2500 A,
Rated voltage up to 1000 V~,
50/60 Hz per VDE 0660 accommodation 3 x 2 x 80 x 10 mm.

Basis of test:
VDE 0660 section 500/IEC 60 439.

Test implemented:
Dynamic short-circuit resistance to IEC 60 439.

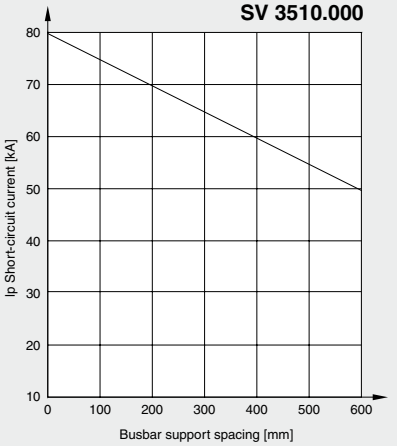


PLS busbar support 800 to 1600 A, 3-pole

60 mm busbar center distance.
Rated current maximum up to 1600 A,
Rated voltage up to 1000 V~,
50/60 Hz per VDE 0660.

Basis of test:
VDE 0660 section 500/IEC 60 439.

Test implemented:
Dynamic short-circuit resistance to IEC 60 439.

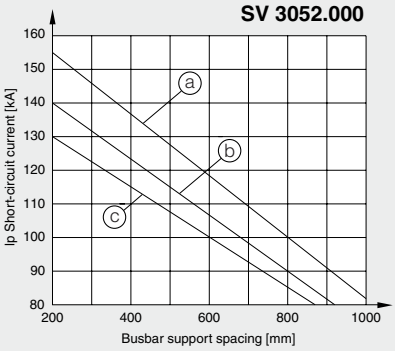


Flat busbar support 1000 to 1600 A, 3-pole

185 mm busbar center distance.
Rated current maximum up to 1600 A,
Rated voltage up to 1000 V~,
50/60 Hz per VDE 0660.

Basis of test:
VDE 0660 section 500/IEC 60 439.

Test implemented:
Dynamic short-circuit resistance to IEC 60 439.



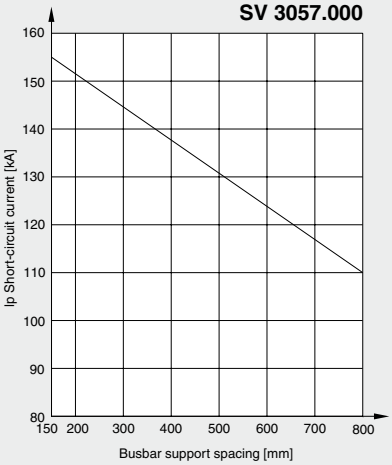
Busbar E-Cu	Rated current maximum up to	Curve
50 x 10 mm	1000 A	ⓒ
60 x 10 mm	1250 A	ⓑ
80 x 10 mm	1600 A	ⓐ

Flat busbar support up to 3000 A, 3-pole

150 mm busbar center distance.
Rated current maximum up to 3000 A,
Rated voltage up to 1000 V~,
50/60 Hz per VDE 0660.
Accommodation 3 x 2 x 100 x 10 mm.

Basis of test:
VDE 0660 section 500/IEC 60 439.

Test implemented:
Dynamic short-circuit resistance to IEC 60 439.



Mini-PLS component adaptors 12 A/25 A		40 mm
		Page 584
Make/model	Part No. SV	
Moeller		
PKM0...	9614.100	9615.100
PKZM0-...	9614.100	9615.100
PKZM0-...T	9614.100	9615.100
PKZM0-../E-10-D	9614.100	9615.100
PKZM0-../0.-.	9614.100	9615.100
PKZM0-../S00-11	9614.100	9615.100
PKZM0-../SE00-11	9614.100	9615.100
PKZ2/ZM-... (maximum 25 A)	9625.000	9626.000
PKZ2/ZM-...-8 (maximum 25 A)	9625.000	9626.000
PKZM0-.../E01-G-W	9629.010	–
PKZM0-.../.-..-W	9629.010	–
PKZM0-.../.-..WMF	9629.030	–
PKZM4-... (maximum 25 A)	9615.000	–
Siemens		
S0		
3RA11 20...2.-0...	9614.100*	–
3RA12 20-....-...	9629.020	–
3RV1. 21-...1.	9614.100	9615.100
3RW30 2.-1AB..	9614.100	9615.100
S00		
3RA11 10...1.-1...	9614.100*	–
3RA12 10-...-...	9629.010	–
3RV10 11-..A1.	9614.100	9615.100
3RW30 1.-1CB.4	9614.100	9615.100
S00 Cage Clamp		
RV10 11-..A20	9614.110	–
S2		
3RV1. 31-4..10 (maximum 25 A)	9615.000	–
3RW30 3.-1AB.. (maximum 25 A)	9615.000	–
ABB		
MS25-TM-..	9614.000	9615.000
MS116-..	9614.100	9615.100
MS225-..	9614.000	9615.000
MS325-..	9614.000	9615.000
MS450-.. (maximum 25 A)	9615.000	–
MS451-.. (maximum 25 A)	9615.000	–
AEG		
Mbs25	9614.100	9615.100
Mbs28	9614.000	9615.000
Allen Bradley		
103-...R	9614.100	9615.100
107-...R	9629.010	–
140M-...-...	9614.100	9615.100
140-MN-...	9614.100	9615.100
190-M1-...	9615.100*	–
190-M2-...	9615.100*	–
Telemecanique		
GK3-EF.. (maximum 25 A)	9626.000	–
GV2-....	9614.100	9615.100
GV2-M..K1..	9614.100	9615.100
GV2-M..K2..	9629.010	–
GV2-P..D2..	9629.030	–
GV2-P..D1..	9615.100*	–
GV3-M...	9626.000	–
LD1-L.030 (maximum 25 A)	9615.100	–
LH4-N1....7	9614.100	9615.100
LH4-N2....7	9629.010	–

* Support rail must be offset.

Mini-PLS component adaptors 40 A/100 A			40 mm
			Page 586
Make/model	Part No. SV		Accessories Part No. SV
Moeller			
PKZ2/ZM-...	9627.000	9628.000	–
PKZ2/ZM-...-8	9627.000	9628.000	–
PKZ2/ZM-.../SE1A/11	9628.000	–	–
PKZ2/ZM-.../S	9628.000	–	–
PKZ2/SE1A/11	9628.000	–	–
PKZ2/S	9628.000	–	–
PKZM4-... (maximum 40 A)	9617.000	–	–
PKZM4-...	9629.000	–	9320.120
Siemens			
S2			
3RV1. 31-4..10 (maximum 40 A)	9617.000	–	–
3RV1. 31-4..10	9629.000	–	9320.120
3RW30 3.-1AB.. (maximum 40 A)	9617.000	–	–
3RW30 3.-1AB..	9629.000	–	9320.120
S3			
3RV1. 4.-4..10	9629.000	–	9320.120
3RW30 4.-1AB..	9629.000	–	9320.120
ABB			
MS450-.. (maximum 40 A)	9617.000	–	–
MS450-..	9629.000	–	9320.120
MS451-.. (maximum 40 A)	9617.000	–	–
MS451-..	9629.000	–	9320.120
MS495-..	9629.000	–	9320.120
MS496-..	9629.000	–	9320.120
MS497-..	9629.000	–	9320.120
Sace			
LNA 32	9629.000	–	–
LNA 63	9629.000	–	–
LNA 100	9629.000	–	–
AEG			
Mbs100	9629.000	–	9320.120
Allen Bradley			
140M-F8.-... (maximum 40 A)	9616.000	9617.000	–
140-CMN-....	9629.000	–	9320.120
Merlin Gerin			
Compact NS 80H-MA	9629.000	–	–
Telemecanique			
GK3-EF.. (maximum 40 A)	9628.000	–	–
GK3-EF..	9629.000	–	9320.120
GV3-M... (maximum 40 A)	9628.000	–	–
GV3-M...	9629.000	–	9320.120

Overview of power circuit-breakers/starter combinations for component adaptors

Mini-PLS quick-fit component adaptors 25 A (32 A) 40 mm	
	Page 585
Make/model	Part No. SV
Moeller	
PKM0...	9619.000
PKZM0-...	9619.000
PKZM0-...T	9619.000
PKZM0-../S00-11	9620.000
PKZM0-../SE00-11	9620.000
Siemens	
S0	
3RA11 20...2.-0...	9622.000
3RV1. 21-...1.	9622.000
ABB	
MS25-TM-..	9622.000
AEG	
Mbs25	9618.000
Allen Bradley	
140M-...-...	9620.000
General Electric	
SFKO1	9618.000
Schiele	
MSU-K	9618.000
Telemecanique	
GV2-LE	9621.000
GV2-M	9621.000
GV2-P	9622.000

Multi-functional component adaptors 40 A 40 mm		
		Page 593
Make/model	For busbar thickness 5 mm Part No. SV	10 mm Part No. SV
Moeller		
PKZM4-... (maximum 40 A)	9350.340	9350.350
Siemens		
S2		
3RV1. 31-4..10 (maximum 40 A)	9350.340	9350.350
3RW30 3.-1AB.. (maximum 40 A)	9350.340	9350.350
ABB		
MS25-TM-..	9350.200*	9350.210*
MS225-..	9350.200*	9350.210*
MS325-..	9350.200*	9350.210*
MS450-.. (maximum 40 A)	9350.340	9350.350
MS451-.. (maximum 40 A)	9350.340	9350.350
DLA..-30	9350.200**	9350.210**
AEG		
Mbs28	9350.200*	9350.210*
Allen Bradley		
140M-F8.-... (maximum 40 A)	9350.200*	9350.210*

* The bottom support rail is eliminated.
** The top support rail is eliminated.

Multi-functional component adaptors 12/25 A 40 mm			
			Pages 590/591
Make/model	For busbar thickness 5 mm Part No. SV	10 mm Part No. SV	Accessories Part No. SV
Moeller			
PKM0...	9350.100	9350.110	–
PKZM0-...	9350.100	9350.110	–
PKZM0-...T	9350.100	9350.110	–
PKZM0-../0.-.	9350.100	9350.110	–
PKM0.../E01-G-W	9350.280	9350.290	–
PKZM0-../E-10-D	9350.100	9350.110	–
PKZM0-../S00-11	9350.100	9350.110	9320.140
PKZM0-../SE00-11	9350.100	9350.110	9320.140
PKZM0-.../.-..-W	9350.280	9350.290	–
PKZM0-.../.-..-WMF	9350.320*	9350.330*	–
Siemens			
S0			
3RA11 20-...2.-0...	9350.100	9350.110	9320.140
3RA12 20-....-...	9350.300	9350.310	–
3RV1. 21-...1.	9350.100	9350.110	–
3RW30 2.-1AB..	9350.100	9350.110	–
S00			
3RA11 10...1.-1...	9350.100	9350.110	9320.140
3RA12 10-....-...	9350.280**	9350.290**	9320.140
3RV10 11-..A1.	9350.100	9350.110	–
3RW30 1.-1CB.4	9350.100	9350.110	–
S00 Cage Clamp			
3RV10 11-..A20	9350.080	9350.090	–
ABB			
MS116-..	9350.100	9350.110	–
AEG			
Mbs25	9350.100	9350.110	–
Allen Bradley			
103-...R	9350.100	9350.110	–
107-...R	9350.280	9350.290	–
140M-...-...	9350.100	9350.110	–
140-MN-...	9350.100	9350.110	–
190-M1-...	9350.260	9350.270	–
190-M2-...	9350.260	9350.270	–
Telemecanique			
GV2-....	9350.100	9350.110	–
GV2-M..K1..	9350.100	9350.110	–
GV2-M..K2..	9350.280	9350.290	–
GV2-P..D1..	9350.260	9350.270	–
GV2-P..D2..	9350.320*	9350.330*	–
LD1-L.030 (maximum 25 A)	9350.100	9350.110	–
LH4-N1....7	9350.100	9350.110	–
LH4-N2....7	9350.280	9350.290	–

* Moeller: The bottom support rail is eliminated.
Telemecanique: Offset the top support rail at a distance of 125 mm from the bottom support rail (center-to-center distance).
** The support rail must be offset.

Multi-functional component adaptors 12 A/25 A			**60 mm**
			Pages 606/607
Make/model	For busbar thickness 5 mm **Part No. SV**	For busbar thickness 10 mm **Part No. SV**	**Accessories Part No. SV**
Moeller			
PKM0...	9320.180	9320.190	–
PKZM0-...	9320.180	9320.190	–
PKZM0-...T	9320.180	9320.190	–
PKZM0-../0.-.	9320.180	9320.190	–
PKZM0.../E01-G-W	9320.380	9320.390	–
PKZM0-../E-10-D	9320.180	9320.190	–
PKZM0-../S00-11	9320.180	9320.190	9320.140
PKZM0-../SE00-11	9320.180	9320.190	9320.140
PKZM0-.../.-..-W	9320.380	9320.390	–
PKZM0-.../.-..WMF	9320.420*	9320.430*	–
Siemens			
S0			
3RA11 20-...2.-0...	9320.180	9320.190	9320.140
3RA12 20-....-...	9320.400	9320.410	–
3RV1. 21-...1.	9320.180	9320.190	–
3RW30 2.-1AB..	9320.180	9320.190	–
S00			
3RA11 10...1.-1...	9320.180	9320.190	9320.140
3RA12 10-....-...	9320.380*	9320.390*	9320.140
3RV10 11-..A1.	9320.180	9320.190	–
3RW30 1.-1CB.4	9320.180	9320.190	–
S00 Cage Clamp			
3RV10 11-..A20	9320.160	9320.170	–
ABB			
MS116-..	9320.180	9320.190	–
AEG			
Mbs25	9320.180	9320.190	–
Allen Bradley			
103-...R	9320.180	9320.190	–
107-...R	9320.380	9320.390	–
140M-...-...	9320.180	9320.190	–
140-MN-...	9320.180	9320.190	–
190-M1-...	9320.440	9320.450	–
190-M2-...	9320.440	9320.450	–
Telemecanique			
GV2-....	9320.180	9320.190	–
GV2-M..K1..	9320.180	9320.190	–
GV2-M..K2..	9320.380	9320.390	–
GV2-P..D1..	9320.440	9320.450	–
GV2-P..D2..	9320.420**	9320.430**	–
LD1-L.030 (maximum 25 A)	9320.180	9320.190	–
LH4-N1....7	9320.180	9320.190	–
LH4-N2....7	9320.380	9320.390	–

* The bottom support rail is eliminated.
** The upper support rail is offset at a distance of 125 mm from the lower rail (support rail center-to-center spacing).

Multi-functional component adaptors 40 A		**60 mm**
		Page 609
Make/model	For busbar thickness 5 mm **Part No. SV**	For busbar thickness 10 mm **Part No. SV**
Moeller		
PKZM4-... (maximum 40 A)	9320.460	9320.470
Siemens		
S2		
3RV1. 31-4..10 (maximum 40 A)	9320.460	9320.470
3RW30 3.-1AB.. (maximum 40 A)	9320.460	9320.470
ABB		
MS25-TM-..	9320.300*	9320.310*
MS225-..	9320.300*	9320.310*
MS325-..	9320.300*	9320.310*
MS450-.. (maximum 40 A)	9320.460	9320.470
MS451-.. (maximum 40 A)	9320.460	9320.470
DLA..-30	9320.300**	9320.310**
AEG		
Mbs28	9320.300*	9320.310*
Allen Bradley		
140M-F8.-... (maximum 40 A)	9320.300*	9320.310*

* The bottom rail is eliminated.
** The top rail is eliminated.

Overview of power circuit-breakers/starter combinations for component adaptors

Component adaptors 50 A	60 mm
	Pages 610/611

Make/model	For busbar thickness 5 mm Part No. SV	For busbar thickness 10 mm Part No. SV
Moeller		
PKZ2/ZM-...	3544.000	3545.000
PKZ2/ZM-...-8	3544.000	3545.000
PKZM0-.../.-..WMF	3042.000*	3043.000*
Siemens		
S2		
3RA11 30-...3.-0...	3040.000**	3041.000**
3RV10 31-....	3069.000	3070.000
ABB		
MS25-TM-..	3540.000	3541.000
MS225-..	3540.000	3541.000
MS325-..	3540.000	3541.000
AEG		
Mbs28	3540.000	3541.000
Allen Bradley		
140M-F8.-...	3540.000	3541.000
Telemecanique		
GV2-P..D2..	3042.000**	3043.000**

* The bottom rail must be offset.
** One support rail must be offset.

Component adaptors 63 A	60 mm
	Pages 612/613

Make/model	For busbar thickness 5 mm Part No. SV	For busbar thickness 10 mm Part No. SV
Moeller		
PKZ2/S	3046.000	3047.000
PKZ2/SE1A/11	3046.000	3047.000
PKZ2/ZM-.../S	3046.000	3047.000
PKZ2/ZM-.../SE1A/11	3046.000	3047.000
PKZM0-../0-SD	3048.000*	3049.000*
PKZM0../00(A)-SD	3048.000*	3049.000*
PKZM0-../E-10-SD	3048.000*	3049.000*
PKZM0-../E-10-G-SD	3048.000*	3049.000*
PKZM4-...	3036.000	3037.000
PKZM4-...	3445.000	3445.000
Siemens		
S2		
3RV1. 31-4..10	3036.000	3037.000
3RV1. 31-4..10	3445.000	3445.000
3RW30 3.-1AB..	3036.000	3037.000
3RW30 3.-1AB..	3445.000	3445.000
S3		
3RV1. 4.-4..10 (maximum 63 A)	3067.000	3068.000
3RW30 4.-1AB.. (maximum 63 A)	3067.000	3068.000
ABB		
MS25-TM-..	3445.000	3445.000
MS25-TM-..	3446.000	3446.000
MS225-..	3445.000	3445.000
MS225-..	3446.000	3446.000
MS325-..	3445.000	3445.000
MS325-..	3446.000	3446.000
MS450-..	3036.000	3037.000
MS450-..	3445.000	3445.000
MS451-..	3036.000	3037.000
MS451-..	3445.000	3445.000
MS495-.. (maximum 63 A)	3067.000	3068.000
MS496-.. (maximum 63 A)	3067.000	3068.000
MS497-.. (maximum 63 A)	3067.000	3068.000
AEG		
Mbs28	3445.000	3445.000
Mbs28	3446.000	3446.000
Allen Bradley		
140M-F8.-...	3445.000	3445.000
140M-F8.-...	3446.000	3446.000
Telemecanique		
GK3-EF.. (maximum 63 A)	3067.000	3068.000
GV3-M... (maximum 63 A)	3067.000	3068.000
LD1-L.030	3067.000	3068.000
LD4-L..30	3067.000	3068.000

* One support rail is eliminated.

NH fused isolator, size 00C

- Thanks to a specially developed locking mechanism, the fuse inserts are easily and quickly installed and rewired.
- A special switching aid pre-engages the contact when the isolator lid is closed. This means that the fuse insert slides reliably into its final position without damaging the contact.
- Microswitches for monitoring the lid position are readily integrated on the right and left.
- The unit can be protected from unauthorized switching via the readily accessible sealing device on the front of the unit.
- The viewing window of the isolator lid allows easy monitoring of the fuse insert indicators.
- Test holes drilled in the viewing window provide test measurement points.

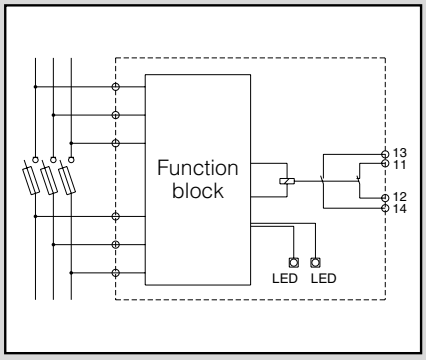
NH fused isolator, size 00 to 3

- Easy assembly with removable push-in isolator lid and top mounted contact hazard protection cover.
- Two-part contact hazard protection cover plate with service-friendly central unlocking allows connection in accordance with VBG 4, even when the supply end is live.
- Apart from its protective function, the design of the NH fused isolator facilitates the activation and deactivation of electrical equipment and system components.
- Microswitches to indicate the switching position of the isolator lid are easily installed via snap-in mounting on the left and right.
- The viewing window integrated into the lid unit has test holes which can be opened by sliding the viewing window, for direct measurement (see photograph).

Electronic fuse monitoring

- No external voltage required for operation of electronic fuse monitoring.
- Isolation between the mains voltage and function block is achieved via the optocoupler system.
- Automatic activation following fault rectification.
- Reliable functioning, thanks to surge-proof microelectronics.
- Readily accessible plug-in contacts facilitate service-friendly connection of the signal tracks.
- Permits rapid response behavior in the event of a fault.
- Electronic fuse monitoring board available as a separate spare part, easily replaced in the event of failure.

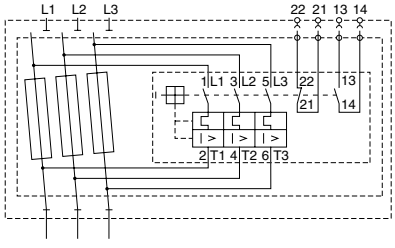
Electronic fuse monitoring is a compact, complete unit on the lid of the NH isolator. The functional task of the electronic fuse monitor is to promptly and safely detect any defects in the built-in NH fuse inserts. In the event of a fault, a signal is provided via the separate relay contacts (1 normally closed contact, 1 normally open contact). In the electronic fuse monitoring version with optical displays, the green LED additionally indicates the operational state, while the red LED indicates a fault.



Electromechanical fuse monitoring

The connection clamps of the floating switch contacts which serve as indicators, are arranged on the top of the isolator base. This arrangement guarantees simple installation. The isolator lids can be removed without disconnecting any pilot wires, in the same way as NH isolators without fuse monitoring. Unlike an electronic monitor, this system operates without auxiliary power, yet still performs the same functions.

Wiring diagram



NH fused strip isolator, size 00 to 3

- The cable outlet - top or bottom – is selected directly during assembly on the same device. The switch lid unit is simply rotated by 180°.
- Reliable isolated or off-load position of the switch lid unit, due to the integral multi-function key (sizes 1 to 3).
- Switch locking can be achieved via the installation of padlocks in the closed and isolated position (sizes 1 to 3).
- For inspection purposes, there are viewing windows with integral holes (size 00) in the switch lid unit or sliding viewing windows (sizes 1 to 3).
- Simple external/internal mounting of microswitches to indicate the switch position of the NH unit (lid unit).

Material:

NH fused isolator

Size	00C/00/1/2	3
Plug-in lid	Fiberglass-reinforced polyamide	
Contact hazard protection	Fiberglass-reinforced polyamide	
Isolator chassis	Fiberglass-reinforced polyamide	Duroplastic polyester
Contact tracks	Silver-plated hard copper	

NH fused strip isolator

Size	00/1/2/3
Cover	Fiberglass-reinforced polyamide
Strip chassis	Duroplastic polyester
Contact tracks	Silver-plated hard copper

NH fused isolator

Technical specifications To VDE 0660 part 107/IEC 60 947-3					
Size (NH fused inserts to DIN 43 620)	00C	00	1	2	3
Rated Operating Current I_e Conventional thermal current I_{th}	100 A 160 A*	160 A	250 A	400 A	630 A
Rated voltage U_e	AC 690 V	AC 690 V		AC 690/400 V	
Rated insulation voltage U_i	AC 690 V	AC 690 V		AC 800 V	
Rated surge voltage resistance U_{imp}	6 kV	8 kV	8 kV	8 kV	8 kV
Conditional rated short-circuit current when protected with fuses	80 kA with 100 A fuses 20 kA with 160 A fuses	20 kA	50 kA	50 kA	50 kA
Rated making capacity with fuse	≙/1 of the fused inserts to VDE 0636 section 21				
Rated breaking capacity per VDE 0660 part 107/IEC 60 947-3 (utilization category)	AC 22B – 400 V DC 21 – 400 V	AC 23B – 400 V AC 22B – 500 V AC 22B – 690 V DC 21 – 500 V	AC 23B – 400 V AC 23B – 500 V DC 21 – 500 V	AC 22B – 400 V AC 21B – 690 V DC 21 – 500 V	
Mechanical life	> 1000 (switching cycles)				
Permissible Ambient temperature	– 13 °F to 131 °F/– 25 °C to + 55 °C				
Fire protection corresponding to	UL 94-V0				
$P_{v\,max}$/fuse insert	7.5 W	10 W	22 W	34 W	48 W

* For 3/∅ connection cross-section (3/∅ connectors available upon request).

Fuse monitoring

Technical specifications	Electronic fuse monitoring	Electromechanical fuse monitoring
Rated voltage U_e	AC 400 V up to 690 V (50/60 Hz)	AC 690 V (50/60 Hz)
Rated surge voltage resistance U_{imp}	6 kV	6 kV
Response time	< 0.5 s	< 2 s
Auxiliary contacts	1 normally closed contact, 1 normally open contact, bounce-free	1 normally closed contact, 1 normally open contact
Load capacity of auxiliary contacts	maximum 2 A	1.5 A
Permissible Ambient temperature	– 13 °F to 131 °F/– 25 °C to + 55 °C	– 13 °F to 131 °F/– 25 °C to + 55 °C
Displays	1 LED green (ready and operational) 1 LED red (fault, error message)	–
Connection of auxiliary contacts	4-pole plug-in connector up to AWG 16	Terminal up to AWG 16
NH fuse inserts	with contacted, live puller lugs	

NH fused strip isolator

Technical specifications to VDE 0660 part 107/IEC 60 947-3					
Size (NH fused inserts to DIN 43 620)		00	1	2	3
Rated Operating Current I_e Conventional thermal current I_{th}		125 A 160 A	250 A	400 A	630 A
Rated voltage U_e Conventional thermal current U_i		690 V~	690 V~	690 V~	690 V~
Rated surge voltage resistance U_{imp}		8 kV	8 kV	8 kV	8 kV
Conditional rated short-circuit current when protected with fuses		20 kA	50 kA	50 kA	50 kA
Rated breaking capacity per VDE 0660 part 107/IEC 60 947-3 (utilization category) $I_e = I_n$	U_e = 400 V U_e = 500 V U_e = 690 V U_e = 440 V	AC 23B AC 22B AC 21B AC 21B	AC 22B – AC 22B –	AC 22B – AC 21B –	AC 22B – AC 21B –
Mechanical life (switching cycles)		> 1000	> 1000	> 1000	> 1000
Permissible ambient temperature*		– 13 °F to 131 °F/– 25 °C to + 55 °C			
Fire protection according to		UL 94-V0			
$P_{v\,max}$/fuse insert		10 W	22 W	33 W	45 W

* At a maximum busbar temperature 185 °F/+ 85 °C.

Use of semi-conductor fuses in Rittal NH isolator

The overload and short-circuit protection of semi-conductor components place very high demands on the fuse inserts, due to the time pattern for effective protection of the defective or damaged sub-circuit.

Because semi-conductor components have a low thermal capacity, the integral disconnect value (I^2t value) of the semi-conductor fuse inserts type aR, gR or gRL must match the integral limit value of the semi-conductor cell being protected.

Consequently, the tripping characteristic of the fuse inserts must be very fast, and over-voltage during the disconnection process (switching or arc voltage) must be as minimal as possible.

Compared with fuse inserts for cable and line protection and transformer protection, the particular features of semi-conductor fuse inserts produce a comparatively high heat loss. The high heat loss is dissipated to the environment in the form of thermal energy.

Because NH isolators only have limited capacity to dissipate thermal energy to the environment, the maximum heat loss ($P_{v\,max}$/fuse insert) is listed in the technical specifications of the NH isolator.

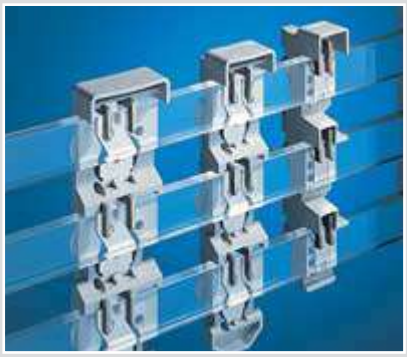
If the values exceed the heat loss specified by the manufacturer, the rated current should be reduced in accordance with the table opposite, or the minimum connection cross-section increased accordingly to encourage heat dissipation.

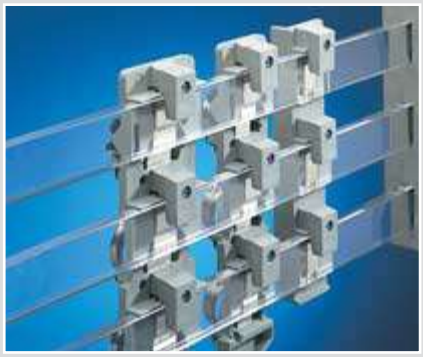
Semi-conductor fuses type aR/gR/gRL				Minimum connection cross-section (Cu) [mm²]	Reduction factor for rated current
Size	I_N [A]	Operating category	Heat loss [W]		
00	25	gR	6	4	1.00
00	35	gR	9	6	1.00
00	50	gR	12	10	0.87
00	63	gR	15	16	0.87
00	80	aR	19	25	0.85
00	100	aR	21	35	0.85
00	125	aR	26	50	0.80
00	160	aR	34	70	0.75
1	160	gR	24	70	1.00
1	200	gR	27	95	1.00
1	250	gR	30	120	1.00
2	250	aR	105	120	0.77
2	315	aR	120	185	0.75
2	450	aR	140	2 x (30 x 5)	0.75
3	150	gR	40	70	0.90
3	200	gR	55	95	0.90
3	250	gR	72	120	0.88
3	350	gR	95	240	0.81
3	500	gR	130	2 x 150	0.76

Functional categories	
g	Full-range fuses provide overload protection and short-circuit protection. They are to continuously conduct current up to their rated current, and reliably disconnect currents from the smallest fusing current to the rated breaking current.
a	Partial-range fuses only protect against short-circuit. They are able to continuously conduct up to their rated current, but can only disconnect currents above a multiple of their rated current up to the rated breaking current.

Operating categories	
gL	Full-range cable and line protection
gR	Full-range semi-conductor protection
gB	Full-range mining installation protection
gTr	Full-range transformer protection
aM	Partial-range switchgear protection
aR	Partial-range semi-conductor protection

Assembly and function of bus-mounted fuse bases





For screw-on clamp mounting

Support part:
Electrical threaded base with integral cable outlet terminals. On the bottom are the contact plates with integral terminal screws which are used to supply the component with power.

Components D II and D III are fitted with D screw fitting inserts to DIN 49 516.

The D 02 bus-mounted fuse base is prepared for D socket fitting inserts to DIN 49 523.

The contact hazard protection covers are attached using the plug-type system.

Benefits:
- Reliable-contact, shake-proof connection or fastening to the busbars with infinitely adjustable terminal screws.
- Assembly benefits and service-friendliness thanks to direct screw-mounting of the components onto pre-assembled or existing busbar systems. This eliminates the time-consuming work of adjustment and alignment.
- Time-saving dismantling of the bus-mounted fuse bases, even when the busbar system is live.
- Optimum cable routing on the outlet side, thanks to adequate recesses on the body of the base.
- A high level of contact reliability and prevention of contact heat and scorch points, thanks to the use of contact plates. The fuse inserts do not make direct contact with the busbars. This prevents the possibility of the busbars being destroyed by contact arc, should the fuse screw cap be inadequately tightened or loosened as a result of vibration.
- Special contact plate technology permits direct, final contact of the components on the busbars during assembly. Consequently, with the Rittal system, final attachment and contact is not determined by screw-fastening of the fuse inserts.

For snap-on mounting

Support part:
Electrical threaded base with integral cable outlet terminals. The contact plates which supply the infeed to the base are arranged on the underside, with integral spring-loaded foot pieces for snap-on mounting with a busbar thickness of 5 or 10 mm.

The D bus-mounted fuse bases are fitted with gauge rings to DIN 49 362.

The D 02 bus-mounted fuse base is prepared for D socket fitting inserts to DIN 49 523.

The contact hazard protection covers are attached using the plug-type system.

Benefits:
- Reliable-contact connection or attachment to the busbars, thanks to special spring-loaded foot pieces.
- Secure positioning on the busbar, thanks to a special functional element for automatic latching and manual unlocking.
- Safety is ensured by the Rittal Contact-Plus system. The contact plate system effectively separates electrical contacting from mechanical connection.
- Time-saving dismantling of the bus-mounted fuse base by simply unlocking the latching component, even with live busbar systems.
- Optimum cable routing on the outlet side, thanks to adequate recesses on the body of the base.
- The contact plate system with surface contact ensures a high level of contact stability for the fuse inserts and prevents contact heat and scorch points. The fuse inserts do not make direct contact with the busbars. This prevents the possibility of the busbars being destroyed by contact arc, should the fuse screw cap be inadequately tightened or loosened as a result of vibration.
- The Rittal contact plate system ensures final fastening and secure contact of the 3-pin base on the supply busbar, even without the fuse inserts in place.

Material:
- **Bus-mounted fuse base**
  Fiberglass-reinforced, thermoplastic polyester (PBT).
  Continuous operating temperature: maximum 284 °F/140 °C.
  Fire protection corresponding to UL 94-V0.
- **Contact hazard protection cover**
  Talcum-reinforced polypropylene.
  Continuous operating temperature maximum 212 °F/100 °C.
  Fire protection corresponding to UL 94-V0.

Specifications:
D 02 DIN 49 524
D II DIN 49 510/49 326
D III DIN 49 510/49 327

SV TS 8 and Maxi-PLS – the ideal combination of low-voltage distribution and switchgear in high amperage/low-voltage environments. The system configuration can be completed without any additional mechanical labor (like sawing, drilling, bending, etc.). This complete modular system offers new dimensions for quick install options and safety.

The modular system of the future

SV TS 8 are completely pre-assembled
The enclosure rack comes complete with three-part cable entry panels, rear wall, roof and door or partial doors. System chassis for the mouniting of the end caps as well as system support rails for the power circuit-breakers are installed and ready for population.

Standardized Maxi-PLS busbars with a brand-new ingenious mounting design
Maxi-PLS holders and rails may be installed quickly, easily and with accuracy due to the care in design and perfect system hole pattern.

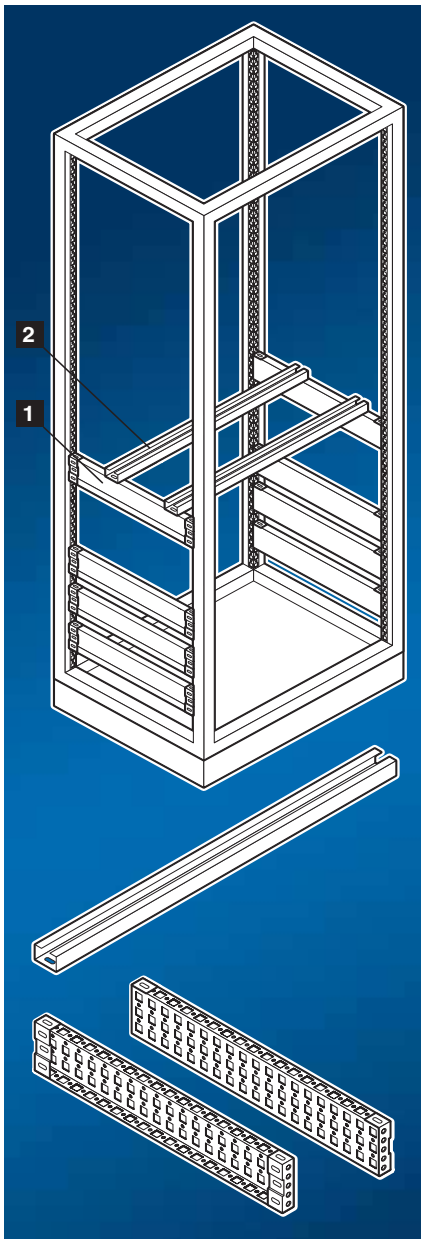
The four mounting levels of the Maxi-PLS busbars and matching grooved blocks or spacer bolts make possible the infinitely adjustable installation and contacting of components like round conductors, laminated flat copper busbars, Maxi-PLS terminal brackets and connector kits.

System kits for commercially available power circuit-breakers
Maxi-PLS busbars together with the isolating chassis, U contacts and the terminal brackets, are the heart of the modular system. The standardized components are designed for the connection of power circuit-breakers up to 3200 A.

The connector kits are precisely designed for specific power circuit-breakers.

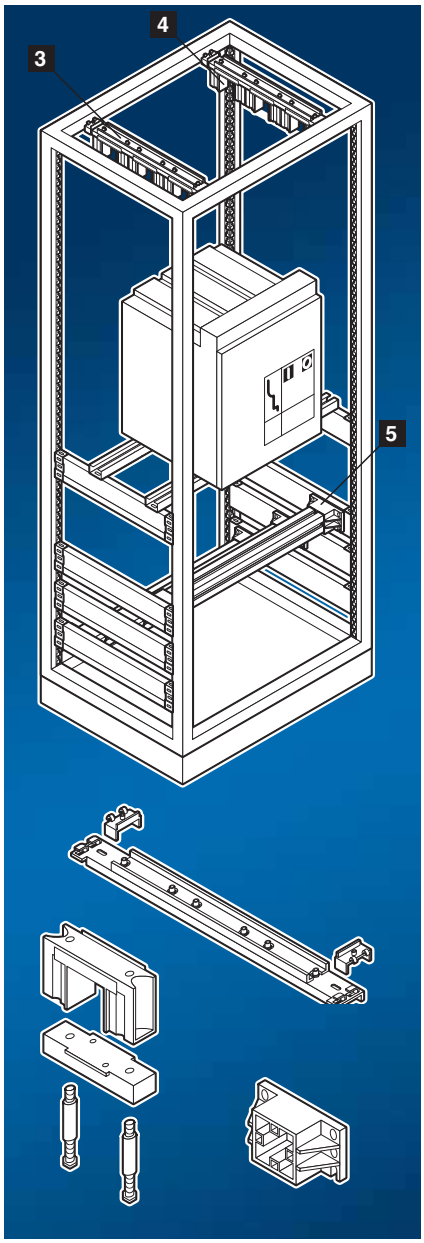
Rittal SV TS 8 and Rittal Maxi-PLS – quick, simple system assembly without sawing, drilling, bending etc.

Type tested according to
EN 60 439-1/IEC 60 439-1.
UL-508 and others pending.



1 TS system chassis 23 x 73 mm

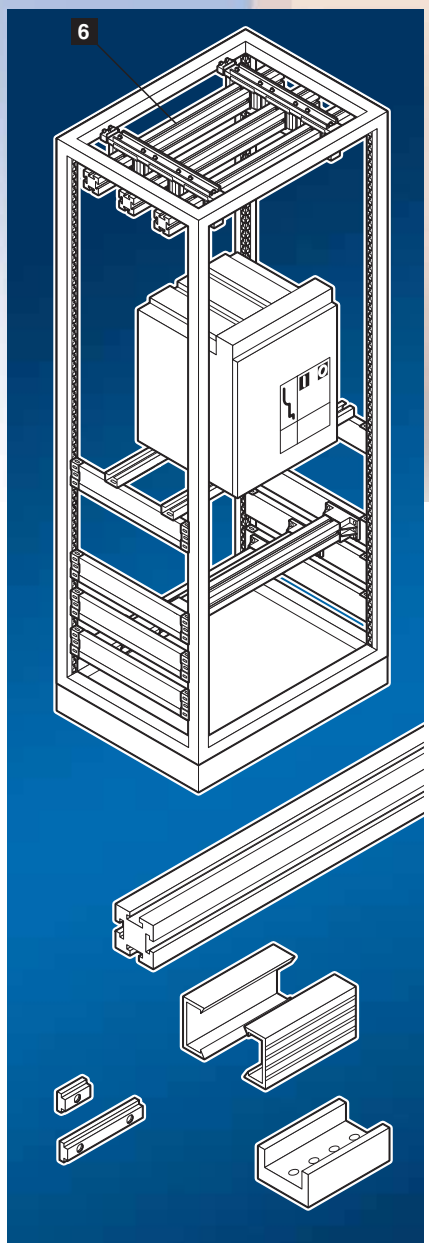
2 System support rails

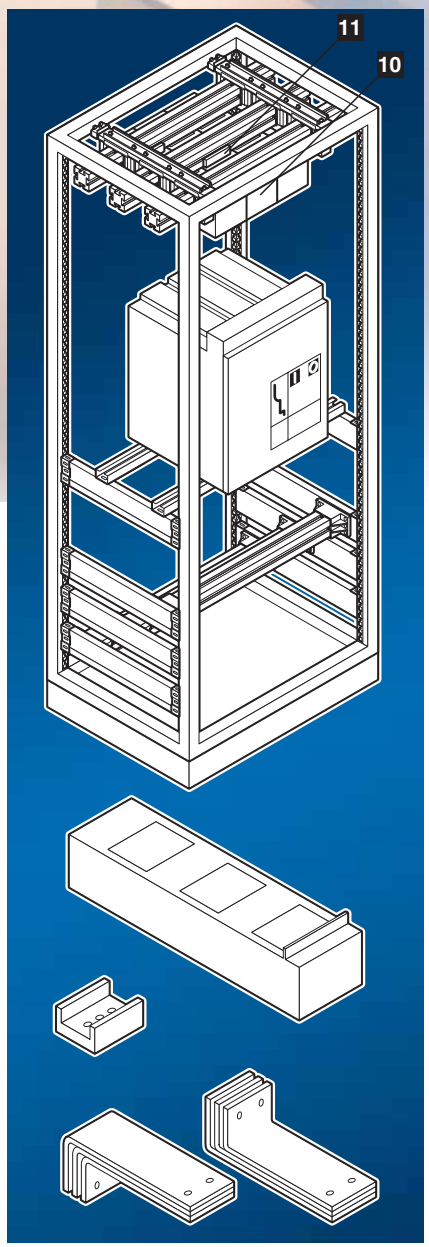


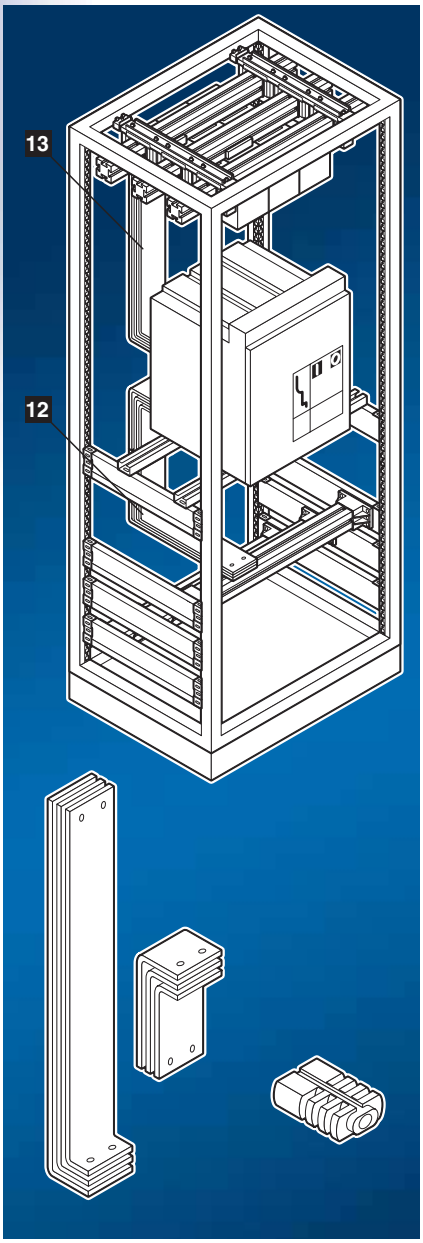
3 Maxi-PLS system mount

4 Maxi-PLS busbar support

5 Maxi-PLS end cap







6 Maxi-PLS busbars; E-Cu 57

7 Maxi-PLS cover sections

8 Maxi-PLS grooved blocks

9 Maxi-PLS length connector; E-Cu 57

10 Maxi-PLS insulating chassis

11 Maxi-PLS U contact pieces; E-Cu 57

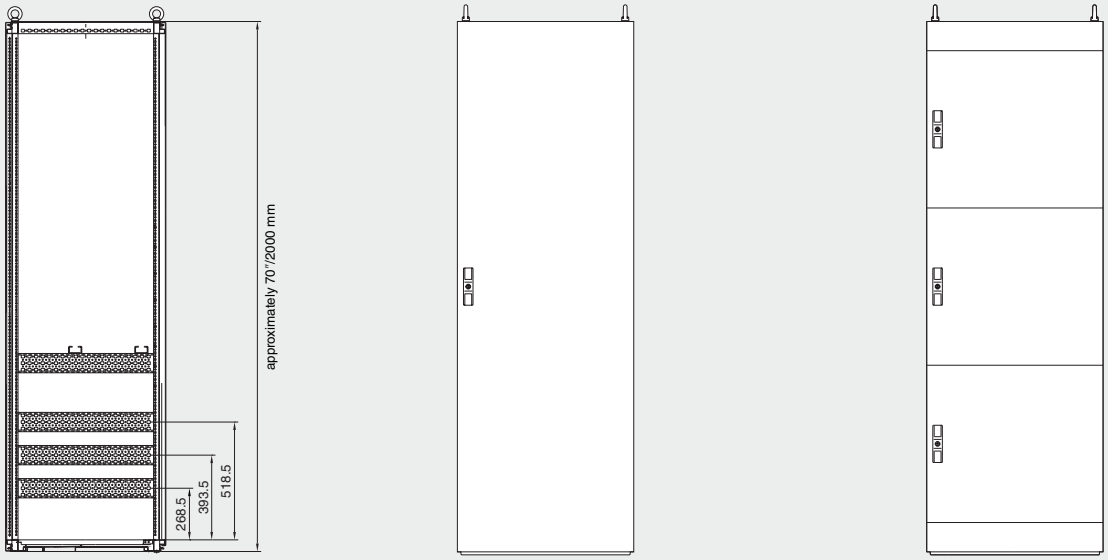
12 Maxi-PLS connector bracket; E-Cu 57

13 Maxi-PLS connector kit top/bottom

14 Maxi-PLS stacking support

SV TS 8 industrial enclosures for power feed/output

Pre-fabbed for the direct installation of power circuit-breakers



For Maxi-PLS				2000 A	3200 A	2000 A	3200 A	Page
Height (inches/mm)				79/2000	79/2000	79/2000	79/2000	
Width (inches/mm)				24/600	32/800	24/600	32/800	
Depth (inches/mm)				24/600	24/600	24/600	24/600	
Part No.		**SV**	1	**9660.660**	**9660.860**	**9660.670**	**9660.870**	
Doors				1	1	3	3	
Approximate weight (lbs/kg)				172/78	194/88	172/78	194/88	
Base/plinth								
Components front and rear	H = 4″/100 mm	**TS**	1 set	8601.600	8601.800	8601.600	8601.800	880
	H = 8″/200 mm	**TS**	1 set	8602.600	8602.800	8602.600	8602.800	880
Sidewalls	H = 4″/100 mm	**TS**	1 set	8601.060	8601.060	8601.060	8601.060	880
	H = 8″/200 mm	**TS**	1 set	8602.060	8602.060	8602.060	8602.060	880
⊞ Accessories								
Cable collecting rails		**PS**	2	4191.000	4192.000	4191.000	4192.000	898
Cable entry panels [1]		**TS**	2	–	8800.060	–	8800.060	892
TS sidewalls		**TS**	2	8106.212	8106.212	8106.212	8106.212	926

[1] Cable entry grommets, see page 892.

Locking systems, see pages 936 – 938.

Other dimensions and configurations upon request.

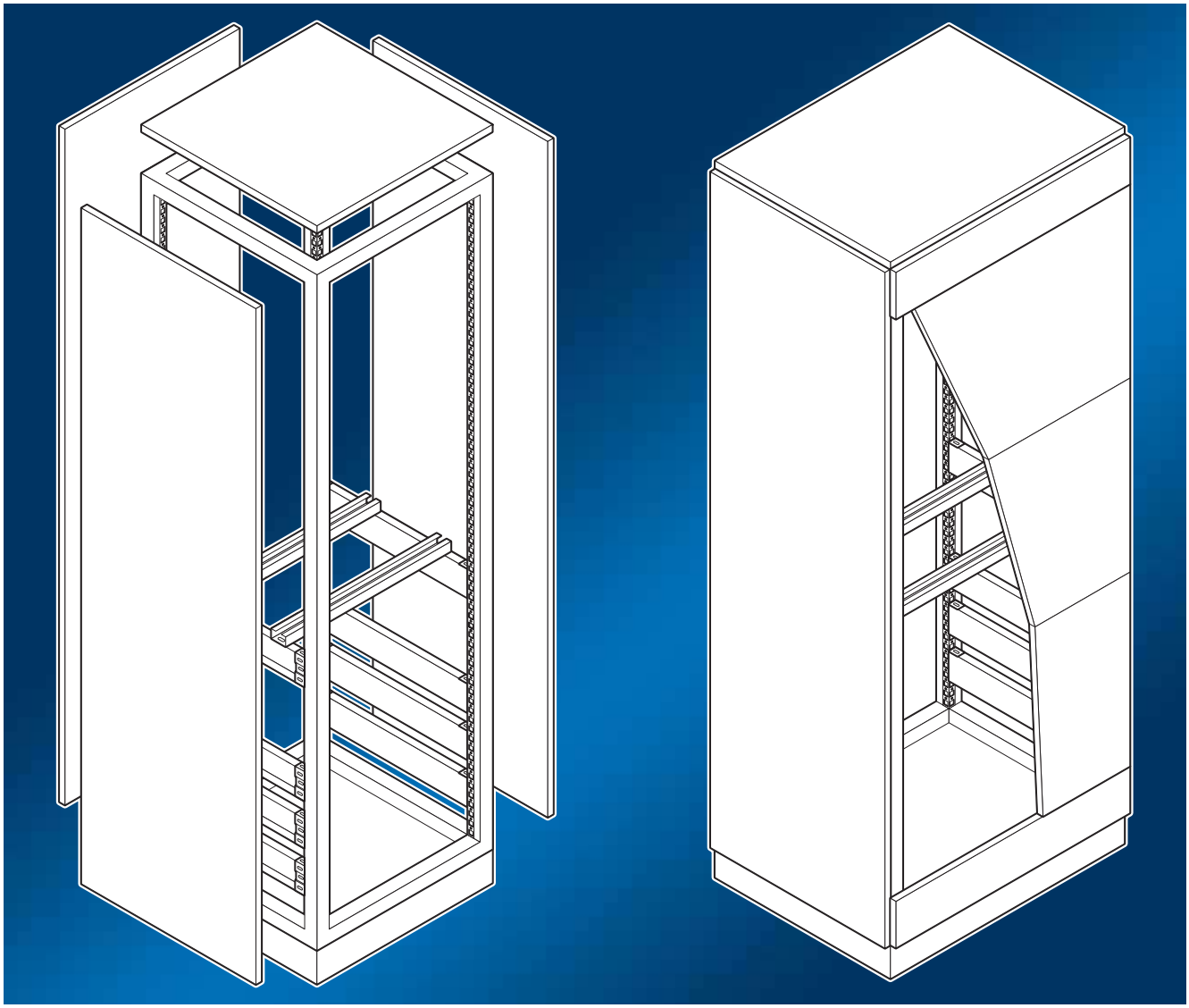
Configuration	**Material** sheet steel	**Finish**
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Door(s)	14 ga/2.0 mm	E-coated RAL 7044 exterior powder painted RAL 7032 textured
Roof	16 ga/1.5 mm	
Rear wall	16 ga/1.5 mm	
Cable entry panels, three-part	16 ga/1.5 mm	galvanized

System chassis without mounting flanges installed for Maxi-PLS end cap installation.

System support rails installed for power circuit breaker installation.

Locking system: standard lock with double-bit insert.

Up to 2000 A/3200 A



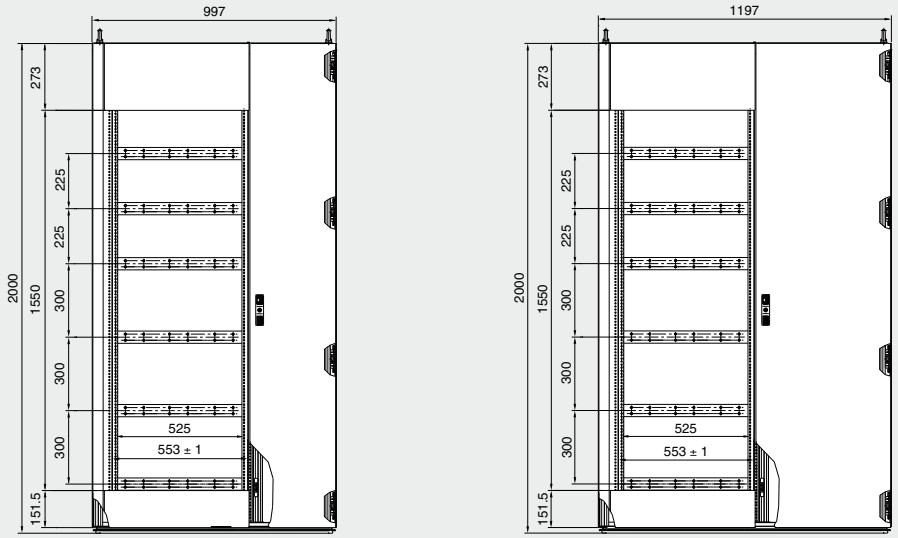
Base/plinth
The base/plinth concept of the future offers various cost and functional advantages.
Details see page 880.

Cable collecting rails
They provide strain relief for cable routing and entry.
Part No. see page 898.

Cable entry panels
For quick and easy cable entry and sealing.
Part No. see page 892.

TS sidewalls
Easy access to the TS interior with the hinging option.
Part No. see page 926.

SV TS 8 industrial enclosures for NH fused strip isolator



				for ABB SlimLine		for Jean Müller SASIL		Page
Height (inches/mm)			PU	79/2000	79/2000	79/2000	79/2000	
Width (inches/mm)				39/1000	47/1200	39/1000	47/1200	
Depth (inches/mm)				24/ 600	24/ 600	24/ 600	24/ 600	
Part No.		**SV**	1	**9660.510**	**9660.540**	**9660.410**	**9660.440**	
Doors				1	1	1	1	
Approximate weight (lbs/kg)				243/110	298/135	243/110	298/135	
Base/plinth								
Components front and rear in inches/mm	H 4/100	**TS**	1 set	8601.000	8601.200	8601.000	8601.200	880
	H 8/200	**TS**	1 set	8602.000	8602.200	8602.000	8602.200	880
Sidewalls in inches/mm	H 4/100	**TS**	1 set	8601.060	8601.060	8601.060	8601.060	880
	H 8/200	**TS**	1 set	8602.060	8602.060	8602.060	8602.060	880
⊞ **Accessories**								
TS sidewalls		**TS**	2	8106.212	8106.212	8106.212	8106.212	926
Locking systems, see page 936 – 938								
Cover for distribution busbar (offered by the isolator manufacturer)				ABB Part No. NHP 407062 R..		Jean Müller Part No. A 8900 101		

Configuration	**Material** Sheet steel	**Finish**
Enclosure frame	16 ga/1.5 mm	E-coated RAL 7044
Door	14 ga/2.0 mm	E-coated RAL 7044 exterior powder painted RAL 7032 textured
Roof	16 ga/1.5 mm	
Rear wall	16 ga/1.5 mm	
Cable entry plates, 3-part	16 ga/1.5 mm	galvanized

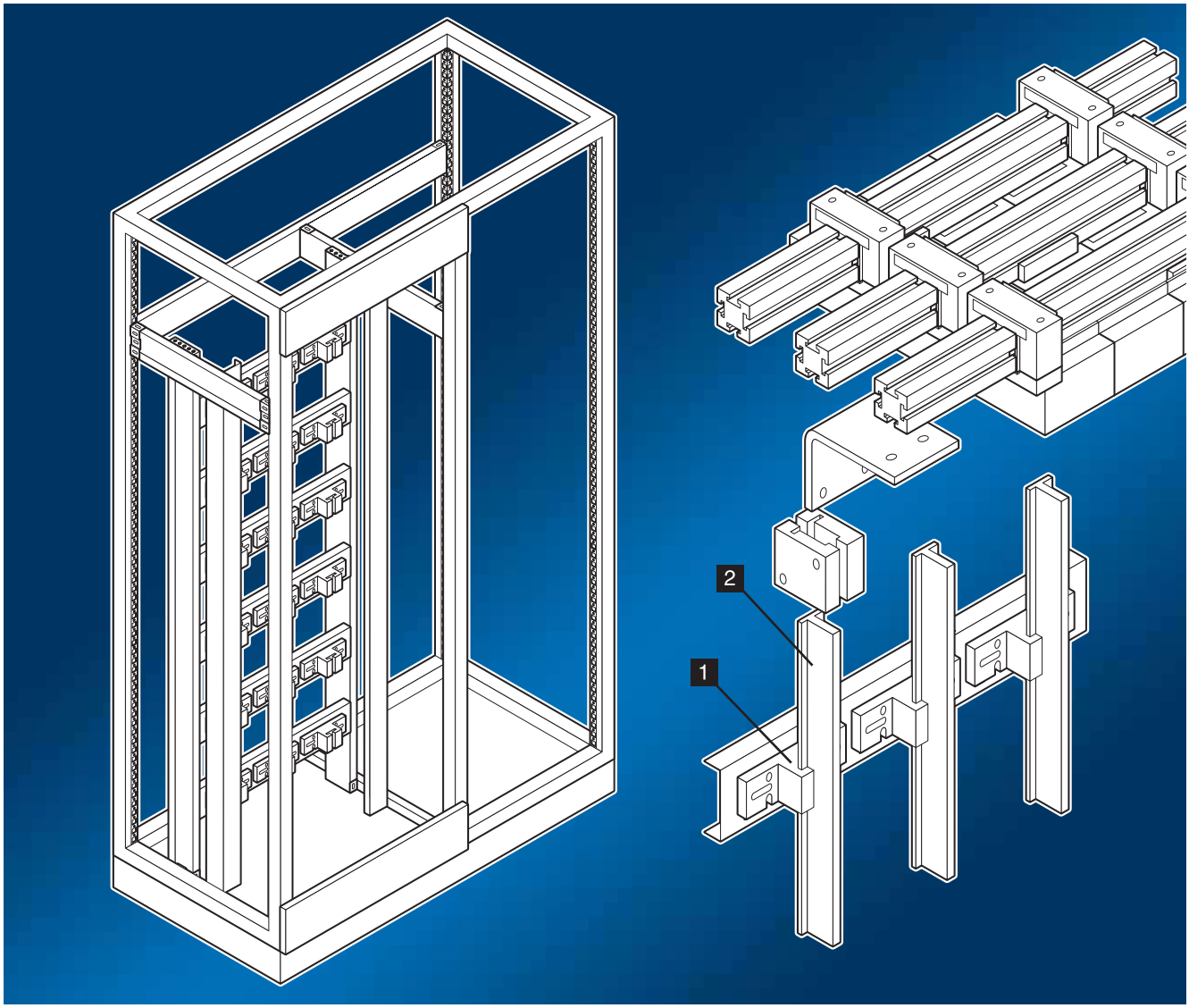
Locking system: standard double-bit insert.
Rails for the mounting of Maxi-PLS busbar support are pre-installed.
Ready to accept ABB and Jean Müller NH fused strip isolators.

Maxi-PLS T-connector kits 800 A/1600 A

For Maxi-PLS T-busbar			up to 800 A			up to 1600 A			**Accessories**	
Enclosure depth	System	Busbar center distance	Approximate weight (lbs/kg)	PU	**Part No. SV**	Approximate weight (lbs/kg)	PU	**Part No. SV**	Maxi-PLS U-contact piece * **Part No. SV**	Maxi-PLS Insulating chassis* **Part No. SV**
500 mm	Maxi-PLS 2000	100 mm	18/8	1 set	**9660.040**	–	–	**–**	**9640.170**	**9640.020**
600 mm	Maxi-PLS 2000	100 mm	20/9	1 set	**9660.050**	29/13	1 set	**9660.140**	**9640.170**	**9640.020**
600 mm	Maxi-PLS 2000	150 mm	20/9	1 set	**9660.060**	29/13	1 set	**9660.150**	**9640.170**	**9650.020**
600 mm	Maxi-PLS 3200	150 mm	20/9	1 set	**9660.070**	29/13	1 set	**9660.160**	**9650.170**	**9650.020**
800 mm	Maxi-PLS 3200	150 mm	22/10	1 set	**9660.080**	33/15	1 set	**9660.170**	**9650.170**	**9650.020**

* Technical information and configuration, see page 675.

Up to 2000 A/3200 A



1 Maxi-PLS T-support rails

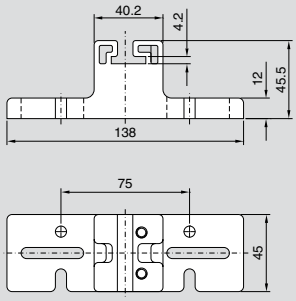
Up to 800 A

Design	PU	Part No. SV
T-support	3	**9660.000**
T-end support	3	**9660.010**

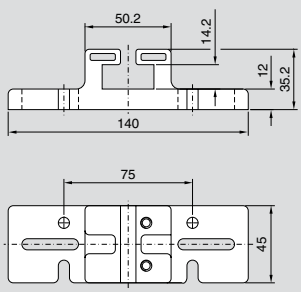
Up to 1600 A

T-support	3	**9660.100**
T-end support	3	**9660.110**

SV 9660.000
SV 9660.010



SV 9660.100
SV 9660.110



2 Maxi-PLS T-busbars E-Cu 57

10 mm knife edge.

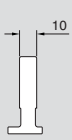
Up to 800 A

Length (mm)	Approximate weight (lbs/kg)	PU	Part No. SV
1000	29/13	3	**9660.020**
1600	44/20	3	**9660.030**

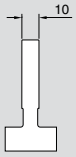
Up to 1600 A

1000	55/25	3	**9660.120**
1600	88/40	3	**9660.130**

SV 9960.020
SV 9960.030



SV 9660.120
SV 9660.130



Maxi-PLS busbar support

	PU	Part No. SV
1 Busbar support	3	**9640.000**
2 End cap	6	**9640.010**

3 Maxi-PLS system mount

For the mounting of the Maxi-PLS busbar support in the TS roof frame.

Material:
Stainless steel

Enclosure depth	Busbar center distance	PU	Part No. SV
500 mm	100 mm	2	**9640.100**
600 mm	100 mm	2	**9640.120**
600 mm	150 mm	2	**9640.140**
–	185 mm	2	**9640.150**

For the mounting of the Maxi-PLS busbar support in the TS roof frame.

Material:
Stainless steel

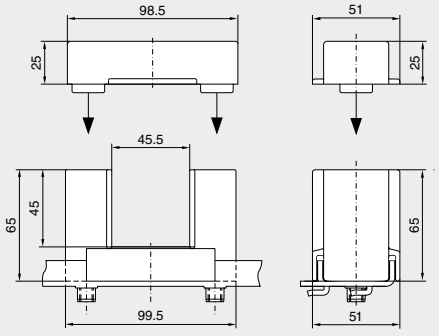
500 mm	100 mm	2	**9640.110**
600 mm	100 mm	2	**9640.130**

4 Maxi-PLS busbars; E-Cu 57

Enclosure depth	Length	For	Approx. weight (lbs/kg)	PU	Part No. SV
600 mm	491 mm	I	42/19.2	3	**9640.200**
600 mm	525 mm	II	45/20.4	3	**9640.210**
600 mm	599 mm	III	53/24	3	**9640.220**
800 mm	691 mm	I	60/27	3	**9640.230**
800 mm	725 mm	II	63/28.5	3	**9640.240**
800 mm	799 mm	III	69/31.5	3	**9640.250**
1000 mm	891 mm	I	79/36	3	**9640.260**
1000 mm	925 mm	II	82/37	3	**9640.270**
1000 mm	999 mm	III	88/40	3	**9640.280**
1200 mm	1091 mm	I	95/43	3	**9640.290**
1200 mm	1125 mm	II	99/45	3	**9640.300**
1200 mm	1199 mm	III	106/48	3	**9640.310**

I Cable connecting system with Maxi-PLS end cap support.
II Left or right end enclosure of an enclosure configuration.
III Baying enclosure, panel bayed on right and left.

1



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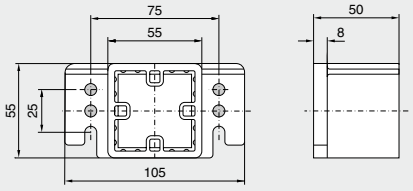

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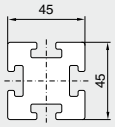


5 Maxi-PLS cover profile

For clip-on mounting of Maxi-PLS busbars.

Material:
Hardened PVC

Length	PU	Part No. SV
1 m	5	**9640.050**

6 Maxi-PLS end cover

For clip-on mounting of Maxi-PLS busbars.

Material:
PA 6.6

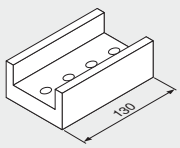
PU	Part No. SV
6	**9640.060**

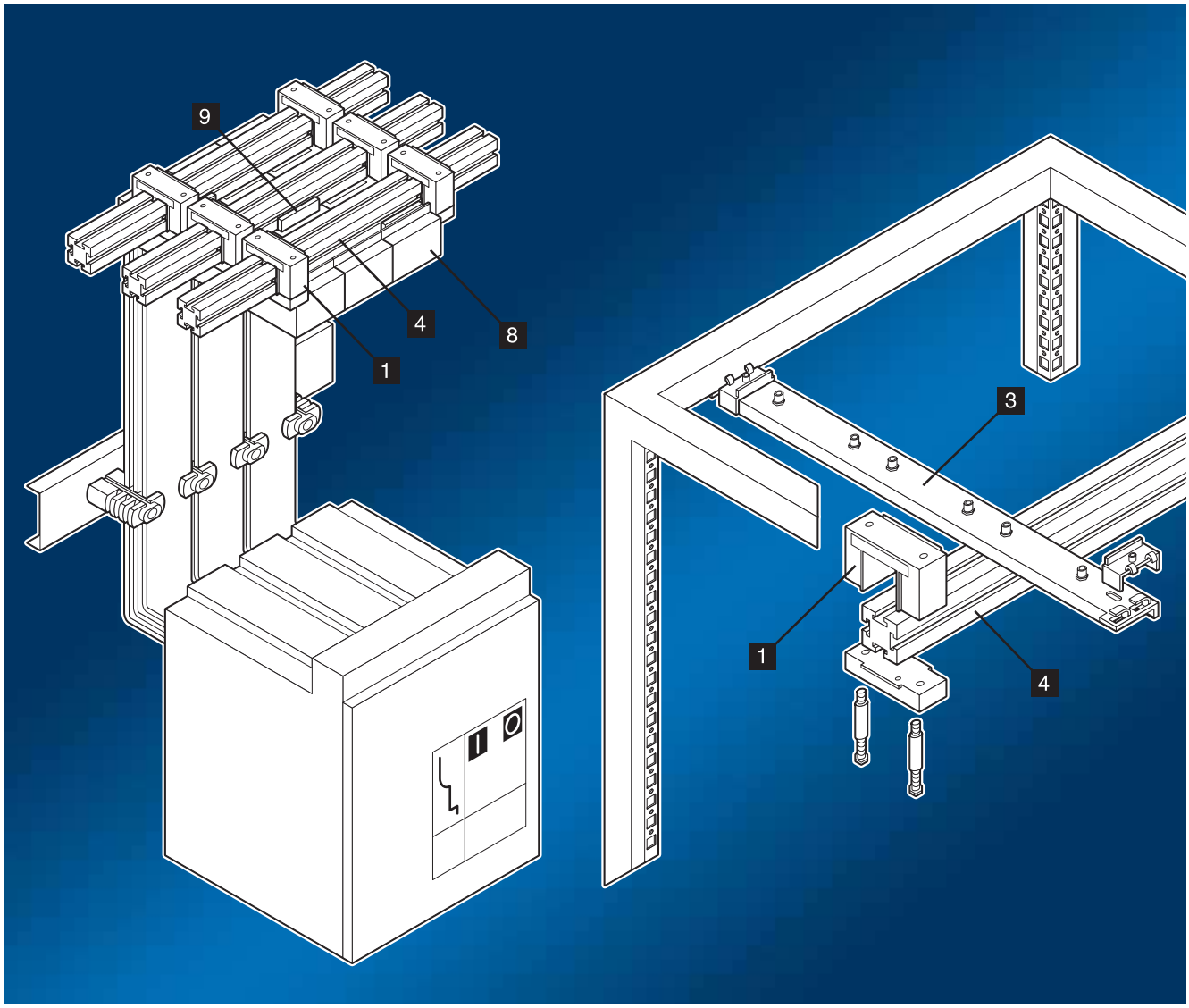
7 Maxi-PLS length connector; E-Cu 57

Simple baying connection of Maxi-PLS busbars.

Approx. weight (lbs/kg)	PU	Part No. SV
11/5.2	3	**9640.190**

7





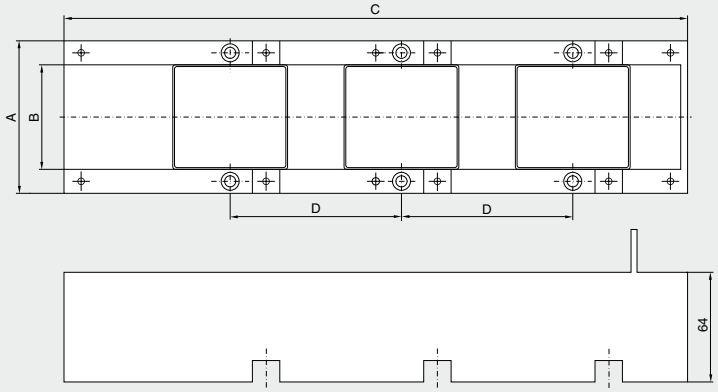
8 Maxi-PLS insulating chassis
For insulated routing of the Maxi-PLS connector bracket, see page 677. Material: PA 6.6. Color: black.

Busbar center distance	For connector bracket width	PU	Part No. SV
100 mm	60 mm	1 set	**9640.020**
150 mm	60 mm	1 set	**9650.020**
150 mm	100 mm	1 set	**9650.030**

9 Maxi-PLS U-contacts; E-Cu 57
To connect the connector brackets with the Maxi-PLS busbars.

Width	Approx. weight (lbs/kg)	PU	Part No. SV
60 mm	5/2.4	3	**9640.170**
100 mm	9/4	3	**9640.180**

8

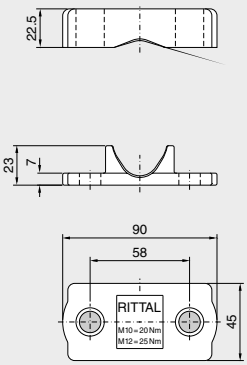


Part No. SV	A	B	C	D	E
9640.020	89	61	346	100	89
9650.020	89	61	479	150	94
9650.030	129	101	479	150	94

1 Maxi-PLS connecting clamp

Simple connection of round conductors up to 600 MCM (multiple wires and sector). Retrofitting to the Maxi-PLS busbar system is possible.

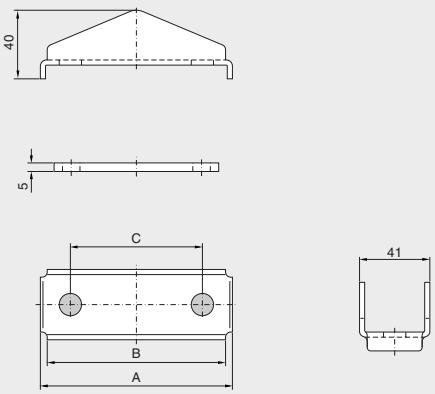
PU	**Part No. SV**
3	**9640.320**



2 Maxi-PLS connector plates

Easy mounting of laminated copper busbars.

Clamping area max.	PU	**Part No. SV**
2 x 10 x 32 x 1 mm	3	**9640.330**
2 x 10 x 63 x 1 mm	3	**9640.340**
2 x 10 x 100 x 1 mm	3	**9640.350**



	SV 9640.330	SV 9640.340	SV 9640.350
	Size 1	Size 2	Size 3
A	81	112	149
B	73	104	141
C	46	77	114
*	M10	M10	M10
**	176 in.lbs	220 in.lbs	264 in.lbs

* T-head bolt
** Tightening torque

3 Maxi-PLS connector bolts

For connecting cables with ring terminals, incl. grooved block.

Connector bolts Ø	PU	**Part No. SV**
M12	3	**9640.370**
M16	3	**9640.380**

4 Maxi-PLS grooved block

Slides into the side of the Maxi-PLS busbar profile.

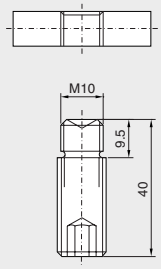
Thread	PU	**Part No. SV**
M8	15	**9640.970**
M10	15	**9640.980**

5 Maxi-PLS slide nut

For retrofitting into the Maxi-PLS busbar system.

Thread	PU	**Part No. SV**
M6	15	**9640.900**
M8	15	**9640.910**
M10	15	**9640.920**

3



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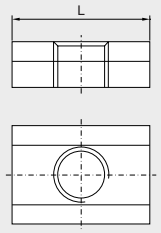
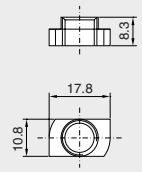
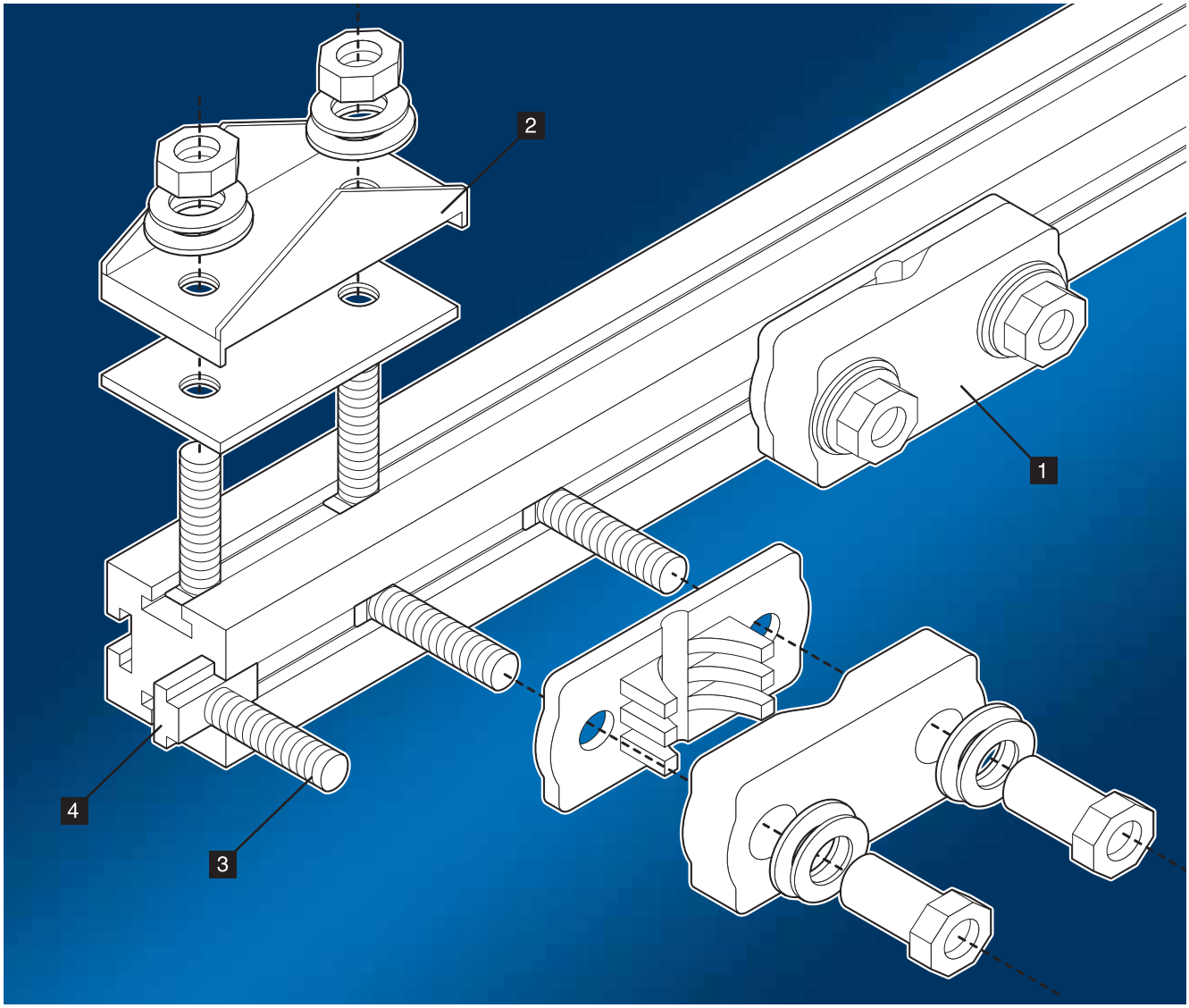


Version	Thread	L
SV 9640.970	M8	20
SV 9640.980	M10	25

5



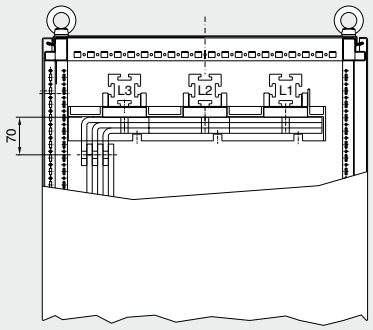


6 Maxi-PLS connector bracket; E-Cu 57

Transition from the main busbar system to the connector sets top or bottom.

Width 60 mm					
Enclosure depth	For power circuit breakers up to [1]	Approx. weight (lbs/kg)	Number of brackets per phase	PU	**Part No. SV**
500 mm	800 A	11/ 5	1	1 set	**9640.400**
500 mm	1600 A	22/10	2	1 set	**9640.410**
500 mm	2000 A	31/14	3	1 set	**9640.420**
600 mm	800 A	13/ 6	1	1 set	**9640.430**
600 mm	1600 A	24/11	2	1 set	**9640.440**
600 mm	2000 A	35/16	3	1 set	**9640.450**

[1] Technical specifications see page 688.

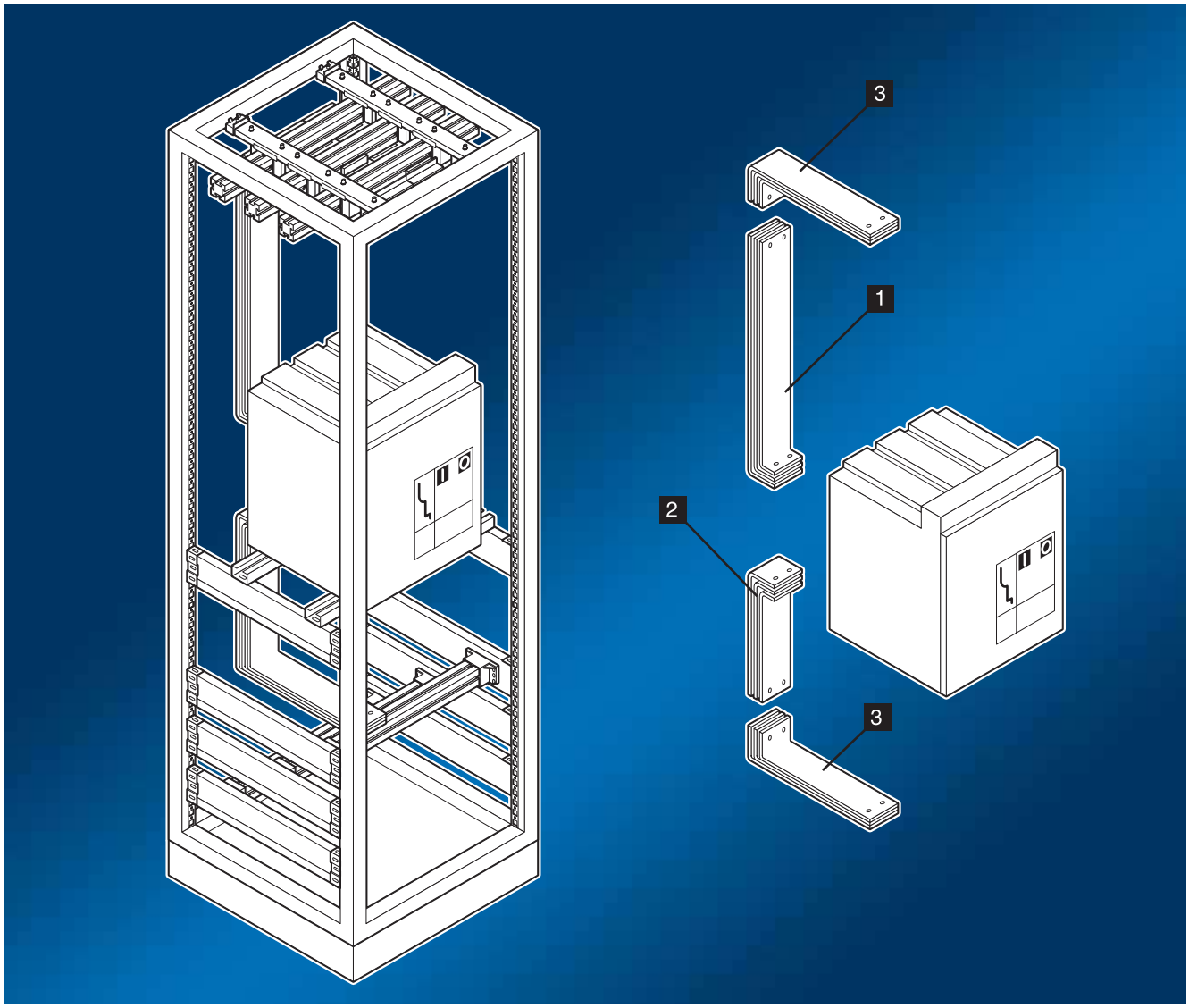


Siemens 3WN6			Maxi-PLS connector set**		Approx. weight (lbs/kg)		Accessories: Maxi-PLS		
Size (BG)	I_e [A]	Version	top	bottom			connector bracket	insulating chassis	U-contact
			Part No. SV		top	bottom	Part No. SV	Part No. SV	Part No. SV
I	630	fixed (VT*)	**9641.030**	**9641.040**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
	800		**9641.070**	**9641.080**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
	1000		**9641.110**	**9641.120**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
	1250		**9641.150**	**9641.160**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
	1600		**9641.190**	**9641.200**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
I	630	fixed (HT*)	**9641.010**	**9641.020**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
	800		**9641.050**	**9641.060**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
	1000		**9641.090**	**9641.100**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
	1250		**9641.130**	**9641.140**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
	1600		**9641.170**	**9641.180**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
I	630	slide-in (VT*)	**9641.350**	**9641.360**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
	800		**9641.390**	**9641.400**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
	1000		**9641.430**	**9641.440**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
	1250		**9641.470**	**9641.480**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
	1600		**9641.510**	**9641.520**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
I	630	slide-in (HT*)	**9641.330**	**9641.340**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
	800		**9641.370**	**9641.380**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
	1000		**9641.410**	**9641.420**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
	1250		**9641.450**	**9641.460**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
	1600		**9641.490**	**9641.500**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**

Moeller IZM upon request Merlin Gerin Masterpact NW		Maxi-PLS connector set**		Approx. weight (lbs/kg)		Accessories: Maxi-PLS		
I_e [A]	Version	top	bottom			connector bracket	insulating chassis	U-contact
		Part No. SV		top	bottom	Part No. SV	Part No. SV	Part No. SV
800	fixed (VT*)	**9642.030**	**9642.040**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
1000		**9642.070**	**9642.080**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
1250		**9642.110**	**9642.120**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
1600		**9642.150**	**9642.160**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
2000		**9642.190**	**9642.200**	90/41	45/20.5	**9640.450**	**9640.020**	**9640.170**
800	fixed (HT*)	**9642.010**	**9642.020**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
1000		**9642.050**	**9642.060**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
1250		**9642.090**	**9642.100**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
1600		**9642.130**	**9642.140**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
2000		**9642.170**	**9642.180**	90/41	45/20.5	**9640.450**	**9640.020**	**9640.170**
800	slide-in (VT*)	**9642.310**	**9642.320**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
1000		**9642.350**	**9642.360**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
1250		**9642.390**	**9642.400**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
1600		**9642.430**	**9642.440**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
2000		**9642.470**	**9642.480**	90/41	45/20.5	**9640.450**	**9640.020**	**9640.170**
800	slide-in (HT*)	**9642.290**	**9642.300**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
1000		**9642.330**	**9642.340**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
1250		**9642.370**	**9642.380**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
1600		**9642.410**	**9642.420**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
2000		**9642.450**	**9642.460**	90/41	45/20.5	**9640.450**	**9640.020**	**9640.170**

ABB Sace Emax			Maxi-PLS connector set**		Approx. weight (lbs/kg)		Accessories: Maxi-PLS		
Model	I_e [A]	Version	top	bottom			connector bracket	insulating chassis	U-contact
			Part No. SV		top	bottom	Part No. SV	Part No. SV	Part No. SV
E1	800	fixed (VT*)	**9643.030**	**9643.040**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
	1250		**9643.070**	**9643.080**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
E2	1600		**9643.110**	**9643.120**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
	2000		**9643.150**	**9643.160**	104/47	64/29	**9640.450**	**9640.020**	**9640.170**
E1	800	fixed (HT*)	**9643.010**	**9643.020**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
	1250		**9643.050**	**9643.060**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
E2	1600		**9643.090**	**9643.100**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
	2000		**9643.130**	**9643.140**	104/47	64/29	**9640.450**	**9640.020**	**9640.170**
E1	800	slide-in (VT*)	**9643.310**	**9643.320**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
	1250		**9643.350**	**9643.360**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
E2	1600		**9643.390**	**9643.400**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
	2000		**9643.430**	**9643.440**	104/47	64/29	**9640.450**	**9640.020**	**9640.170**
E1	800	slide-in (HT*)	**9643.290**	**9643.300**	35/16	22/10	**9640.430**	**9640.020**	**9640.170**
	1250		**9643.330**	**9643.340**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
E2	1600		**9643.370**	**9643.380**	68/31	43/19.5	**9640.440**	**9640.020**	**9640.170**
	2000		**9643.410**	**9643.420**	104/47	64/29	**9640.450**	**9640.020**	**9640.170**

* VT → switch position in the door (subject to change).
HT → switch position behind the door.
** Extended delivery times.



Maxi-PLS connector sets top/bottom

For mounting in 24″/600 mm deep industrial enclosures.
Recommended enclosure dimensions: HWD 2000 x 600 x 600 mm.
Other connector sets are available upon request.

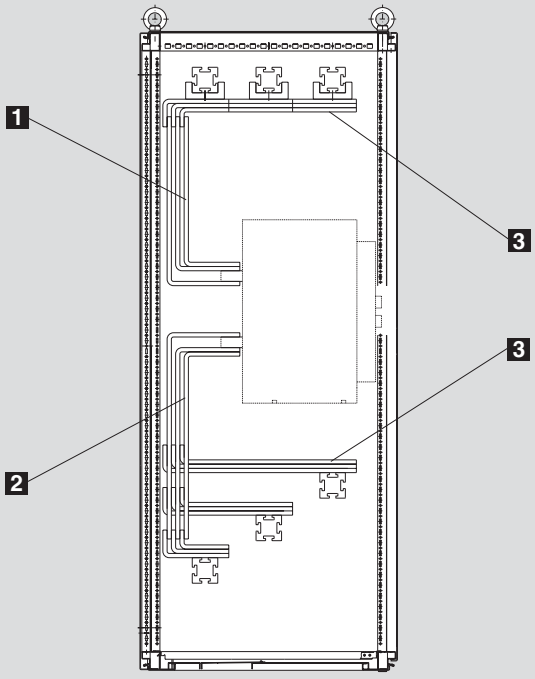
For commercial circuit-breakers of the model ABB, Merlin Gerin and Siemens up to 2000 A. Make the correct selection according to the following guidelines:

- Model
- Desired rated current I_e
- Switch design fixed or slide-in
- Position of the connector set
- Position of the power circuit-breaker:
  HT → switch location behind the enclosure door
  VT → switch location in the door recess

1 Connector set at top

2 Connector set on bottom

3 Connector bracket for Maxi-PLS 2000 A, see page 677.



Maxi-PLS packing support
For supporting the connector sets on the top/bottom, see page 687.

Maxi-PLS insulating chassis
For the insulated routing of the Maxi-PLS connector bracket, see page 681.

Maxi-PLS U-contacts
For the connector of connector brackets to the Maxi-PLS busbars, see page 681.

Maxi-PLS busbar supports

	PU	Part No. SV
1 Busbar supports	3	**9650.000**
2 End support	6	**9650.010**

3 Maxi-PLS system mount

For the mounting of the Maxi-PLS busbar supports in the TS roof frame.

Material:
Stainless steel

Enclosure depth	Busbar center distance	PU	Part No. SV
600 mm	150 mm	2	**9650.100**
800 mm	150 mm	2	**9650.120**
–	185 mm	2	**9650.150**

For the mounting of the Maxi-PLS busbar supports in the TS roof frame.

Material:
Stainless steel

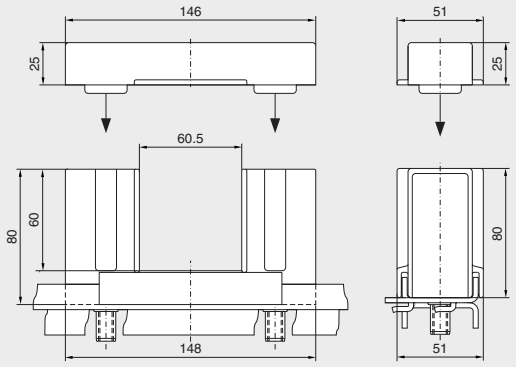
600 mm	150 mm	2	**9650.110**
800 mm	150 mm	2	**9650.130**

4 Maxi-PLS busbars; E-Cu 57

Enclosure width	Length	For	Approx. weight (lbs/kg)	PU	Part No. SV
600 mm	491 mm	I	77/35	3	**9650.200**
600 mm	525 mm	II	82/37	3	**9650.210**
600 mm	599 mm	III	95/43	3	**9650.220**
800 mm	691 mm	I	108/49	3	**9650.230**
800 mm	725 mm	II	112/51	3	**9650.240**
800 mm	799 mm	III	123/56	3	**9650.250**
1000 mm	891 mm	I	139/63	3	**9650.260**
1000 mm	925 mm	II	143/65	3	**9650.270**
1000 mm	999 mm	III	157/71	3	**9650.280**
1200 mm	1091 mm	I	170/77	3	**9650.290**
1200 mm	1125 mm	II	176/80	3	**9650.300**
1200 mm	1199 mm	III	187/85	3	**9650.310**

I Cable connecting system with Maxi-PLS end cap support.
II Left or right end enclosure of an enclosure configuration.
III Baying enclosure, panel bayed on right and left.

1



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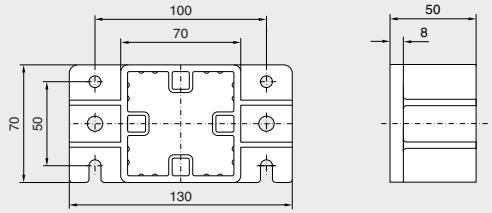

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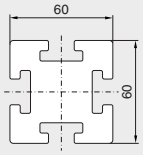


5 Maxi-PLS cover profile

Clip-on mounting on Maxi-PLS busbars.

Material:
Hard PVC

Length	PU	Part No. SV
1 m	5	**9650.050**

6 Maxi-PLS end cover

Clip-on mounting to the end supports of the Maxi-PLS busbars.

Material:
PA 6.6

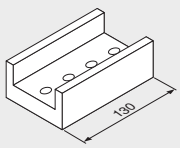
PU	Part No. SV
6	**9650.060**

7 Maxi-PLS length connector; E-Cu 57

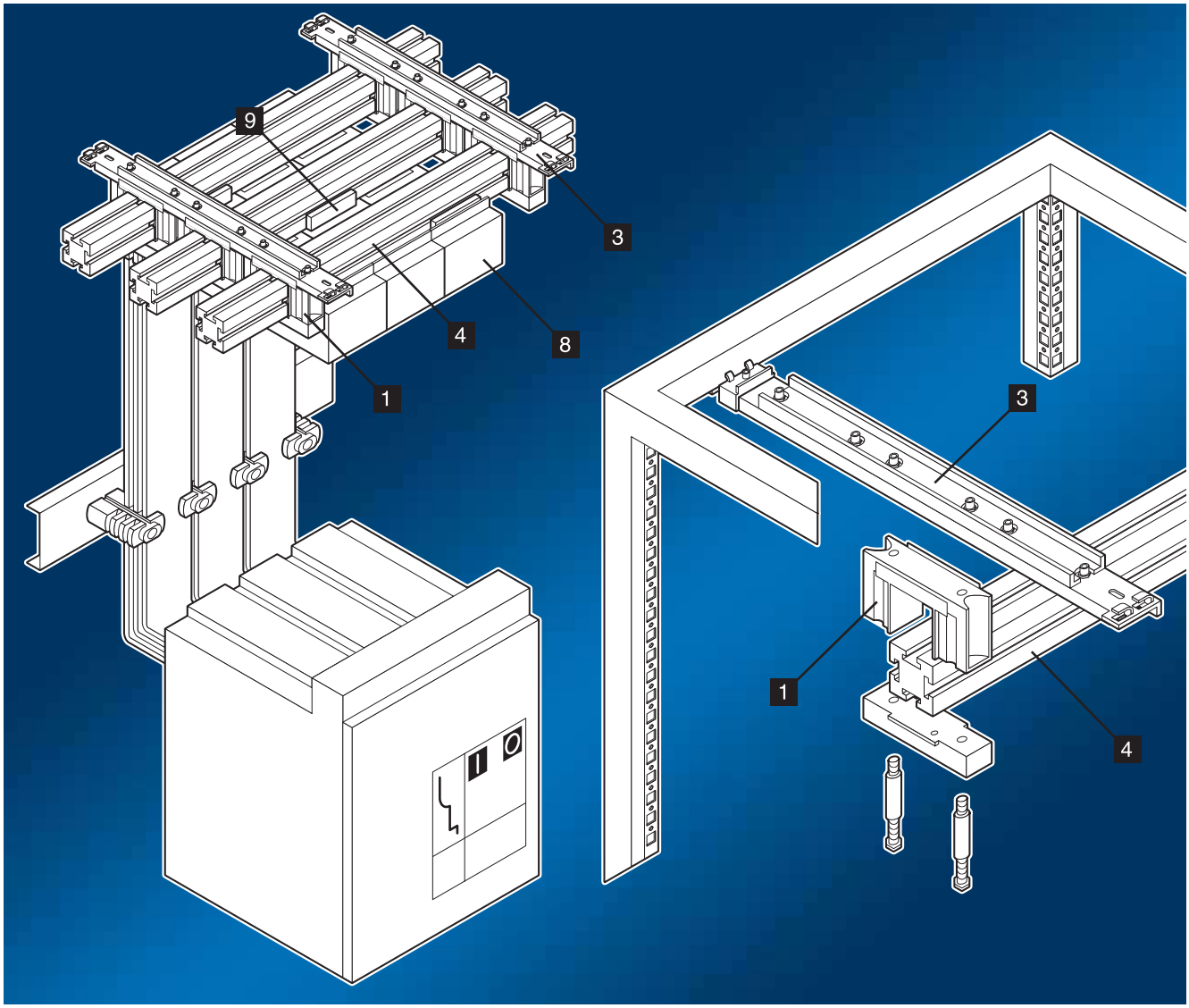
Simple baying connection of Maxi-PLS busbars.

Approx. weight (lbs/kg)	PU	Part No. SV
15/7	3	**9650.190**

7



Up to 3200 A



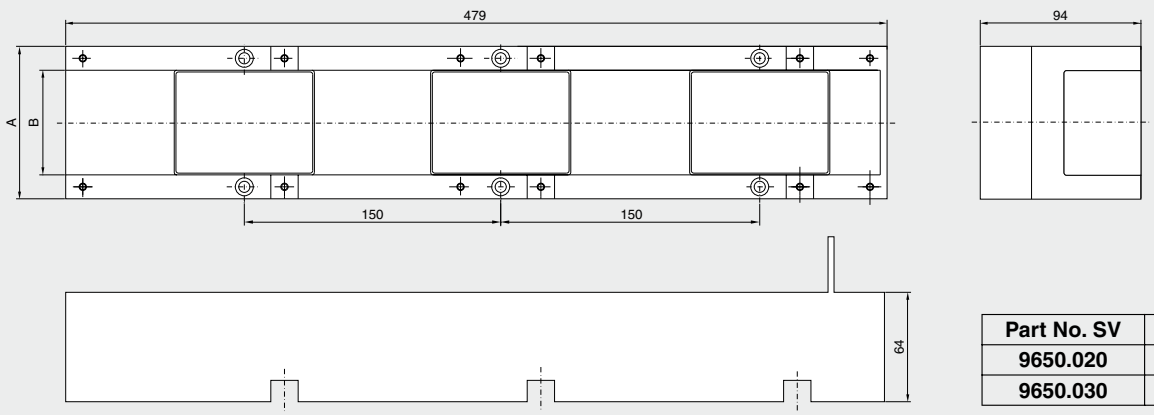
8 Maxi-PLS insulating chassis
For the insulated routing of the Maxi-PLS connector bracket, see page 683. Material: PA 6.6. Color: black.

Busbar center distance	For connector bracket width	PU	Part No. SV
150 mm	60 mm	1 set	**9650.020**
150 mm	100 mm	1 set	**9650.030**

9 Maxi-PLS U-contacts; E-Cu 57
To mount the connector brackets to the Maxi-PLS busbars.

Width	Approx. weight (lbs/kg)	PU	Part No. SV
60 mm	7/3.4	3	**9650.170**
100 mm	13/5.7	3	**9650.180**

8

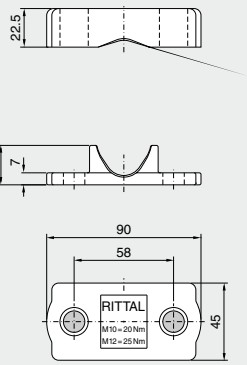


Part No. SV	A	B
9650.020	89	61
9650.030	129	101

1 Maxi-PLS connector clamp

Easy connection of round conductors up to 600 MCM (multi-wire and sector). Retrofit installation to the Maxi-PLS busbars is easily possible.

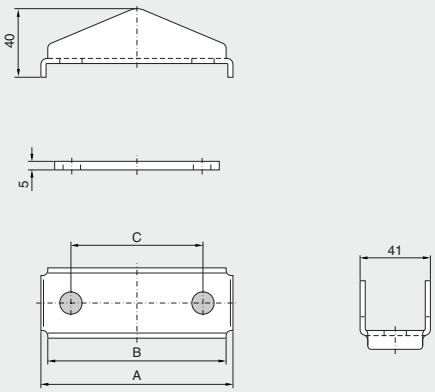
PU	**Part No. SV**
3	**9650.320**



2 Maxi-PLS connector plates

Easy connection of laminated flat copper busbars.

Clamping room max.	PU	**Part No. SV**
2 x 10 x 32 x 1 mm	3	**9650.330**
2 x 10 x 63 x 1 mm	3	**9650.340**
2 x 10 x 100 x 1 mm	3	**9650.350**



	SV 9650.330	SV 9650.340	SV 9650.350
	Size 1	Size 2	Size 3
A	81	112	149
B	73	104	141
C	46	77	114
*	M12	M12	M12
**	220 in.lbs	264 in.lbs	308 in.lbs

* T-head (hammerhead) screws
** Tightening torque

3 Maxi-PLS connector bolt

For the connection of terminals including grooved blocks.

Terminal bolt Ø	PU	**Part No. SV**
M12	3	**9650.370**
M16	3	**9650.380**

4 Maxi-PLS grooved blocks

For side mounting into the Maxi-PLS busbars.

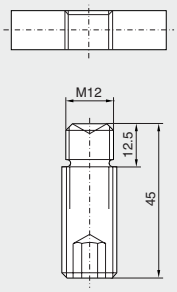
Thread	PU	**Part No. SV**
M10	15	**9650.980**
M12	15	**9650.990**

5 Maxi-PLS "U" slide nuts

For retrofitting into the profile of the Maxi-PLS busbars.

Thread	PU	**Part No. SV**
M6	15	**9650.900**
M10	15	**9650.910**
M12	15	**9650.920**

3



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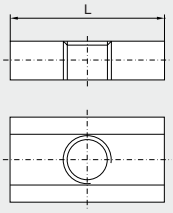
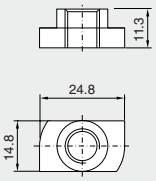
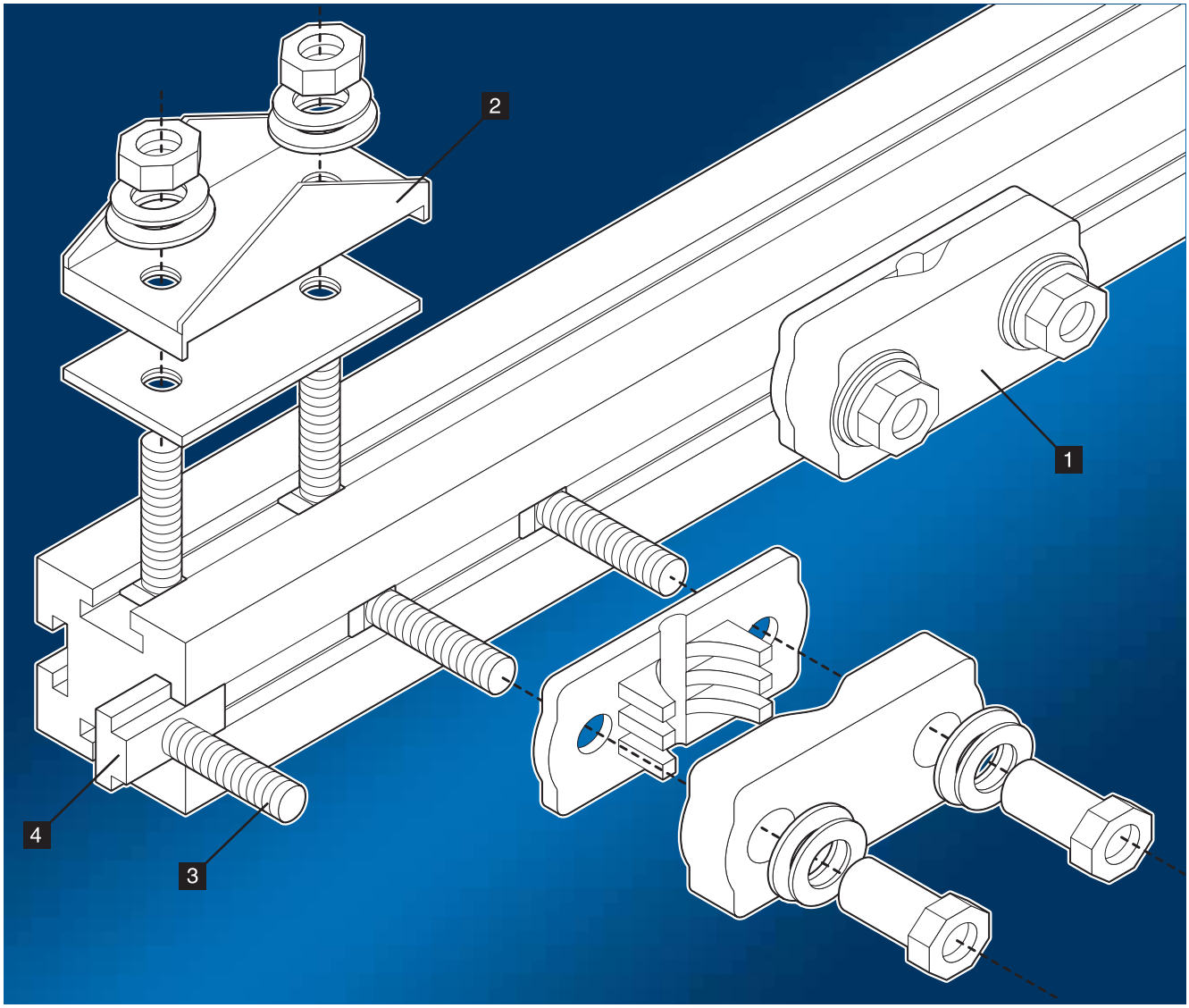


Part No.	Thread	L
SV 9650.980	M10	25
SV 9650.990	M12	35

5

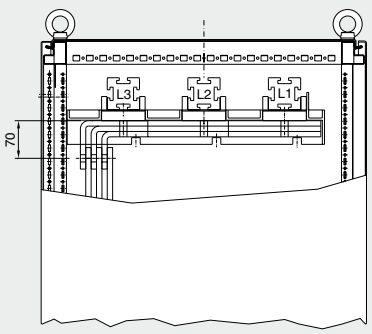




6 Maxi-PLS connector bracket; E-Cu 57

Transfers from the main busbar systems to the connector sets top or bottom.

Width 60 mm						Width 100 mm					
Enclosure depth	For power circuit-breakers up to [1]	Weight (lbs/kg)	Number of brackets per phase	PU	**Part No. SV**	Enclosure depth	For power circuit-breakers up to [1]	Weight (lbs/kg)	Number of brackets per phase	PU	**Part No. SV**
600 mm	800 A	13/ 6	1	1 set	**9650.400**	600 mm	1600 A	20/ 9	1	1 set	**9650.460**
600 mm	1600 A	24/11	2	1 set	**9650.410**	600 mm	2000 A	40/18	2	1 set	**9650.470**
600 mm	2000 A	37/17	3	1 set	**9650.420**	600 mm	3200 A	57/26	3	1 set	**9650.480**
800 mm	800 A	18/ 8	1	1 set	**9650.430**	800 mm	1600 A	29/13	1	1 set	**9650.490**
800 mm	1600 A	33/15	2	1 set	**9650.440**	800 mm	2000 A	53/24	2	1 set	**9650.500**
800 mm	2000 A	49/22	3	1 set	**9650.450**	800 mm	3200 A	79/36	3	1 set	**9650.510**



[1] Technical specifications, see page 688.

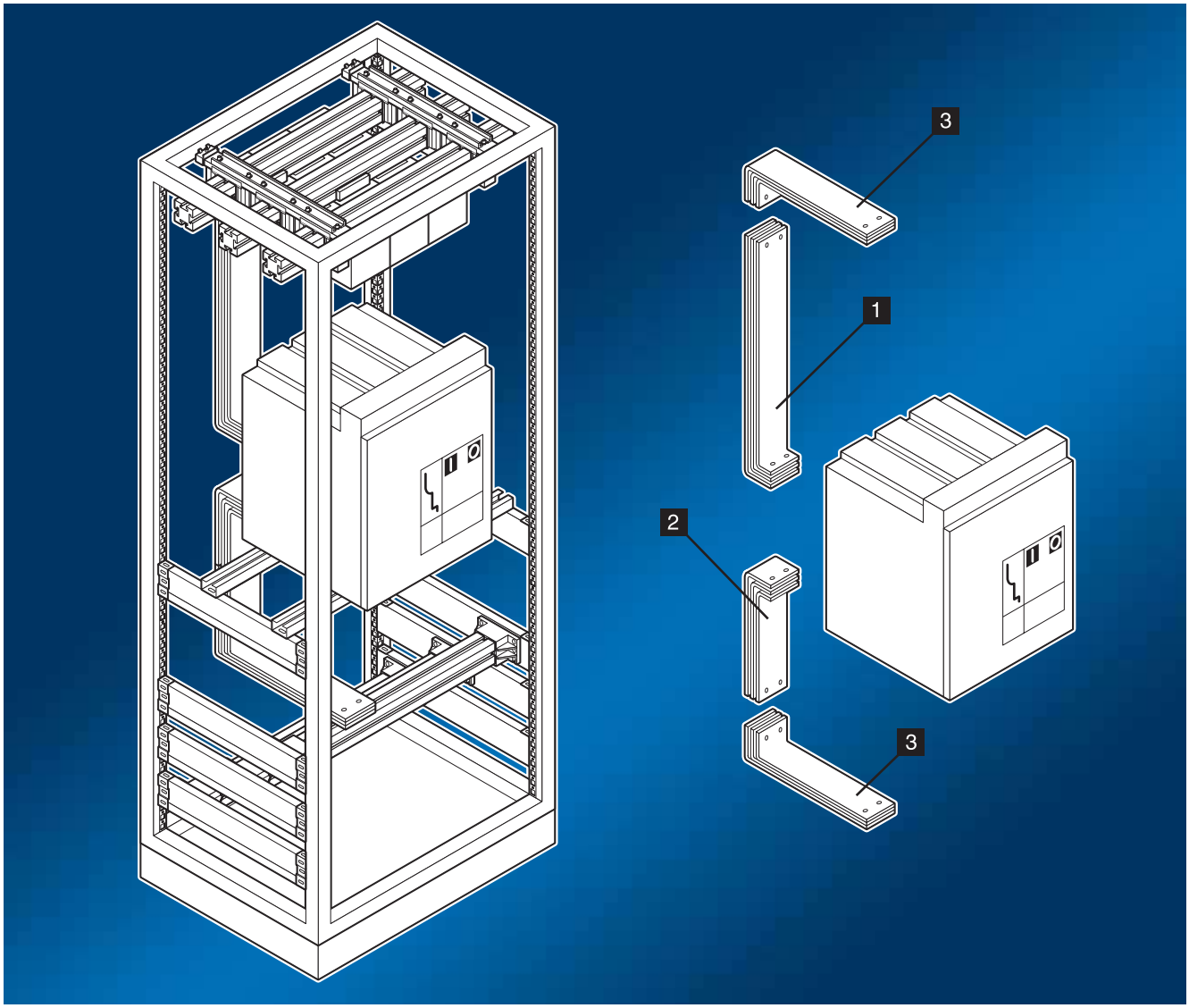
Siemens 3WN6			Maxi-PLS connector set**		Approx. weight (lbs/kg)		Accessories: Maxi-PLS		
Size (BG)	I_e [A]	Version	top	bottom			connector bracket	insulating chassis	U-contact
			Part No. SV		top	bottom	Part No. SV	Part No. SV	Part No. SV
I	630	fixed (VT*)	**9651.030**	**9651.040**	35/16	22/10	**9650.400**	**9650.400**	**9650.170**
	800		**9651.070**	**9651.080**	35/16	22/10	**9650.400**	**9650.400**	**9650.170**
	1000		**9651.110**	**9651.120**	68/31	43/19.5	**9650.410**	**9650.410**	**9650.170**
	1250		**9651.150**	**9651.160**	68/31	43/19.5	**9650.410**	**9650.410**	**9650.170**
	1600		**9651.190**	**9651.200**	68/31	43/19.5	**9650.410**	**9650.410**	**9650.170**
I	630	fixed (HT*)	**9651.010**	**9651.020**	35/16	22/10	**9650.400**	**9650.400**	**9650.170**
	800		**9651.050**	**9651.060**	35/16	22/10	**9650.400**	**9650.400**	**9650.170**
	1000		**9651.090**	**9651.100**	68/31	43/19.5	**9650.410**	**9650.410**	**9650.170**
	1250		**9651.130**	**9651.140**	68/31	43/19.5	**9650.410**	**9650.410**	**9650.170**
	1600		**9651.170**	**9651.180**	68/31	43/19.5	**9650.410**	**9650.410**	**9650.170**
I	630	slide-in (VT*)	**9651.350**	**9651.360**	35/16	22/10	**9650.400**	**9650.400**	**9650.170**
	800		**9651.390**	**9651.400**	35/16	22/10	**9650.400**	**9650.400**	**9650.170**
	1000		**9651.430**	**9651.440**	68/31	43/19.5	**9650.410**	**9650.410**	**9650.170**
	1250		**9651.470**	**9651.480**	68/31	43/19.5	**9650.410**	**9650.410**	**9650.170**
	1600		**9651.510**	**9651.520**	68/31	43/19.5	**9650.410**	**9650.410**	**9650.170**
I	630	slide-in (HT*)	**9651.330**	**9651.340**	35/16	22/10	**9650.400**	**9650.400**	**9650.170**
	800		**9651.370**	**9651.380**	35/16	22/10	**9650.400**	**9650.400**	**9650.170**
	1000		**9651.410**	**9651.420**	68/31	43/19.5	**9650.410**	**9650.410**	**9650.170**
	1250		**9651.450**	**9651.460**	68/31	43/19.5	**9650.410**	**9650.410**	**9650.170**
	1600		**9651.490**	**9651.500**	68/31	43/19.5	**9650.410**	**9650.410**	**9650.170**

Moeller IZM upon request Merlin Gerin Masterpact NW		Maxi-PLS connector set**		Approx. weight (lbs/kg)		Accessories: Maxi-PLS		
I_e [A]	Version	top	bottom			connector bracket	insulating chassis	U-contact
		Part No. SV		top	bottom	Part No. SV	Part No. SV	Part No. SV
800	fixed (VT*)	**9652.030**	**9652.040**	35/16	22/10	**9650.400**	**9650.020**	**9650.170**
1000		**9652.070**	**9652.080**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
1250		**9652.110**	**9652.120**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
1600		**9652.150**	**9652.160**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
800	fixed (HT*)	**9652.010**	**9652.020**	35/16	22/10	**9650.400**	**9650.020**	**9650.170**
1000		**9652.050**	**9652.060**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
1250		**9652.090**	**9652.100**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
1600		**9652.130**	**9652.140**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
800	slide-in (VT*)	**9652.310**	**9652.320**	35/16	22/10	**9650.400**	**9650.020**	**9650.170**
1000		**9652.350**	**9652.360**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
1250		**9652.390**	**9652.400**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
1600		**9652.430**	**9652.440**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
800	slide-in (HT*)	**9652.290**	**9652.300**	35/16	22/10	**9650.400**	**9650.020**	**9650.170**
1000		**9652.330**	**9652.340**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
1250		**9652.370**	**9652.380**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
1600		**9652.410**	**9652.420**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**

ABB Sace Emax			Maxi-PLS connector set**		Approx. weight (lbs/kg)		Accessories: Maxi-PLS		
Model	I_e [A]	Version	top	bottom			connector bracket	insulating chassis	U-contact
			Part No. SV		top	bottom	Part No. SV	Part No. SV	Part No. SV
E1	800	fixed (VT*)	**9653.030**	**9653.040**	35/16	22/10	**9650.400**	**9650.020**	**9650.170**
	1250		**9653.070**	**9653.080**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
E2	1600		**9653.110**	**9653.120**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
	2000		**9653.150**	**9653.160**	104/47	64/29	**9650.420**	**9650.020**	**9650.170**
E1	800	fixed (HT*)	**9653.010**	**9653.020**	35/16	22/10	**9650.400**	**9650.020**	**9650.170**
	1250		**9653.050**	**9653.060**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
E2	1600		**9653.090**	**9653.100**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
	2000		**9653.130**	**9653.140**	104/47	64/29	**9650.420**	**9650.020**	**9650.170**
E1	800	slide-in (VT*)	**9653.310**	**9653.320**	35/16	22/10	**9650.400**	**9650.020**	**9650.170**
	1250		**9653.350**	**9653.360**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
E2	1600		**9653.390**	**9653.400**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
	2000		**9653.430**	**9653.440**	104/47	64/29	**9650.420**	**9650.020**	**9650.170**
E1	800	slide-in (HT*)	**9653.290**	**9653.300**	35/16	22/10	**9650.400**	**9650.020**	**9650.170**
	1250		**9653.330**	**9653.340**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
E2	1600		**9653.370**	**9653.380**	38/31	43/19.5	**9650.410**	**9650.020**	**9650.170**
	2000		**9653.410**	**9653.420**	104/47	64/29	**9650.420**	**9650.020**	**9650.170**

* VT → switch position in the door (subject to change).
HT → switch position behind the door.
** Extended delivery times.

Up to 3200 A



Maxi-PLS connector sets, top/bottom

For mounting in 24″/600 mm deep industrial enclosures.
Recommended enclosure dimensions: HWD 2000 x 600 x 600 mm.
Additional connector sets for other enclosure dimensions upon request.

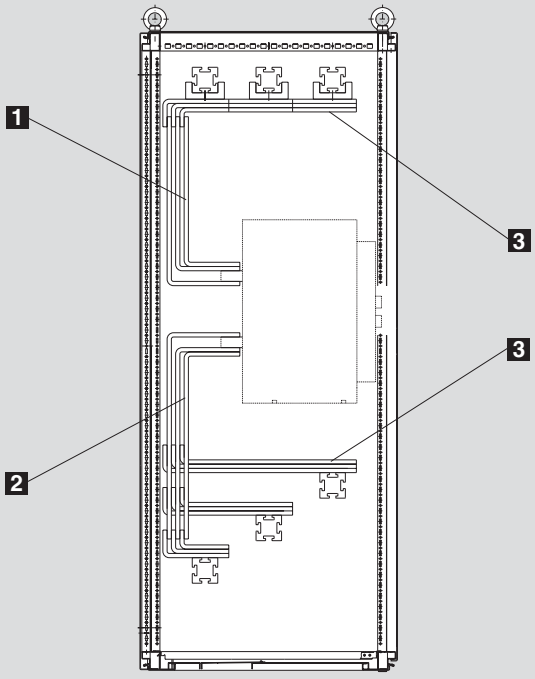
For commercially available power circuit-breakers, Model ABB, Merlin Gerin and Siemens up to 2000 A. The correct selection should be made with the following criteria:

- Model
- Desired rated current I_e
- Switch design fixed or slide-in
- Position of the connector sets
- Position of the power circuit-breakers:
  HT → switch behind the enclosure door
  VT → switch in the door recess

1 Connector sets, top

2 Connector sets, bottom

3 Connector sets for Maxi-PLS 3200 A, see page 683.



Maxi-PLS packing braces
For support of connector sets, top/bottom,
see page 687.

Maxi-PLS insulating chassis
For the insulation of Maxi-PLS connector brackets,
see page 681.

Maxi-PLS U-contacts
For hooking up the connector brackets to the Maxi-PLS busbar,
see page 681.

Maxi-PLS connector sets top/bottom

For the installation in 24″/600 mm industrial enclosures.
Recommended enclosure dimensions: HWD 2000 x 800 x 600 mm.
Other connector sets for other enclosure dimensions are available upon request.

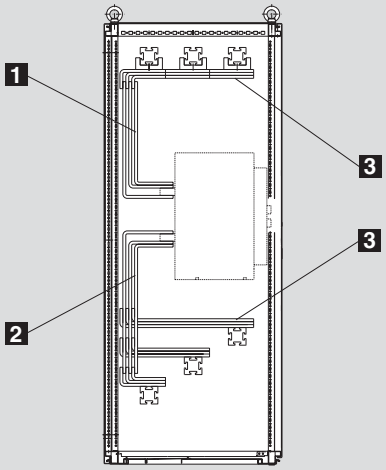
For commercially available power circuit-breakers of the following makes: ABB, Merlin Gerin and Siemens from 2000 A to 3200 A.
Use the following guidelines to make the correct selection:

- Make
- Desired current rating I_e
- Switch design: fixed or slide-in
- Position of the connector sets
- Position of the power circuit-breakers:
  HT → switch position behind the enclosure door
  VT → switch position in the door recess

1 connector set, top

2 connector set, bottom

3 connector bracket for Maxi-PLS 3200 A, see page 683.

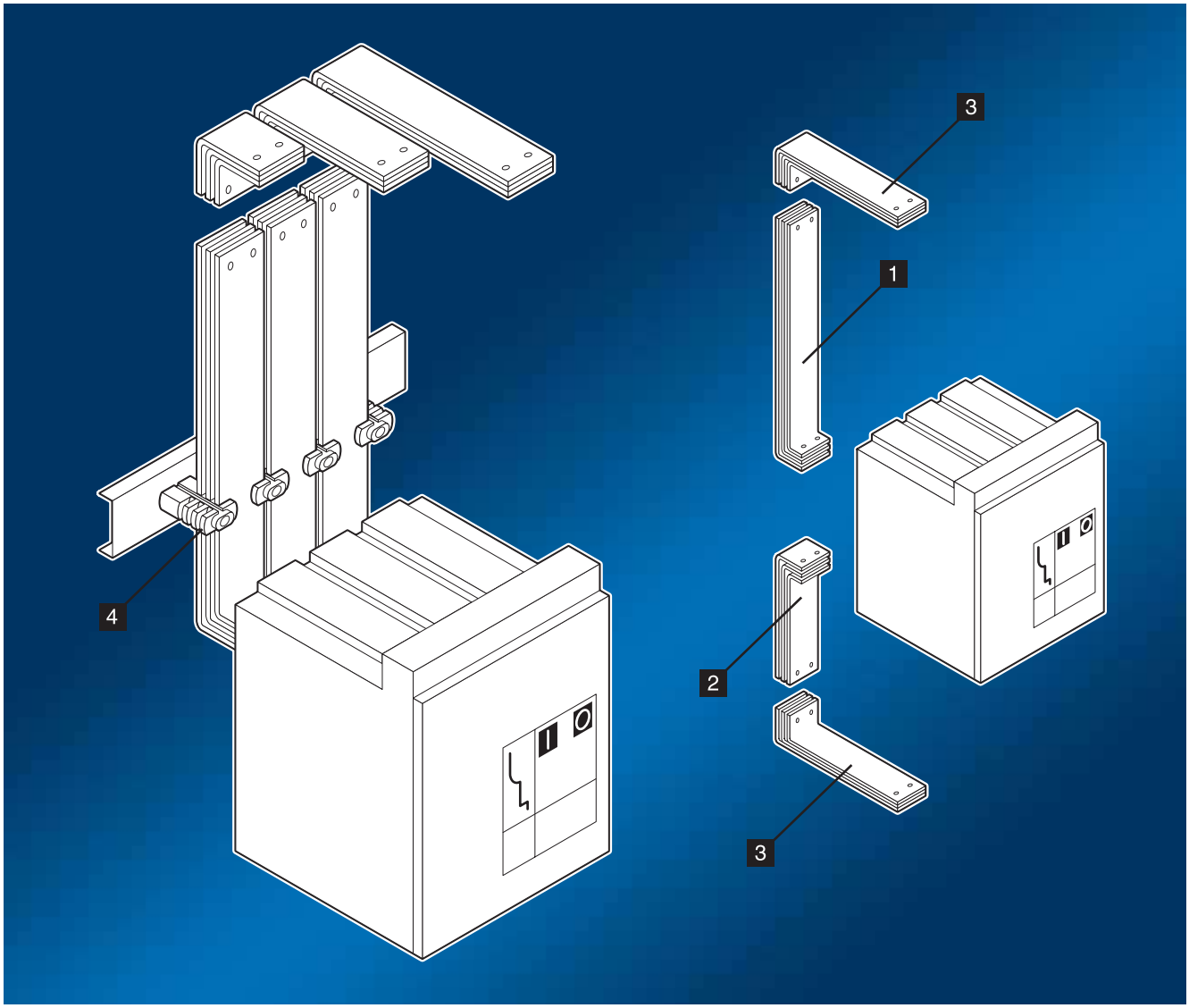


Siemens 3WN6			Maxi-PLS connector set**		Approx. weight (lbs/kg)		Accessories: Maxi-PLS		
Size (BG)	I_e [A]	Version	top	bottom			connector bracket	insulating chassis	U-contacts
			Part No. SV		top	bottom	Part No. SV	Part No. SV	Part No. SV
II	2000	fixed (VT*)	**9651.230**	**9651.240**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
	2500		**9651.270**	**9651.280**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
	3200		**9651.310**	**9651.320**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
II	2000	fixed (HT*)	**9651.210**	**9651.220**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
	2500		**9651.250**	**9651.260**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
	3200		**9651.290**	**9651.300**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
II	2000	slide-in (VT*)	**9651.550**	**9651.560**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
	2500		**9651.590**	**9651.600**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
	3200		**9651.630**	**9651.640**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
II	2000	slide-in (HT*)	**9651.530**	**9651.540**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
	2500		**9651.570**	**9651.580**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
	3200		**9651.610**	**9651.620**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**

Moeller IZM upon request Merlin Gerin Masterpact NW		Maxi-PLS connector set**		Approx. weight (lbs/kg)		Accessories: Maxi-PLS		
I_e [A]	Version	top	bottom			connector bracket	insulating chassis	U-contacts
		Part No. SV		top	bottom	Part No. SV	Part No. SV	Part No. SV
2000	fixed (VT*)	**9652.190**	**9652.200**	90/41	45/20.5	**9650.420**	**9650.020**	**9650.170**
2500		**9652.230**	**9652.240**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
3200		**9652.270**	**9652.280**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
2000	fixed (HT*)	**9652.170**	**9652.180**	90/41	45/20.5	**9650.420**	**9650.020**	**9650.170**
2500		**9652.210**	**9652.220**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
3200		**9652.250**	**9652.260**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
2000	slide-in (VT*)	**9652.470**	**9652.480**	90/41	45/20.5	**9650.420**	**9650.020**	**9650.170**
2500		**9652.510**	**9652.520**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
3200		**9652.550**	**9652.560**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
2000	slide-in (HT*)	**9652.450**	**9652.460**	90/41	45/20.5	**9650.420**	**9650.020**	**9650.170**
2500		**9652.490**	**9652.500**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
3200		**9652.530**	**9652.540**	148/67	71/32	**9650.480**	**9650.030**	**9650.180**

ABB Sace Emax			Maxi-PLS connector set**		Approx. weight (lbs/kg)		Accessories: Maxi-PLS		
Model	I_e [A]	Version	top	bottom			connector bracket	insulating chassis	U-contacts
			Part No. SV		top	bottom	Part No. SV	Part No. SV	Part No. SV
E3	2000	fixed (VT*)	**9653.190**	**9653.200**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
	2500		**9653.230**	**9653.240**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
	3200		**9653.270**	**9653.280**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
E3	2000	fixed (HT*)	**9653.170**	**9653.180**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
	2500		**9653.210**	**9653.220**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
	3200		**9653.250**	**9653.260**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
E3	2000	slide-in (VT*)	**9653.470**	**9653.480**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
	2500		**9653.510**	**9653.520**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
	3200		**9653.550**	**9653.560**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**
E3	2000	slide-in (HT*)	**9653.450**	**9653.460**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
	2500		**9653.490**	**9653.500**	106/48	71/32	**9650.470**	**9650.030**	**9650.180**
	3200		**9653.530**	**9653.540**	148/67	110/50	**9650.480**	**9650.030**	**9650.180**

* VT → switch position in the door (subject to change). Extended delivery times.
** HT → switch position behind the door.



4 Maxi-PLS stacking support

To support the connector sets top/bottom.
May easily be retrofitted.

PU	Part No. SV
6	**9660.200**

C-mounting rails

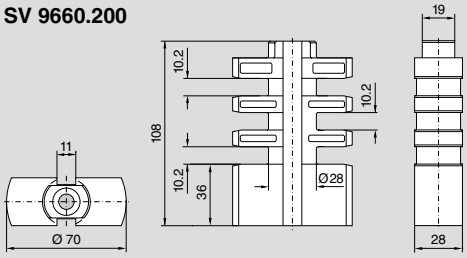
For the mounting of Maxi-PLS packing supports on the TS 8 frame member.

Material:
Sheet steel, chromated.

For enclosures		Part No. DK
Width inches/mm	Depth inches/mm	
24/600	24/600	**7828.060**
32/800	32/800	**7828.080**

Configuration:
4 piece mounting hardware included.

SV 9660.200



Maxi-PLS insulating chassis
For the insulation of the Maxi-PLS connector brackets, see page 681.

Maxi-PLS U-contacts
For hooking up the connector brackets to the Maxi-PLS busbars, see page 681.

Maxi-PLS 2000 A

Electric parameters	Rated voltage	Rated insulation voltage U_i	1000 V	EN 60 439-1
		Rated voltage U_e	690 V	
		Test short-circuit voltage U_{imp}	8 kV	
		Overvoltage category	IV	
		Degree of pollution	3	
		Frequency rating	50 Hz	
	Rated current maximum (main busbar)	Rated current maximum I_e	1600 A	At IP 54
			2000 A	At IP 2x [1]
		Rated surge resistance I_{pk}	110 kA	
		Rated short-term withstand current I_{cw}	50 kA	
Mechanical parameters	Dimensions	Enclosure width	600, 800, 1000 and 1200 mm	EN 50 298
		Enclosure height	2000 mm [2]	
		Enclosure depth	500 and 600 mm	
		System hole pattern	25 mm	
		Protection ratings	Max. IP 54	
		Design	1	EN 60 439-1
	Surface protection	Enclosure frame rack	E-coated RAL 7044	
		Flat parts (roof panel, rear wall)	E-coated RAL 7044 exterior powder coated RAL 7032	
		System-mount	Stainless steel	
		System bars and chassis	Sheet steel, galvanized	
	Busbar	Material	E-Cu 57, unfinished	DIN 1787
		Exterior dimensions	45 x 45 mm	
		Cross-section	1380 mm²	
Operating and ambient conditions	Ambient temperature	Short-term peak value	+ 40 °C	EN 60 439-1
		Peak value as a 24 h-average	+ 35 °C	
		Lowest value	– 5 °C	
	Atmospheric conditions	Normal climate demands		EN 60 439-1
		Relative humidity	50 % at 40 °C	
			Operating up to 1000 m via NN	

[1] When using exhaust filters SK 3326.200 (see page 569) and roof spacers DK 7967.000 (see page 957).
[2] Enclosure height 71″/1800 mm and 87″/2200 mm upon request.

Maxi-PLS 3200 A

Electric parameters	Rated voltage	Rated insulation voltage U_i	1000 V	EN 60 439-1
		Rated voltage U_e	690 V	
		Test short-circuit voltage U_{imp}	8 kV	
		Overvoltage category	IV	
		Degree of pollution	3	
		Frequency rating	50 Hz	
	Rated current maximum (main busbar)	Rated current maximum I_e	2000 A	At IP 54
			2300 A	At IP 2x [1]
			2800 A	At IP 2x [2]
			3200 A	[3]
		Rated surge resistance I_{pk}	165 kA	
		Rated short-term withstand current I_{cw}	70 kA	
Mechanical parameters	Dimensions	Enclosure width	600, 800, 1000 and 1200 mm	EN 50 298
		Enclosure height	2000 mm [4]	
		Enclosure depth	500 and 600 mm	
		System hole pattern	25 mm	
		Protection ratings	Max. IP 54	
		Design	1	EN 60 439-1
	Surface protection	Enclosure frame rack	E-coated RAL 7044	
		Flat parts (roof panel, rear wall)	E-coated RAL 7044 exterior powder coated RAL 7032	
		System-mount	Stainless steel	
		System bars and chassis	Sheet steel, galvanized	
	Busbar	Material	E-Cu 57, unfinished	DIN 1787
		Exterior dimensions	60 x 60 mm	
		Cross-section	2700 mm²	
Operating and ambient conditions	Ambient temperature	Short-term peak value	+ 40 °C	EN 60 439-1
		Peak value as a 24 h-average	+ 35 °C	
		Lowest value	– 5 °C	
	Atmospheric conditions	Normal climate demands		EN 60 439-1
		Relative humidity	50 % at 40 °C	
			Operating up to 1000 m via NN	

[1] When using exhaust filter SK 3326.200 (see page 569) and roof spacers DK 7967.000 (see page 957).
[2] When using filter fan SK 3326.100 (500 m³/h, see page 548/549) and roof spacers DK 7967.000 (see page 957).
[3] Busbars in an open rack (open air convection) or special climate control conditions to regulate the enclosure temperature.
[4] Enclosure heights 71″/1800 mm and 87″/2200 mm upon request.

T-busbar system 800 A

Electric parameters	Rated voltage	Rated insulation voltage U_i	1000 V	EN 60 439-1
		Rated voltage U_e	690 V	
		Test short-circuit voltage U_{imp}	8 kV	
		Overvoltage category	IV	
		Degree of pollution	3	
		Frequency rating	50 Hz	
	Rated current maximum (main busbar)	Rated current maximum I_e	800 A	At IP 3x
		Rated surge resistance I_{pk}	80 kA	
		Rated short-term withstand current I_{cw}	36 kA	
Mechanical parameters	Dimensions	Enclosure width	1000 and 1200 mm	EN 50 298
		Enclosure height	2000 mm [1]	
		Enclosure depth	600 mm [1]	
		System hole pattern	25 mm	
		Protection ratings	IP 3x	
		Design	1	EN 60 439-1
	Surface protection	Enclosure frame rack	E-coated RAL 7044	
		Flat parts (roof panel, rear wall)	E-coated RAL 7044 exterior powder coated RAL 7032	
		System bars and chassis	Sheet steel, galvanized	
	Busbar	Material	E-Cu 57, unfinished	DIN 1787
		Width of contact bar	10 mm	
		Cross-section	470 mm²	
Operating and ambient conditions	Ambient temperature	Short-term peak value	+ 40 °C	EN 60 439-1
		Peak value as a 24 h-average	+ 35 °C	
		Lowest value	– 5 °C	
	Atmospheric conditions	Normal climate demands		EN 60 439-1
		Relative humidity, degree of pollution	50 % at 40 °C	
			Operating up to 1000 m via NN	

[1] Additional dimensions upon request.

T-busbar system 1600 A

Electric parameters	Rated voltage	Rated insulation voltage U_i	1000 V	EN 60 439-1
		Rated voltage U_e	690 V	
		Test short-circuit voltage U_{imp}	8 kV	
		Overvoltage category	IV	
		Degree of pollution	3	
		Frequency rating	50 Hz	
	Rated current maximum (main busbar)	Rated current maximum I_e	1600 A	At IP 3x
		Rated surge resistance I_{pk}	100 kA	
		Rated short-term withstand current I_{cw}	50 kA	
Mechanical parameters	Dimensions	Enclosure width	1000 and 1200 mm	EN 50 298
		Enclosure height	2000 mm [1]	
		Enclosure depth	600 mm [1]	
		System hole pattern	25 mm	
		Protection ratings	IP 3x	
		Design	1	EN 60 439-1
	Surface protection	Enclosure frame rack	E-coated RAL 7044	
		Flat parts (roof panel, rear wall)	E-coated RAL 7044 exterior powder coated RAL 7032	
		System bars and chassis	Sheet steel, galvanized	
	Busbar	Material	E-Cu 57, unfinished	DIN 1787
		Width of contact bar	10 mm	
		Cross-section	910 mm²	
Operating and ambient conditions	Ambient temperature	Short-term peak value	+ 40 °C	EN 60 439-1
		Peak value as a 24 h-average	+ 35 °C	
		Lowest value	– 5 °C	
	Atmospheric conditions	Normal climate demands		EN 60 439-1
		Relative humidity	50 % at 40 °C	
			Operating up to 1000 m via NN	

[1] Additional dimensions upon request.

GR	Part No.	Description	UL	CSA	DNV	GL	CE
SV	3000.000	Busbar supports up to 800 A, 3-pole	●	●	●	●	●
SV	3001.000	Inserts for busbar 30 x 5 mm	●	●		●	●
SV	3002.000	Inserts for busbar 25 x 5 mm	●	●		●	●
SV	3003.000	Inserts for busbar 20 x 10 mm	●	●		●	●
SV	3004.000	Inserts for busbar 20 x 5 mm	●	●		●	●
SV	3005.000	Inserts for busbar 16 x 8 mm	●	●		●	●
SV	3006.000	Inserts for busbar 16 x 3/4/5 mm	●	●		●	●
SV	3007.000	Inserts for busbar 15 x 3/4/5 mm	●	●		●	●
SV	3008.000	Inserts for busbar 12 x 10 mm	●	●		●	●
SV	3009.000	Inserts for busbar 12 x 5 mm	●	●		●	●
SV	3012.000	Inserts for busbar $^3/_8$ x 1 inch	●	●			●
SV	3013.000	Inserts for busbar $^1/_4$ x 1 inch	●	●			●
SV	3016.000	Inserts for busbar $^3/_8$ x $^3/_4$ inch	●	●			●
SV	3036.000	Component adaptor 63 A	●	●	●	●	●
SV	3037.000	Component adaptor 63 A	●	●	●	●	●
SV	3038.000	Component adaptor 63 A	●	●	●	●	●
SV	3038.611	Component adaptor 63 A	●	●			●
SV	3038.612	Component adaptor 63 A	●	●			●
SV	3038.660	Component adaptor 63 A	●	●			●
SV	3038.661	Component adaptor 63 A	●	●			●
SV	3038.662	Component adaptor 63 A	●	●			●
SV	3039.000	Component adaptor 63 A	●	●	●	●	●
SV	3039.611	Component adaptor 63 A	●	●			●
SV	3039.612	Component adaptor 63 A	●	●			●
SV	3039.660	Component adaptor 63 A	●	●			●
SV	3039.661	Component adaptor 63 A	●	●			●
SV	3039.662	Component adaptor 63 A	●	●			●
SV	3040.000	Component adaptor 50 A	●	●	●	●	●
SV	3041.000	Component adaptor 50 A	●	●	●	●	●
SV	3042.000	Component adaptor 50 A	●	●	●	●	●
SV	3043.000	Component adaptor 50 A	●	●	●	●	●
SV	3044.000	Component adaptor 50 A	●	●	●	●	●
SV	3045.000	Component adaptor 50 A	●	●	●	●	●
SV	3046.000	Component adaptor 63 A	●	●	●	●	●
SV	3047.000	Component adaptor 63 A	●	●	●	●	●
SV	3048.000	Component adaptor 63 A	●	●	●	●	●
SV	3049.000	Component adaptor 63 A	●	●	●	●	●
SV	3050.000	Busbar support up to 800 A, 2-pole	●	●	●	●	●
SV	3055.000	Busbar support up to 2500 A, 3-pole			●		●
SV	3056.000	Spacer unit for SV 3055			●		●
SV	3057.000	Busbar support up to 3000 A, 3-pole			●		●
SV	3064.000	Busbar support up to 800 A, 4-pole	●	●	●	●	●
SV	3066.000	Busbar support up to 450 A, 3-pole	●	●	●		●
SV	3073.000	Busbar support up to 1250 A, 3-pole			●		●
SV	3078.000	Busbar support up to 800 A, 1-pole	●	●	●	●	●
SV	3080.000	End cover for SV 3000	●	●		●	●
SV	3083.000	End cover for SV 3073	●	●			●
SV	3084.000	End cover for SV 3064	●	●		●	●
SV	3086.000	System cover	●	●		●	●
SV	3087.000	System cover	●	●		●	●
SV	3088.000	System cover	●	●		●	●
SV	3089.000	Support cover for SV 3000	●	●		●	●
SV	3090.000	System cover	●	●		●	●
SV	3091.000	System cover	●	●		●	●
SV	3092.000	Busbar cover profile	●	●		●	●
SV	3093.000	Side cover				●	●
SV	3095.000	NH fused isolators, size 3	●		●		●
SV	3095.010	NH fused isolators, size 3	●		●		●
SV	3095.020	NH bus-mounted fused isolators, size 3	●		●		●
SV	3095.030	NH bus-mounted fused isolators, size 3	●		●		●
SV	3095.110	NH fused isolators, size 3	●		●		●
SV	3095.120	NH bus-mounted fused isolators, size 3	●		●		●
SV	3095.130	NH bus-mounted fused isolators, size 3	●		●		●
SV	3096.000	Contact hazard protection frame	●		●		●
SV	3400.000	NH bus-mounted fused isolators, size 00	●		●		●
SV	3401.000	NH bus-mounted fused isolators, size 00	●		●		●
SV	3402.000	NH bus-mounted fused isolators, size 00	●		●		●
SV	3403.000	NH bus-mounted fused isolators, size 00	●		●		●
SV	3404.000	NH bus-mounted fuse base bottom, size 00	●		●		●
SV	3405.000	NH bus-mounted fuse base bottom, size 00	●		●		●

GR	Part No.	Description	UL	CSA	DNV	GL	CE
SV	3406.000	NH bus-mounted fuse base bottom, size 00	●		●		●
SV	3407.000	NH bus-mounted fuse base bottom, size 00	●		●		●
SV	3408.000	Contact hazard protection frame	●		●		●
SV	3410.000	NH bus-mounted fused isolators, size 1	●		●		●
SV	3411.000	NH bus-mounted fused isolators, size 1	●		●		●
SV	3415.000	NH fused isolators, size 2	●		●		●
SV	3415.010	NH fused isolators, size 2	●		●		●
SV	3415.020	NH bus-mounted fused isolators, size 2	●		●		●
SV	3415.030	NH bus-mounted fused isolators, size 2	●		●		●
SV	3415.110	NH fused isolators, size 2	●		●		●
SV	3415.120	NH bus-mounted fused isolators, size 2	●		●		●
SV	3415.130	NH bus-mounted fused isolators, size 2	●		●		●
SV	3418.000	Bus-mounted fuse base D 02-E 18			●	●	●
SV	3419.000	Contact hazard protection				●	●
SV	3420.000	End caps for SV 3419				●	●
SV	3421.000	Blank space covers				●	●
SV	3422.000	Bus-mounted fuse base D 02-E 18			●	●	●
SV	3423.000	Bus-mounted fuse base D 02-E 18			●	●	●
SV	3424.000	Contact hazard protection				●	●
SV	3425.000	End caps for SV 3424				●	●
SV	3427.000	Bus-mounted fuse base D II-E 27			●	●	●
SV	3428.000	Contact hazard protection				●	●
SV	3429.000	End caps for SV 3428/SV 3522				●	●
SV	3430.000	Blank space covers				●	●
SV	3431.000	NH fused isolators, size 00C	●		●		●
SV	3433.000	Bus-mounted fuse base D III-E 33			●	●	●
SV	3434.000	Contact hazard protection				●	●
SV	3435.000	End caps for SV 3434/SV 3532				●	●
SV	3436.000	Blank space covers				●	●
SV	3437.000	Component adaptor 250 A	●	●	●		●
SV	3438.000	Component adaptor 160 A	●	●	●		●
SV	3439.000	Connection adaptor 800 A	●	●	●	●	●
SV	3440.000	Connection adaptor 400 A	●	●	●	●	●
SV	3441.000	Connection adaptor 800 A	●	●	●	●	●
SV	3442.000	Connection adaptor 250 A	●	●	●	●	●
SV	3443.000	Connection adaptor 63 A	●	●	●	●	●
SV	3444.000	Connection adaptor 125 A	●	●	●	●	●
SV	3445.000	Component adaptor 63 A	●	●	●	●	●
SV	3446.000	Component adaptor 63 A			●	●	●
SV	3447.000	Support rails	●	●			●
SV	3448.000	Insert strip 17.5 mm wide	●	●		●	●
SV	3450.500	Conductor connecting clamp	●	●	●		●
SV	3451.500	Conductor connecting clamp	●	●	●		●
SV	3452.500	Conductor connecting clamp	●	●	●		●
SV	3453.500	Conductor connecting clamp	●	●	●		●
SV	3454.500	Conductor connecting clamp	●	●	●		●
SV	3455.500	Conductor connecting clamp	●	●	●		●
SV	3456.500	Conductor connecting clamp	●	●	●		●
SV	3457.500	Conductor connecting clamp	●	●	●		●
SV	3458.500	Conductor connecting clamp	●	●	●		●
SV	3459.500	Conductor connecting clamp	●	●	●		●
SV	3460.500	Plate clamps for 80 mm busbar width	●	●	●		●
SV	3485.000	NH fused isolators, size 1			●		●
SV	3486.000	NH fused isolators, size 2			●		●
SV	3487.000	NH fused isolators, size 3			●		●
SV	3488.000	NH fused isolators, size 00	●		●		●
SV	3489.000	NH fused isolators, size 00	●		●		●
SV	3490.000	NH bus-mounted fused isolators, size 00	●		●		●
SV	3491.000	NH bus-mounted fused isolators, size 00	●		●		●
SV	3492.000	NH bus-mounted fused isolators, size 00	●		●		●
SV	3493.000	NH bus-mounted fused isolators, size 00	●		●		●
SV	3494.000	NH bus-mounted fused isolators, size 1	●		●		●
SV	3495.000	NH bus-mounted fused isolators, size 1	●		●		●
SV	3496.000	Support rails for SV 3445/46 + SV 3488	●	●			●
SV	3497.000	NH fused isolators, size 2	●		●		●

GR	Part No.	Description	UL	CSA	DNV	GL	CE
SV	3500.000	PLS busbar support up to 800 A	●	●	●	●	●
SV	3501.000	PLS end cover for SV 3500	●	●		●	●
SV	3502.000	PLS base tray section	●	●		●	●
SV	3503.000	PLS base tray section	●	●		●	●
SV	3504.000	PLS busbar connector kit 800 A, single	●	●	●	●	●
SV	3505.000	PLS busbar connector kit 800 A, double	●	●	●	●	●
SV	3506.000	PLS cover profile	●	●		●	●
SV	3507.000	PLS cover profile	●	●		●	●
SV	3508.000	PLS cover profile	●	●		●	●
SV	3509.000	PLS special busbar E-Cu	●	●		●	●
SV	3510.000	PLS busbar support up to 1600 A	●	●	●	●	●
SV	3511.000	PLS end cover for SV 3510	●	●		●	●
SV	3512.000	PLS base tray section	●	●		●	●
SV	3513.000	PLS base tray section	●	●		●	●
SV	3514.000	PLS busbar connector kit 1600 A, single	●	●		●	●
SV	3515.000	PLS busbar connector kit 1600 A, double	●	●	●	●	●
SV	3516.000	PLS special busbar E-Cu	●	●	●	●	●
SV	3517.000	PLS connection adaptor 1600 A	●	●	●	●	●
SV	3518.000	PLS base tray section	●	●		●	●
SV	3519.000	PLS base tray section	●	●		●	●
SV	3520.000	Bus-mounted fuse base D II-E 27			●	●	●
SV	3521.000	Bus-mounted fuse base D II-E 27			●	●	●
SV	3522.000	Contact hazard protection cover for SV 3520/21				●	●
SV	3524.000	PLS special busbar E-Cu	●	●		●	●
SV	3525.000	PLS special busbar E-Cu	●	●		●	●
SV	3526.000	PLS special busbar E-Cu	●	●		●	●
SV	3527.000	PLS special busbar E-Cu	●	●		●	●
SV	3528.000	PLS special busbar E-Cu	●	●		●	●
SV	3529.000	PLS special busbar E-Cu	●	●		●	●
SV	3530.000	Bus-mounted fuse base D III-E 33			●	●	●
SV	3531.000	Bus-mounted fuse base D III-E 33			●	●	●
SV	3532.000	Contact hazard protection cover for SV 3530/31				●	●
SV	3536.000	Cover strip	●	●			●
SV	3537.000	Cover strip	●	●			●
SV	3538.000	Insert strip	●	●		●	●
SV	3539.000	Component adaptor 160 A	●	●	●	●	●
SV	3540.000	Component adaptor 50 A	●	●	●	●	●
SV	3541.000	Component adaptor 50 A	●	●	●	●	●
SV	3542.000	Component support	●	●	●	●	●
SV	3543.000	Component support	●	●	●	●	●
SV	3544.000	Component adaptor 50 A	●	●	●	●	●
SV	3544.630	Component adaptor 50 A	●	●			●
SV	3544.631	Component adaptor 50 A	●	●			●
SV	3544.632	Component adaptor 50 A	●	●			●
SV	3545.000	Component adaptor 50 A	●	●	●	●	●
SV	3545.630	Component adaptor 50 A	●	●			●
SV	3545.631	Component adaptor 50 A	●	●			●
SV	3545.632	Component adaptor 50 A	●	●			●
SV	3546.000	Component support	●	●	●	●	●
SV	3547.000	Component support	●	●	●	●	●
SV	3548.000	Support rail	●	●			●
SV	3549.000	Support rail	●	●			●
SV	3550.000	Conductor connection clamps	●	●	●	●	●
SV	3551.000	Conductor connection clamps	●	●	●	●	●
SV	3552.000	Conductor connection clamps	●	●	●	●	●
SV	3553.000	Conductor connection clamps	●	●	●	●	●
SV	3554.000	Plate clamps for 30 mm busbar width	●	●	●	●	●
SV	3555.000	Conductor connection clamps	●	●	●	●	●
SV	3556.000	Conductor connection clamps	●	●	●	●	●
SV	3557.000	Conductor connection clamps	●	●	●	●	●
SV	3558.000	Conductor connection clamps	●	●	●	●	●
SV	3559.000	Plate clamps for 40 mm busbar width	●	●	●	●	●
SV	3560.000	Plate clamps for 50 mm busbar width	●	●	●	●	●
SV	3561.000	Plate clamps for 60 mm busbar width	●	●	●	●	●
SV	3562.000	Plate clamps for 50 mm busbar width	●	●	●	●	●
SV	3563.000	Plate clamps for 60 mm busbar width	●	●	●	●	●
SV	3565.000	Flexibar laminated copper busbar	●	●			●
SV	3566.000	Flexibar laminated copper busbar	●	●			●
SV	3567.000	Flexibar laminated copper busbar	●	●			●
SV	3568.000	Flexibar laminated copper busbar	●	●			●
SV	3569.000	Flexibar laminated copper busbar	●	●			●

GR	Part No.	Description	UL	CSA	DNV	GL	CE
SV	3570.000	Flexibar laminated copper busbar	●	●			●
SV	3571.000	Flexibar laminated copper busbar	●	●			●
SV	3572.000	Flexibar laminated copper busbar	●	●			●
SV	3573.000	Flexibar laminated copper busbar	●	●			●
SV	3574.000	Flexibar laminated copper busbar	●	●			●
SV	3575.000	Flexibar laminated copper busbar	●	●			●
SV	3576.000	Flexibar laminated copper busbar	●	●			●
SV	3577.000	Flexibar laminated copper busbar	●	●			●
SV	3578.000	Flexibar laminated copper busbar	●	●			●
SV	3579.000	Flexibar laminated copper busbar	●	●			●
SV	3582.000	Busbar E-Cu 57 F30	●	●			●
SV	3583.000	Busbar E-Cu 57 F30	●	●			●
SV	3584.000	Busbar E-Cu 57 F30	●	●			●
SV	3585.000	Busbar E-Cu 57 F30	●	●			●
SV	3586.000	Busbar E-Cu 57 F30	●	●			●
SV	3591.000	NH fused isolators, size 00			●		●
SV	3592.000	NH fused isolators, size 00			●		●
SV	9320.000	Component adaptor 100 A	●	●	●		●
SV	9320.010	Component adaptor 100 A	●	●	●		●
SV	9320.040	Component adaptor 100 A	●	●			●
SV	9320.050	Component adaptor 100 A	●	●			●
SV	9600.000	Mini-PLS busbar support up to 250 A	●	●	●		●
SV	9601.000	Mini-PLS special busbar	●	●			●
SV	9602.000	Mini-PLS special busbar	●	●			●
SV	9604.000	Mini-PLS base tray section	●	●			●
SV	9605.000	Mini-PLS base tray section	●	●			●
SV	9606.000	Mini-PLS base tray section	●	●			●
SV	9607.000	Mini-PLS base tray section	●	●			●
SV	9608.000	Mini-PLS cover profile	●	●			●
SV	9609.000	Mini-PLS cover profile	●	●			●
SV	9610.000	Mini-PLS end cover	●	●			●
SV	9611.000	Mini-PLS busbar connector kit	●	●	●		●
SV	9612.000	Mini-PLS connection adaptor 63 A to 250 A	●	●	●		●
SV	9613.000	Mini-PLS connection adaptor 63 A	●	●	●		●
SV	9614.000	Mini-PLS component adaptor 25 A	●	●	●		●
SV	9615.000	Mini-PLS component adaptor 25 A	●	●	●		●
SV	9616.000	Mini-PLS component adaptor 40 A	●	●	●		●
SV	9617.000	Mini-PLS component adaptor 40 A	●	●	●		●
SV	9618.000	Mini-PLS comfort component adaptor 25 (32) A	●	●	●		●
SV	9619.000	Mini-PLS comfort component adaptor 25 (32) A	●	●	●		●
SV	9620.000	Mini-PLS comfort component adaptor 25 (32) A	●	●	●		●
SV	9621.000	Mini-PLS comfort component adaptor 25 (32) A	●	●	●		●
SV	9622.000	Mini-PLS comfort component adaptor 25 (32) A	●	●	●		●
SV	9623.000	Mini-PLS insert strip 9 mm wide	●	●			●
SV	9624.000	Mini-PLS special busbar	●	●			●
SV	9625.000	Mini-PLS component adaptor 25 A	●	●	●		●
SV	9626.000	Mini-PLS component adaptor 25 A	●	●	●		●
SV	9627.000	Mini-PLS component adaptor 40 A	●	●	●		●
SV	9627.630	Mini-PLS component adaptor 40 A	●	●			●
SV	9627.631	Mini-PLS component adaptor 40 A	●	●			●
SV	9627.632	Mini-PLS component adaptor 40 A	●	●			●
SV	9628.000	Mini-PLS component adaptor 40 A	●	●	●		●
SV	9629.000	Mini-PLS component adaptor 100 A	●	●	●		●
SV	9630.000	Mini-PLS bus-mounted fuse base			●		●
SV	9967.800	Mini-PLS bus-mounted fuse base	●	●			●
SV	9967.801	Mini-PLS bus-mounted fuse base	●	●			●
SV	9967.802	Mini-PLS bus-mounted fuse base	●	●			●
SV	9968.177	Mini-PLS bus-mounted fuse base	●	●			●
SV	9968.178	Mini-PLS bus-mounted fuse base	●	●			●
SV	9968.179	Mini-PLS bus-mounted fuse base	●	●			●
SV	9968.180	Mini-PLS bus-mounted fuse base	●	●			●
SV	9968.181	Mini-PLS bus-mounted fuse base	●	●			●
SV	9968.182	Mini-PLS bus-mounted fuse base	●	●			●

Certification status at the time of printing.

Networking solutions

Multiple enclosure platforms are available for the many applications of IT technology. The modular TS 8 system is designed for the expansion needs of the customer.
Mounting options, including 19″, metric as well as frame mounts, are available solutions for any environment.

Safety

Teamwork for IT safety!
Optimum security for IT installations, thanks to the cooperation of enclosure monitoring and climate control components.

RITTAL IT SOLUTIONS

Table of contents
Rittal data communication components

A solution for any demand
Specialized solutions for the requirements of the IT market, like the ISP/ASP systems or the IT Tower.

Multimedia in decentralized network units
Rittal-Net.com is the complete passive platform for the quick, state-of-the-art configuration needed in the communications network in small office environments.

Intelligent solutions for multi media applications
Interactive terminal systems open new dimensions.

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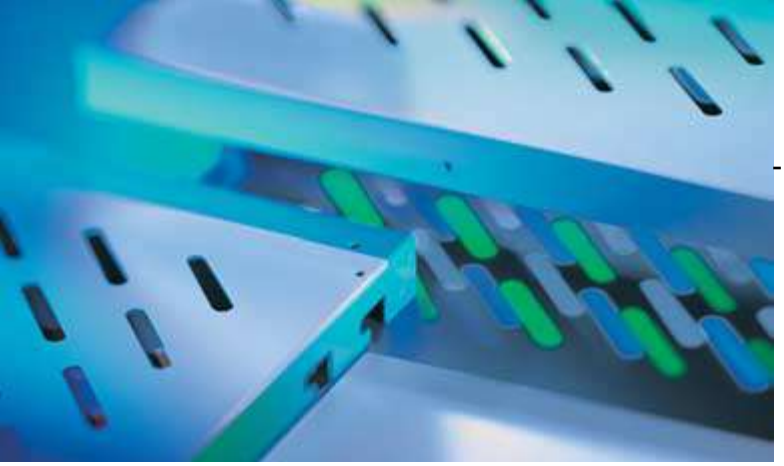
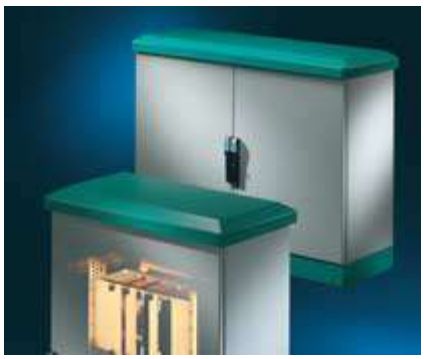


■ Network enclosures

Enclosure type	TS 8	flexRack
Applications	■ Data distribution enclosures ■ Component enclosures ■ Telecommunications ■ Safety technology ■ Electronic enclosures	■ Data distribution enclosures ■ Electronic enclosures ■ Component enclosures
Design features	■ Symmetrical construction ■ Two installation levels ■ 4 point locking system ■ Reversible hinges ■ 16-fold roll-formed vertical profiles ■ Welded frame rack	■ Screw fastened frame, able to be disassembled easily ■ 19″ or metric mounting rails ■ Reversible hinges ■ Multi-functional aluminum profile ■ Fastening of inside assemblies on a continuous or increment system hole basis
User benefits	 ■ High stability ■ 15% more enclosure volume ■ Innovative climate control concepts ■ Bayable on all sides ■ Variety of modular solutions via our extensive system accessories program ■ Pre-configured models in stock, ready to ship ■ Innovative cable management ■ Width or depth variable via the adaptor hood ■ High security via 4-point locking system	 ■ Ideal and safe packaging for high cost network components ■ Quick installation ■ Maximum usable interior space ■ 16 installation levels inside installation ■ Pre-configured models in stock, ready to ship
	Pages 702 – 707	**Pages 708 – 731, 752**



For any weather
The CS outdoor enclosure program offers high quality materials, powerful climate control components, far reaching regulating and monitoring technology.
Detailed information starting on page 852.

Server enclosures/server administration

QuickRack

- Flat-pack delivery concept
- Data distribution enclosures
- Component enclosures

- Multiple-fold roll-formed vertical profiles
- Modular roof and base construction
- Easy disassembly of frame, secured with just 8 bolts
- 19″ and metric inside assemblies
- Reversible hinges

- Quick installation
- Passive climate control already built-in, can be expanded with active components
- Economical and complete system
- Minimal storage space with the Flat-pack model
- 232 standard variations because of the modular assembly
- Width adaptability via adaptor hood
- Pre-configured models in stock, ready to be shipped

Pages 732 – 751

flexRack

- Elegant rack solution for office or tech rooms
- Integration of all common servers

- Cable routing possible via roof or base
- Aluminum extrusion profiles for frame rack
- Passive ventilation via louvers in the front door
- Perforated rear wall
- Optional fan modules for additional active climate control

- Attractive design
- Bayablility
- Protection from unauthorized access due to safety locking systems
- Safe operation provided via anti-tip device in the cable base
- Can accommodate any common server

Pages 754/755

QuickRack

- Office applications
- Computer rooms

- Mobile base, integrated into the rack
- Infinitely adjustable depth installation of the 19″ profiles
- Passive ventilation via ventilation louvers

- QuickRack for PRIMERGY Server
- Configuration of combined applications of different makes
- Variable width for cable management
- Total height < 2000 mm with integrated mobile base
- Protection from unauthorized access thanks to safety locking system
- Can accommodate any common server
- Safe operation provided via anti-tip device in the mobile base
- Bayablility

Pages 756 – 759

SSC

- Local networks with several servers for centalized control
- Automation in trade and industry
- Banks, insurance companies
- Internet and telecommunication providers
- Radio and television stations
- Automation applications
- ISP/ASP

- Ready for mounting in 19″/482.6 mm installation enclosures
- Support of PCs, servers and workstations of various manufacturers
- Optional additional remote console
- Completely software independent, capable of running on any operating system

- Economical and space saving
- Central control of several servers
- Junction of multi-vendor server configurations
- Mouse and keyboard emulation in case of power failure (Mission Critical System)
- Expandable through cascading
- System expansion while in operation

Pages 760 – 763

■ ISP/ASP racks

	Co-location racks	Server racks
Applications	■ Server housings ■ Web hosting ■ Data processing centers ■ Co-location rooms	■ Data processing centers ■ Co-location rooms
Design features	■ High load capacity ■ 2 to 4 door models ■ Vented doors ■ 19″ installation area front and rear on each individual level ■ High enclosure volume ■ Installation of metric and 19″ components	■ Slender frame profile ■ More available space (515 mm) for metric components ■ Ventilated sheet steel door, front ■ Ventilated rear door ■ Cable management possible via roof and double floor panels
User benefits	 ■ Integral passive ventilation ■ Higher interior volume ■ Separate cable management of data and power cables ■ Optimum, individual security via door handle with master key function ■ Cable management concept ■ Component shelves completely separate the compartments	 ■ Installation levels are completely depth adjustable ■ Individualized access control ■ Safety via 4-point locking system ■ More enclosure interior space ■ 47 U continuous population height
	Pages 764 – 767	**Pages 764 – 767**

Perfect Climate
Rittal offers a comprehensive enclosure climate control program, starting on page 446.

Telco racks

Distribution racks

IT Tower

- Telecommunication solutions
- CTI Computer Telephone Integration
- Battery back-up
- Emergency power back-up systems

- Welded sheet steel frame
- 2 widths available
- Aluminum front frame with viewing window or metal perf panels
- Closed/ventilated roof panel
- Detachable sidewalls
- Status display of important parameters optional

- Slender construction
- Attractive design
- Optional display of important parameters
- High stability
- Inside installation completely depth adjustable
- Accepts active or passive components

Pages 768/769

TC rack

- ETSI configurations
- Network distribution
- Telecommunication distribution

- Open rack of torsion resistant aluminum
- Roof or base frame of sheet steel for cable entry and fan installations
- 19″ or metric installation levels
- Available depths: 12″/300 and 24″/600 mm

- In compliance with the ETSI norm 300 119/3 for metric profile rails
- Cable management and climate control concepts
- Usable as a metric or 19″ rack
- Individual configuration with various doors, sidewalls and roof modules

Pages 770 – 773

RiPatch

- Data highways
- Large network junctions
- High traffic data line centers

- Optimal stability with lightweight construction
- Rounded edges for correct bending radius
- Snap-on installation of cable collecting rails anywhere
- Back-to-back or side with cable routing spaces in between
- Cable management sidewall

- Easy Plug & Play installation
- Individual cable management
- Separate routing of fiber optic and copper cables
- Compliance with bending radii
- High packing density for large numbers of cables
- Individually bayable

Pages 774 – 777

Data Rack

- Distribution rooms
- Laboratories
- Training centers

- Open rack of torsion resistant aluminum profile
- Built-on 19″ installation levels
- Stable base

- Optimum access to the the installation and wiring levels
- Mobile, due to the standard equipment with casters
- Second additional installation level, e.g. for pull-out floors or equipment installation from both sides

Pages 778 – 781

FM enclosure and FM Mini distributor box

- Main distribution frame
- Ready for the installation of connecting blocks, rail systems or 19″ support components
- FM Mini distributor box, for the configuration of small floor network distributor boxes
- FM enclosures and wall distributor boxes for the configuration of midsize network distributor boxes or

- Shallow enclosure depths
- Customized enclosure dimensions according to equipment
- Vast number of options for cable collecting and routing
- Widely installed enclosure systems
- Maximum installation options also in the 19″ technology

- Support systems for all common strip or block connection systems
- A variety of options for cable collecting

Pages 782 – 789

Wallmount distribution enclosures

	EL enclosures	QuickBox cabinets
Applications	■ Distribution enclosures ■ Wallmount distribution enclosures ■ Floor distributor boxes ■ Features high level of protection ■ Automation technology	■ Wallmount distribution enclosures ■ Floor distributor boxes ■ Office distributor boxes
Design features	■ 3-part enclosure ■ 19″ profiles, infinitely depth adjustable within center section ■ Hinged center part for free access to the operator or cable routing level ■ Robust construction and high protection ratings ■ System hole pattern around the perimeter of the enclosure	■ Integral passive ventilation system ■ Support frame for wall-mounting ■ Detachable front hood ■ Inside installation completely variable in depth dimensions
User benefits	 ■ Pre-configured solutions in stock, ready to ship ■ Flexible access due to swing frame center, with high protection rating ■ Integral passive climate control ■ Integral cable collecting ■ Broad accessories program ■ Use as a mobile enclosure with the mobile base ■ Maximum protection rating NEMA 4/IP 54 (for solid door model) ■ Easy access due to swing frame feature of the components	 ■ Total accessibility for inside installation ■ Easy cable entry through brush strips ■ Variety of enclosures available because of a large program of standard dimensions
	Pages 790 – 801	**Pages 802 – 805**

Interactive Terminal Systems
Smart solutions for point-of-interest and point-of-sale applications.
See pages 846 – 851.
Detailed information may be found in our ITS catalog.

Overview

■ SOHO

■ Safety

AE

- Floor distributor boxes
- Wallmount distribution enclosures

- Variable depths 19″ inside installation or mounting on two 19″ installation levels within a pull-out frame. Suitable for active or passive components
- High protection rating due to unibody construction
- Enclosures with pull-out frame are already equipped for active climate control and a viewing window for status monitoring

- Protection against unauthorized access via built-in safety lock system
- Flexible inside assemblies due to variable depth 19″ profiles or via a 19″ pull-out frame
- Integral cable collecting
- Separation of active and passive modules

Pages 806 – 809

Fiber-optic mini distribution enclosures

- Wallmount enclosures for the configuration of small to midsize fiber optic networks
- Configuration of routing or throughput distributor boxes
- Cabinet with segregated or common access options
- Installation choices for splice organizers or patch panels of differing connector types

- Designed for a wide range of varying population densities and connector systems
- For extreme conditions on the distribution set-up, enclosures with a rating of NEMA 4/4X/IP 66 are possible

- Protection against unauthorized access via built-in safety lock system. Segregated access is optional
- Integral cable routing and system specific cable collecting, while maintaining the proper maximum bending radii

Pages 810 – 817

RNC

- Small and midsize offices
- Home offices
- Decentralized work groups

- Empty or pre-configured cabinet with patch panel, patch cables and connector cables
- 10″ and 19″ technology
- Snap-on sidewalls
- Expandable via modular parts
- Detachable rear wall

- Access from all sides
- Complete system, consisting of enclosures, connection technology and cabling
- Certified operating safety
- Individual network expansion

Pages 818 – 821

CMC

- Network, server and electronic enclosures
- Network distribution enclosures
- Outdoor systems
- Automation/industrial applications
- Banks, insurance companies
- Corporations with large numbers and wide spread franchise locations
- Top security applications

- May be networked with TCP/IP
- Simple Network Management Protocol (SNMP)
- Telnet/RS 232
- Trivial File Transfer Protocol (TFTP)
- Wide range system components 48 – 230 V DC/50/60 Hz
- Open system/programmable
- Expandable inputs/outputs

- Monitoring of all important environmental conditions using many digital or analog sensors
- Automatic warning signal in case of emergency
- Early or automatic start-up of counter measures
- Optimum overview and control in secure company intranets

Pages 826 – 839

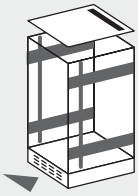
Pre-configured network enclosures, based on Rittal TS 8

Completely pre-configured, in six industry specific models. Readily available, ready to use. The new TS 8 enclosure system continues the popularity of our pre-configured network enclosures. Select, deliver, unpack – ready to use. The rack configuration is done on an economies of scale production. Enclosure rows may be suited quickly with our baying systems.

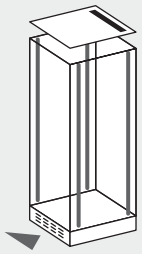
All enclosures are equipped with vented plinth/base and a roof panel for cable entry, as well as comfort handles with safety inserts on the front and rear doors. The automatic grounding of the TS 8 is an advantage, additional earth/grounding of the flat parts is achieved through ground wires directly to the enclosure frame.

Plus a broad accessories program for passive ventilation and cable routing, as well as cage nuts and screws.

Dimensional drawings,
see page 704.

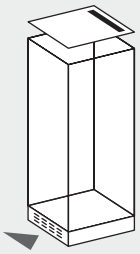


DK 7830.100
19″ mounting surfaces, installed approx. 6″/150 mm behind the front edge of the rack. Fastened to a TS system chassis used as a depth rail.



DK 7830.200 / .800
19″ mounting surfaces front and rear, distance between surfaces 20″/498 mm. Formed mounting rails are fastened on corner brackets approximately 6″/150 mm behind the front edge of the rack.

DK 7830.300
19″ mounting surfaces front and rear, distance between surfaces, 29.13″/740 mm. L-shaped mounting rails, centered on 3 depth rails each.



DK 7830.400
Empty enclosure for the customized configuration. Partial installation, 19″ or metric or combinations of 19″ rails and enclosure frame installations are options.

DK 7830.500
19″ mounting surfaces front and rear, distance between surfaces 20″/498 mm. L-shaped mounting rails, centered on depth rails.

Roof panel with cutout for fan insert and solid ventilation – dome mounted on spacer bolts.

Configuration							
Height	inches/ mm	28 + 4 1200 + 100	79 + 4 2000 + 100	79 + 4 2000 + 100	79 + 4 2000 + 100	80 + 4 2025 + 100	71 + 4 1800 + 100
Width inches/mm		24/600	32/800	32/800	32/800	32/800	32/800
Depth inches/mm		24/600	32/800	36/900	32/800	32/800	32/800
H1 mm		1112	1912	1912	1912	1912	1712
B1 mm		512	712	712	712	712	712
T1 mm		512	712	812	712	712	712
Part No. DK including 2 snap-on sidewalls, with safety lock insert 3524 E		**7830.100**	**7830.200**	**7830.300**	**7830.400**	**7830.500**	**7830.800**
Part No. DK as baying enclosure without sidewalls, including baying kit TS 8800.500		**–**	**7830.250**	**7830.350**	**–**	**7830.550**	**7830.850**
1 viewing door, front, aluminum extruded frame, .12″/3 mm single pane safety glass, comfort handle for half profile cylinder with safety lock insert 3524 E, 180° hinges		●	●		●	●	●
1 vented viewing door, front, sheet steel with louvers and single pane viewing window, comfort handle for half profile cylinder with safety lock insert 3524 E, 180° hinges				●			
1 rear door made of sheet steel, with turning handle and safety lock insert 3524 E, 130° hinges		●	●		●	●	●
1 vented rear door made of sheet steel, with turning handle and safety lock insert 3524 E, 180° hinges				●			
1 roof panel for cable entry installed with 4 cheese head screws, removable		●	●	●	●		●
1 roof panel ready for active ventilation, covered with closed dome on spacer bolts, cable entry from the rear						●	
1 base panel, front, installed as trim panel, rear open			●		●	●	●
1 one part base panel, vented, with rear cable entry		●		●			
1 base/plinth, 4″/100 mm high, louvered front/rear panels included, solid sidewalls installed		●	●	●	●	●	●
1 19″ mounting surface, front		●					
1 19″ mounting surface, front and rear			●	●		●	●
T-slot formed 19″ rails		●	●				●
L-shaped 19″ rails				●		●	
19″ rails, fastened with **depth rails**		●		●		●	
19″ rails, fastened on **corner angles**			●				●
Earth/grounding of all flat parts to the enclosure frame		●	●	●	●	●	●
Central grounding point center rear of the base frame		●	●	●	●	●	●
2 TS system chassis as transportation brace, fastened to the inner installation level			●		●	●	●

System accessories shipped with:						
4 leveling feet, including base/plinth adaptor	●	●	●	●	●	●
4 spacer bolts, .79″/20 mm, to raise the roof panel	●	●	●	●		●
4 cable collecting rails for the inner installation level, suitable for width or depth	●	●		●	●	●
4 cable collecting rails for the inner installation level, suitable for the depth			●			
10 cable guides, plastic 2.76 x 1.73″/70 x 44 mm	●					
10 cable guides, plastic, 4.13 x 2.76″/105 x 70 mm		●	●	●	●	●
50 cage nuts, M6, conducting	●	●	●	●	●	●
50 torx screws, M6, with plastic washers	●	●	●	●	●	●

Based on Rittal TS 8

Accessories:
see pages 876/877.

Door opening angle:
Front door 105° (bayed)
Rear door 105° (bayed)

Material:
Sheet steel

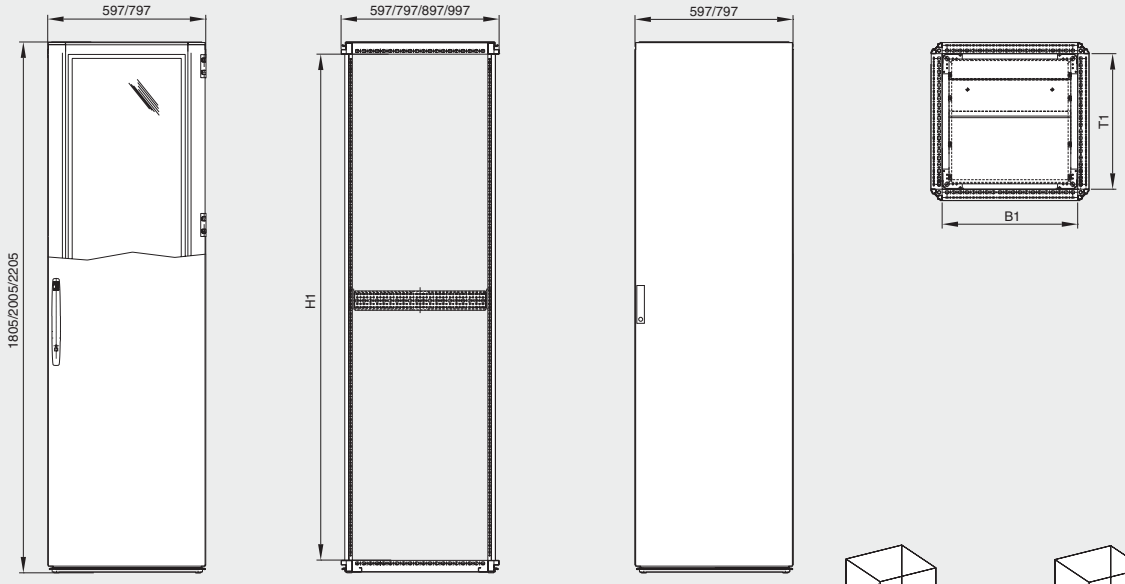
Finish:
Enclosure rack:
E-coated in RAL 7044
Doors, roof and base/plinth:
E-coated in RAL 7044 and powder painted in RAL 7035
Cable entry panels, system chassis and installation rails:
galvanized, chromated

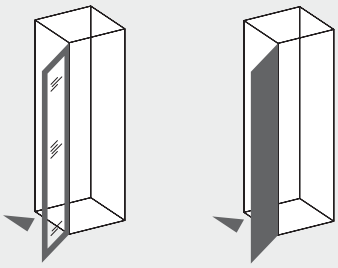
Depth rails for the installation of 19″ rails, with cutout for cable routing.

Corner angle for the installation of 19″ rails, depth adjustable along the 1″/25 mm increment system hole pattern.

Turning handle with safety lock standard in each rear door.

Front view **Side view** **Rear view** **Top view**





Rittal TS 8 network enclosures

Unlimited configuration possibilities: quick assembly due to pre-configured modules, per plug-and-play.
Smooth locking mechanism.
Two installation levels for maximum space utilization, system specific cable management and exact climate control. The completely symmetrical enclosure may be bayed in any direction.

Configuration	Type 1 viewing door, front	Type 2 sheet steel door, front
1 TS 8 enclosure frame, without sidewalls	●	●
1 viewing door, front, frame of aluminum extrusion, .12″/3 mm single pane safety glass, comfort handle for half profile cylinder with safety lock insert 3524 E	●	
1 sheet steel door, front, with comfort handle for half profile cylinder with safety lock insert 3524 E		●
1 sheet steel door, rear, with turning handle and safety lock insert 3524 E	●	●
1 roof panel installed with 4 cheese head screws, removable	●	●
Multi-panel floor panel, lockable	●	●
2 TS system chassis attached to the insidewall, in the depth of the enclosure	●	●

U	Height inches/mm	Width inches/mm	Depth inches/mm	B1 mm	H1 mm	T1 mm	Part No. DK	Part No. DK
15	32/ 800	24/600	24/ 600	512	712	512	**7820.100**	**7821.100**
20	39/1000	24/600	24/ 600	512	912	512	**7820.200**	**7821.200**
20	39/1000	32/800	24/ 600	712	912	512	**7820.240**	**7821.240**
24	47/1200	24/600	24/ 600	512	1112	512	**7820.300**	**7821.300**
24	47/1200	32/800	24/ 600	712	1112	512	**7820.340**	**7821.340**
29	55/1400	24/600	32/ 800	512	1312	712	**7820.410**	**7821.410**
29	55/1400	32/800	24/ 600	712	1312	512	**7820.440**	**7821.440**
33	63/1600	24/600	24/ 600	512	1512	512	**7820.500**	**7821.500**
33	63/1600	24/600	32/ 800	512	1512	712	**7820.510**	**7821.510**
33	63/1600	32/800	24/ 600	712	1512	512	**7820.540**	**7821.540**
38	71/1800	24/600	24/ 600	512	1712	512	**7820.600**	**7821.600**
38	71/1800	24/600	32/ 800	512	1712	712	**7820.610**	**7821.610**
38	71/1800	24/600	36/ 900	512	1712	812	**7820.620**	**7821.620**
38	71/1800	32/800	24/ 600	712	1712	512	**7820.640**	**7821.640**
38	71/1800	32/800	32/ 800	712	1712	712	**7820.650**	**7821.650**
38	71/1800	32/800	39/1000	712	1712	912	**7820.670**	**7821.670**
42	79/2000	24/600	24/ 600	512	1912	512	**7820.700**	**7821.700**
42	79/2000	24/600	32/ 800	512	1912	712	**7820.710**	**7821.710**
42	79/2000	32/800	24/ 600	712	1912	512	**7820.740**	**7821.740**
42	79/2000	32/800	32/ 800	712	1912	712	**7820.750**	**7821.750**
42	79/2000	32/800	36/ 900	712	1912	812	**7820.760**	**7821.760**
42	79/2000	32/800	39/1000	712	1912	912	**7820.770**	**7821.770**
47	87/2200	24/600	24/ 600	512	2112	512	**7820.800**	**7821.800**
47	87/2200	24/600	32/ 800	512	2112	712	**7820.810**	**7821.810**
47	87/2200	32/800	24/ 600	712	2112	512	**7820.840***	**7821.840***
47	87/2200	32/800	32/ 800	712	2112	712	**7820.850**	**7821.850**
47	87/2200	32/800	36/ 900	712	2112	812	**7820.860**	**7821.860**

***** Lead times upon request.

Based on Rittal TS 8

Accessories:
see pages 876/877.

(Not valid for Type 1,
Width: 32″/800 mm)

Door opening angle:
Front door 105° (bayed)
Rear door 105° (bayed)

Material:
Sheet steel

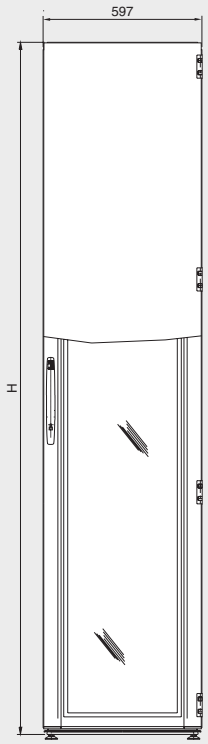
Finish:
Enclosure rack:
E-coated in RAL 7044
Doors, roof and base/plinth:
E-coated in RAL 7044 and
powder painted in RAL 7035
Cable entry panels and
system chassis:
chromated

Interior locking system for snap-on sidewalls.
Details on page 904.

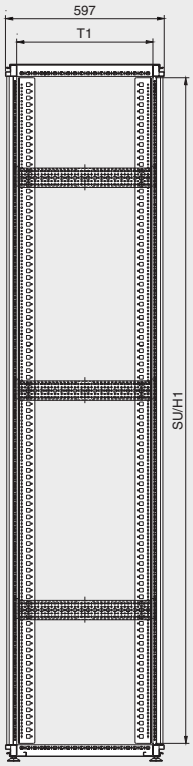
180° hinges for rear doors, Part No. TS 8800.190,
see page 948.

Component shelves for fixed installation make the entire enclosure depth available.
Details on page 988.

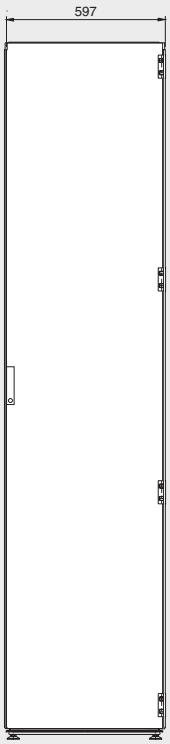
Front view



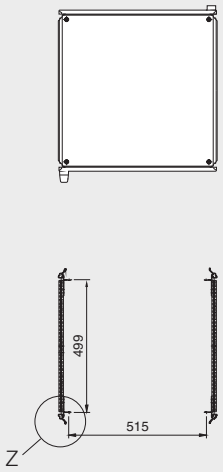
Side view



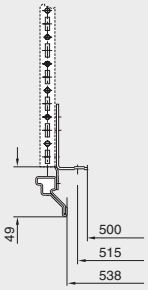
Rear view



Top view



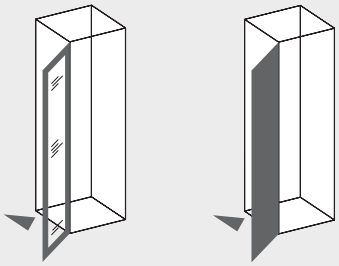
Angle bracket
most forward position
Detail Z



Rittal TS 8 network enclosures, metric

The special frame profile of the metric TS 8 rack facilitates the use of the large metric system (mounting dimensions 515 mm) at an enclosure width of only 24″/600 mm. The metric profile rails are depth adjustable along the system chassis in 12.5 mm increments. The system chassis are notched out in the center to accommodate snap-on as well as screw-on sidewalls.

Note that only the outer installation level may be used for inside installations.
A metric/19″ adaptor makes additional installation options possible.
Can be disassembled.



Configuration	Type 1 viewing door, front	Type 2 sheet steel door, front
1 Rittal TS 8 enclosure frame, without sidewalls	●	●
1 viewing door, front, frame of aluminum extrusion, .12″/3 mm single pane safety glass, with safety lock insert 3524 E, 180° hinges	●	
1 sheet steel door front, 180° hinges		●
1 comfort handle for half profile cylinder with safety lock insert 3524 E, on front door	●	●
1 rear door made of sheet steel, with turning handle and safety lock insert 3524 E, 130° hinges	●	●
1 roof panel, mounted with 4 cheese head screws, removable	●	●
1 three-part cable entry panels, chromated, pre-assembled	●	●
3 system chassis per side, three in each depth	●	●
4 metric installation rails (515 mm) mounted in front and rear	●	●
4 leveling feet for uneven floors, shipped with the enclosure	●	●

SU	Height inches/mm	Width inches/mm	Depth inches/mm	H1 mm	T1 mm	Part No. DK	Part No. DK
76	79/2000	24/600	24/600	1912	512	**7831.200**	**7831.210**
84	87/2200	24/600	24/600	2112	512	**7831.220**	**7831.230**

* Lead times upon request.

Based on Rittal TS 8

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Accessories:
see pages 876/877.

Door opening angle:
Front door 105° (bayed)
Rear door 105° (bayed)

Material:
Sheet steel

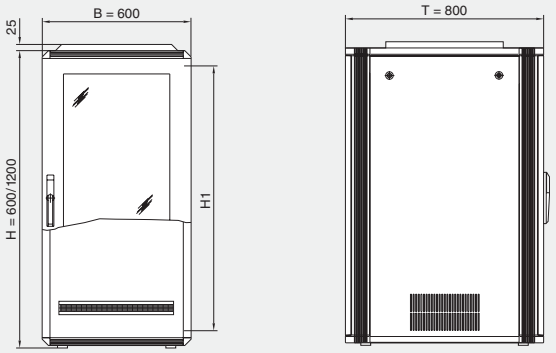
Finish:
Enclosure rack:
E-coated in RAL 7044
Doors and roof:
E-coated in RAL 7044 and powder painted in RAL 7035
Cable entry panels, system chassis and installation rails:
chromated

System chassis for the outer level, with notching to accommodate the snap-on sidewalls.

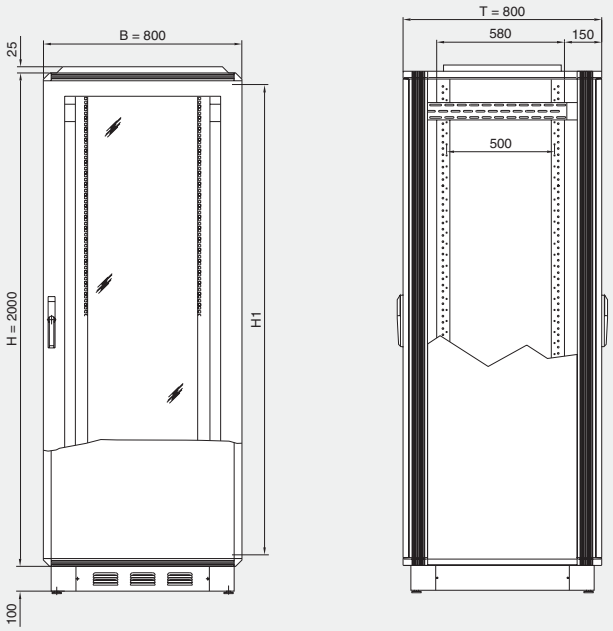
Adaptor metric to 19″, to accommodate 19″ components.
Details on page 1031.

Metric installation surfaces may also be configured for other enclosure dimensions.
See page 1029.

FR 7801.000, FR 7893.000



FR 7891.000, FR 7892.000



Material:
- Enclosure rack, aluminum extrusions
- Roof, rear door, rear wall, sidewalls, cable entry panels and base/plinths made of sheet steel
- Die-cast corner pieces

Finish:
E-coat primer, painted, textured enamel.

Color:
Sheet steel parts RAL 7035 light grey, aluminum extrusions and die-cast corner pieces RAL 5018 teal.

Door opening angle:
Front door 105° (bayed)
Rear door 105° (bayed)

Network enclosures, pre-configured				
Enclosure types	**V 20** Under desk cabinet	**V 21** Network cabinet	**V 22** Network cabinet	**V 23** Network cabinet
U	11	25	43	43
SU	20	45	77	77
Height (H) total inches/mm	24/600 + 1/25	47/1200 + 1/25	79/2000 + 5/125	79/2000 + 5/125
Width (B) inches/mm	24/600	24/600	32/800	32/800
Depth (T) inches/mm	32/800	32/800	32/800	32/800
Available space in enclosure height H1 mm	502	1102	1902	1902
Part No. FR with sidewalls	**7801.000**	**7893.000**	**7891.000**	**7892.000**
Part No. FR without sidewalls	**–**	**–**	**7891.120**	**7892.120**

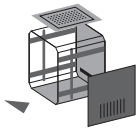
Configuration				
Rittal flexRack enclosure rack	●	●	●	●
1 viewing door front, sheet steel with .16″/4 mm single pane safety glass, **Ergoform-S handle** with safety inserts, 180° hinges	●	●	●	●
4 leveling feet for unlevel floors (included, not mounted)	●	●	●	●
1 rear wall of sheet steel with brush inserts for cable entry on the bottom	●	●		
1 sheet steel door, rear, with **Ergoform-S handle** with safety insert, 180° hinges			●	●
2 sidewalls with quick-lock closure and ventilation slots	●	●		
2 sidewalls with safety inserts			●	●
1 roof panel passive ventilation with ventilation dome (description, see page 719)	●	●		
1 roof panel with ventilation dome and cable entry (description, see page 719) blanking panels ordered separately, Part No. UV 3613.070			●	●
1 cable entry panel, one-piece	●	●		
1 cable entry panels, three-piece			●	●
1 base/plinth 4″/100 mm with punched louvers for ventilation			●	●
1 pair 19″/482.6 mm installation rails mounted to depth rails (6″/150 mm from the front)	●	●	●	
1 pair 19″/482.6 mm installation rails, rear			●	
2 pair T-slot installation rails, 19″/482.6 mm, front and rear, on depth rails				●
4 punched rails, mounted in the first clip-in slot			●	●
4 punched rails, mounted in the second clip-in slot	●	●		
1 ground bus with star-point grounding			●	●
4 cable collecting rails for enclosure width (not mounted)			●	●
4 cable collecting rails for enclosure depth (not mounted)			●	●
10 cable guide rings 5.91″ x 2.76″/105 x 70 mm (not mounted)			●	●
50 cage nuts/spring nuts with **screws** and **plastic washers** (not mounted)			●	●
8 clip-in nuts with **screws** (not mounted)			●	●

Rittal flexRack

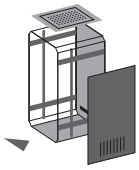
Accessories:

pages 714 – 731.

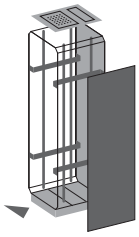
Additional accessories, see pages 876/877.



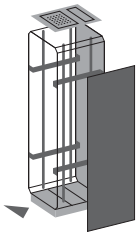
Pre-configured 20: Mounting surface, front
(1 pair 19″/482.6 mm installation rails).



Pre-configured 21: Mounting surface, front
(1 pair 19″/482.6 mm installation rails).

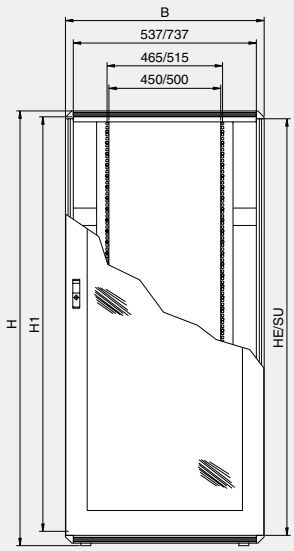


Pre-configured 22: Mounting surface, front and rear
(2 pair 19″/482.6 mm installation rails).
Optional without sidewalls.



Pre-configured 23: Mounting surfaces front and rear
(2 pair T-slot 19″/482.6 mm installation rails).
Optional without sidewalls.

T-slot installation rails
standard configuration in FR 7892.000 / FR 7892.120.



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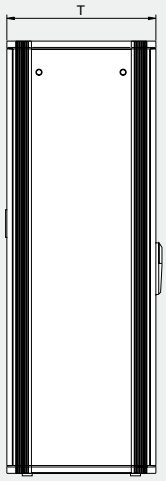
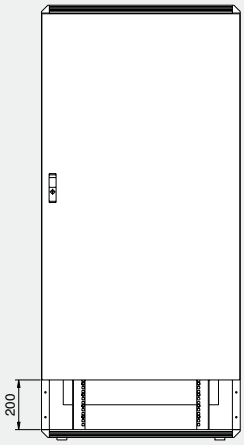


Shortened rear door
only for FR 7842.110
and FR 7843.110

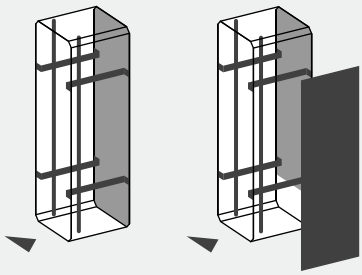


Material:
- Frame: aluminum extrusion
- Roof panel, rear wall, sidewalls and cable entry panels: sheet steel
- Die-cast corner pieces

Finish:
E-coat primer, textured enamel

Color:
Sheet steel parts: RAL 7035 light grey
Extruded aluminum parts
and corner pieces: RAL 5018 teal

Opening angle:
Front door 120° (bayed)
Rear door 120° (bayed)



Configuration	Type 1 without sidewalls	Type 2 with sidewalls and shortened rear door
1 Rittal flexRack enclosure frame	●	●
2 sidewalls made of sheet steel with quick-lock fasteners		●
1 viewing door of sheet steel with .16″/4 mm single pane security glass and **Ergoform-S handle** with safety lock insert, 180° hinges	●	●
1 sheet steel door, with standard locking mechanism, double-bit insert, 180° hinges	●	●
1 roof panel solid (removable)	●	●
1 cable entry panels, three-part	●	●
1 set of 19″/482.6 mm installation rails mounted to depth rails (mounted 6″/150 mm from front)	●	●
4 punched rails, pre-installed	●	●
4 leveling feet to compensate for uneven floors	●	●

U	SU	Height = H inches/mm	Width = B inches/mm	Depth = T inches/mm	Available frame H1 mm	Part No. FR	Part No. FR
25	45	47/1200	32/800	24/600	1102	**7812.000**	–
25	45	47/1200	32/800	32/800	1102	**7813.000**	–
39	69	71/1800	32/800	24/600	1702	**7832.000**	–
39	69	71/1800	32/800	32/800	1702	**7833.000**	–
43	77	79/2000	24/600	24/600	1902	**7840.000**	–
43	77	79/2000	24/600	32/800	1902	**7841.000**	–
43	77	79/2000	32/800	24/600	1902	**7842.000**	**7842.110**[1)]
43	77	79/2000	32/800	32/800	1902	**7843.000**	**7843.110**[1)]
48	85	87/2200	32/800	24/600	2102	**7802.000**	–
48	85	87/2200	32/800	32/800	2102	**7803.000**	–

[1)] Modular filler panels for shortened rear door version must be ordered separately. Details on page 716.

Rittal flexRack, Type 1, 2

Accessories:
pages 714 – 731.
Additional accessories,
see pages 876/877.

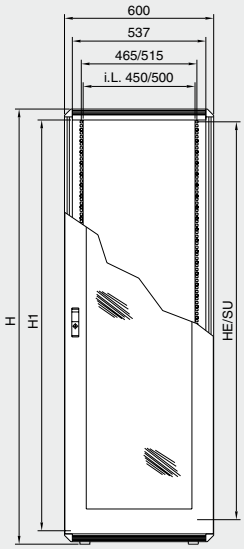
Locking system for the rear door:
Standard double-bit insert can be replaced with 27 mm safety insert, see page 942 and Ergoform-S handle system, see page 939.

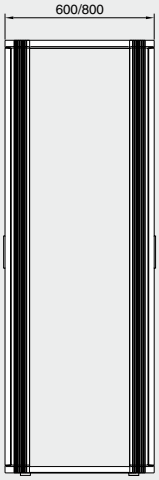
Upon special request:
- Special sizes and colors.
- Factory installation of customer specified Rittal accessories.

Ergoform-S handles with security insert are standard on viewing doors of network enclosures.

Modular filler panels for shortened rear door can also serve for ventilation or cable entry.
Details on page 716.

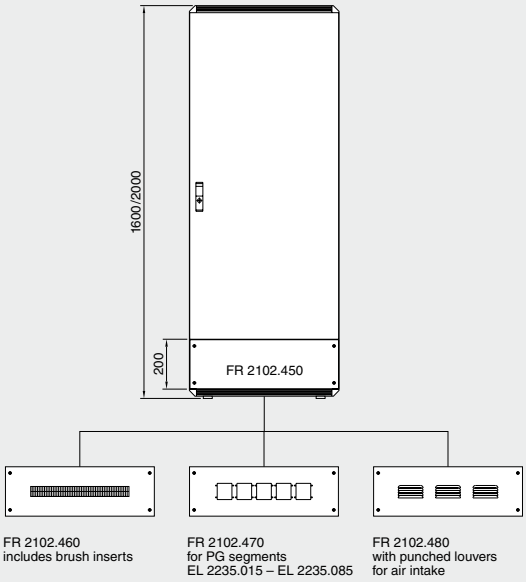
Cable collecting rail for systematic cable routing.
Details on page 729.





HE = U
i. L. = Clearance width

Rittal flexRack with shortened rear door

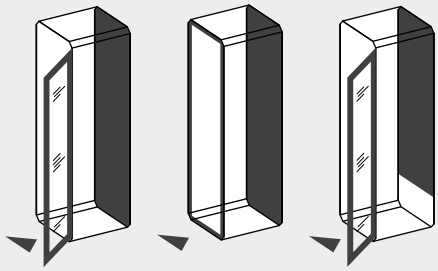


Material:
- Enclosure frame of aluminum extrusion
- Roof panel and rear door of sheet steel
- Die-cast corner pieces

Finish:
E-coat primer, textured enamel.

Color:
Sheet steel parts RAL 7035 light grey; Aluminum extrusions and die-cast corner pieces RAL 5018 teal.

Door opening angle:
Front door 120° (bayed)
Rear door 120° (bayed)



Configuration	Type 3 with front door	Type 4 with open frame	Type 5 with shortened rear door
1 Rittal flexRack enclosure frame	●	●	●
1 viewing door, in front, sheet steel .16″/4 mm single pane safety glass and standard (double-bit) insert, 180° hinges	●		●
1 open front frame, aluminum extrusion		●	
1 sheet steel door, in the rear, with standard (double bit) insert and ventilation slots; or solid for FR 2100.100, 180° hinges	●	●	
1 shortened rear door, sheet steel, in the rear, with standard (double-bit) inserts			●
1 roof panel, with cutout (solid for FR 2100.100)	●	●	●
4 punched rails, mounted in the second clip-in slot	●	●	●
4 leveling feet for uneven floors	●	●	●

U	SU	Height = H inches/mm	Width = B inches/mm	Depth = T inches/mm	Available frame Height = H1 mm	Part No. FR	Part No. FR	Part No. FR
11	20	24/600	24/600	24/600	502	**2100.100**	**–**	**–**
20	36	39/1000	24/600	24/600	902	**2101.200**	**–**	**–**
29	52	55/1400	24/600	24/600	1302	**2101.400***	**2101.420***	**–**
33	60	63/1600	24/600	24/600	1502	**2100.200**	**2100.600**	**2100.210**
33	60	63/1600	24/600	32/800	1502	**2100.400**	**2100.800**	**2100.410***
38	68	71/1800	24/600	24/600	1702	**2101.600***	**2101.620***	**–**
38	68	71/1800	24/600	32/800	1702	**2101.610***	**2101.630***	**–**
42	76	79/2000	24/600	24/600	1902	**2100.300**	**2100.700**	**2100.310**
42	76	79/2000	24/600	32/800	1902	**2100.500**	**2100.900**	**2100.510***
47	84	87/2200	24/600	24/600	2102	**2101.800***	**–**	**–**
47	84	87/2200	24/600	32/800	2102	**2101.810***	**–**	**–**

* Lead times upon request.

Rittal flexRack, Type 3, 4, 5

Accessories:

pages 714 – 731.

Additional accessories,
see pages 876/877.

Outstanding installation flexibility makes the Rittal flexRack ideal for electronic applications. In addition, Rittal's modular accessories make it easy to design mixed installations.

Mounting rails
For 19″ or metric components that are mounted in the first slot.
Details on page 724.

Modular panels
For use with models with shortened rear door are available in several versions.
Details on page 716.

Roof cover
(solid or vented) covers cutout in roof panel.
Details on page 718.

DOORS FOR NETWORK ENCLOSURES

For Rittal flexRack

Glass door

Single pane safety glass, .20″/5 mm, 180° opening angle.

Configuration:
Door with light grey RAL 7035 aluminum trim on the side, Ergoform-S handle with safety insert.

For enclosures		Part No. FR
Height inches/mm	Width inches/mm	
24/ 600	24/600	**2102.530***
63/1600	24/600	**2102.540***
79/2000	24/600	**2102.550***
47/1200	32/800	**7815.000***
71/1800	32/800	**7835.000***
79/2000	32/800	**7845.000***
87/2200	32/800	**7805.000***

***** Lead times upon request.

Glass door, divided

Single pane safety glass, .20″/5 mm, 180° opening angle.

Configuration:
Split door with RAL 7035 light grey aluminum trim on the sides and safety inserts No. 12321 on the top and bottom.

For enclosures		Part No. FR
Height inches/mm	Width inches/mm	
47/1200	32/800	**7910.000**
71/1800	32/800	**7930.000**
79/2000	32/800	**7940.000**
87/2200	32/800	**7900.000**

Lead times upon request.

Sheet steel door, divided

With standard lock and double-bit insert, opening angle 180°.

Finish:
E-coat primer,
textured enamel, RAL 7035 light grey.

Configuration:
Door, split with aluminum trim on the sides.

For enclosures		Part No. FR
Height inches/mm	Width inches/mm	
71/1800	32/800	**7836.000**
79/2000	32/800	**7848.000**
87/2200	32/800	**7808.000**

Lead times upon request.

Cover, for louvers

is used to cover the ventilation louvers if needed.

Material:
Sheet steel, painted RAL 7035 light grey.

Configuration:
1 cover with gasket.

PU	Part No. FR
1	**2102.370**

Alternative option:

Filter mat VR 3804.000,
see below.

Filter mat

To cover the ventilation louvers in the rear of the enclosure.

	Part No. VR
Filter mat	**3804.000**

Rear wall

Material:
Sheet steel

Finish:
E-coat primer,
textured enamel, RAL 7035 light grey.

Configuration:
Rear wall

For enclosures		Part No. FR
Height inches/mm	Width inches/mm	
79/2000	24/600	**7949.000**
47/1200	32/800	**7817.000**
71/1800	32/800	**7837.000**
79/2000	32/800	**7847.000**
87/2200	32/800	**7807.000**

Lead times upon request.

Shortened rear door, 32"/800 mm wide

May be exchanged for the standard rear door. The rear door has been shortened by 8"/200 mm. An installation kit, needed for mounting, may be installed towards the top or bottom. The installation kit is also suitable for the modular panels.

Material:
Sheet steel

Finish:
E-coat primer,
textured enamel, RAL 7035 light grey.

Configuration:
Shortened rear door with lock rod locking system and double-bit inserts.

Rear door, 8"/200 mm, shortened	
For enclosure height	**Part No. FR**
47/1200	**7800.120**
71/1800	**7800.180**
79/2000	**7800.200**
87/2200	**7800.220**

Lead times upon request.

Additional parts needed:

Installation kit FR 7800.540,
see below.

Installation kit for shortened rear door and modular panels

is mounted on enclosure frame – high or low.

Material:
Aluminum extrusion

Color:
RAL 7035 light grey

Configuration:
Installation kit with hardware

	PU	Part No. FR
Installation kit	1 set	**7800.540**

Accessories:

Modular panels,
see page 716.

For Rittal flexRack

Modular filler panels for shortened rear doors

are 8″/200 mm high and can be installed above or below shortened rear doors. They are available in 4 versions:

Blank filler panel:
covers open space, improves aesthetics.

Modular panel with ventilation slots or louvers:
for the ventilation of the enclosure. Can be used at bottom for air intake or at top to exhaust air. A filter (included) fits in a filter frame behind the vent slots to prevent dust from entering the cabinet.

Modular panel for cable entry:
with cutout and brush inserts for cable entry from the rear.

Modular panel for PG strain relief inserts:
The modular panel with 5 knockouts for PG stain reliefs. Order PG strain reliefs separately.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
1 modular panel, installation hardware.

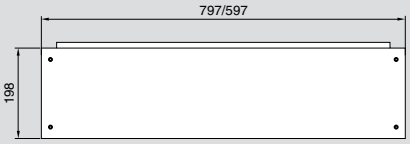
For enclosure width 24″/600 mm

Modular panel	PU	Part No. FR
as blanking panel	1	**2102.450**
with ventilation slots	1	**2102.480**
for cable entry	1	**2102.460**
for PG components *	1	**2102.470**

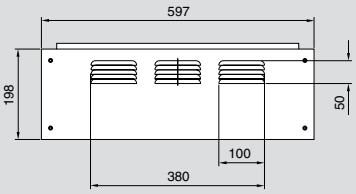
For enclosure width 32″/800 mm

Modular panel	PU	Part No. FR
as blanking panel	1	**7800.500**
with ventilation slots	1	**7800.510**
for cable entry	1	**7800.520**
replacement filter mats	5	**7800.530**

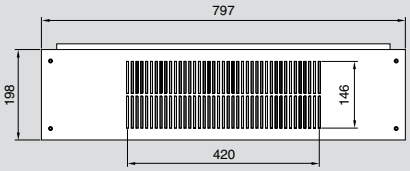
FR 7800.500 / FR 2102.450



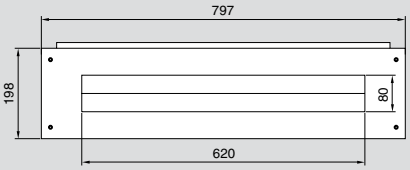
FR 2102.480



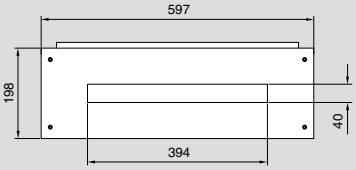
FR 7800.510



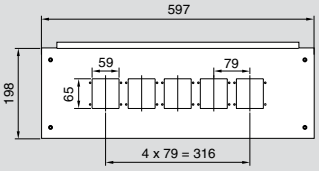
FR 7800.520



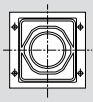
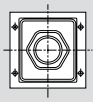
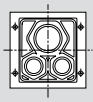
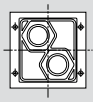
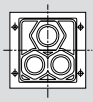
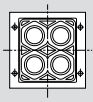
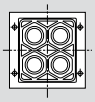
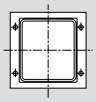
FR 2102.460



FR 2102.470



***PG strain reliefs** for modular panel FR 2102.470
PU = 5 pieces, Material: ABS per UL 94-V0 self-extinguishing, RAL 7035

EL 2235.015 PG 29	**EL 2235.025** PG 21	**EL 2235.035** PG 21/11	**EL 2235.045** PG 16	**EL 2235.055** PG 16/13.5	**EL 2235.065** PG 13.5	**EL 2235.075** PG 11	**EL 2235.085** neutral
							

Quick-lock sidewalls

Simply hang in place and fasten with quick-locks to sides of all flexRack network enclosures. Quick-locks can be easily replaced with FR 2102.395 security locks.

Material:
Sheet steel

Finish:
E-coat primer and textured enamel, RAL 7035 light grey.

Configuration:
2 sidewalls with cam/latch lock.

Height inches/mm	Depth inches/mm	PU	Part No. FR
24/ 600	24/600	2	**2102.110**
39/1000	24/600	2	**2102.760**
47/1200	24/600	2	**7818.000**
55/1400	24/600	2	**2102.770***
63/1600	24/600	2	**2102.210**
71/1800	24/600	2	**7838.000**
79/2000	24/600	2	**2102.710**
87/2200	24/600	2	**2102.780**
47/1200	32/800	2	**7819.000**
63/1600	32/800	2	**2102.510**
71/1800	32/800	2	**7839.000**
79/2000	32/800	2	**7849.000**
79/2000	36/900	2	**7880.500**
87/2200	32/800	2	**2102.790***

* Lead times upon request.

Safety lock for sidewalls

Safety locks may be retrofitted to replace the quick-lock mechanism.

Configuration:
4 safety locks No. 12321

PU	Part No. FR
4	**2102.395**

Installation kit

for the solid baying of two Rittal flexRacks. The installation kit fits into the second clip-in location and is bolted on. Not designed for the transportation of bayed enclosures.

Material:
Sheet steel

Finish:
Galvanized, chromated

PU	Part No. FR
1 set	**2102.340**

Configuration:
6 mounting angles, installation hardware, gasket set.

Baying quick connects

for the quick and easy connection of two Rittal flexRacks. The baying kit connects to the depth rails of the frame rack on the top and bottom and is bolted on with 8 quick connects.
Not suitable for the transportation of bayed enclosures.

Material:
Sheet steel

Color:
RAL 7035 light grey

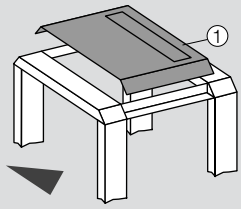
Configuration:
4 mounting angles, 8 quick connects, gasket set.

PU	Part No. FR
1 set	**7952.700**

Note:
May not be used with a swing frame.

Note:
In a bayed configuration with base/ plinths, a connecting plinth trim may be used. Details on page 721.

For Rittal flexRack



Cable entry roof ①

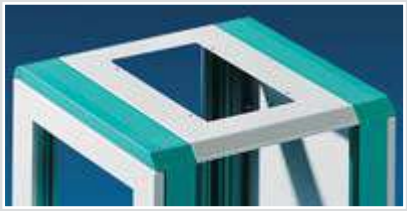
to exchange for the existing roof. For cable entry from the top with a sliding bracket and a special rubber gasket.

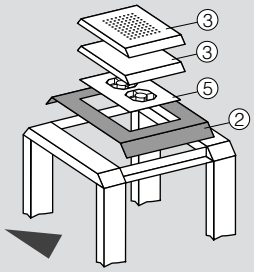
Finish:
E-coat primer,
textured enamel, RAL 7035 light grey.

Configuration:
1 roof panel with cable entry,
pre-assembled.

For enclosures width inches/mm	For enclosures depth inches/mm	Part No. FR
24/600	24/600	**7873.100***
24/600	32/800	**7874.100***
32/800	24/600	**7873.000**
32/800	32/800	**7874.000**

* Lead times upon request.





Roof with cutout ②

To exchange for the solid roof on 24″/600 mm wide flexRacks. The cutout is covered with either a solid or vented cover panel ③. An active fan insert may be added ⑤.

Material:
Sheet steel

Finish:
E-coat primer,
textured enamel, RAL 7035 light grey.

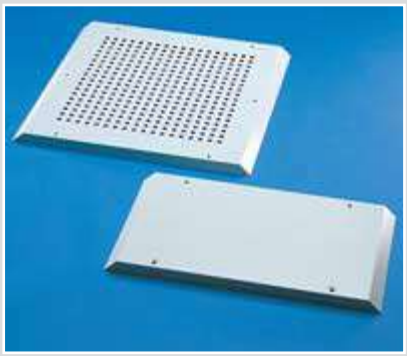
Configuration:
1 roof panel with cutout.

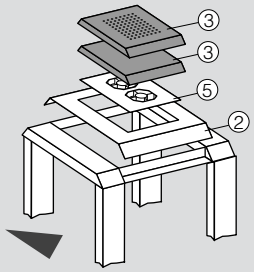
For enclosures width inches/mm	For enclosures depth inches/mm	Part No. FR
24/600	24/600	**2102.940**
24/600	32/800	**2102.950**
24/600	36/900	**2102.960**

Lead times upon request.

Accessories:

Active ventilation dome ⑤,
see right page.





Cover for cutouts, solid or ventilated ③

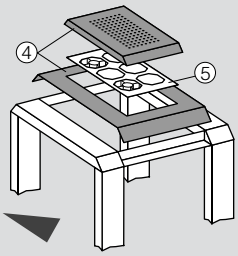
Designed for the 24″/600 mm wide flexRack with cutout in the roof panel. The cover may be mounted flush or raised on spacers. An active fan tray ⑤ can be added.

Material:
Sheet steel

Finish:
E-coat primer,
textured enamel, RAL 7035 light grey.

Configuration:
1 roof cutout cover, installation hardware.

For enclosures width inches/mm	For enclosures depth inches/mm	Part No. FR solid	Part No. FR vented
24/600	24/600	**2102.180**	**2102.400**
24/600	32/800	**2102.190**	**2102.410**
24/600	36/900	**2102.190**	**2102.410**



Roof with ventilation dome ④

to exchange the solid roof panel. The roof panel has a cutout for passive ventilation. It is covered with a perforated ventilation dome. An active fan insert may be used for active ventilation ⑤.

Material:
Sheet steel

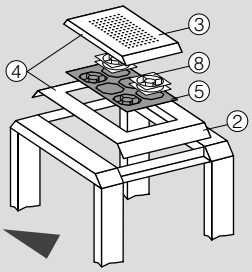
Finish:
E-coat primer,
textured enamel, RAL 7035 light grey.

Configuration:
Roof panel with cutout, perforated ventilation dome, 4 spacer bolts, installation hardware included.

For enclosures width inches/mm	For enclosures depth inches/mm	Part No. FR
32/800	24/600	**7883.000**
32/800	32/800	**7884.000**

Accessories:

Active fan insert ⑤,
see below.



Active fan insert ⑤

for retrofitting from the top into the roof panel cutout ②, roof panel with ventilation dome ④.

Technical specifications per fan:
Rated voltage: 230 V, 50/60 Hz
Rated current: 19/18 W for 50/60 Hz
Air displacement (unimpeded air flow):
85/100 cfm /140/165 m^3/h for 50/60 Hz
Temperature range:
14 °F to 141 °F/– 10 °C to + 55 °C

Material:
.06″/1.5 mm sheet steel

Finish:
E-coat primer,
textured enamel, RAL 7035 light grey.

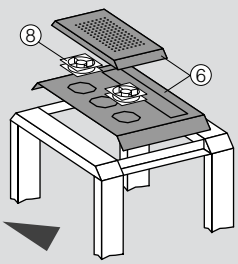
Configuration:
1 fan panel with 2 fans, power cord, terminal block, installation hardware.

For enclosures width inches/mm	For enclosures depth inches/mm	Fan cut-outs	Number of fans	Part No. FR
24/600	24/600	2	2	**2102.320**
24/600	32/800	6	2	**2102.490**
24/600	36/900	6	2	**2102.490**
32/800	24/600	3	2	**7885.000**
32/800	32/800	8	2	**7886.000**

Accessories:

Fan expansion kit ⑧,
see page 720.

CE



Cable entry roof with ventilation dome ⑥

may be substituted for the standard roof.

- For cable entry from the top, with sliding bracket and special rubber gasket.
- Passive ventilation via ventilation dome is made possible by removing the integral blanking panels
- Active ventilation via ventilation dome by exchanging the integral blanking panels with the fan expansion kit ⑧.

Material:
Sheet steel

Finish:
E-coat primer,
textured enamel, RAL 7035 light grey.

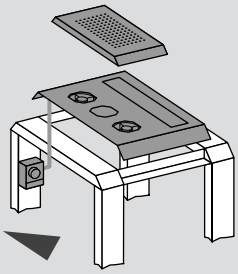
For enclosures width inches/mm	For enclosures depth inches/mm	Fan cutouts	Part No. FR
24/600	24/600	3	**7851.000**
24/600	32/800	6	**7852.000**
32/800	24/600	3	**7853.000**
32/800	32/800	6	**7854.000**

Configuration:
Cable entry roof with blanking panels and perforated ventilation dome.

Accessories:

Fan expansion kit ⑧,
see page 720.

For Rittal flexRack



Active combination roof/fan assembly ⑦

Completely assembled roof with two fans, thermostat, cable entry and ventilation dome pre-installed. More fans can easily be added with the fan expansion kit DK 7980.100 – 220 V ⑧.

Finish:
E-coat primer,
textured enamel, RAL 7035 light grey.

Configuration:
1 roof panel, completely pre-wired and assembled, including blanking panel(s) and installation hardware.

Technical specifications per fan:
See fan expansion kit ⑧,
DK 7980.100 – 220 V.

For enclosures width inches/mm	For enclosures depth inches/mm	Fan cut-outs	Number of fans	Part No. FR
24/600	24/600	3	2	**7851.300**
24/600	32/800	6	2	**7852.300**
32/800	24/600	3	2	**7853.300**
32/800	32/800	6	2	**7854.300**

Lead times upon request.

CE

Accessories:

Fan expansion kit ⑧,
see below.

Fan expansion kit ⑧

Includes one fan, 6'/1.8 m cable/plug, finger guard, and installation hardware. Can be used for roof panel ⑥, combination roof/fan assembly ⑦ or fan tray ⑤.

Technical specifications for DK 7980.000:
Rated voltage: 230 V
Rated current: 19/18 W at 50/60 Hz
Air displacement (unimpeded air flow):
85/100 cfm / 140/165 m^3/h for 50/60 Hz
Temperature range:
+ 14 °F to + 141 °F / – 10 °C to + 55 °C

Technical specifications for DK 7980.100:
Rated voltage: 230 V
Rated current: 14/12 W at 50/60 Hz
Air displacement (unimpeded air flow):
70/81 cfm / 117/135 m^3/h for 50/60 Hz
Temperature range:
– 13 °F to + 158 °F / – 20 °C to + 70 °C

Dimensions H x W x D inches/mm	PU set	Part No. DK
4.69″ x 4.69″ x 1.50″ 119 x 119 x 38 mm	1	**7980.000**
4.69″ x 4.69″ x .98″ 119 x 119 x 25 mm	1	**7980.100**
4.69″ x 4.69″ x 1.50″ 119 x 119 x 38 mm	1	**7980.110**

CE

Base/plinth

The installation of a base/plinth creates more bottom space. Four removable trim pieces facilitate the cable entry from all sides. Leveling feet compensate for unevenness in the floor. Air intake in the vented base/plinth via louvers in the front and rear trim panels.

Material:
Sheet steel

Finish:
Painted RAL 7035 light grey.

Configuration:
Base/plinth including installation hardware.

For enclosures		Part No. FR/QR		
W in./ mm	D in./ mm	Solid 2″/ 50 mm high	Solid 4″/ 100 mm high	Vented 4″/ 100 mm high
24/ 600	24/ 600	**2102.160**	**2102.140**	**7526.300**
24/ 600	32/ 800	**2102.170**	**2102.150**	**7526.310**
24/ 600	36/ 900	–	**7880.600**	–
32/ 800	24/ 600	–	–	**7526.311**
32/ 800	32/ 800	–	–	**7526.320**

Accessories:

Base/plinth connector trim panel,
see below.

Double casters,
see page 722.

Plinth connector trim panels

The plinth connector trim panels are mounted between 4″/100 mm or 8″/200 mm base/plinths. This achieves an attractively styled solid front.

Material:
Sheet steel

Finish:
E-coat primer,
textured enamel, RAL 7035 light grey.

For base/plinth	PU	Part No. FR
4″/100 mm	2	**7860.000**
8″/200 mm	2	**7860.200**[1)]

[1)] including stacking kit for connecting two 4″/100 mm base/plinths above each other.

Mobile plinth

The mobile plinth allows for flexible transportation to the installation site. At the site the base/plinth may be adjusted and secured with the integral leveling feet. Any 2″/50 mm high base plinth can be configured with removable trim panels for cable entry. The 4″/100 mm high mobile base/plinth has a completely welded frame without removable trim panels.

Material:
Sheet steel

Color:
RAL 7035 light grey.

Configuration:
Base/plinth with removable sidewalls (2″/50 mm height) and 4 casters.

Base/ plinth height inches/ mm	Cabinet width inches/ mm	Cabinet depth inches/ mm	Part No. QR
2/ 50	24/600	24/600	**7526.331**
2/ 50	24/600	32/800	**7526.332**
2/ 50	32/800	24/600	**7526.333**
2/ 50	32/800	32/800	**7526.334**
4/100	32/800	32/800	**7526.335**

For Rittal flexRack

Twin casters

for easy moving of enclosure. Can be retrofitted to enclosure frame or cable base of QuickRack. M10 thread.

Load capacity per caster:
220 lbs/100 kg,
maximum 660 lbs/300 kg per enclosure.

Configuration:
2 twin casters with brake mechanism,
2 twin casters without brake mechanism.
Overall height: 4.92″/125 mm

PU	Part No. FR
4	**7859.100**

Load capacity per caster:
175 lbs/80 kg,
maximum 525 lbs/240 kg per enclosure.

Configuration:
4 casters,
installation hardware
Overall height: 1.57″/40 mm

PU	Part No. FR
4	**2102.350**

Cable entry plate, 1-part

covers opening in flexRack base frame.

Material:
Sheet steel

Finish:
E-coat primer, textured enamel,
RAL 7035 light grey.

For enclosures width inches/mm	For enclosures depth inches/mm	PU set	Part No. FR
24/600	24/600	1	**2102.600**
24/600	32/800	1	**2102.610**

Cable entry plate, 3-part

is infinitely adjustable and ideal for cable entry from side or rear.
SZ 2573.000 foam cable gasket helps seal in cables.

Material:
Sheet steel

Finish:
E-coat primer, textured enamel,
RAL 7035 light grey.

For enclosures width inches/mm	For enclosures depth inches/mm	PU set	Part No. FR for cable entry, rear	Part No. FR for cable entry, side
24/600	24/600	1	**2102.240**	**2102.620**
24/600	32/800	1	**2102.250**	**2102.630**
32/800	24/600	1	**–**	**7875.860***
32/800	32/800	1	**–**	**7875.880***
32/800	36/900	1	**7875.900***	**–**

* Lead times upon request.

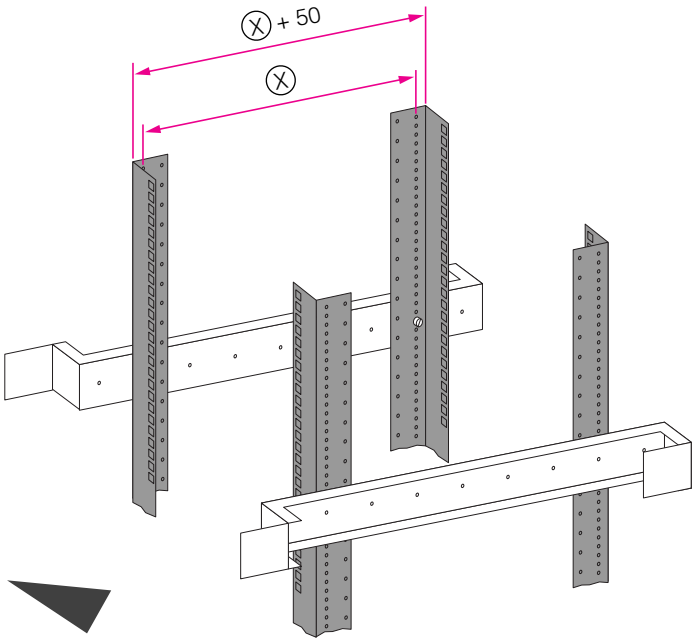
NOTES:

For Rittal flexRack

Please note the following points when configuring network enclosures:

- One to two installation surfaces are needed for the mounting of 19″ or metric components like patch panels, splice boxes or hubs into a network cabinet. The rear installation surface is available for instance for securing component shelves, slide rails or keyboard drawers. The proper installation spacing Ⓧ is important.
- Network enclosures often come equipped with one or two full length mounting level(s) (full installation).

Installation distance = Ⓧ
Surface distance = Ⓧ + 50



Depth rails for 24″/600 mm ① and 32″/800 mm wide FR ②

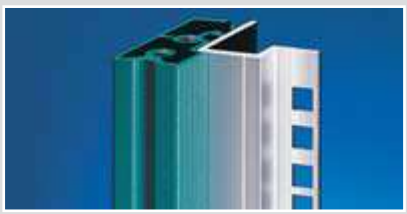
for the infinitely adjustable installation of mounting angles ③ or 19″ profiles ④ in FR network enclosures.
The depth rails for the 24″/600 mm wide FR are secured in the first clip-in mounting surface, for the 32″/800 mm wide FR they are mounted in the second mounting surface (see illustration of punched rail on page 730).

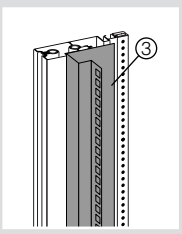
Material:
Sheet steel

Finish:
Galvanized, chromated or painted RAL 7035 light grey.

Enclosure dimensions inches/mm W x D	PU	Part No. FR
24/600 x 24/600	6	**2102.430***
24/600 x 32/800	6	**2102.440***
24/600 x 36/900	6	**2102.420***
32/800 x 24/600	2	**7875.286***
32/800 x 32/800	2	**7875.288***

***** Lead times upon request.





Punched angles, 19″/482.6 mm for 24″/600 mm wide FR ③

for mounting in the foremost installation position (first clip-in surface).

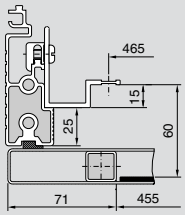
Material:
Aluminum extrusions

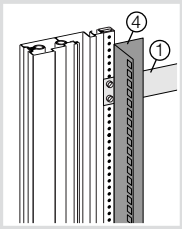
Finish:
Chromated

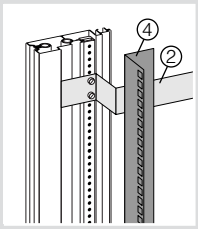
Configuration:
2 punched angles, installation hardware.

Height inches/mm	U	PU	Part No. FR
24/600	11	2	**2102.120**
39/1000	20	2	**2102.800**
55/1400	29	2	**2102.810**
63/1600	33	2	**2102.220**[1)]
71/1800	38	2	**2102.820**
79/2000	42	2	**2102.720**[1)]
87/2200	47	2	**2102.830**

[1)] 19″ offsetting trim may be added, see page 727.







19″ installation rails ④

For front or rear installation of 19″ components or for rear securing of component shelves, slide rails and telescopic rails. Must be installed on depth bars.

Technical description:
Aluminum profile with integrated installation holes in U (1.75″) increments and mounting holes for installation kits or cable guide rings on the side of the rail.

Material:
Aluminum extrusions

Finish:
Chromated

Configuration:
2 19″ rails,
including installation hardware.

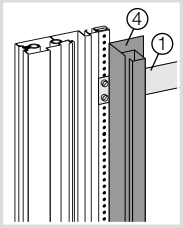
For enclosures height inches/mm	U	PU	Part No. FR
24/600	11	2	**7875.300**
47/1200	25	2	**7911.000**
71/1800	39	2	**7931.000**
79/2000	43	2	**7941.000**
87/2200	48	2	**7901.000**

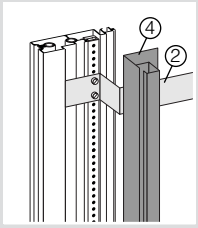
Additional parts needed:

① Depth bar for 24″/600 mm wide FR,
② Depth bar for 32″/800 mm wide FR,
see left side.

Cage nuts,
see page 1032.

Cable shunting channel,
see page 1051.





19″ T-slot rails, ④

For front or rear installation of 19″ components or for rear securing of component shelves, slide rails and telescopic rails. Must be installed on depth bars.
Metric component option.

Technical description:
Aluminum profile with integrated T-slot for slide nuts. In the rear area of the T-slot are holes in U (1.75″) increments while the side of the rail features installation holes for installation kits or cable guide rings.

Material:
Aluminum extrusions

Finish:
Chromated

Configuration:
2 19″ T-slot rails,
including installation hardware.

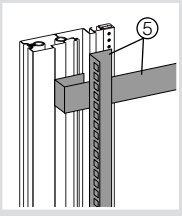
For enclosures height inches/mm	U	PU	Part No. FR
47/1200	25	2	**7914.000**
71/1800	39	2	**7934.000**
79/2000	43	2	**7944.000**
87/2200	48	2	**7904.000**

Additional parts needed:

① Depth bar for 24″/600 mm wide FR,
② Depth bar for 32″/800 mm wide FR,
see left side.

Accessories:

Spring nuts,
see page 1032.



Small 19″ rails, for 24″/600 mm wide FR ⑤

Makes cable routing from the front in the 24″/600 mm wide FR possible, the cables are routed past the punched rails.
Not suitable for the component shelf installation kit FR 7952.060 / FR 7952.080.

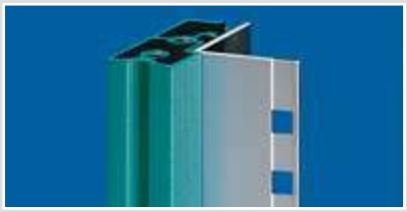
Material:
.06″/16ga/1.5 mm sheet steel

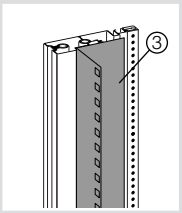
Finish:
Galvanized, chromated

Configuration:
2 punched rails, 4 installation bars, installation hardware.

Height inches/mm	U	Depth inches/mm	PU set	Part No. FR
39/1000	20	24/600	1	**2102.840**
55/1400	29	24/600	1	**2102.850**
63/1600	33	24/600	1	**2102.660**
63/1600	33	32/800	1	**2102.670**
71/1800	38	24/600	1	**2102.860**
71/1800	38	32/800	1	**2102.870**
79/2000	42	24/600	1	**2102.680**
79/2000	42	32/800	1	**2102.690**
87/2200	47	24/600	1	**2102.880**
87/2200	47	32/800	1	**2102.890**

For Rittal flexRack





Metric (485 mm) mounting rails for 24″/600 mm wide flexRack enclosures ③

for installation into the frame profile (first clip-in position).

Material:
Aluminum extrusion

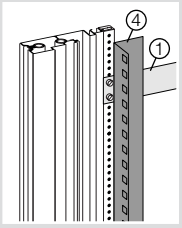
Finish:
Chromated

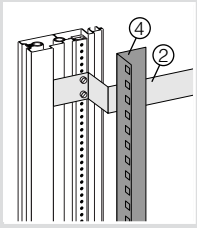
Configuration:
2 mounting angles, installation materials.

Height inches/ mm	Height SU	PU	Part No. FR
24/ 600	20	2	**2102.130**
39/1000	36	2	**2102.900**
55/1400	52	2	**2102.910**
63/1600	60	2	**2102.230**
71/1800	68	2	**2102.920**
79/2000	76	2	**2102.730**
87/2200	84	2	**2102.930**

Accessories:

Cage nuts,
see page 1032.





Metric (535 mm) rails ④

for front or rear mounting of metric components. Can only be mounted on depth bars.

Technical description:
Aluminum profile with integrated installation holes in SU (1″/25 mm) increments and installation holes for cable guide rings on the side of the rail.

Material:
Aluminum extrusion

Finish:
Chromated

Configuration:
2 metric rails,
installation hardware included.

For enclosures height inches/mm	height SU	PU	Part No. FR
47/1200	45	2	**7912.000**
71/1800	69	2	**7932.000**
79/2000	77	2	**7942.000**
87/2200	85	2	**7902.000**

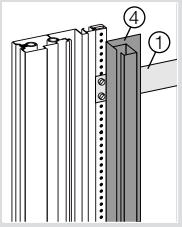
Lead times upon request.

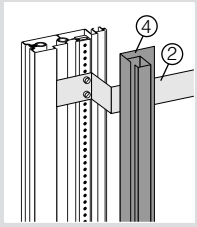
Additional parts needed:

① Depth rails for 24″/600 mm wide FR,
② Depth rails for 32″/800 mm wide FR,
see page 724.

Accessories:

Cage nuts,
see page 1032.





Metric (535 mm) T-slot rails ④

for front or rear mounting of metric components. Can only be mounted on depth bars.

Technical description:
Aluminum profile with integrated T-slot for slide nuts. In the rear area of the T-slot are holes in SU (1″/25 mm) increments while the side of the rail features installation holes for cable guide rings.

Material:
Aluminum extrusion

Finish:
Chromated

Configuration:
2 metric rails,
installation hardware included.

For enclosures height inches/mm	height SU	PU	Part No. FR T-Nut
47/1200	45	2	**7915.000**
71/1800	69	2	**7935.000**
79/2000	77	2	**7945.000**
87/2200	85	2	**7905.000**

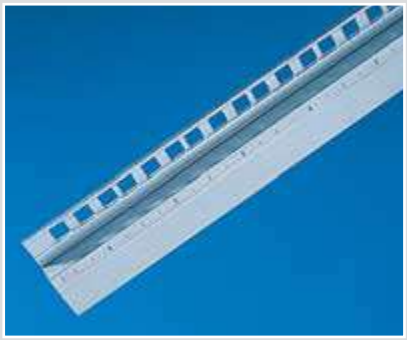
Lead times upon request.

Additional parts needed:

① Depth rails for 24″/600 mm wide FR,
② Depth rails for 32″/800 mm wide FR,
see page 724.

Accessories:

Spring nuts,
see page 1032.



Adhesive "U" measuring strips in 19″/metric versions

for precise positioning of installed equipment in the FR.
Adhesive measuring strips mount onto the 19″/metric mounting angles and are for fastening to the aluminum uprights of the Rittal flexRack.

Configuration:
8 self-adhesive measuring strips for 87″/7.25'/2.20 m height.

Adhesive measuring strips	PU	Part No. FR
19″	8	**7950.000**
metric	8	**7951.000**

19″ offset filler trim for 24″/600 mm wide flexRack

To fill in the empty space at the top/bottom with 19″ installed equipment.
(Only suitable for mounting angles FR 2102.220 / FR 2102.720).

Material:
.12″/9 ga/3 mm aluminum

Finish:
Natural anodized

Configuration:
2 trim pieces, installation hardware.

PU	Part No. FR
1 set	**2102.380**

Hinged filler panels

To conceal the empty space at the side of the mounting level and the swing frame in 32″/800 mm wide enclosures (not for modular network enclosures).
The filler panels are fastened to the enclosure frame on the left and right.
The hinges make optimum access to the side chambers possible at all times.

Material:
Sheet steel

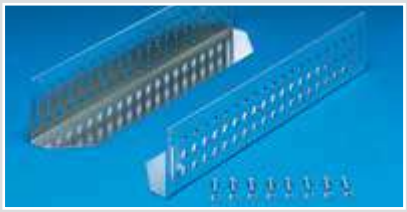
Finish:
Painted RAL 7035 light grey.

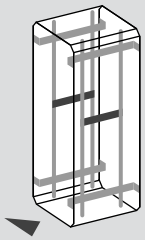
Configuration:
2 filler panels,
including installation hardware.

For enclosure height inches/mm	PU	Part No. FR
47/1200	2	**7913.000**
71/1800	2	**7933.000**
79/2000	2	**7943.000**
87/2200	2	**7903.000**

Lead times upon request.

For Rittal flexRack





Slide rails

for installation between the front and rear mounting angle. Heavy 19″ or metric network components can be supported with the slide rails.
The necessary mounting distance between the mounting angles is x + approximately 2″/50 mm.

Material:
Sheet steel, galvanized, chromated.

Configuration:
2 slide rails,
installation hardware.

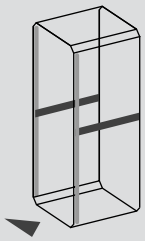
Length mm	Mounting distance (x)	PU	Part No. FR
324	331	2	**7963.300**
424	431	2	**7963.400**
524	531	2	**7963.500**
624	631	2	**7963.600**
724	731	2	**7963.700**

Accessories:

Mounting angles for additional mounting level, see pages 724/725.

Alternative options:

Depth variable slide rails, see page 767.



Slide rails for 24″/600 mm wide flexRack

For fastening to the side holes of the mounting angles, when these are fitted directly to the frame sections. Due to the sheet steel bracket (supplied loose), a rear pair of 19″/482.6 mm mounting rails is not necessary.

Material:
Sheet steel, galvanized, chromated.

Configuration:
2/4 slide rails,
installation hardware.

For enclosure depth inches/mm	PU	Part No. FR
24/600	4	**2102.260**
32/800	4	**2102.270**
36/900	2	**2102.560**
24/600; 32/800	4	**2102.280**[1)]

[1)] screwed-on at the front only, L = 8.7″/220 mm.

Swing frame, 19″/482.6 mm

Swing frame for mounting 19″/482.6 mm equipment and for optimum rear access to the 19″ components when installed in a fixed position.
An installation kit is required in order to mount the swing frame in the flexRack.
In 32″/800 mm wide flexRacks, the remaining free space at the sides may be optionally concealed with filler panels for centered installation.
Part No. see page 727.

For enclosure height inches/mm	U	Part No. FR
63/1600	30	**7926.000**
71/1800	34	**7936.000**
79/2000	39	**7946.000**
87/2200	43	**7906.000***

***** Lead times upon request.

Material:
Sheet steel

Color:
RAL 7035 light grey

Installation kit for swing frames

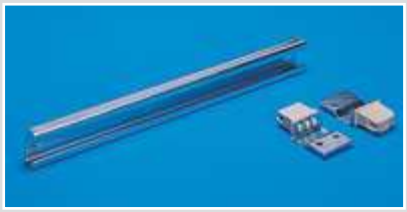
The installation kit allows simple mounting of the swing frame in the flexRack.
In 32″/800 mm wide enclosures, the swing frame may optionally be installed centered or to one side.

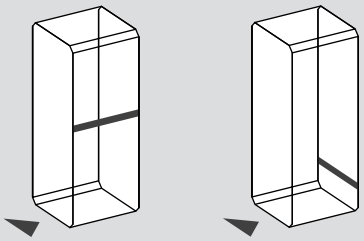
Material:
Sheet steel

Color:
RAL 7035 light grey

For cabinet W x D inches/mm	PU	Part No. FR
24 x 24/600 x 600	1 set	**7953.660**
24 x 32/600 x 800	1 set	**7953.680**
32 x 24/800 x 600	1 set	**7953.860**
32 x 32/800 x 800	1 set	**7953.880**

Configuration:
Installation kit, hardware included.





C-rails

For system specific cable routing in the Rittal flexRack. Mounted to the flexRack upright profiles.

Material:
Sheet steel

Finish:
Galvanized, chromated

Configuration:
4 C rails,
includes installation hardware.

Installation in the enclosure depth

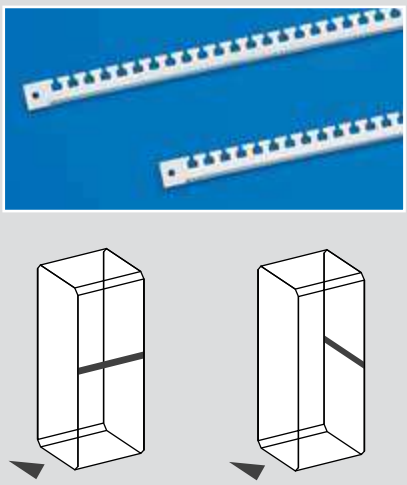
Depth inches/mm	Length inches/mm	PU	Part No. FR
24/600	11.61/295	4	**7954.600**
32/800	19.48/495	4	**7954.800**

Installation in the enclosure width

Width inches/mm	Length inches/mm	PU	Part No. FR
24/600	21.65/550	4	**7954.060**
32/800	29.53/750	4	**7954.080**

Accessories:

Cable clamps,
see page 981.



Cable clamp rails

The cables may be routed at the side or the rear of the enclosure using cable ties, in line with system requirements.

Material:
Sheet steel

Finish:
Galvanized, chromated

Configuration:
4 cable clamp rails,
includes installation hardware.

Installation in the enclosure depth

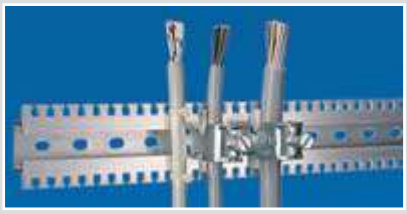
Width inches/mm	PU	Part No. FR
24/600	4	**7897.000**
32/800	4	**7898.000**
36/900	4	**7899.000**

Installation in the enclosure width

Width inches/mm	PU	Part No. FR
24/600	4	**7895.000**
32/800	4	**7896.000**

Alternative options:

Cable routing on the 19″ level,
see page 1050.



Combination rails

The combination rail offers the option of clamping cables with cable clamps or cable ties, and also facilitates contact between the cable shield and zero potential.

Material:
Aluminum

Configuration:
Combination rails with installation hardware.

Mounting position inches/mm	PU	Part No. FR
Width 24/600	2	**7500.364**
Width 32/800	2	**7500.384**
Depth 24/600	2	**7500.362**
Depth 32/800	2	**7500.364**

Accessories:

Cable clamps,
see page 981.

Cable ties,
see page 1010.

For Rittal flexRack

Installation kit for PS accessories

The installation kit mounted on the second mounting level (mounting rail/clip-on nut), creates the internal system dimensions of PS enclosures in flexRacks. The corresponding PS accessories are easily fitted in the depth and width of the flexRack:

- Partial mounting panel, see page 969
- System chassis, see page 977
- System bars, see page 976.

Material:
Sheet steel

Finish:
Galvanized, chromated

Configuration:
8 adaptor angles, installation hardware included.

PU	Part No. FR
1 set	**2102.590**

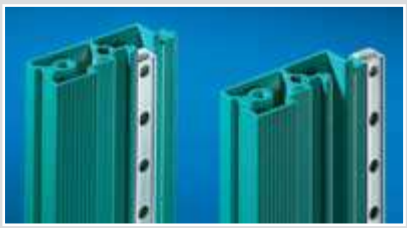
Installation achieves the following system dimensions of PS enclosures:

Dimensions FR		Corresponding PS	
W inches/ mm	D inches/ mm	W inches/ mm	D inches/ mm
24/600	24/600	24/600	16/400
24/600	32/800	24/600	24/600
32/800	24/600	32/800	16/400
32/800	32/800	32/800	24/600

Clip-on nuts

For many inside installations of the Rittal flexRacks.

PU	Part No. FR
50	**2102.500**



Clip-on punched mounting rails

Additional accessory for FR network enclosures. This provides a uniform 1″/25 mm height system hole pattern (M6) on all clip-on slots. For fast assembly of cable clamp rails, depth bars, component shelves and other mounting kits.

Material:
Aluminum extrusion

Configuration:
4 punched mounting rails

With all **32″/800 mm** wide Rittal flexRacks, the mounting rails are fitted as standard to the **first** mounting level (left in picture). The mounting rail can supplement the second mounting level.

With all **24″/600 mm** wide Rittal flexRacks, the mounting rails are fitted as standard to the **second** mounting level (right in picture).
The mounting rail can supplement the first mounting level.

For enclosure height inches/mm	PU	Part No. FR
24/ 600	4	**7894.060**
39/1000	4	**7894.100**
47/1200	4	**7894.120**
55/1400	4	**7894.140**
63/1600	4	**7894.160**
71/1800	4	**7894.180**
79/2000	4	**7894.200**
87/2200	4	**7894.220**

For Rittal flexRack

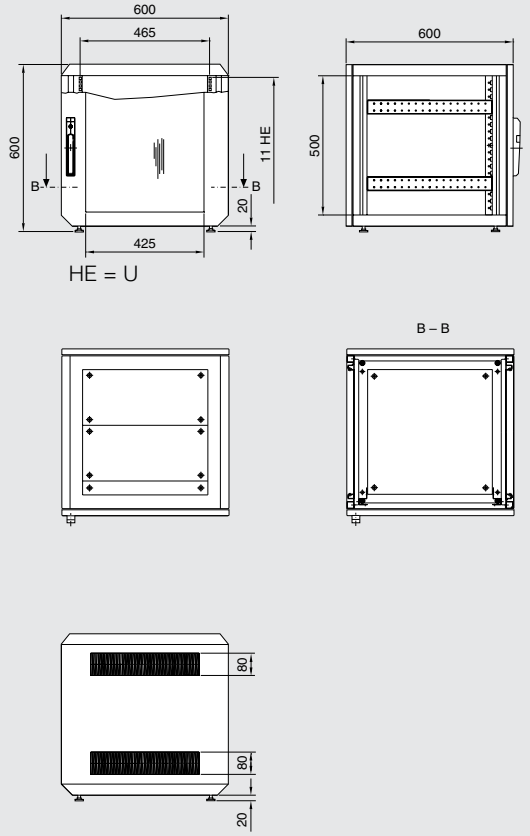
Earth/grounding kit, pre-assembled

for star grounding. With the pre-configured grounding cables on a ground bus, star grounding is easily integrated into the network enclosures.

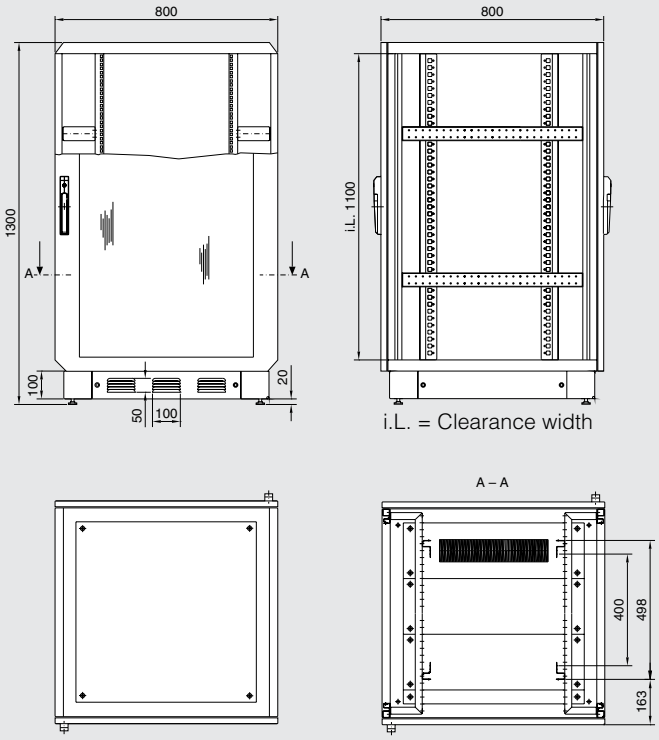
Configuration:
Grounding cables 6 mm^2, mounted on a ground bus, 2 insulators, including installation hardware.

For enclosures inches/mm	PU	Part No. DK
32 x 79 x 32 or 36; 800 x 2000 x 800 or 900	1 set	**7278.880**

7528.400



7528.250



Material:
Sheet steel

Finish:
Painted RAL 7035 light grey
Uprights RAL 5018 teal

Door opening angle:
Front door 130° (bayed)
Rear door 130° (bayed)

Network enclosures, pre-configured		
Enclosure type	**V 28** Under desk enclosure	**V 29** Small distribution rack
U	11	24
Height inches/mm	24/600	47/1200
Width inches/mm	24/600	32/800
Depth inches/mm	24/600	32/800
Part No. QR	**7528.250**	**7528.400**

Configuration		
Rittal QuickRack enclosure frame	●	●
1 viewing door of sheet steel, front, with safety lock insert and 130° hinges	●	●
1 rear door of sheet steel, with safety lock insert and 130° hinges	–	●
1 rear wall for cable entry, with brush inserts on top and bottom	●	–
1 roof frame for modular panel inserts	●	●
1 base frame for modular panel inserts	●	●
4 leveling feet for uneven floors, pre-installed	●	●
2 sidewalls with safety locks	●	●
1 pair of 19″ installation rails, approximately 6″/150 mm from the front, mounted on depth bars	●	●
1 pair of 19″ installation rails, mounted on depth bars in the rear	–	●
1 modular panel combination, consisting of solid individual modules, for easy modifications, pre-installed in the roof fame	●	–
1 modular panel solid, installed in the roof frame	–	●
1 modular panel solid, installed in the base frame	●	–
1 modular panel combination consisting of brush insert module in the rear and solid module panel in the front, installed into the base frame	–	●
Grounding of flat parts to the enclosure frame, with 6 mm² ground straps, factory pre-tested to VDE	●	●
1 base/plinth, 4″/100 mm high, with integrated louvers for ventilation, front and back	–	●
4 combination rails, two per enclosure width and two for the enclosure depth, for cable collecting with cable ties or cable clamps, supplied loose	–	●
50 captive nuts, with fasteners and plastic washers, supplied loose	●	●

Rittal QuickRack, 11 U and 24 U

Rittal QuickRack network enclosures for the office

Preconfigured enclosures are offered for common applications. The attractive design and compact dimensions, for use either as an under-desk enclosure (11 U) or small distribution rack (24 U), make them particularly well-suited to decentralize network layouts in office environments.
The all-screw construction guarantees a high level of flexibility in terms of assembly and disassembly.
Fully pre-wired fan panels add active climate control easily and conveniently.

Accessories:

see pages 744 – 751.

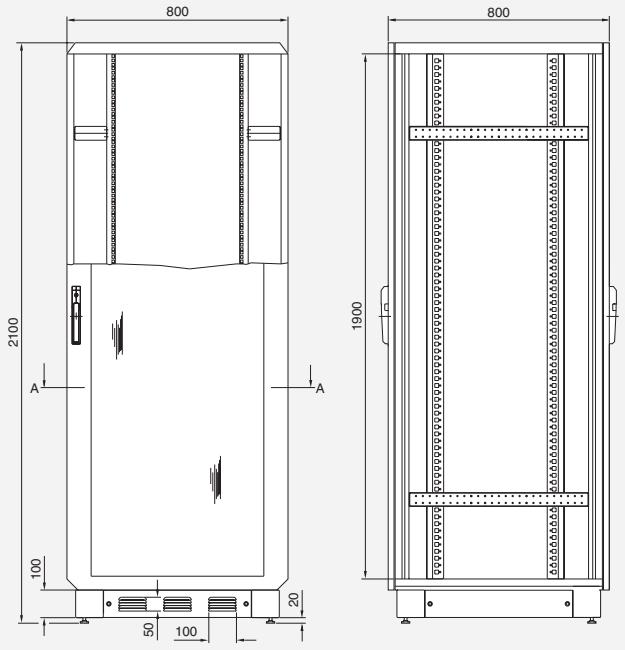
Additional accessories,
see pages 876/877.

The **wallmount bracket** for enclosures
H x W 24/600 x 24/600 mm.
Part No. see page 744.

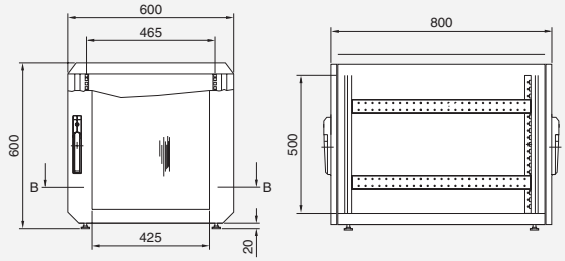
Cable routing
directly through the rear wall, via brush strips of the under-desk enclosure.

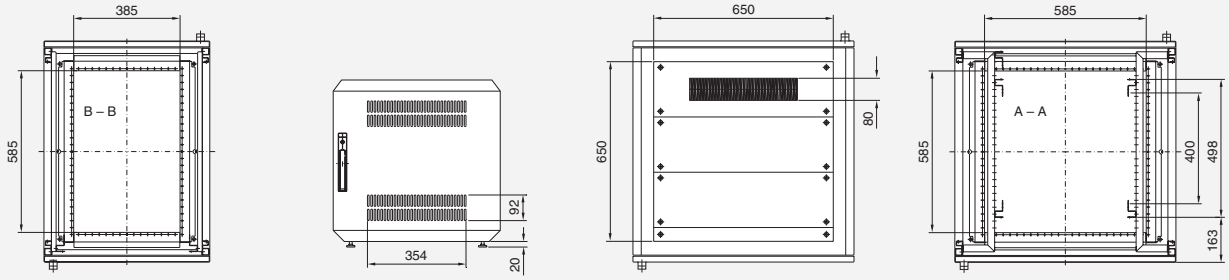
Earth/grounding
Pre-installed system specific earth/grounding.

QR 7528.100 – .130



QR 7528.200





Material:
Sheet steel

Door opening angle:
Front door 130° (bayed)
Rear door 130° (bayed)

Finish:
Painted RAL 7035 light grey
Upright profiles RAL 5018 teal

Network enclosures, pre-configured					
Enclosure type	**V 30** Under desk enclosure	**V 31** Network cabinet	**V 32** Network cabinet	**V 33** Network cabinet	**V 34** Network cabinet
U	11	42	42	42	42
SU	19	75	75	75	75
Height inches/mm	24/600	79/2000	79/2000	79/2000	79/2000
Width inches/mm	24/600	32/ 800	32/ 800	32/ 800	32/ 800
Depth inches/mm	32/800	32/ 800	32/ 800	32/ 800	32/ 800
Part No. QR	**7528.200**	**7528.100**	**7528.110**	**7528.120**	**7528.130**

Configuration					
Rittal QuickRack enclosure frame	●	●	●	●	●
1 viewing door of sheet steel, front, with safety lock insert, .12″/3 mm single pane safety glass, 130° hinges	●	●	●	●	●
1 rear door of sheet steel, with safety lock insert, 130° hinges	–	●	●	●	●
1 rear door of sheet steel, vented, with safety lock insert, 130° hinges	●	–	–	–	–
1 roof panel solid	●	–	–	–	–
1 roof panel for modular panel inserts	–	●	●	●	●
1 base frame for modular panel inserts	●	●	●	●	●
4 leveling feet to even out floor irregularities, pre-installed	●	●	●	●	●
2 sidewalls with safety locks	●	●	–	●	–
1 pair 19″ rails, approximately 6″/150 mm from the front, mounted on depth bars	●	●	●	●	●
1 pair 19″ rails, mounted in the back, on depth bars (installation distance ⓧ = 18.70″/475 mm)	–	–	–	●	●
1 modular panel combination consisting of brush insert module in the rear and solid module panel in the front, installed into the roof frame	–	●	●	●	●
Grounding of flat parts to the enclosure frame, with 6 mm² ground straps	–	●	●	●	●
1 base/plinth, 4″/100 mm high, with integrated louvers for ventilation, front and back	–	●	●	●	●
12 spacer bolts, 20 mm, to raise module panels for passive ventilation, supplied loose	–	●	●	●	●
4 cable clamp rails, for cable attachment, supplied loose	–	●	●	●	●
10 cable guides, 105 x 70 mm, supplied loose	–	●	●	●	●
50 captive nuts, with fasteners and plastic washers, supplied loose	–	●	●	●	●

Rittal QuickRack, 11 U and 42 U

Rittal QuickRack network enclosures, pre-configured
Pre-configured enclosures are offered for common applications. Applications are quickly and easily achieved with the modular base/roof assembly. The screw-together construction guarantees a high level of flexibility in terms of assembly and disassembly. Active climate control is easily and conveniently built-in by installing the fully pre-wired fan mounting panels. This plug-and-play compatibility extends throughout the entire modular system. It combines efficient enclosure technology with optimum customer benefits.

Accessories:
see pages 744 – 751.

Additional accessories,
see pages 876/877.

Ventilation slots in the rear door of the under-desk enclosure for passive heat transfer via convection.

Leveling feet serve to compensate for uneven floors.

For active climate control, simply insert the **modular fan mounting panel** into the roof frame.
Part No. see page 747.

QuickRack modular systems

The new design that combines versatility and speed when configuring racks for network technology.

- **Comprehensive selection**
- **Easy to order**
- **Fast assembly and delivery service**

① The QuickRack frame consists of identical roof and base frames with 4 special vertical sections. 18 sizes (5 heights, 2 widths and 3 depths) are available.

② Viewing door or sheet steel door. Both are equipped with an Ergoform-S handle and security lock. The door hinge is easily reversed.

③ Rear door either with ventilation slots at the bottom or solid. This also is equipped with an Ergoform-S handle and security lock. The door hinge here is likewise easily reversed.

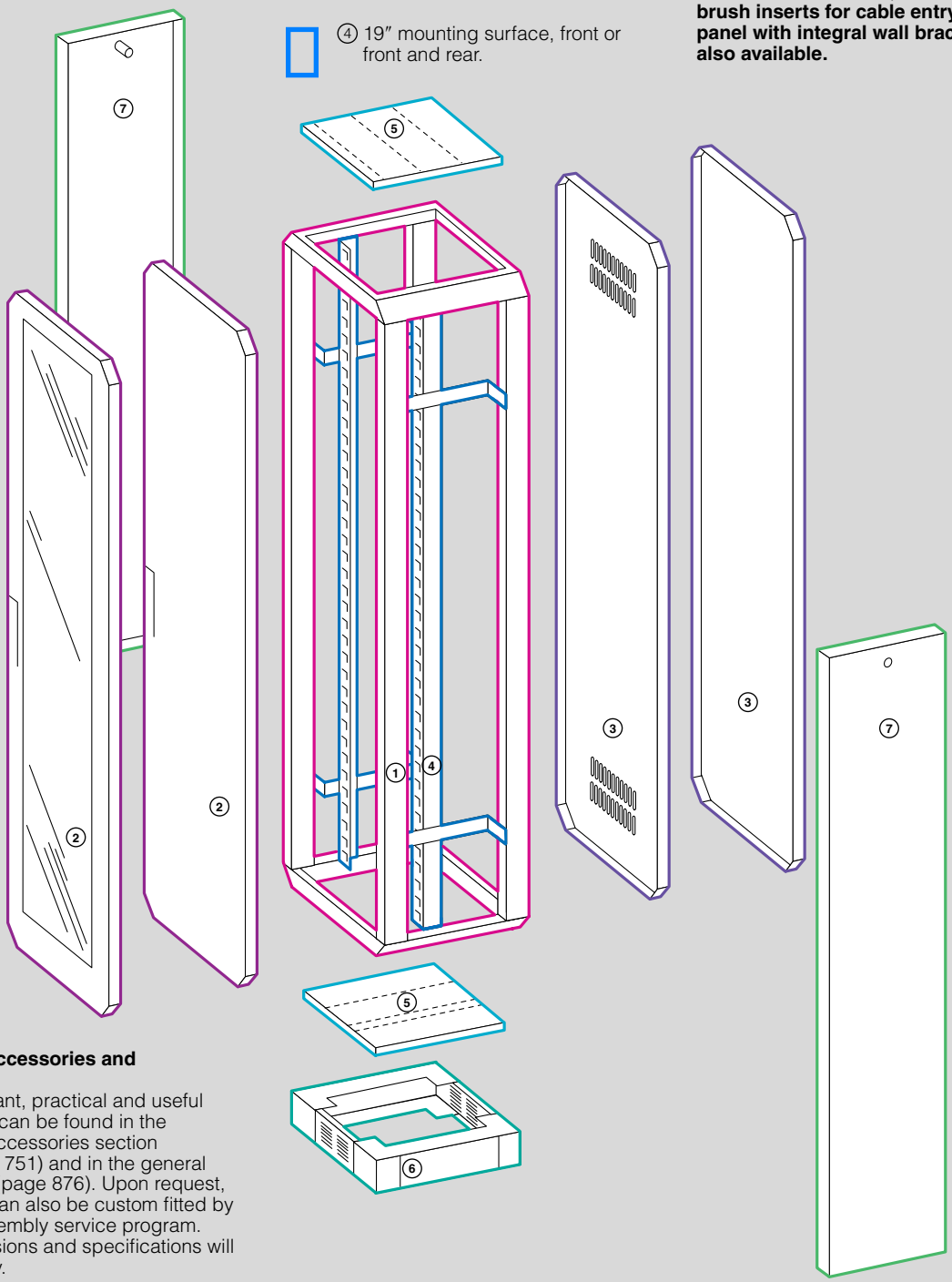
④ 19″ mounting surface, front or front and rear.

⑤ Depending on the enclosure width and depth, up to 8 pre-configured modules are available for roof and/or base installation.

⑥ Base/plinth, vented front and rear with integrated louvers, 4″/100 mm high.

⑦ 2 sidewalls (per QuickRack or per suite of bayed QuickRacks).

These standard modules in the QuickRack modular system include full assembly of your selected configuration.
For small enclosures, a rear panel with brush inserts for cable entry and a rear panel with integral wall brackets are also available.



Additional accessories and components
Other important, practical and useful components can be found in the QuickRack accessories section (pages 744 – 751) and in the general accessories (page 876). Upon request, these parts can also be custom fitted by the Rittal assembly service program. Exact dimensions and specifications will be necessary.

One example from thousands of options

The selection table on the following pages contains more than 5,000 useful models of the basic design, which can be quickly delivered by Rittal.

This is a brand new, yet simple approach from a consistent, customer oriented product organization.

Despite the individual diversity, your required configuration can be located quickly:

1. Specify the QuickRack frame format and the basic QuickRack installation.
There is a choice of five heights (24, 47, 63, 79 and 87″/600, 1200, 1600, 2000 and 2200 mm), two widths (24 and 32″/600 and 800 mm) and three depths (16, 24 and 32″/400, 600 and 800 mm).

All 18 formats are available in 25 basic installation types. Each of the 232 models is uniquely defined by a single Part No.

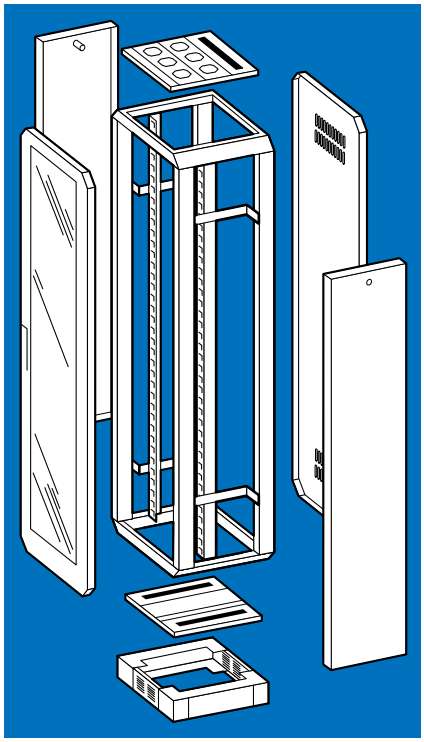
2. Select the roof and base configuration.
Rittal has combined common roof and base assemblies under a single Part No. consisting of module panels with brush inserts, fully configured module panels with fans, solid module panels, and filler panels.

3. Sidewalls and base/plinths as required.
Two sidewalls for the free-standing enclosure, or in the case of bayed QuickRacks, one sidewall for each of the two outer racks. The corresponding baying connector can be found under accessories, see on page 751.

Our example in detail:

Description	Part No.
QuickRack frame H x W x D: 79 x 32 x 32″/ 2000 x 800 x 800 mm **Basic installation** Viewing door, front; vented sheet steel rear door, 19″ mounting surface, front	**7523.761**
Roof configuration Model 7 Consisting of one filler panel, one brush insert and 2 fan modules, fully installed with 3 fans each, including connector block	**7527.130**
Base configuration Model 11 with 2 module panels with brush inserts, installed in the depth left and right, plus one solid module panel and one module filler panel	**7527.240**
Base/plinth Vented, 4″/100 mm high	**7524.320**
Sidewalls Installed on both sides	**7524.250**

This list, together with the chart, illustrates the sample QuickRack configurations compiled in the selection table (marked in grey on the next page).



The QuickRack can be defined with just five part numbers, from the plinth up to the fan. Assembly is, of course, included!

Accessories:

see pages 744 – 751.

Additional accessories,
see pages 876/877.

Roof and base configuration modules

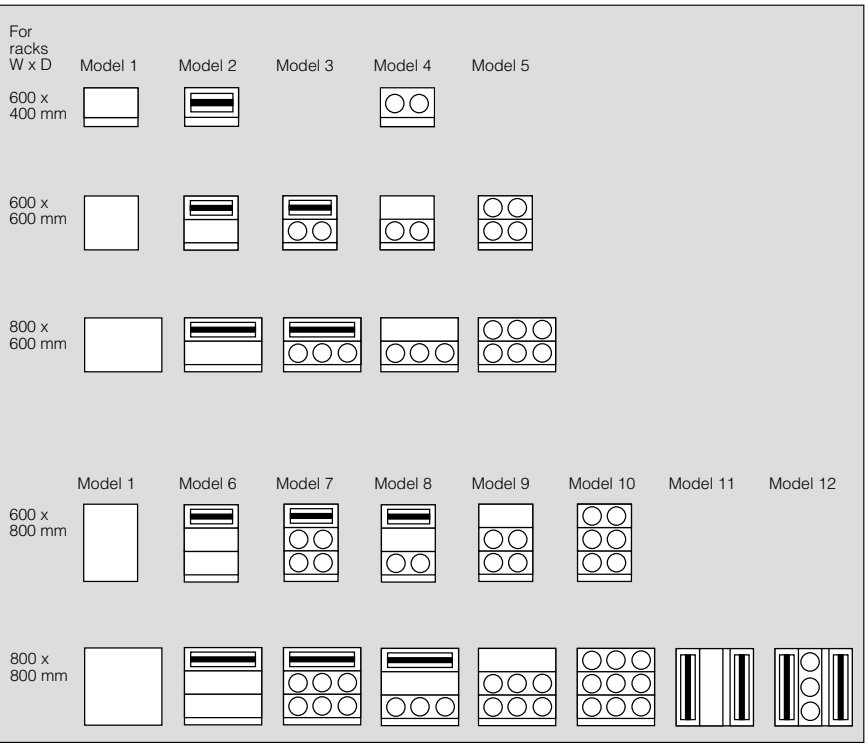
The roof and base frame of the QuickRack are of an identical structure, so that all modules of the correct size may be inserted in both the roof and base areas. This may be either in the enclosure width or depth.

Usually a filler panel (solid), approximately 2″/50 mm deep, is required for complete population of a frame. It may be inserted at any point.

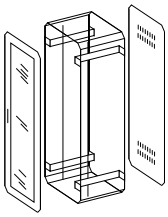
For the most common applications, Rittal has combined various forms of solid module panels, module panels with brush inserts, and modular fan mounting panels installed with fans and connection blocks under a single part number.

These 12 models are supplied fully assembled with filler panels.

Please refer to pages 738 – 741 for the selection table.



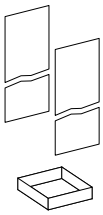
Ordering system:



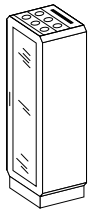
1. Select the frame format and the basic configuration (front door, rear door, rear wall, 19″/482.6 mm mounting rails).

2. Select a roof configuration model for assembly.

3. The base frame matches the roof frame. Consequently, the same configuration models will fit here too. Specify the base configuration for assembly.



4. If you would also like to have the two sidewalls and a base/plinth installed, simply request the appropriate order numbers.



5. In this way, every possible model on this page can be assembled and delivered with the shortest possible lead times.

Basic configuration

Front door		Rear door sheet steel		Rear wall		19″/482.6 mm surface		Inches/mm		
sheet steel	viewing door	solid	vented	with brush inserts	for wall-mount applications	front	front and back	Height	24/600/11 U (19 SU)	
								Width	24/600	24/600
								Depth	16/400	24/600
●	–	●	–	–	–	–	–	Part No.	–	**7523.027**
●	–	●	–	–	–	●	–		**7523.046**	**7523.047**
●	–	●	–	–	–	–	●		**7523.066**	**7523.067**
●	–	–	●	–	–	–	–		–	**7523.267**
●	–	–	●	–	–	●	–		**7523.286**	**7523.287**
●	–	–	●	–	–	–	●		**7523.306**	**7523.307**
●	–	–	–	●	–	–	–		–	**7523.111**
●	–	–	–	●	–	●	–		**7523.112**	**7523.113**
●	–	–	–	●	–	–	●		**7523.114**	**7523.115**
●	–	–	–	–	●	–	–		–	**7523.131**
●	–	–	–	–	●	●	–		**7523.132**	**7523.133**
●	–	–	–	–	●	–	●		**7523.134**	**7523.135**
–	●	●	–	–	–	–	–		–	**7523.507**
–	●	●	–	–	–	●	–		**7523.526**	**7523.527**
–	●	●	–	–	–	–	●		**7523.546**	**7523.547**
–	●	–	●	–	–	–	–		–	**7523.747**
–	●	–	●	–	–	●	–		**7523.766**	**7523.767**
–	●	–	●	–	–	–	●		**7523.786**	**7523.787**
–	●	–	–	●	–	–	–		–	**7523.121**
–	●	–	–	●	–	●	–		**7523.122**	**7523.123**
–	●	–	–	●	–	–	●		**7523.124**	**7523.125**
–	●	–	–	–	●	–	–		–	**7523.141**
–	●	–	–	–	●	●	–		**7523.142**	**7523.143**
–	●	–	–	–	●	–	●		**7523.144**	**7523.145**

Sidewalls with security lock, installed on both sides	**Part No.**	**7524.197**	**7524.198**
Base/plinth, vented, installed		**7524.330**	**7524.300**

Module panel combinations, suitable for roof or base frame installation

For enclosures						
width inches/mm	depth inches/mm	Model 1	Model 2	Model 3	Model 4	Model 5
24/600	16/400					
Part No.		**7527.005**	**7527.055**		**7527.155**	
24/600	24/600					
Part No.		**7527.010**	**7527.060**	**7527.100**	**7527.160**	**7527.200**

Accessories, not installed

Description	PU	For enclosures			Part No.
		height inches/mm	width inches/mm	depth inches/mm	
Sidewalls	2	24/600	–	16/400	**7526.197**
		24/600	–	24/600	**7526.198**
Base/plinth, 4″/100 mm, vented	1	–	24/600	16/400	**7526.328**
		–	24/600	24/600	**7526.300**
Metric installation rails, 11 U/19 SU	2	24/600	–	–	**7526.440**
Depth bars, for metric installation rails (535 mm)	2	–	24/600	16/400	**7526.495**
		–	24/600	24/600	**7526.500**
Combination rail for the enclosure width	2	–	24/600	–	**7526.930**
2 U component shelf, 10″/250 mm deep, for a mounting level	1	–	–	16/400 or 24/600	**7119.250**
2 U component shelf, 16″/400 mm deep, for a mounting level	1	–	–	24/600	**7119.400**

Rittal QuickRack modular system

The QuickRack modular system with an enclosure height of 24″/600 mm is ideally suited for use as an under-desk or wall-mount enclosure. The ordering system remains the same: simply select the doors, 19″/482.6 mm inside installation, roof and base modules plus base/plinth and sidewalls (if required), and your QuickRack is individually configured. Interesting features include the two rear wall models with brush inserts for cable entry and the wallmount model.

Material:
16 ga/1.5 mm sheet steel

Finish:
Flat parts painted RAL 7035 light grey
Upright profiles, RAL 5018 teal

Accessories:

see pages 744 – 751.

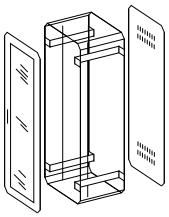
Additional accessories, see pages 876/877.

The **wallmount model** uses a solid rear wall.

2 U component shelf
10/16″; 250/400 mm deep, for installation on a pair of 19″ mounting rails.
Part No. see page 989.

Cable entry
directly through the rear wall, via brush inserts.

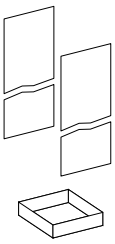
Ordering system:



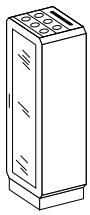
1. Select the frame format and the basic configuration (front door, rear door, rear wall, 19″/482.6 mm mounting rails).

2. Select a roof configuration model for mounting.

3. The base frame matches the roof frame. Consequently, the same configuration models will fit here too. Specify the base/plinth configuration for installation.

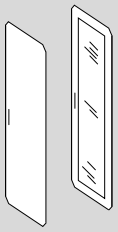


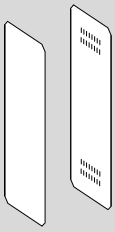
4. If you would also like to have the two sidewalls and a base/plinth installed, simply request the appropriate order numbers.

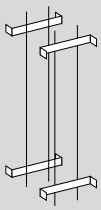


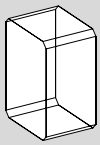
5. In this way, every possible model on this page can be assembled and delivered with the shortest possible lead time.

Basic configuration









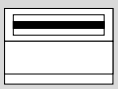
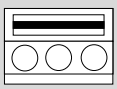
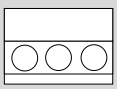
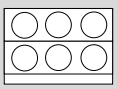
Front door		Rear door sheet steel		19″/482.6 mm surface		Inches/ mm				
sheet steel	viewing door	solid	vented	front	front and back	H	47/1200			
						W	24/600	24/600	32/800	32/800
						D	24/600	32/800	24/600	32/800
●	–	●	–	–	–	Part No.	**7523.010**	**7523.011**	**7523.012**	**7523.013**
●	–	●	–	●	–		**7523.030**	**7523.031**	**7523.032**	**7523.033**
●	–	●	–	–	●		**7523.050**	**7523.051**	**7523.052**	**7523.053**
●	–	–	●	–	–		**7523.250**	**7523.251**	**7523.252**	**7523.253**
●	–	–	●	●	–		**7523.270**	**7523.271**	**7523.272**	**7523.273**
●	–	–	●	–	●		**7523.290**	**7523.291**	**7523.292**	**7523.293**
–	●	●	–	–	–		**7523.490**	**7523.491**	**7523.492**	**7523.493**
–	●	●	–	●	–		**7523.510**	**7523.511**	**7523.512**	**7523.513**
–	●	●	–	–	●		**7523.530**	**7523.531**	**7523.532**	**7523.533**
–	●	–	●	–	–		**7523.730**	**7523.731**	**7523.732**	**7523.733**
–	●	–	●	●	–		**7523.750**	**7523.751**	**7523.752**	**7523.753**
–	●	–	●	–	●		**7523.770**	**7523.771**	**7523.772**	**7523.773**

Roof configuration modules (bottom is identical)

Model	Solid	Filler panel	Brush insert	With fans					
1	1	–	–	–	Part No.	**7527.010**	**7527.040**	**7527.030**	**7527.050**
2	1	1	1	–		**7527.060**	**–**	**7527.070**	**–**
3	–	1	1	1		**7527.100**	**–**	**7527.110**	**–**
4	1	1	–	1		**7527.160**	**–**	**7527.170**	**–**
5	–	1	–	2		**7527.200**	**–**	**7527.210**	**–**
6	2	1	1	–		**–**	**7527.080**	**–**	**7527.090**
7	–	1	1	2		**–**	**7527.120**	**–**	**7527.130**
8	1	1	1	1		**–**	**7527.140**	**–**	**7527.150**
9	1	1	–	2		**–**	**7527.180**	**–**	**7527.190**
10	–	1	–	3		**–**	**7527.220**	**–**	**7527.230**
11	1	1	2	–		**–**	**–**	**–**	**7527.240**
12	–	1	2	1		**–**	**–**	**–**	**7527.250**

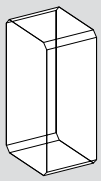
Base/plinth vented, installed	Part No.	**7524.300**	**7524.310**	**7524.311**	**7524.320**
Sidewalls, installed on both sides		**7524.200**	**7524.210**	**7524.200**	**7524.210**

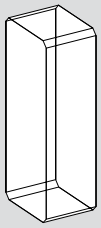
For enclosures

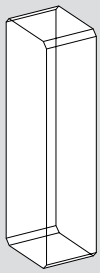
width inches/mm	depth inches/mm	Model 1	Model 2	Model 3	Model 4	Model 5
24/600	24/600					
Part No.		**7527.010**	**7527.060**	**7527.100**	**7527.160**	**7527.200**
32/800	24/600					
Part No.		**7527.030**	**7527.070**	**7527.110**	**7527.170**	**7527.210**

Dimensional drawings of the modules can be found on pages 746/747.

Rittal QuickRack modular enclosure system



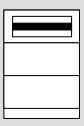
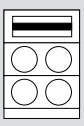
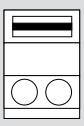
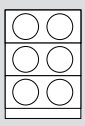
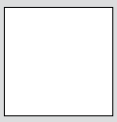
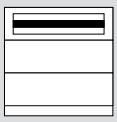
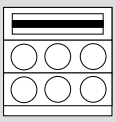
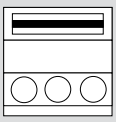
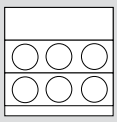
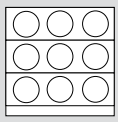
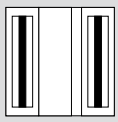
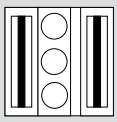




63/1600			
24/600	24/600	32/800	32/800
24/600	32/800	24/600	32/800
7523.014	**7523.015**	**7523.016**	**7523.017**
7523.034	**7523.035**	**7523.036**	**7523.037**
7523.054	**7523.055**	**7523.056**	**7523.057**
7523.254	**7523.255**	**7523.256**	**7523.257**
7523.274	**7523.275**	**7523.276**	**7523.277**
7523.294	**7523.295**	**7523.296**	**7523.297**
7523.494	**7523.495**	**7523.496**	**7523.497**
7523.514	**7523.515**	**7523.516**	**7523.517**
7523.534	**7523.535**	**7523.536**	**7523.537**
7523.734	**7523.735**	**7523.736**	**7523.737**
7523.754	**7523.755**	**7523.756**	**7523.757**
7523.774	**7523.775**	**7523.776**	**7523.777**
7527.010	**7527.040**	**7527.030**	**7527.050**
7527.060	**–**	**7527.070**	**–**
7527.100	**–**	**7527.110**	**–**
7527.160	**–**	**7527.170**	**–**
7527.200	**–**	**7527.210**	**–**
–	**7527.080**	**–**	**7527.090**
–	**7527.120**	**–**	**7527.130**
–	**7527.140**	**–**	**7527.150**
–	**7527.180**	**–**	**7527.190**
–	**7527.220**	**–**	**7527.230**
–	**–**	**–**	**7527.240**
–	**–**	**–**	**7527.250**
7524.300	**7524.310**	**7524.311**	**7524.320**
7524.220	**7524.230**	**7524.220**	**7524.230**

79/2000			
24/600	24/600	32/800	32/800
24/600	32/800	24/600	32/800
7523.018	**7523.019**	**7523.020**	**7523.021**
7523.038	**7523.039**	**7523.040**	**7523.041**
7523.058	**7523.059**	**7523.060**	**7523.061**
7523.258	**7523.259**	**7523.260**	**7523.261**
7523.278	**7523.279**	**7523.280**	**7523.281**
7523.298	**7523.299**	**7523.300**	**7523.301**
7523.498	**7523.499**	**7523.500**	**7523.501**
7523.518	**7523.519**	**7523.520**	**7523.521**
7523.538	**7523.539**	**7523.540**	**7523.541**
7523.738	**7523.739**	**7523.740**	**7523.741**
7523.758	**7523.759**	**7523.760**	**7523.761**
7523.778	**7523.779**	**7523.780**	**7523.781**
7527.010	**7527.040**	**7527.030**	**7527.050**
7527.060	**–**	**7527.070**	**–**
7527.100	**–**	**7527.110**	**–**
7527.160	**–**	**7527.170**	**–**
7527.200	**–**	**7527.210**	**–**
–	**7527.080**	**–**	**7527.090**
–	**7527.120**	**–**	**7527.130**
–	**7527.140**	**–**	**7527.150**
–	**7527.180**	**–**	**7527.190**
–	**7527.220**	**–**	**7527.230**
–	**–**	**–**	**7527.240**
–	**–**	**–**	**7527.250**
7524.300	**7524.310**	**7524.311**	**7524.320**
7524.240	**7524.250**	**7524.240**	**7524.250**

87/2200			
24/600	24/600	32/800	32/800
24/600	32/800	24/600	32/800
7523.022	**7523.023**	**7523.024**	**7523.025**
7523.042	**7523.043**	**7523.044**	**7523.045**
7523.062	**7523.063**	**7523.064**	**7523.065**
7523.262	**7523.263**	**7523.264**	**7523.265**
7523.282	**7523.283**	**7523.284**	**7523.285**
7523.302	**7523.303**	**7523.304**	**7523.305**
7523.502	**7523.503**	**7523.504**	**7523.505**
7523.522	**7523.523**	**7523.524**	**7523.525**
7523.542	**7523.543**	**7523.544**	**7523.545**
7523.742	**7523.743**	**7523.744**	**7523.745**
7523.762	**7523.763**	**7523.764**	**7523.765**
7523.782	**7523.783**	**7523.784**	**7523.785**
7527.010	**7527.040**	**7527.030**	**7527.050**
7527.060	**–**	**7527.070**	**–**
7527.100	**–**	**7527.110**	**–**
7527.160	**–**	**7527.170**	**–**
7527.200	**–**	**7527.210**	**–**
–	**7527.080**	**–**	**7527.090**
–	**7527.120**	**–**	**7527.130**
–	**7527.140**	**–**	**7527.150**
–	**7527.180**	**–**	**7527.190**
–	**7527.220**	**–**	**7527.230**
–	**–**	**–**	**7527.240**
–	**–**	**–**	**7527.250**
7524.300	**7524.310**	**7524.311**	**7524.320**
7524.260	**7524.270**	**7524.260**	**7524.270**

For enclosures									
width inches/mm	depth inches/mm	Model 1	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
24/600	32/800								
Part No.		**7527.040**	**7527.080**	**7527.120**	**7527.140**	**7527.180**	**7527.220**		
32/800	32/800								
Part No.		**7527.050**	**7527.090**	**7527.130**	**7527.150**	**7527.190**	**7527.230**	**7527.240**	**7527.250**

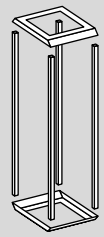
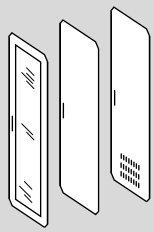
Dimensional drawings of the modules can be found on pages 746/747.

The QuickRack flat-pack system

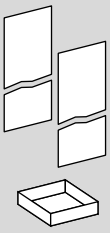
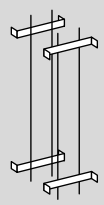
The rack of your choice can be assembled quickly. The packaging of the individual components serves as outer packaging for the populated rack.
When choosing a QuickRack from the modular assemblies, you will need the width and depth of the enclosure in order to select a roof and base frame combination. The four vertical sections determine the height of the enclosure. Finally, the front and rear doors are determined via the rack height and width.

Configure your own enclosure from the modular system and extend its customization with our range of accessories.
To populate the roof and base frame, you will need a modular filler panel plus two or three 8″/200 mm modular panels for 24″/600 mm or 32″/800 mm deep racks, depending on the frame depth. When populating with modular panels arranged in the depth, the same will apply to the enclosure width.

The basic modular enclosure

	Enclosure width (inches/mm)	Enclosure depth (inches/mm)	For enclosure height (inches/mm) 47/1200	For enclosure height (inches/mm) 69/1600	For enclosure height (inches/mm) 79/2000	For enclosure height (inches/mm) 87/2200
			Part No. DK		Part No. DK	
 **1 roof and 1 base frame**	24/600	24/600	**7540.300**	**7540.300**	**7540.300**	**7540.300**
	24/600	32/800	**7540.310**	**7540.310**	**7540.310**	**7540.310**
	32/800	24/600	**7540.320**	**7540.320**	**7540.320**	**7540.320**
	32/800	32/800	**7540.330**	**7540.330**	**7540.330**	**7540.330**
4 frame uprights	–	–	**7540.400**	**7540.410**	**7540.420**	**7540.430**
 **1 viewing door**	24/600	–	**7540.650**	**7540.670**	**7540.690**	**7540.710**
	32/800	–	**7540.660**	**7540.680**	**7540.700**	**7540.720**
1 sheet steel door	24/600	–	**7540.450**	**7540.470**	**7540.490**	**7540.510**
	32/800	–	**7540.460**	**7540.480**	**7540.500**	**7540.520**
1 sheet steel door, vented	24/600	–	**7540.550**	**7540.570**	**7540.590**	**7540.610**
	32/800	–	**7540.560**	**7540.580**	**7540.600**	**7540.620**

Customization using the broad program of accessories

 **2 sidewalls**	–	24/600	**7526.200**	**7526.220**	**7526.240**	**7526.260**
	–	32/800	**7526.210**	**7526.230**	**7526.250**	**7526.270**
1 base/plinth 4″/100 mm, vented	24/600	24/600	**7526.300**	**7526.300**	**7526.300**	**7526.300**
	24/600	32/800	**7526.310**	**7526.310**	**7526.310**	**7526.310**
	32/800	24/600	**7526.311**	**7526.311**	**7526.311**	**7526.311**
	32/800	32/800	**7526.320**	**7526.320**	**7526.320**	**7526.320**
 **2 19″ installation rails**	–	–	**7526.350**	**7526.360**	**7526.370**	**7526.380**
4 depth bars for, 19″ configuration	24/600	24/600	**7526.400**	**7526.400**	**7526.400**	**7526.400**
	24/600	32/800	**7526.410**	**7526.410**	**7526.410**	**7526.410**
	32/800	24/600	**7526.420**	**7526.420**	**7526.420**	**7526.420**
	32/800	32/800	**7526.430**	**7526.430**	**7526.430**	**7526.430**
1 modular filler trim panel, 2″/50 mm deep*	24/600	–	**7526.750**	**7526.750**	**7526.750**	**7526.750**
	32/800	–	**7526.790**	**7526.790**	**7526.790**	**7526.790**
1 modular panel, solid, 8″/200 mm deep	24/600	–	**7526.760**	**7526.760**	**7526.760**	**7526.760**
	32/800	–	**7526.800**	**7526.800**	**7526.800**	**7526.800**
1 modular panel with brush insert, 8″/200 mm deep	24/600	–	**7526.850**	**7526.850**	**7526.850**	**7526.850**
	32/800	–	**7526.860**	**7526.860**	**7526.860**	**7526.860**
1 modular fan panel, 8″/200 mm deep	24/600	–	**7526.900**	**7526.900**	**7526.900**	**7526.900**
	32/800	–	**7526.910**	**7526.910**	**7526.910**	**7526.910**

* Any modular panel combination will require a filler panel.

Rittal QuickRack flat-pack system

Accessories:

see page 744 – 751.

Additional accessories,
see page 876/877.

Material:
Sheet steel

Finish:
Flat parts painted RAL 7035 light grey
Vertical uprights RAL 5018 teal

Configuration:
Individual rack components, including installation hardware and packaging.

Minimal storage space requirement even with a large selection of models.

Easy transportation, even under limited space conditions.

Environmentally conscious and economical: the modular packaging pieces become the outer packaging shell.

For Rittal QuickRack

Sidewalls

The sidewalls are each equipped with a quick-release fastener with safety lock insert. They are fastened by simply inserting and locking, allowing fast access from the sides.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
2 sidewalls including quick-release fastener with lock insert.

Enclosure height inches/mm	Enclosure depth inches/mm	Part No. QR
47/1200	24/600	**7526.200**
47/1200	32/800	**7526.210**
63/1600	24/600	**7526.220**
63/1600	32/800	**7526.230**
79/2000	24/600	**7526.240**
79/2000	32/800	**7526.250**
87/2200	24/600	**7526.260**
87/2200	32/800	**7526.270**

PU = 2

Adaptor cover

The adaptor cover offers a practical solution for extending the cable chamber by 2 or 4″/50 or 100 mm. With brush inserts at the top, slide panel at the bottom and safety lock inserts.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
Adaptor cover including quick-release fasteners with safety lock insert.

Enclosure height inches/mm	Enclosure depth inches/mm	Part No. QR Adaptor width	
		2″/50 mm	4″/100 mm
47/1200	24/600	**7526.100**	**7526.150**
47/1200	32/800	**7526.105**	**7526.155**
63/1600	24/600	**7526.110**	**7526.160**
63/1600	32/800	**7526.115**	**7526.165**
79/2000	24/600	**7526.120**	**7526.170**
79/2000	32/800	**7526.125**	**7526.175**
87/2200	24/600	**7526.130**	**7526.180**
87/2200	32/800	**7526.135**	**7526.185**

Rear wall for cable entry

The rear wall is screwed to the frame uprights in place of the rear door. It has a brush insert for cable entry at the top and bottom.

Material:
Sheet steel

Color:
RAL 7035 light grey

Enclosure height inches/mm	Enclosure width inches/mm	Part No. QR
24/600	24/600	**7526.541**

Lead times upon request.

Configuration:
One rear wall with two brush inserts.

Rear wall with wall bracket

For maximum 24″/600 mm deep enclosures. The rear wall is screwed onto the frame uprights in place of the rear door. For wall mounting, the enclosure can be fastened using the wall bracket integrated directly to the wall.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
Rear wall with wall bracket, including installation hardware.

Enclosure height inches/mm	Enclosure width inches/mm	Part No. QR
24/600	24/600	**7526.542**

Lead times upon request.

Base/plinth

By installing a base/plinth, additional floor clearance can be created. Four removable trim panels facilitate cable entry from all sides. Floor irregularities can be compensated for with leveling feet. Air enters via louvers in the front and rear trims of the vented base/plinth.

Material:
Sheet steel

Finish:
Painted RAL 7035 light grey

Configuration:
Base/plinth including installation hardware.

For enclosures		Part No. FR/QR		
W in./ mm	D in./ mm	Solid 2″/ 50 mm high	Solid 4″/ 100 mm high	Vented 4″/ 100 mm high
24/ 600	24/ 600	**2102.160**	**2102.140**	**7526.300**
24/ 600	32/ 800	**2102.170**	**2102.150**	**7526.310**
32/ 800	24/ 600	–	–	**7526.311**
32/ 800	32/ 800	–	–	**7526.320**

Accessories:
Connecting base/plinth trim, see below.

Connecting base/plinth trim

The connecting base/plinth trim is fitted between two bayed enclosures with 4 or 8″/100 or 200 mm base/plinths, presenting a closed appearance front and rear.

Material:
Sheet steel

Surface finish:
E-coat primer,
textured enamel, RAL 7035 light grey

For base/plinths	PU	Part No. FR
4″/100 mm	2	**7860.000**
8″/200 mm	2	**7860.200**[1)]

[1)] Including stacking kit for mounting two 100 mm plinths one on top of the other.

Mobile base/plinth

The mobile base/plinth allows flexible transportation to the installation site. Once in place, the enclosure is levelled out using the leveling feet integrated into the base/plinth and then locked into position. In all 2″/50 mm high base/plinths, the side trim pieces may be removed for cable entry. The 4″/100 mm mobile base/plinth has a fully welded frame without removable trim pieces.

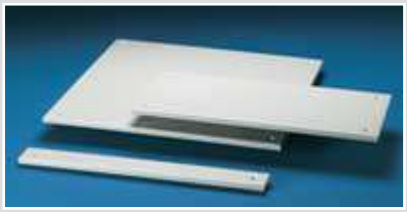
Material:
Sheet steel

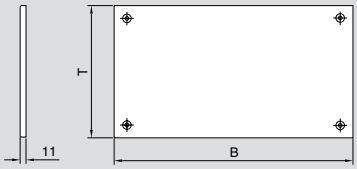
Color:
RAL 7035 light grey

Configuration:
Base/plinth with removable side trim Panels (base/plinth height 2″/50 mm) and 4 casters.

Enclosure width inches/ mm	Enclosure depth inches/ mm	Base/ plinth height inches/ mm	Part No. QR
24/600	16/400	2/ 50	**7526.330**
24/600	24/600	2/ 50	**7526.331**
24/600	32/800	2/ 50	**7526.332**
32/800	24/600	2/ 50	**7526.333**
32/800	32/800	2/ 50	**7526.334**
32/800	32/800	4/100	**7526.335**

For Rittal QuickRack





Modular panel, solid

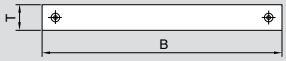
The roof or base section of the QuickRack can be closed as required with the solid module panel. A filler trim panel is required with all combinations, in order to completely close the roof/base assembly. To aid passive ventilation, the module panels may be raised using spacers – see page 750.

Material:
Sheet steel

Finish:
Painted RAL 7035 light grey

Configuration:
1 modular panel, installation hardware.

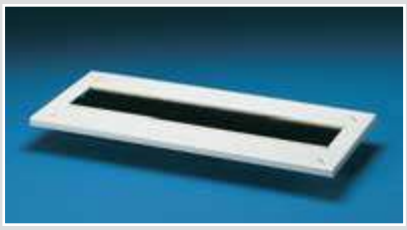
Module panel width (B) inches/mm	Module panel depth (T) inches/mm	Part No. QR
18/450	8/200	**7526.760**
18/450	18/450	**7526.770**
18/450	26/650	**7526.780**
26/650	8/200	**7526.800**
26/650	18/450	**7526.810**
26/650	26/650	**7526.820**

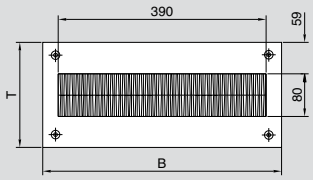


Filler trim panel

A filler panel is required with all module combinations, in order to completely close the roof/base assembly.

Module panel width (B) inches/mm	Module panel depth (T) inches/mm	Part No. QR
18/450	2/50	**7526.750**
26/650	2/50	**7526.790**





Module panel with brush insert

Module panels with brush inserts may be used for convenient cable entry. These may be installed in any number of configurations in the roof and base frame, in both the enclosure width and the enclosure depth.

Material:
Sheet steel

Finish:
Painted RAL 7035 light grey

Configuration:
1 module panel with brush insert, including installation hardware.

Module panel width (B) inches/mm	Module panel depth (T) inches/mm	Part No. QR
18/450	8/200	**7526.850**
26/650	8/200	**7526.860**

Additional parts needed:

Modular panel, see above.

Module panel, vented

To aid passive ventilation and cool the installed components, the perforated roof panel may be integrated into the enclosure width or depth.

Material:
Sheet steel

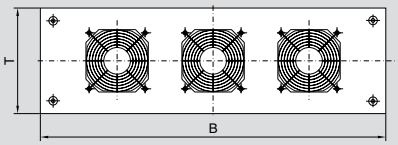
Finish:
Painted RAL 7035 light grey

Configuration:
1 module panel, vented, including installation hardware.

Module panel width inches/mm	Module panel depth inches/mm	Part No. QR
18/450	8/200	**7526.829**
26/650	8/200	**7526.834**

Additional parts needed:

Modular panel, see above.



Modular fan mounting panels

Are the easiest way to integrate active climate control into the QuickRack. The pre-configured, pre-wired fan panels can be inserted into the required position in either the base/plinth or roof area, and connected directly. They may be used in either the enclosure width or the enclosure depth.

Material:
Sheet steel

Finish:
Painted RAL 7035 light grey

Configuration:
1 fan panel, two or three fans, pre-wired ready for connection, including installation hardware.

Module panel width (B) inches/ mm	Module panel depth (T) inches/ mm	Number of fans per module	Part No. QR
18/450	8/200	2	**7526.900**
26/650	8/200	3	**7526.910**

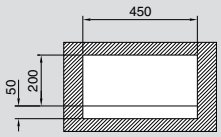
CE

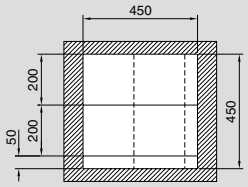
Additional parts needed:

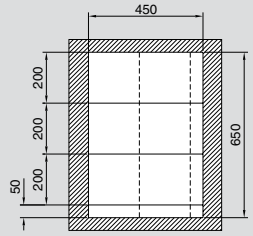
Filler trim panels, see left side.

Sample dimensions of various module installations:

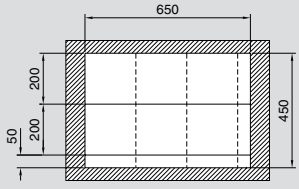
Enclosure width inches/mm	24/600	24/600	24/600
Enclosure depth inches/mm	16/400	24/600	32/800

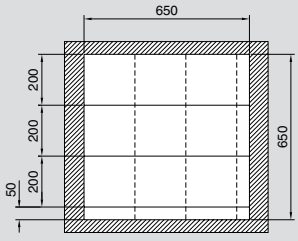






Enclosure width inches/mm	32/800	32/800
Enclosure depth inches/mm	24/600	32/800



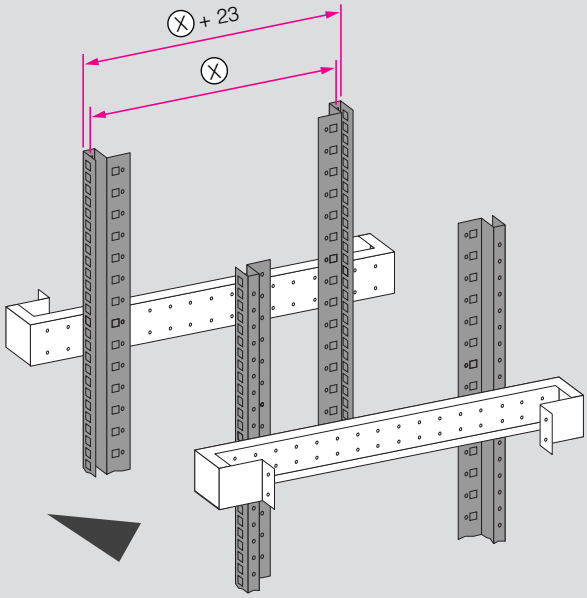


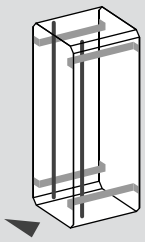
For Rittal QuickRack

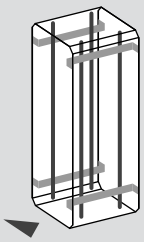
For 19″/metric installation of network enclosures, please note:

- To accommodate 19″/metric network components such as patch panels, splicing boxes, hubs, etc., one or two pairs of mounting rails are required in the network enclosures, depending on the application. The rear pair of mounting rails may be used e.g. for additional mounting of component shelves, slide rails or keyboard drawers. In such cases, it is important to ensure the correct mounting distance between the mounting angles Ⓧ.
- Standard configuration on QuickRack network enclosures are either none, one or two pairs of 19″ mounting rails.

Mounting distance between the mounting rails = Ⓧ
(depth adjustable in 1″/25 mm increments)
Distance between levels = Ⓧ + 23 mm







Mounting rails, 19″/metric*

To install 19″ or 535 mm (metric) components, depth-variable mounting rails may be fastened to depth bars.

Material:
Sheet steel, galvanized, chromated.

Supply includes:
2 mounting rails, installation hardware included.

U	SU	Enclosure height inches/mm	Part No. QR 19″	Part No. QR metric*
11	19	24/ 600	**7526.340**	**7526.440**
24	43	48/1200	**7526.350**	**7526.450**
33	59	63/1600	**7526.360**	**7526.460**
42	75	79/2000	**7526.370**	**7526.470**
47	83	87/2200	**7526.380**	**7526.480**

PU = 2

* Lead times upon request.

Depth stays

For depth-variable 19″ or metric population, depth bars are required to match the enclosure width and depth.

Material:
Sheet steel, galvanized, chromated.

Supply includes:
4 depth bars, including installation hardware.

Enclosure width in./mm	Enclosure depth in./mm	Part No. QR 19″ 482.6 mm	Part No. QR metric* 535 mm
24/600	16/400	–	**7526.495**
24/600	24/600	**7526.400**	**7526.500**
24/600	32/800	**7526.410**	**7526.510**
32/800	24/600	**7526.420**	**7526.520**
32/800	32/800	**7526.430**	**7526.530**

PU = 4

* Lead times upon request.

Accessories:

Slide rails, see page 1033.

Component shelves, see pages 986 – 993.

Twin casters

for easy moving of the enclosures.
M10 mounting thread.
For retrofitting to the frame or base/plinth of the Rittal QuickRack.

Load capacity per caster:
220 lbs/100 kg,
maximum 661 lbs/300 kg static load per enclosure.

Supply includes:
2 twin casters with brakes,
2 twin casters without brake.
Overall height: 5″/125 mm

PU	Part No. FR
4	**7859.100**

Load capacity per caster:
176 lbs/80 kg,
maximum 529 lbs/240 kg static load per enclosure.

Configuration:
4 casters, installation hardware.
Overall height: 1.7″/40 mm

PU	Part No. FR
4	**2102.350**

Mounting adaptors

Mounting adaptor for lights
The mounting adaptor allows lights PS 4138.140 and PS 4139.140 (see page 998) to secure both horizontally and vertically into the QuickRack without loss of U height availability.

Adaptor	Part No. QR
lights	**7526.982**

Configuration:
One mounting adaptor,
including installation hardware.

Mounting adaptor for door-operated switches
For attaching the door-operated switch (see page 999) directly behind the door on the enclosure frame.

Adaptor	Part No. QR
door-operated switch	**7526.983**

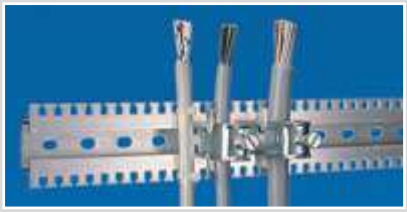
Configuration:
One mounting adaptor,
including installation hardware.

Multi-functional adaptor
The multi-functional adaptor enables the optional attachment of junction boxes, thermostat (see page 571) and hygrostat (see page 572) directly onto the enclosure uprights.

Adaptor	Part No. QR
multi-functional	**7526.984**

Configuration:
One mounting adaptor,
including installation hardware.

For Rittal QuickRack



Combination rail

The combination rail offers the option of attaching cables with cable clamps or cable ties, and also facilitates contact between the cable shield and ground.

Material:
Aluminum, chromated

Supply includes:
2 combination rails,
including installation hardware.

Installation in the enclosure depth

Enclosure depth inches/mm	PU	Part No. QR
24/600	2	**7526.940**
32/800	2	**7526.945**

Installation in the enclosure width

Enclosure width inches/mm	PU	Part No. QR
24/600	2	**7526.930**
32/800	2	**7526.935**

Accessories:

Cable clamps,
see page 981.

Cable ties,
see page 1010.

Complete earth/grounding kit

For system specific grounding of all enclosure parts on the enclosure frame per VDE. The earth/ground conductors are pre-assembled with connectors and have been cut to length.

Configuration:
Ground straps, 6 mm^2,
including installation hardware.

PU	Part No. QR
1 set	**7526.981**

Spacers

To assist passive ventilation, spacers may be used to raise the module panels.

Material:
Hexagonal steel rod,
galvanized, chromated.

Configuration:
4 spacers,
including installation hardware.

Height inches/mm	PU	Part No. QR
.79/20	4	**7526.963**

Baying kit

for simple, fast baying of network enclosures. The vertical uprights can be connected to one another using this baying kit.

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

Configuration:
4 baying brackets,
installation hardware included.

PU	Part No. QR
1 set	**7526.965**

3-D corner connector for QR

If necessary, the rigidity of the QuickRack enclosure can be reinforced via the optional use of the 3-D corner connectors. Retrofitting of existing enclosure systems is also possible (not suitable for QuickRack server enclosures).

Material:
Sheet steel, galvanized, chromated.

Supply includes:
8 installation brackets,
installation hardware included.

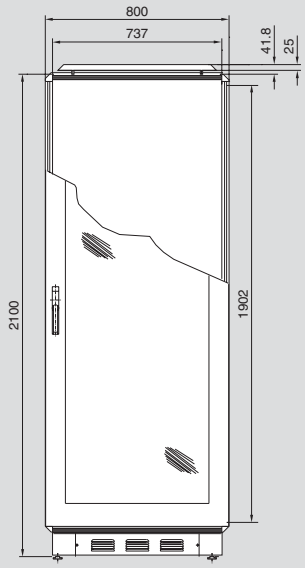
PU	Part No. QR
1 set	**7526.988**

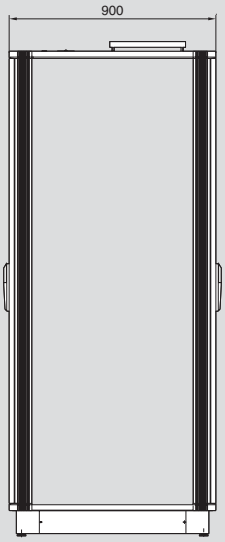
Filter mat with Velcro fasteners

to provide protection from the external contamination via the ventilation slots of the vented door. Velcro fasteners for easy installation and maintenance.

Configuration:
Two filter mats with Velcro fastener.

Enclosure widths inches/mm	Part No. QR
24 – 32/600 – 800	**7526.987**





Modular network enclosures

The modular network enclosure offers the ideal basis for combined installation. The 32″/800 mm width provides plenty of wiring space at the side of the mounting panels, while the depth of 36″/900 mm supports the installation of servers between the 19″ mounting levels using the original server installation kit (maximum distance between levels 30.71″/780 mm).

For interior installation, there is also a choice of 19″ mounting rails either across the entire height or for partial installation in the top half of the rack. Component shelves with a load capacity of 220 lbs/100 kg may be attached to the enclosure frame. Combination with heavy-duty telescopic slides is also possible. The divided component shelf, available as an accessory, provides a support surface for two tower enclosures adjacent to one another which may be pulled out individually on telescopic slides. In addition to the standard doors, passive climate control can also be achieved with vented doors. If passive ventilation via the vent slots in the front doors and the slotted rear door is not enough, a maximum of six fan extension kits may be added to the roof panel.

Modular network enclosure		Page
U	25/43	
Height inches/mm	79/2000 + 142	
Width inches/mm	32/800	
Depth inches/mm	36/900	
Part No. FR	**7842.900***	

Configuration		
1 Rittal flexRack enclosure frame	●	
1 viewing door at the front, of sheet steel, unvented, with .16″/4 mm single-pane safety glass and **Ergoform-S handle** with lock insert, 180° hinges	●	
1 sheet steel door, at the rear, unvented, with **Ergoform-S handle** and lock insert, 180° hinges	●	
1 base/plinth vented at the front, with 4 leveling feet	●	
1 roof panel with vent panel for a maximum of 6 fans and sliding angle bracket for cable entry	●	
4 clip-on rails, fitted	●	

Additional accessories (rack mounted)	PU		
19″ inside installation, full height: L-shaped mounting angles front and rear, each on 3 depth stays, 50 captive nuts and M6 screws	1 set	43 U [2] **7842.943***	
19″ inside installation, partial installation at the top: L-shaped mounting angles front and rear, each on 2 depth stays, 50 captive nuts and M6 screws	1 set	25 U **7842.925***	
Vented rear doors (instead of standard doors): Glazed door with vent slots and rear door, vented	1 set	**7842.910***	
System accessories			
Sidewalls, with quick-release fasteners	2	7880.500	717
Security locks for sidewalls	4	2102.395	717
Vertically divided glazed door with central aluminum section and central locking rod	1 set	**7940.200**	–
Component shelf, vented [1], 26.42 x 27.55″/671 x 700 mm, 220 lbs/100 kg load capacity	1	7486.735	986
Divided component shelf [1], 2 shelves each 12.60 x 19.69"/320 x 500 mm, 2 x 66 lbs/30 kg load capacity, including telescopic slides	1	7183.215	987
Mounting kit [1], for component shelves	1 set	7952.900	988
Component shelves for two 19″ surfaces, 16.10 x 27.56″/409 x 700 mm, 110 lbs/50 kg load capacity	1	7145.735	991
Variable mounting kit for component shelf 16.10 x 27.56″/409 x 700 mm	1 set	7952.090	992
Variable server rails	2	7063.850	1033
Variable slide rails to support 19″ components	2	7063.880	767
Fan expansion kit	1	7980.000	720
Earth/grounding kit with ground bus, pre-configured	1 set	7278.880	731
Gland panel for cable entry, 3-part	1 set	7875.900*	723
Cable clamp rails for the enclosure width	4	7896.000	729
Cable clamp rails for the enclosure depth	4	7899.000	729
CMC Computer Multi Control monitoring system	1	7200.100	828

[1] Only for enclosures without mounting rails or with partial installation. [2] Must be offset for full use. * Lead times upon request.

Rittal flexRack, 36″/900 mm deep

Accessories:

see pages 714 – 731.

Additional accessories,
see pages 876/877.

Door opening angles:
Front door 120° (bayed)
Rear door 120° (bayed)

Material:
- Enclosure frame of extruded aluminum sections
- Roof panel, rear door, side-walls and gland panels of sheet steel
- Die-cast corner pieces

Finish:
E-coat primer, textured enamel.

Color:
Sheet steel parts RAL 7035 light grey,
extruded aluminum sections and die-cast corner pieces RAL 5018 teal.

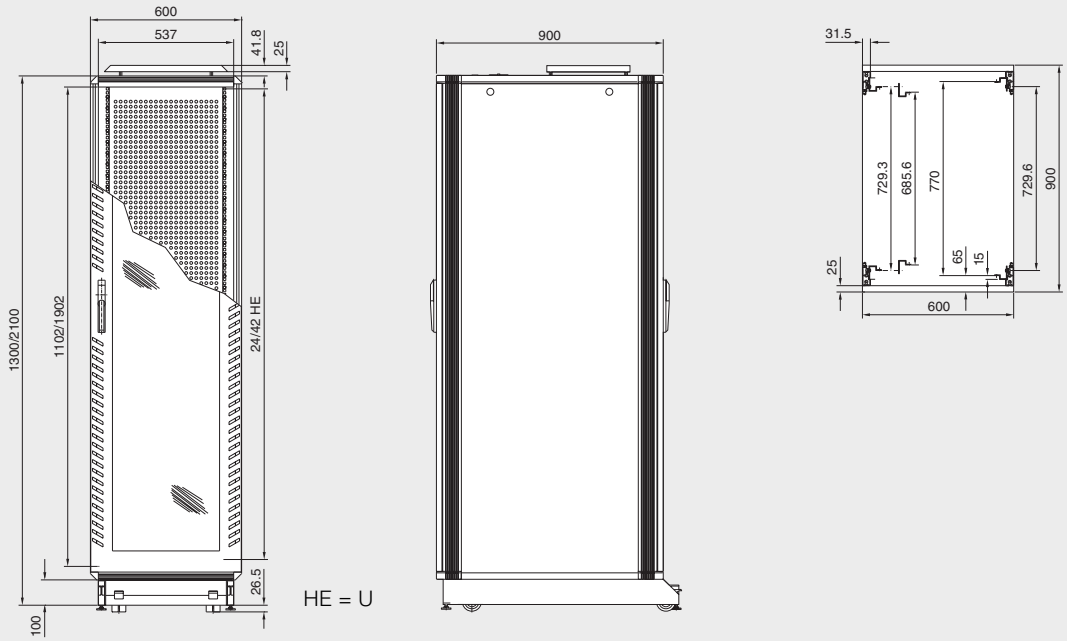
Available on request:
- Special sizes and special finishes.
- Server enclosures fitted to order with Rittal system accessories.

Earth/grounding kit with equipotential grounding rail for conductive connection of all metal parts.
Details on page 731.

Optional **vented front and rear door** installed instead of the standard doors.

19″ mounting rails mounted at the front and rear as an accessory component.

FR 7880.125 / FR 7880.205 / FR 7880.210 (without base/plinth and sidewalls)



Rittal flexRack server enclosures

This new generation of server enclosures provide a universal solution for all 19″ computer systems, offering attractive protection of hardware and software, coupled with new features for cable entry and ventilation. With the option of passive ventilation via the glazed door with vent slots and the slotted rear door, active ventilation is quickly achieved with the new roof panel. After removing the blanking panels, the fan expansion kit is inserted, which pushes the hot air outwards via the vent panel. Cable entry can be achieved via the roof panel with sliding angle bracket; and via the base/plinth through cutouts with brush insert. The front and rear doors are equipped with an Ergoform-S handle and safety lock, while complex monitoring of the valuable equipment is achieved via the network with the CMC Computer Multi Control monitoring system. By using the Server Switch Control (SSC), several computers can be administered centrally, with a single console replacing all the others.

Server enclosures				Page
U	24	42	42	
Height inches/mm	47/1200 + 142 mm	79/2000 + 142 mm	79/2000	
Width inches/mm	24/600	24/600	24/ 600	
Depth inches/mm	36/900	36/900	36/ 900	
H1 mm	1102	1902	1902	
Part No. FR	**7880.125**	**7880.205**	**7880.210**	

Configuration				
1 Rittal flexRack enclosure frame	●	●	●	
1 viewing door at the front, of sheet steel, vented, with .16″/4 mm single-pane safety glass and **Ergoform-S handle** with lock insert, 180° hinges	●	●	●	
1 sheet steel door at the rear, slotted for ventilation, with **Ergoform-S handle** and lock insert, 180° hinges	●	●	●	
2 sidewalls, with quick-release fastener	●	●		
1 mobile base/plinth on casters with front extension and cable entry gland, depth 935 mm	●	●		
1 roof panel with vent panel and sliding angle bracket for cable entry, with 6 fan cutouts	●	●	●	
1 pair of 19″ mounting rails, front, secured to the frame	●	●	●	
1 pair of 19″ mounting rails, rear, secured to the frame	●	●	●	
4 clip-on rails, each mounted on the second mounting level	●	●	●	
1 ground bus with star earth/grounding of all enclosure flat parts	●	●	●	

Accessories	PU				
Sidewalls with quick-release fastener	2	–	–	7880.500	717
Security locks for sidewalls	4	2102.395	2102.395	2102.395	717
Base/plinth 4″/100 mm high, unvented, stationary	1	–	–	7880.600	721
Variable server rail	2	7063.850	7063.850	7063.850	1033
Mounting kit for 19″ component shelves	1 set	2102.300	2102.300	2102.300	992
19″ component shelves, 28″/700 mm deep	1	7145.735	7145.735	7145.735	991
Depth bars for mounting rails offset in the depth	6	2102.420	2102.420	2102.420	724
Fan expansion kit	1	7980.000	7980.000	7980.000	720
Slide rails to support 19″ installed equipment	2	2102.560	2102.560	2102.560	728
Cable clamp rails for the enclosure width	4	7895.000	7895.000	7895.000	729
Cable clamp rails for the enclosure depth	4	7899.000	7899.000	7899.000	729
CMC Computer Multi Control monitoring system	1	7200.100	7200.100	7200.100	828
Server Switch Control (SSC) mini (SSC) multi-console changeover switch	1	7551.000	7551.000	7551.010	760

Rittal flexRack

Door opening angles:
Front door 120° (bayed)
Rear door 120° (bayed)

Material:
- Enclosure frame of extruded aluminum sections
- Roof panel, rear door, sidewalls and gland panels of sheet steel
- Die-cast corner pieces

Finish:
E-coat primer, textured enamel.

Color:
Sheet steel parts RAL 7035 light grey; extruded aluminum sections and die-cast corner pieces RAL 5018 teal.

Available on request:
- Special sizes and special finishes.
- Server enclosures fitted to order with Rittal system accessories.

Accessories:
see pages 714 – 731.

Additional accessories, see pages 876/877.

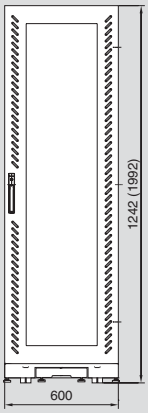
Mounting rails for
19″ configurations, secured to the frame section at the front and rear.

Cable entry
at the rear and internally via brush strips.

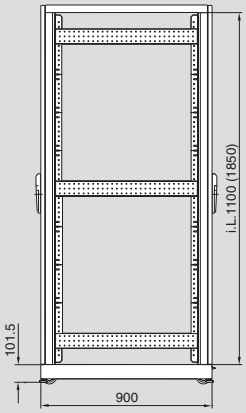
Mobile base/plinth
with lockable casters, extendible stabilizer and leveling feet.

QR 7528.935 (QR 7528.900)

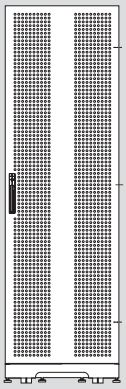
Front view



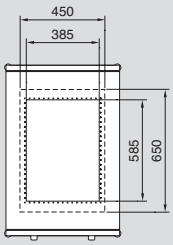
Side view



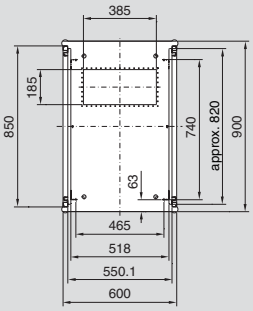
Rear view



Top view



Section



i. L. = Clearance width

Rittal QuickRack server enclosures
The QuickRack server enclosure with a depth of 36″/900 mm offers plenty of space to accommodate a wide range of computer systems. A mobile base/plinth with pull-out stabilizer integrated into the frame section ensures easy transportation and secure siting of the enclosure at the point of use, even when populated. Vented front and rear doors facilitate climate control of the servers. This can be reinforced via the use of fan modules in the roof frame.

The modular configuration of the roof and base frame allows you to design your own individual solutions.
Interior installation of the enclosures is implemented via fully depth-variable attachment to the two 19″ levels or with the use of component shelves.
Safety locks protect the systems from unauthorized access. Sidewalls with recessed handles or adaptor covers complete the enclosure. Baying is supported.

The server rack for PRIMERGY offers further optimized air throughput thanks to its special front door, recessed viewing window and special air routing. A roof panel raised with spacers and fitted side-walls with safety lock are included with the standard configuration.

Server enclosures			**PRIMERGY server enclosure (photo bottom right)**	Page
U	23	41	41	
Height inches/mm	48.89/1242	78.43/1992	78.43/1992	
Width inches/mm	24/600	24/600	24/600	
Depth inches/mm	36/900	36/900	36/900	
Part No.	**7528.935** [2]	**7528.900** [2]	**7528.950**	

Configuration				
1 Rittal QuickRack enclosure frame, welded	●	●	●	
1 vented viewing door, with .12″/3 mm single-pane safety glass, with safety lock at the front and 130° hinges, painted RAL 7035 light grey	●	●		
1 vented viewing door, with acrylic viewing window recessed inwards and special air routing for increased air throughput, safety lock and 130° hinges, painted RAL 9011 graphite black			●	
1 vented rear door of sheet steel, with security lock and 130° hinges	●	●	●	
1 roof frame for modular insert panels [1) 2)], for individual configuration	●	●	●	
1 solid roof panel, raised with spacers for passive ventilation, painted RAL 9011 graphite black			●	
1 base frame for modular insert panel [1) 2)], for individual configuration	●	●	●	
6 leveling feet for uneven floors, pre-installed into the base frame	●	●	●	
2 sidewalls, with security lock and recessed handle, painted RAL 9011 graphite black			●	
2 pairs of 19″ mounting rails, front and rear, mounted on 2 depth bars per side, depth-variable	●			
2 pairs of 19″ mounting rails, front and rear, mounted on 3 depth bars per side, depth-variable		●	●	
4 transport casters, built into the base frame	●	●	●	
1 pull-out stabilizer, pre-installed into the base frame	●	●	●	
Accessories for QuickRack server enclosures				
2 sidewalls, with security lock and recessed handle, painted in RAL 7035 light grey	**7526.957** [2]	**7526.958** [2]	–	758
1 adaptor cover, 4″/100 mm wide, with integral cable management, painted in RAL 7035	–	**7526.959** [2]	**7526.959** [2]	758
2 cable clamp rails, for the enclosure depth, for cable clamping with cable ties	**7526.946**	**7526.946**	**7526.946**	758
2 combination rails, for the enclosure width, for cable clamping with cable ties or cable clamps	**7526.930**	**7526.930**	**7526.930**	750
1 depth-variable installation kit for 19″ component shelves, 110 lbs/50 kg	**7063.860**	**7063.860**	**7063.860**	767
2 slide rails, vented, 28.50″/724 mm deep	**7963.700**	**7963.700**	**7963.700**	1033
1 baying kit	**7526.965**	**7526.965**	**7526.965**	751
1 complete earth/grounding kit	**7526.981**	**7526.981**	**7526.981**	750
Design variant QuickRack, but with vented designer glazed door, spray finished in RAL 7035 light grey	**7528.910***	**7528.911***	–	

Additional accessories:
Installation kits for PRIMERGY server, see page 759.

[1)] See pages 746/747. [2)] Also available in RAL 9011 graphite black on request. * Lead times upon request.

Rittal QuickRack

Accessories:

see pages 758/759.

Additional accessories,
see pages 876/877.

Door opening angles:
Front door 130° (bayed)
Rear door 130° (bayed)

Material:
16 ga/1.5 mm sheet steel

Finish:
Painted RAL 7035 light grey or RAL 9011 graphite black (PRIMERGY)

Design options:
- Surface finish RAL 9011 graphite black.
- Specially designed front door, half viewing half vented.

Mobile base/plinth with leveling feet and pull-out stabilizer for optimum operational safety built into the frame.

Special designer glass door option.

Server rack for PRIMERGY with special front door
Additional ventilation via the all-round ventilation strip in the recessed viewing window.

For QuickRack server cabinets

Sidewalls

The sidewalls contain quick-release fasteners with safety lock and a recessed handle. They are mounted by simply inserting and locking, and allow for fast access from the sides.

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

Also available in RAL 9011 graphite black upon request.

Configuration:
2 sidewalls including quick-release fasteners with lock insert.

Enclosure height inches/mm	Enclosure depth inches/mm	Part No. QR
48.90/1242	36/900	**7526.957**
78.43/1992	36/900	**7526.958**

Adaptor cover with cable management

For side extension of the cable chamber by 4″/100 mm. With brush inserts at the top, sliding panel at the bottom and safety locks.
The enlarged interior facilitates optimum cable management via the integration of a cable clamp rail in the cover and offers width variability for stand-alone solutions. Integrated vent slots also help to improve heat dissipation.

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

Also available in RAL 9011 graphite black upon request.

Configuration:
Adaptor cover including quick-release fasteners with lock insert.

Enclosure height inches/mm	Enclosure depth inches/mm	Part No. QR
78.43/1992	36/900	**7526.959**

Lead times upon request.

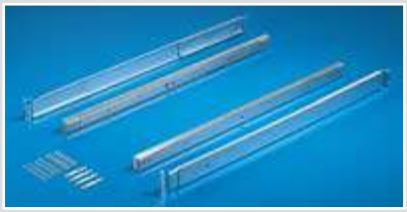
Cable collecting rails, for 36″/900 mm deep cabinets

Cable collecting rail with T-head for attaching cables with cable clamps or cable ties. The built-in .63″/16 mm increment system hole pattern is available for additional installation surface and flexible cable routing with Velcro fasteners.

Material:
Sheet steel, galvanized, chromated

Position	PU	Part No. QR
Enclosure depth	2	**7526.946**

Configuration:
Cable collecting rail with installation hardware.



Server installation kits

For server and storage systems in the "PRIMERGY" series.
These complete installation kits are screwed directly to the 19″ mounting rails of the server cabinets and onto the server via telescopic slides. The installation kits are depth-variable, to enable the assembly of combined systems, as well as combination with enclosure-specific slide rails.

Other enclosure systems:
The server installation kit can be installed in all 36″/900 and 40″/1000 mm deep cabinets with **L-shaped** mounting rails and a distance between levels of 28.54 – 30.31″/725 – 770 mm.
For PRIMERGY servers in the 870 series, the required distance between levels is 28.60 – 30.31″/726.5 – 770 mm.

Material:
Sheet steel, galvanized, chromated.

Configuration:
Installation kit including telescopic slides and installation hardware.

Application table for servers in the Fatigues Siemens Computer GmbH "PRIMERGY" series in Rittal enclosures:

Server name	Part No. DK
PRIMERGY S10, S30, S60, N70, 070R, B100, 170, 180, B200, B210, 701, 702, 760, 840	No installation kit required. To attach, please select slide rails to match the enclosure type and the preferred distance between levels
PRIMERGY E200, 270, 470	**DK 7063.900**
RC 20 operator console	
RC 21 operator console	
1 U cable base	
RM300-Exx	
PRIMERGY from 09.99: H200, H400, 620, 640, 670, 670-20, 670-40	**DK 7063.920**
PRIMERGY storage subsystem S40	**DK 7063.930**
PRIMERGY 6xx before 09.99	
PRIMERGY N70-40	**DK 7063.910**
PRIMERGY N200, N400	**DK 7063.960**
PRIMERGY N800, K800	**DK 7063.950**
PRIMERGY K400, 870, 870 Edition, 870-40	**DK 7063.940**
RM400-Exx	

19″ partial installation

When configuring combined server architecture from different manufacturers, different spaces between front and rear rails may be required. For each partial installation, 4 mounting brackets and 4 depth bars are required. Installation is completely depth-adjustable.

Material:
Sheet steel, galvanized, chromated.

Configuration:
Mounting rails or depth stays including installation hardware.

Mounting rails, 10 U
for partial installation

PU	Part No. QR
2	**7526.339**

Depth bars
for 36″/900 mm deep QuickRacks

PU	Part No. QR
2	**7526.977**

Using the Rittal SSC means that only one keyboard, one monitor and one mouse is required. Computer access becomes easier, more effective and more cost-efficient. Space and human resources are used to optimum effect. The new Rittal SSC generation offers individual design scope as well as investment security for the future. As the number of computers increases, the SSC easily grows with it by cascading. The basic model, the SSC mini, offers 4 channels and an integral hot-key function. The SSC multi, a multi-talented all-rounder, additionally has 4/8/16 channels, an OSD menu, auto scan, auto skip and multi-platform capabilities. In this way, various different computer platforms can be connected without the need for converters. The multi-console capability permits a second Cat 5 console on the SSC multi.
As a hardware changeover switch, the Rittal SSC utilizes the keyboard, monitor and mouse interfaces of the computer, irrespective of the software and operating system.

Installation is based on the plug & play compatibility system by simply plugging in the cable. Complex programming of the cascades is therefore eliminated.
The use of high-quality components ensures maximum video bandwidths for various resolutions, and also represents an investment in the future. The SSC multi is ideal for use in a multi-vendor server environments with various platforms such as PS/2 and IBM-compatible, HP 9000, sgi, SUN, RS 6000, DEC Alpha and laptop systems.
Processor-assisted keyboard and mouse emulation for each channel ensures fault-free booting and reliable switching between the connected computer types. The hot-plug capability allows the SSC system to be extended while the system is live.

Dimensions:
(H x W x D)
1.73 x 19 x 7.87″/44 x 482.6 x 200 mm

Material:
Housing: sheet steel

Finish:
Painted RAL 7035 light grey

Special options:
- ● Converter for Apple Mac and USB interface.
- ● Distance bridging via fiber-optics.
- ● Global access for remote server maintenance.

Rittal Server Switch Control SSC	**SSC mini 4**	**SSC multi 4**	**SSC multi 8**	**SSC multi 16**
Number of computers in stand-alone mode	4	4	8	16
Number of computers in cascade configuration (identical types/maximum)	–/64	16/64	64/128	256/256
Number of local operating consoles	1	1	1	1
Additional remote consoles (concurrent)	–	1	1	1
Integral remote console booster, Cat 5 port	–	●	●	●
Status displays	LEDs	OSD menu	OSD menu	OSD menu
On-screen menu (OSD)	(●)	●	●	●
Keyboard hot-key operation	●	●	●	●
Auto scan/auto skip	(●)	●	●	●
Free server name allocation	(●)	●	●	●
Password protection	(●)	●	●	●
Allocation of user rights	(●)	●	●	●
Keyboard and mouse emulation by 1 processor in each case	●	●	●	●
Combined operation of various different server platforms is supported	●	●	●	●
Direct connection of PS/2, SUN, HP 9000, RS 6000 and sgi servers – no adaptor required	–	●	●	●
Independent from the software and operating system	●	●	●	●
Stay live function in case of power loss	●	●	●	●
Compatible with the CMC DK 7200.100	(●)	●	●	●
Power supply via	Keyboard output	Mains cable	Mains cable	Mains cable
Maximum video resolution (depending on distance) at 85 Hz	1600 x 1280	1600 x 1280	1600 x 1280	1600 x 1280
Bandwidth	250 MHz	250 MHz	250 MHz	250 MHz
Part No. DK	**7551.000**	**7551.010**	**7551.020**	**7551.030**

Accessories				
CPU cable for video (HD15), PS/2 keyboard and PS/2 mouse [2], 1 m	7551.110	7551.110	7551.110	7551.110
CPU cable for video (HD15), PS/2 keyboard and PS/2 mouse [2], 2 m	7551.120	7551.120	7551.120	7551.120
CPU cable for video (HD15), PS/2 keyboard and PS/2 mouse [2], 4 m	7551.140	7551.140	7551.140	7551.140
CPU cable for video (HD15), PS/2 keyboard and PS/2 mouse [2], 6 m	7551.160	7551.160	7551.160	7551.160
CPU cable for video (HD15), PS/2 keyboard and PS/2 mouse [2], 9 m	7551.190	7551.190	7551.190	7551.190
CPU cable for SUN video (HD15), mini DIN 8 keyboard/mouse, 1 m	–	7551.111	7551.111	7551.111
CPU cable for SUN video (HD15), mini DIN 8 keyboard/mouse, 2 m	–	7551.121	7551.121	7551.121
CPU cable for SUN video (HD15), mini DIN 8 keyboard/mouse, 4 m	–	7551.141	7551.141	7551.141
CPU cable for SUN video (HD15), mini DIN 8 keyboard/mouse, 6 m	–	7551.161	7551.161	7551.161
CPU cable for SUN video (HD15), mini DIN 8 keyboard/mouse, 9 m	–	7551.191	7551.191	7551.191
230 V connection cable with grounding-pin plug and IEC 320 connector, version D	–	7200.210	7200.210	7200.210
Remote console receiver module, desktop, transmission via 1 x Cat 5, up to 200 m	–	7551.900*	7551.900*	7551.900*
Transmission kit (sender and receiver) up to 200 m (Cat 5)/up to 300 m (coax)	upon request	upon request	upon request	upon request
Console cable kit for passive extension, 2, 5, 7, 10 m	upon request	upon request	upon request	upon request

[2] Adaptor for serial mouse and DIN 5 keyboard enclosed. (●) In conjunction with a SSC multi. * Lead times upon request.

Rittal SSC mini/SSC multi

The benefits at a glance:

- Cost-effectiveness
- Investment security
- Hot-plug capabilities
- Multi-platforming
- Multi-console capabilities
- Intuitive operation
- Individually configurable
- Plug and play installation
- Uncompromising quality
- Compatible with the CMC.

With the CMC/SSC connections, the network configuration or display of status messages/ temperatures etc., can be viewed on the monitor via the OSD function of the SSC. Furthermore, the CMC is able to forward alarm messages from the SSC (computer active/inactive) within the network via ICP/IP or SNMP.

CE

Accessories:

see pages 762/763.

OSD menu for direct access, name allocation, access rights and parametric setup.

Variable mounting bracket for flexible mounting in the side-wall or enclosure depth.

Cat 5 interface in SSC multi for remote console in conjunction with Cat 5 receiver module.

System concepts

Based on the Rittal SSC mini 4 as a starter application (4 channels), a more complex system can be retrofitted at any time with the convenient Rittal SSC multi, by means of cascading. The SSC mini is connected as a slave to any SSC multi as the master.

The OSD menu of the SSC multi is also made available to the connected slaves. Thanks to simple registration of the cascaded switch via OSD, there is no need to program the cascade structure. All SSC multis are also readily cascaded with one another.

Additionally, a second console may be connected via a Cat 5 cable. Lock data in the network can be made available by connecting a CMC to an SSC.

① SSC multi 4

⑤ Remote console receiver module Cat 5

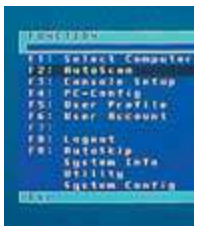
② Power cable 230 V

⑥ CMC connection cable to SSC

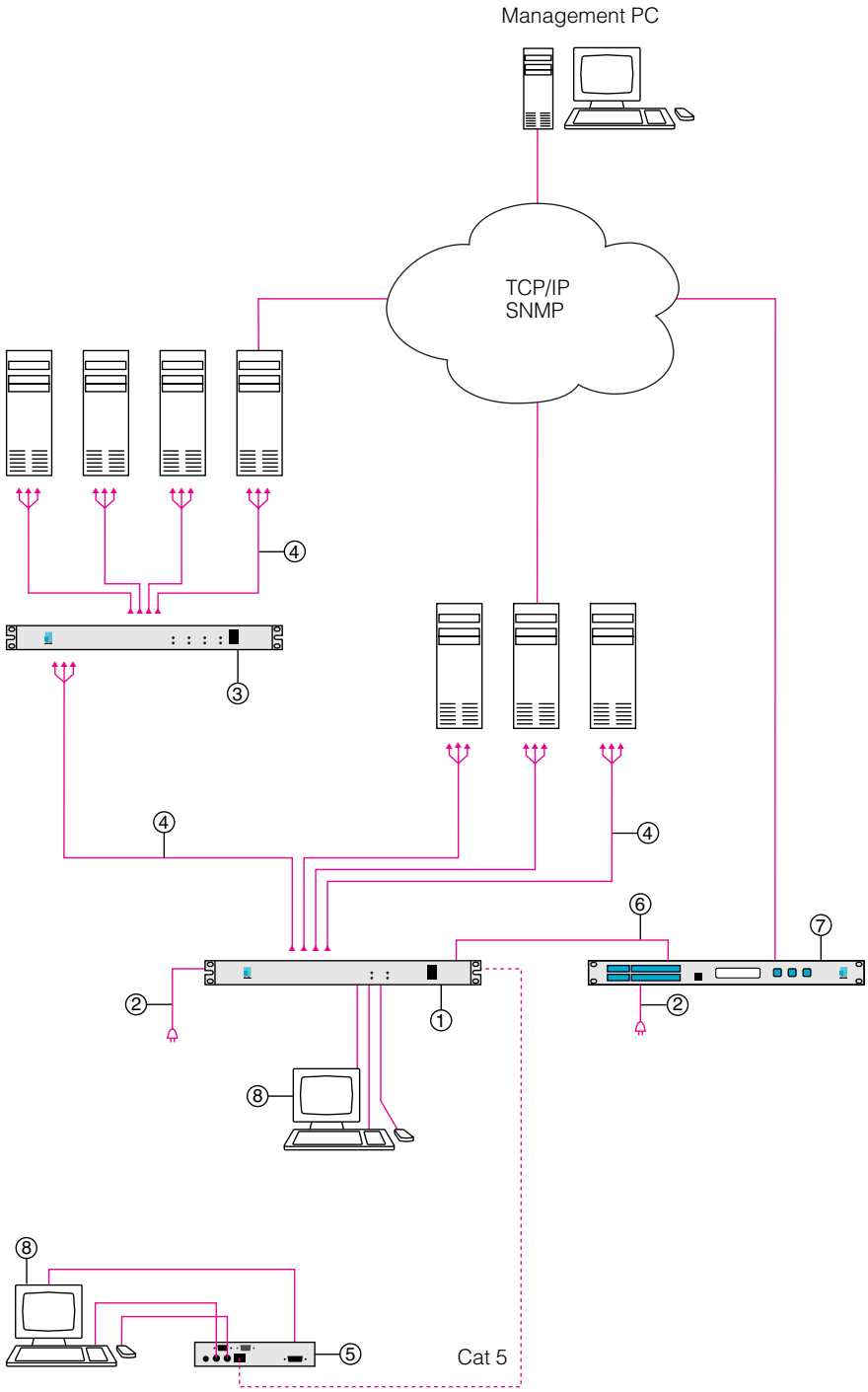
③ SSC mini 4

⑦ CMC with network function

④ CPU cable PS/2 or SUN



⑧ OSD function for access to SSC and CMC



CPU cable (PS/2 + AT)

For connection to a server and when cascading two SSCs. For cascade arrangements, a CPU cable is connected to the console inputs of the slave device. Adaptor for serial mouse and DIN5 keyboard connection included.

Length	Part No. DK
39.37″/1 m	**7551.110**
78.74″/2 m	**7551.120**
157.48″/4 m	**7551.140**
236.22″/6 m	**7551.160**
354.33″/9 m	**7551.190**

Connections
Server end: HD 15 video
PS/2 keyboard
PS/2 mouse
SSC end: Compact multi-contact connector

CPU cable (SUN)

For connection to SUN servers.
13W3 adaptor enclosed.
Not suitable for use with the SSC mini 4.

Length	Part No. DK
39.37″/1 m	**7551.111**
78.74″/2 m	**7551.121**
157.48″/4 m	**7551.141**
236.22″/6 m	**7551.161**
354.33″/9 m	**7551.191**

Connections
Server end: HD 15 video
MiniDIN8 keyboard/mouse
SSC end: Compact multi-contact connector

Remote console receiver module

By using a remote console receiver module, a second console can be positioned at a distance of between 10 m and 200 m (maximum) using a Cat 5 cable.
The Cat 5 transmitter is pre-installed into the SSC multi. Integral video tuning allows picture adjustment with various cable qualities.

Receiver module H x W x D inches/mm	Part No. DK
1.73 x 6.30 x 8.30/ 44 x 160 x 211	**7551.900***

* Lead times upon request.

CE

A transmission kit (transmitter and receiver) is available for the SSC mini 4 upon request.

Connection cable

Power to the SSC multi and CMC is supplied via the connection cable.

Technical data:
PVC cable, 3 pole, with IEC cable coupling (non-heating appliances) with contact protection CEE22.

Configuration:
1 connection cable, length 8.20′/2.5 m.

Country specific models	Voltage V	Part No. DK
D	230	**7200.210**
GB	230	**7200.211**
F/B	230	**7200.210**
CH	230	**7200.213**
USA/CDN	115	**7200.214**

ISP/ASP rack systems

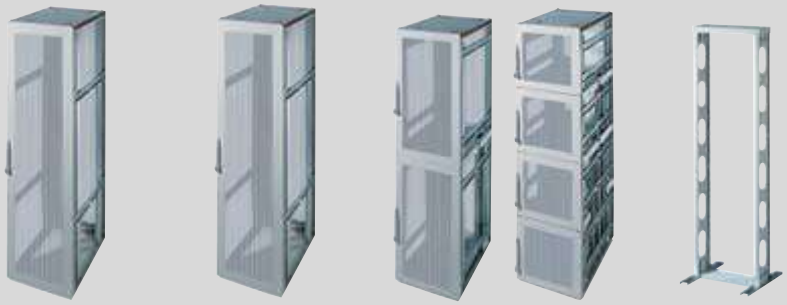
for Internet and application service providers, directly tailored to individual requirements. Racks in 42 and 47 U with one door, 36″/900 and 39″/1000 mm deep, 87″/2200 mm high with two or four separate compartments are available. Maximum access security and fault-free operation of the individual, independent computer systems is ensured due to:

- hermetic shielding of the individual sub-units
- consistently separate routing of the supply and data cables inside cable ducting to the individual compartments.
- individual fitting of the comfort handles with standard semi-cylinders.

Cable entry is ideally achieved via base systems, or alternatively via the rack roof. Vented front and rear doors ensure reliable heat dissipation.
Mounting angles for 19″/482.6 mm or metric (optional) installation are installed with fully variable depth, thus enabling maximum adaptation to current and future requirements.
The power strips required for power supply are fitted behind the cross members with no restriction to the usable height.
Alternatively or additionally, 19″/482.6 mm socket strips may be installed in the 19″/482.6 mm mounting level.

ISP/ASP BasicFrame

Thanks to its flexibility, this open frame offers additional planning reliability. It may be configured as a 19″/482.6 mm or metric (535 mm) system.



ISP/ASP rack systems	ISP/ASP Server rack		ISP/ASP Server rack		ISP/ASP Co-location rack		ISP/ASP BasicFrame	Page
Number of front and rear doors	1		1		2	4	–	
U	42		47		2 x 21	4 x 10	42	
SU	76		84		2 x 37	4 x 17	75	
Height inches/mm	79/2000		87/2200		87/2200		79/2000	
Width inches/mm	24/600		24/600		24/600		24/600	
Depth inches/mm	36/900	40/1000	36/900	40/1000	36/900		24/600	
Part No. DK	**7831.436**	**7831.438**	**7831.440**	**7831.442**	**7831.450***	**7831.460***	**7831.480**	
Configuration								
Enclosure frame to accommodate 19″/482.6 mm or metric (535 mm) mounting components	●		●		●			
Open frame for 19″/482.6 mm or metric (535 mm) mounting components							●	
19″/482.6 mm mounting rails front and rear, variable depth, attached on four support strips per compartment	●		●		●			
Vented sheet steel door front and rear, including comfort handle for semi-cylinders and security lock	●		●		●			
Partitioning panels between the individual compartments					●			
Protected cable routing into each compartment via cable trunking					●			
Separate routing of data cables and power supply cables	●		●		●			
Roof panel with the option of cable entry in the corners	●		●		●			
Accessories								
Sidewalls, plug-type, with T-lock	7824.209	7824.200	7824.229	7824.220	7824.229		–	904
Security lock 3524 E for plug-in sidewalls	7824.500		7824.500		7824.500		–	904
Base assembly bracket to anchor the enclosure	8800.210		8800.210		8800.210		–	899
Mounting angle, metric	7831.631		7831.641		7831.621	7831.611	–	767
19″/482.6 mm power strip for mounting underneath the base, various versions – see pages 1006/1007.								

* Lead times upon request.

Server Rack, Co-location Rack, BasicFrame

Accessories:

see pages 766/767.

Additional accessories, see pages 876/877.

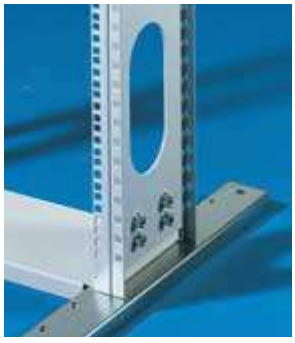
Material:
Sheet steel

Finish:
Enclosure frame:
E-coat primer in RAL 7044 silk grey
Enclosure panels:
E-coat primer in RAL 7044 and powder painted RAL 7035 light grey
Mounting rails and system chassis with mounting flanges: galvanized, chromated

Door opening angle:
Front and rear doors 130°, 105° when bayed.

Partition to divide the bayed enclosures, with the option of cable entry.

Separate cable routing via separate cable trunking for data cables and power supply cables into each compartment.



ISP/ASP BasicFrame To accommodate metric or 19″/482.6 mm mounting components.

For ISP/ASP Racks

Partition wall

for side partitioning of bayed ISP racks. Up to 8 cable glands to the adjacent rack are possible, covered with blanking panels.

Material:
Sheet steel

Finish:
Galvanized

H x D inches/mm	PU	Part No. DK
87 x 36/2200 x 900	1	**7831.715***

* Has to be delivered installed in an enclosure.

TS 8 comfort security handle

The handle offers targeted access control via the 3-digit code, facilitating access to the enclosure without a key. Furthermore, a master key function permits independent access at any time, using a semi-cylinder to DIN 18 254.

Color:
RAL 7035 light grey

PU	Part No. DK
1	**7200.800**

19″ system monitor/ keyboard drawer 1 U, pull-out

The monitor/keyboard drawer with 19″ compact keyboard (including numeric keypad!) and integral fold-up active 15″ TFT screen and touchpad offers a comfortable and space-saving solution for mobile computer access. With a depth of just 480 mm, it is simple to install in 600 – 1000 mm deep cabinets. The installation kits included in the supply can be adjusted to the existing spacing of 530 – 850 mm between the 19″ mounting surfaces. The drawer can be locked when closed, thus offering protection against unauthorized access. The monitor automatically switches off when folded down. The unit is equipped with German keyboard layout, country-specific versions available on request.

Version	PU	Part No. DK
RAL 7035	1	**7063.975**
Black	1	**7063.980**

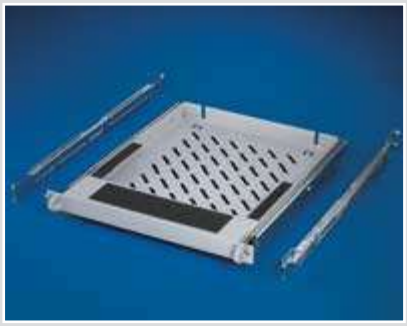
Technical specifications of monitor:*
15.1″/38.1 cm TFT panel
with anti-glare glass screen
Max. resolution 1024 x 768
Colors: 16.7 million
Brightness: 250 cd/m^2
Contrast ratio: 400 : 1
Supply voltage: 90 – 260 V AC, 50 – 60 Hz
* Subject to changes due to technical progress.

Rear connections:
Mains power (IEC 320 connector)
Video input (15-pole sub-D, female)
Keyboard (PS/2, female)
Mouse (PS/2, female)

Material: Sheet steel

Finish: Painted

Configuration:
19″ keyboard drawer fully equipped, installation hardware.



19″/482.6 mm keyboard drawer

Keyboard drawer for installing on the 19″/482.6 mm mounting rails front and rear. Suitable for standard keyboards larger than 19″/482.6 mm. Keyboard support with non-slip base, plus trackball support. Depth-variable installation from 26 – 34″/ 650 – 850 mm distance between levels.

PU	Part No. DK
1	**7063.888**

Material:
Sheet steel

Finish:
Painted RAL 7035 light grey

Configuration:
Drawer with installation hardware, keyboard not included.

Mounting rails, metric

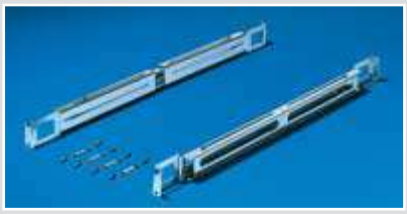
For front and rear mounting of metric equipment (515 mm) in place of the existing 19″ mounting rails.

Material:
Sheet steel

Finish:
Galvanized, chromated

Configuration:
Mounting rails,
including installation hardware.

SU	PU	Part No. DK
17	2	**7831.611**
37	2	**7831.621**
76	2	**7831.631**
84	2	**7831.641**



Depth-variable installation kit for 19″/482.6 mm component shelves

Infinitely adjustable to match the spacing between the 19″/482.6 mm mounting levels.
Suitable for all 19″/482.6 mm component shelves in 16.10″/409 mm width. May also be combined with telescopic slides.

Material:
Sheet steel

Finish:
Galvanized, chromated

Configuration:
2 mounting rails,
installation hardware included.

Length inches/mm	Load capacity lbs/kg	Part No. DK
16 – 24/ 400 – 600	110/ 50	**7063.858**
24 – 34/ 600 – 850		**7063.860**
	220/100	**7063.890**

PU = 1 set

Accessories:

19″/482.6 mm component shelves,
see page 991.

Telescopic slides,
see page 986.

Depth adjustable slide rail

The slide rail facilitates flexible integration of 19″/482.6 mm components without loss of installation height. Installation of the slide rail is independent from the enclosure system, since the installation length can be flexibly adapted to suit the chosen distance between levels.

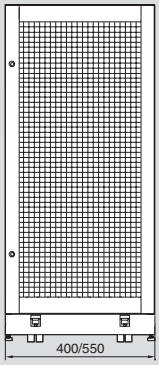
Material:
Sheet steel

Finish:
Galvanized, chromated

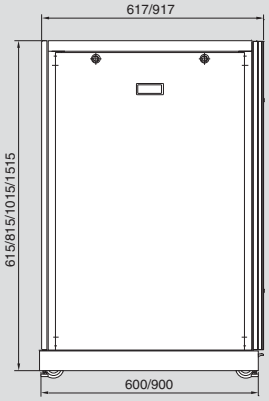
Configuration:
2 slide rails,
including installation hardware.

Length inches/mm	Load capacity lbs/kg	Part No. DK
16 – 24/ 400 – 600	110/50	**7063.878**
24 – 36/ 600 – 900	176/80	**7063.880**

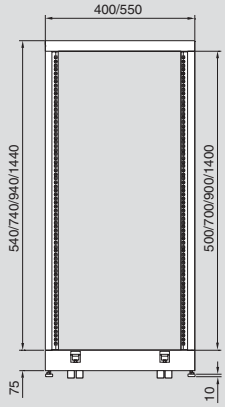
Front view
with aluminum front door



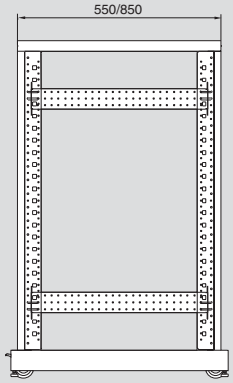
Side view
with sidewall



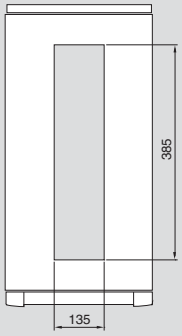
Front view
without door



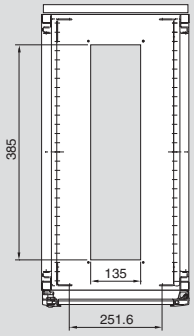
Side view
frame



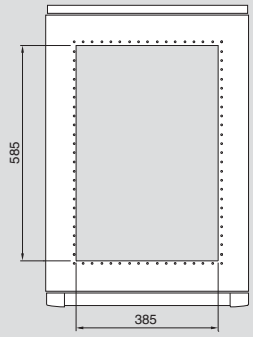
Top view
with roof panel



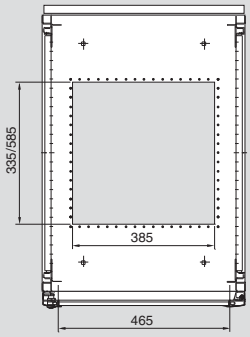
Top view
cross-section



Top view
with roof panel



Top view
cross-section



Sample configuration of module panels:
(For other combinations
see page 746).

Base

Roof

IT Tower									Page
System	1/2 19″	1/2 19″	19″	19″	19″	19″	19″	19″	
U	10	19	14	14	19	19	30	30	
Height inches/mm	24/600	40/1000	32/800	32/800	40/1000	40/1000	59/1500	59/1500	
Width inches/mm	16/400	16/ 400	22/550	22/550	22/ 550	22/ 550	22/ 550	22/ 550	
Depth inches/mm	24/600	24/ 600	24/600	36/900	24/ 600	36/ 900	24/ 600	36/ 900	
Part No. DK with sheet steel door and rear panel, solid (not shown)	**7285.110**	**7285.115**	**7285.160**	**7285.190**	**7285.165**	**7285.195**	**7285.168**	**7285.198**	
Part No. DK with front door and rear panel, vented	**7285.210**	**7285.215**	**7285.260**	**7285.290**	**7285.265**	**7285.295**	**7285.268**	**7285.298**	
Part No. DK with glazed door and rear panel, solid	**7285.310**	**7285.315**	**7285.360**	**7285.390**	**7285.365**	**7285.395**	**7285.368**	**7285.398**	
Configuration									
Rittal IT Tower enclosure frame, welded	●	●	●	●	●	●	●	●	
Open roof and base frame for fitting with a module panel	●	●							
Open roof and base frame for fitting with 2 or 3 module panels			●	●	●	●	●	●	
19″/482.6 mm mounting rails front and rear, variably mounted on depth bars			●	●	●	●	●	●	
1/2 19″/269.2 mm mounting rails front and rear, variably mounted on depth bars	●	●							
Transport casters, fitted, lockable at the front			●	●	●	●	●	●	
Leveling feet, installed	●	●	●	●	●	●	●	●	
Accessories									
Sidewalls, lockable	**7285.410**	**7285.465**	**7285.460**	**7285.490**	**7285.465**	**7285.495**	**7285.468**	**7285.498**	–
Individual base/cover module panel, solid	7526.760	7526.760	7526.760	7526.760	7526.760	7526.760	7526.760	7526.760	746
Individual base/cover module panel, with brush strip	7526.850	7526.850	7526.850	7526.850	7526.850	7526.850	7526.850	7526.850	746
Individual base/cover module panel, slotted	7526.829	7526.829	7526.829	7526.829	7526.829	7526.829	7526.829	7526.829	746
Individual base/cover module panel, with 2 fans	7526.900	7526.900	7526.900	7526.900	7526.900	7526.900	7526.900	7526.900	747
Module compensating panel, depth 2″/50 mm	–	–	–	7526.750	–	7526.750	–	7526.750	746
Partition base, solid	**7285.475**	**7285.475**	**–**	**–**	**–**	**–**	**–**	**–**	–
Installation kit for 19″/482.6 mm component shelves*	–	–	7063.858	7063.860	7063.858	7063.860	7063.858	7063.860	767
Depth-variable slide rail, 19″/482.6 mm, load capacity up to 110 lbs/50 kg	–	–	7063.878	7063.880	7063.878	7063.880	7063.878	7063.880	767
Earth/grounding kit	**7285.440**	**7285.440**	**7285.440**	**7285.440**	**7285.440**	**7285.440**	**7285.440**	**7285.440**	–

* Matching component shelves see page 991/992.

IT Tower

The future markets of telecommunications and computer/telephony integration demand flexible yet secure enclosure solutions. The Rittal IT Tower, available in various sizes, meets these practical requirements quickly and easily. Various door and rear wall combinations and modular roof/base assemblies provide plenty of scope for individual solutions. One new feature is the security concept "IT Tower protection" with the option of integrating a cost-effective, space-saving security system for monitoring fundamental enclosure parameters.

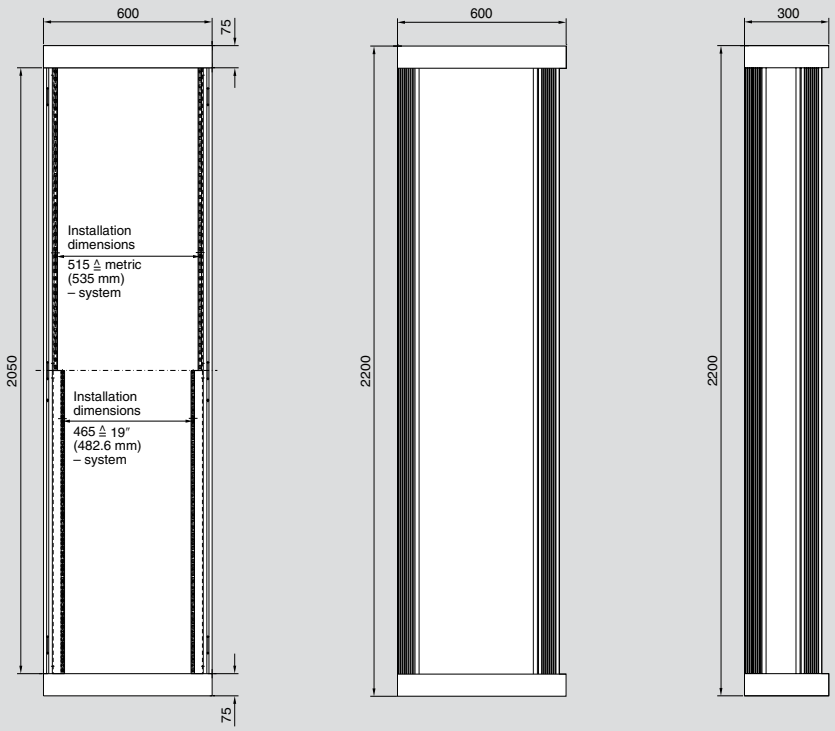
Material:
Sheet steel, painted

Color:
RAL 7035 light grey

Accessories:
see pages 876/877.

Active climate control may be installed to reduce heat inside the enclosure.

The new, space-saving **"IT Tower protection"** plug & play security concept is easily retrofitted, by replacing the upper cross-panel. The enclosure temperature is monitored as standard. Other digital inputs/outputs are provided.
For further information, see page 838.



Technical description/configuration:
Base frame consisting of
4 supporting aluminum uprights.
(The front two uprights are prepared to accommodate doors, while the rear two uprights are prepared to accommodate a rear wall and a ceiling fastener).

1 roof frame and **1 base frame** of 14 ga/2 mm sheet steel, to accommodate the roof/ base cover modules.
Standard installation with cover panel (D 12″/300 mm) or sliding cover panels (D 242″/600 mm).

4 leveling feet of steel/polyamide to compensate for uneven floors.
Roof and base frame powder coated in textured RAL 7035 light grey.
Aluminum uprights natural clear chromated.

Rittal TC Rack	PU			Page
Height and mounting dimensions		2050 mm (46 U/82 SU)	2050 mm (46 U/82 SU)	
Height inches/mm		87/2200	87/2200	
Width inches/mm		24/ 600	24/ 600	
Depth inches/mm		12/ 300	24/ 600	
Part No. DK		**7723.035**	**7726.035**	
Door				
Sheet steel door, front, solid	1	7720.035*	7720.035*	772
Sheet steel door, front, with vent slots	1	7722.035*	7722.035*	772
Sheet steel door, front, with safety glass insert	1	7725.035*	7725.035*	772
Rear/sidewall				
Rear wall	1	7729.235*	7729.235*	772
Sidewalls	2	7713.235	7716.235	772
Roof				
Sheet steel roof, solid	1	①	①	
Roof insert for cable entry	1	②	7701.035	772
Roof insert with ventilation slots	1	7702.035	7702.035	772
Active fan insert	1	7703.035	7703.035	772
Base/plinth				
Base/plinth, solid	1	①	①	
Leveling feet	1	①	①	
Base/plinth insert for cable entry	1	②	7701.035	772
Base/plinth insert with vent slots	1	7702.035	7702.035	772
Active fan insert	1	7703.035	7703.035	772
Interior installation				
Mounting rails, 19″/482.6 mm	2	7758.000	7758.000	772
Metric mounting rails (535 mm)	2	7760.000	7760.000	772
Adhesive measurement strips, 19″/482.6 mm	8	7950.000	7950.000	727
Adhesive measurement strips, metric	8	7951.000	7951.000	727
Depth bars	6	7128.000	7129.000	773
Cable clamp rails for installation in the enclosure width	4	7101.000	7101.000	773
Cable clamp rails for installation in the enclosure depth	4	7090.000	7107.000	773
Cable clamp straps for 19″/482.6 mm	6	7875.400	7875.400	773

① Included in the supply.
② Special designs available on request.

* Lead times upon request.

Rittal TC Racks

US patent
No. 5 513 759
German patent
No. 43 33 027
European pat.
No. 0 645 957
with validity for
FR, GB, IT, NL
Jap. patent
No. 233373/94

Used in conjunction with metric (535 mm) mounting rails, the Telecommunication Rack meets the requirements of ETSI standard 300 119-3.

Accessories:

see pages 772/773.

Additional accessories, see pages 876/877.

Available upon request:

- TC Rack fully fitted with all mounting parts
- Divided front doors
- Custom sizes

Sidewall
To finish off an enclosure unit at the sides.

Installation of all standard **19″/482.6 mm or metric (535 mm) components.**

2 U component shelf
Static installation, 19″/ 482.6 mm.
Part No. see page 989.

For Rittal TC Racks

Door

For front mounting, with 180° hinges, locking rod and double-bit lock insert (may be exchanged for Ergoform-S lock system).

Material:
Sheet steel

Color:
RAL 7035 light grey

* Lead times upon request.
Rear door available on request.

Sheet steel door, front	Part No. DK
Solid	**7720.035***
With ventilation slots	**7722.035***
With safety glass insert	**7725.035***

Lock system	Part No. SZ
Ergoform-S handles RAL 7035	**2435.000**
Lock No. 3524 E	**2467.000**

Rear/sidewalls

To finish off a complete enclosure unit, including assembly material.

Material:
Sheet steel

Color:
Textured enamel, RAL 7035 light grey

For sidewalls DK 7713.235 and DK 7716.235:
US patent no. 5 584 406
German patent no. 43 33 025

	For enclosure depth	PU	Part No. DK
Sidewalls	12″/300	2	**7713.235**
Sidewalls	24″/600	2	**7716.235**

	For enclosure width inches/mm	Part No. DK
Rear wall	24/600	**7729.235***

***** Lead times upon request.

Ceiling mount

Infinitely height adjustable for ceiling fastening of freestanding Rittal TC Racks and for cable routing.
Maximum mounting height of vertical rails: 22″/550 mm

Material: steel, galvanized, chromated.

Part No. DK	7719.000

Configuration:
2 vertical stays, 1 horizontal rail, 2 cable clamp straps, including assembly parts.

Roof and base/plinth insert

The inserts may be fitted in the roof or base/plinth as required.

Material:
Sheet steel

Color:
RAL 7035 light grey

Roof, base/plinth insert	Part No. DK
For cable entry*	**7701.035**
With vent slots	**7702.035**
With active fan insert	**7703.035**

* For Rittal TC Rack DK 7726.035. Special design for DK 7723.035 available upon request.

Mounting angles on a U/SU pitch pattern and T channel mounting angles, 19″/482.6 mm/metric (535 mm)

The mounting angles are simply screwed to the rack upright; a combination of 19″/482.6 mm and metric (535 mm) mounting rails is also possible.
Also available in a T channel version.
The mounting rails are depth-adjustable, installation hardware included.

	PU	Part No. DK		
		U pitch pattern mounting angle	SU pitch pattern mounting angle	T channel mounting angle
46 U	2	**7758.000**	–	**7758.100**
82 SU	2	–	**7760.000**	**7760.100**

Material:
Aluminum, chromated

Optional accessories:
Captive nuts M5/M6, spring nuts, screws M5/M6, see page 1032.

Depth bars

For infinitely variable adjustment of metric (535 mm) and 19″/482.6 mm mounting rails across the entire enclosure depth, or for attaching a second pair of 19″/482.6 mm mounting rails at the rear.

Material:
Sheet steel, galvanized, chromated.

Configuration:
Depth bars, including installation hardware.

Enclosure depth inches/mm	PU	Part No. DK
12/300	6	**7128.000**
24/600	6	**7129.000**

Installation kit for component shelves

Facilitates the installation of vented and non-vented component shelves (DK 7164.035, DK 7264.035) in Rittal TC Racks with 24″/600 mm enclosure depth (DK 7726.035), regardless of the mounting rails used. Full pull-out of the component shelves with telescopic slides is not possible in conjunction with 19″ mounting rails. Telescopic slides – see page 986.

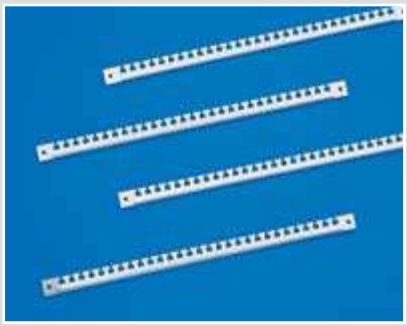
Material:
Sheet steel, galvanized, chromated.

Enclosure depth inches/mm	Component shelves W x D = 471 x 400 inches/mm	PU	Part No. DK
24/600	7164.035 ventilated	1 set	**7313.000**
24/600	7264.035/ solid	1 set	**7313.000**

Optional accessories:

Drawers,
see page 1034.

Component shelves,
see page 986.



Cable collecting rails

for installation in the enclosure width and depth.
Fully height adjustable for cable clamping with rear or side cable routing.

Material:
Sheet steel, galvanized, chromated.

Configuration:
Cable collecting rails,
including installation hardware.

Enclosure width inches/mm	PU	Part No. DK
24/600	4	**7101.000**

Enclosure depth inches/mm	PU	Part No. DK
12/300	4	**7090.000**
24/600	4	**7107.000**

Clip nuts

for variable inside installation of TC Racks. Simply clip onto one of the two channels, for infinitely variable component mounting.

PU	Part No. FR
50	**2102.500**

Optional accessories:

Fasteners M6,
see page 1032.

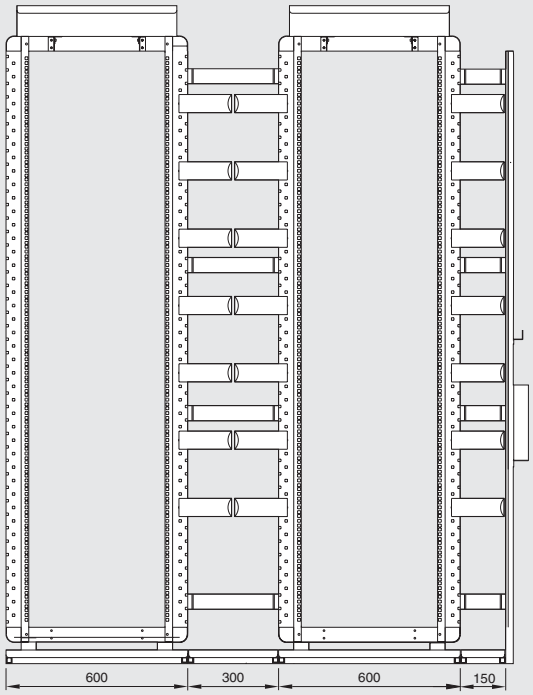
Cable collecting strap

For system specific cable routing in the TC Rack, behind a pair of 19″/482.6 mm rails.

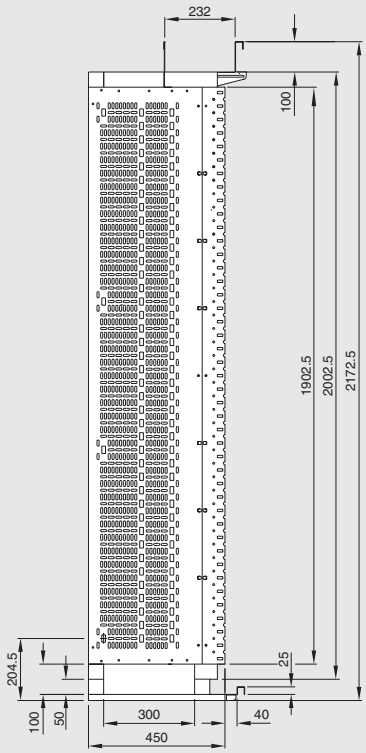
Material:
Sheet steel, galvanized, chromated.

Depth inches/mm	PU	Part No. DK
4/100	6	**7875.400**

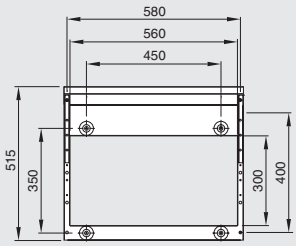
Front view



Side view



Base/plinth view



Technical description/configuration:
1 distribution frame with **sidewalls** (not removable),
roof cable tray,
solid roof panel,
base assembly with pull-out base/plinth panel,
2″/50 mm base/plinth supports,
10 clip-in cable fingers.

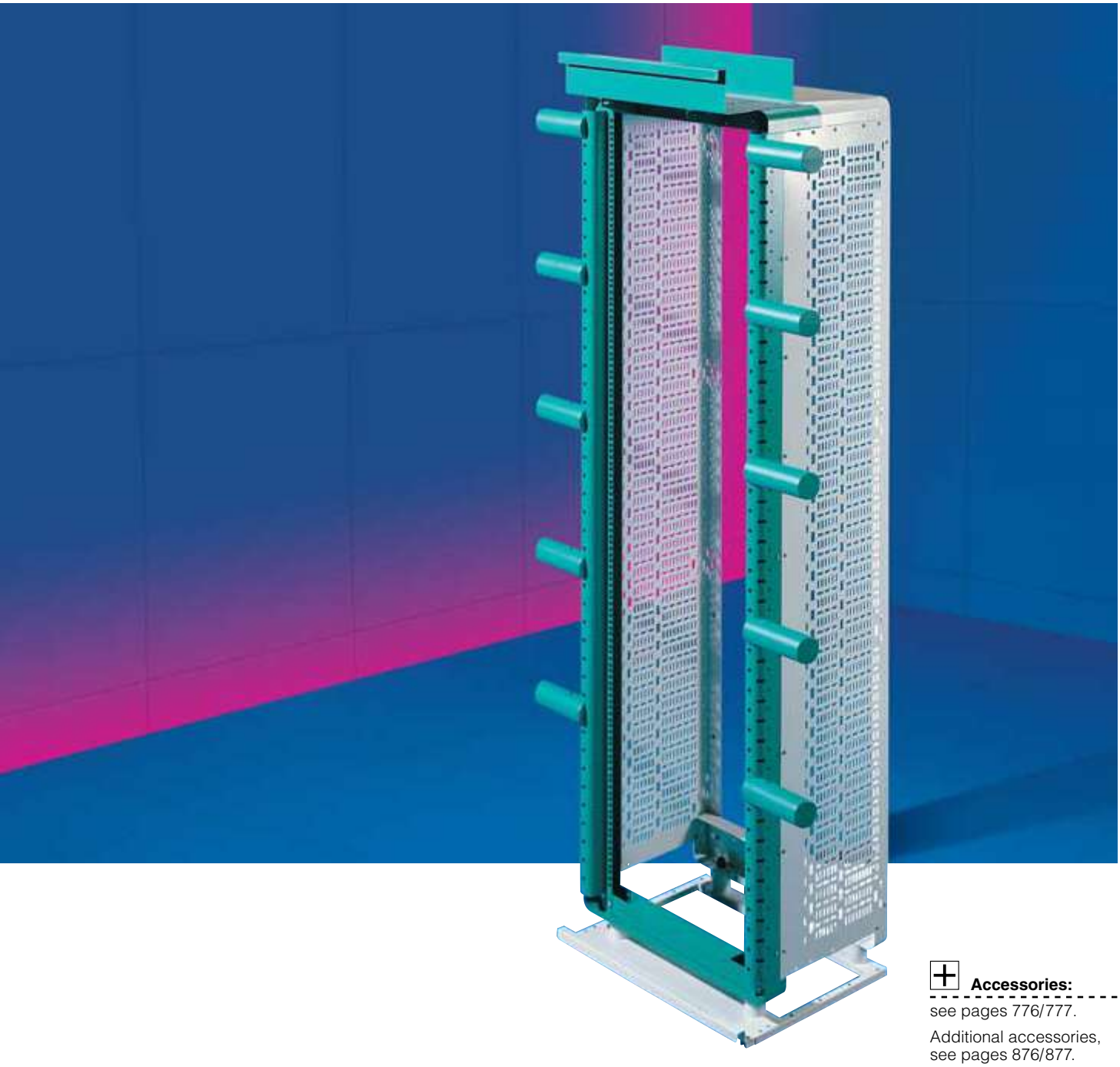
The RiPatch frame helps maintain the cable bending radius specified by EIA-TIA-568-A.

Specifications subject to change.

Rittal RiPatch	PU		Page
Usable height		42 U	
Height inches/mm		81.59/2072.50	
Width inches/mm		24/600	
Depth inches/mm		18/450	
Part No. DK	1	**7925.010***	
Installation accessories			
Cable fingers, clip-in	5	7925.040*	776
Slotted roof panel for passive ventilation	1	7925.050*	777
Slotted roof panel with three fans, 230 V	1	7925.055*	777
Base/plinth supports, 2″/50 mm high	4	7925.070*	777
Base/plinth supports, 4″/100 mm high	4	7925.080*	777
Base/plinth extension panel, with the cable tray extended	1	7925.090*	777
End panel for finishing off at the side	1	7925.060*	776
6″/150 mm baying kit (6 baying supports, connecting plinth panel)	1 set	7925.020*	776
12″/300 mm baying kit (6 baying supports, connecting plinth panel)	1 set	7925.030*	776
6″/150 mm baying supports	6	7925.100*	776
12″/300 mm baying supports	6	7925.110*	776
Roof panel cable guide tubes	4	7925.120*	777
Component shelf 2 U, for static installation 10″/250 mm deep	1	7119.250	989
Component shelf 2 U, for static installation 16″/400 mm deep	1	7119.400	989
Cable management panel with 5 cable shunting rings	1	7257.035	1052
Cable gland panel, with brush insert, 1 U	1	7140.535	1054
Cable gland panel, with brush insert, 2 U	1	7150.535	1054

* Lead times upon request.

Rittal RiPatch



Accessories:

see pages 776/777.

Additional accessories, see pages 876/877.

Dimensions:
- Frame width: 24″/600 mm
- Height: 81.6″/2072.5 mm (including 2″/50 mm base/plinth supports)
- Depth: 18″/450 mm

Material:
- Frame: sheet steel
- Cable strips: ABS

Finish:
- Powder painted, RAL 7035 light grey
- Front frame and cable strips RAL 5018 teal

Additional **cable strips** based on the plug-and-play compatibility system ensure optimum assembly times.

The complete **baying kit** connects two RiPatches across a gap of 6 or 12″/150 or 300 mm.

The sidewall **end panel** to finish off the row of frames protects the exposed cable sections.

For Rittal RiPatch

Cable fingers, clip-in

To support cable infeed from the sides. The fingers are snap-fastened into the front frame sections.

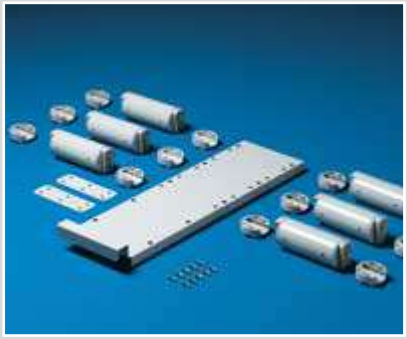
Material:
ABS plastic

Color:
RAL 5018 teal

Configuration:
5 cable fingers

PU	Part No. DK
5	**7925.040**

Lead times upon request.



Baying kit 6 or 12″/150 or 300 mm

The baying kit ensures a cable chamber of 6 or 12″/150 or 300 mm respectively between two bayed frames. The baying supports are easily removed, due to the V-channel fastening, and ensure optimum access. The connecting base/plinth trim (supplied) closes the gap between two frames; in conjunction with extended base/plinth cable trays and extension panels, it may also be installed in a set forward position.

Material:
Connecting trim and supports: sheet steel
V-channel fixture: polyamide PA66-GF30

Length inches/mm	Part No. DK
6/150	**7925.020**
12/300	**7925.030**

Lead times upon request.

Color:
RAL 7035 light grey

Configuration:
6 baying supports,
1 connecting base/plinth trim,
including installation hardware.

Baying kit 6 or 12″/150 or 300 mm

To supplement the baying kit.

Material:
Supports: sheet steel
V-channel fixture: polyamide PA66-GF30

Color:
RAL 7035 light grey

Configuration:
6 baying supports, including installation hardware.

Length inches/mm	Part No. DK
6/150	**7925.100**
12/300	**7925.110**

Lead times upon request.

End panel for finishing the sides

For finishing off a row of frames at the sides in conjunction with a 6″/150 mm baying kit (to be ordered separately, see above). The end panel is also equipped with a white note board with pen rest, a document holder, and holes for captive nuts for attaching cable holders or any accessories.

Material:
Sheet steel

Color:
RAL 7035 light grey

Height inches/mm	Part No. DK
80/2023	**7925.060**

Lead times upon request.

Configuration:
End panel including installation hardware.

Base/plinth supports 2 or 4″/50 or 100 mm

The standard 2″/50 mm base/plinth supports between the base assembly and the frame can be extended with additional base/plinth supports. This provides additional space of up to 6″/150 mm for large quantities of cables.
Thread M12.

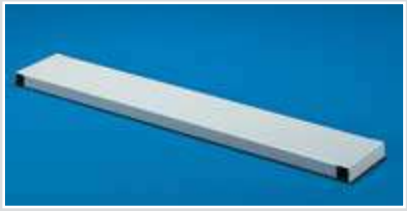
Material:
Sheet steel

Height inches/mm	Part No. DK
2/ 50	**7925.070**
4/100	**7925.080**

Lead times upon request.

Color:
RAL 7035 light grey

Configuration:
4 base/plinth supports



Base/plinth extension panel

The base/plinth extension panel installs into the extended base/plinth cable tray and presents a closed appearance.

Material:
Sheet steel

Color:
RAL 7035 light grey

Depth inches/mm	Part No. DK
3.94/100	**7925.090**

Lead times upon request.

Configuration:
Base/plinth extension panel including installation hardware.

Roof panel, perforated for passive ventilation

in exchange for the solid roof panel, when active components are being used.

Material:
Sheet steel

Color:
RAL 7035 light grey

Depth inches/mm	Part No. DK
7.79/198	**7925.050**

Lead times upon request.

Configuration:
Roof panel, perforated.

Fan roof panel for active ventilation

in exchange for the solid roof panel when an increased air throughput is required.

Material:
Sheet steel

Color:
RAL 7035 light grey

Depth inches/mm	Part No. DK
7.79/198	**7925.055**

Lead times upon request.

Configuration:
Roof panel with 3 pre-installed fans, 230 V.

Cable guide tubes for roof panel

The cable guide tubes for the roof frame ensure easy cable routing during service or installation work when pulling cables into or over the RiPatch. This prevents tangling, damage and cable breaks.
Diameter 2″/50 mm, thread M12.

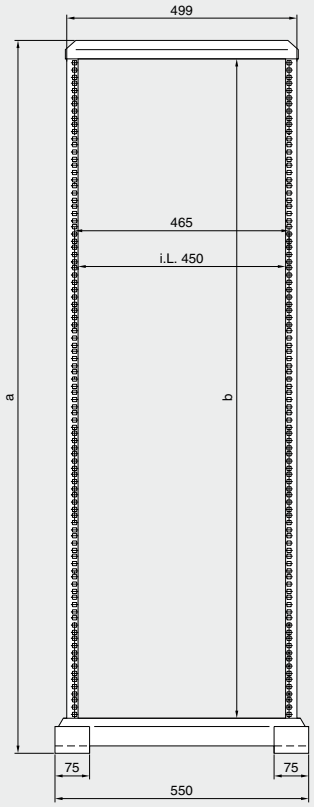
Material:
Sheet steel

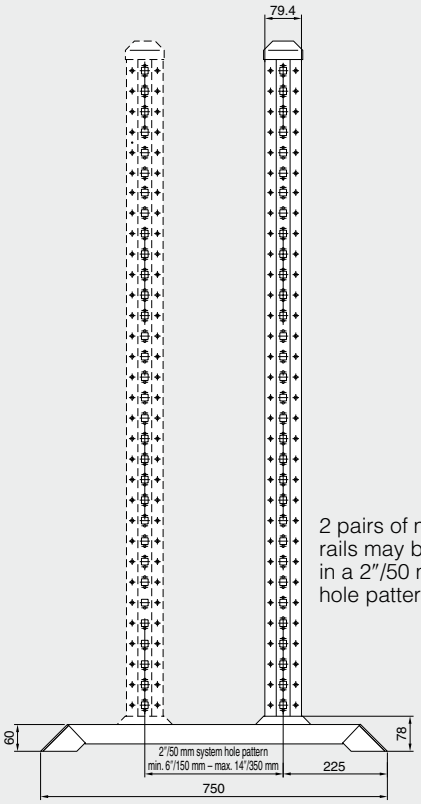
Height inches/mm	Part No. DK
3.94/100	**7925.120**

Lead times upon request.

Color:
RAL 7035 light grey

Configuration:
4 guide tubes





2 pairs of mounting rails may be installed in a 2"/50 mm system hole pattern.

Technical description/configuration:
1 torsion resistant rack
14 ga/2 mm sheet steel, welded, with 19"/482.6 mm hole pattern, painted RAL 7035 light grey, trim in RAL 5018 teal,
1 stable base/plinth of folded sheet steel and integral zinc die-cast feet (RAL 5018) with the option of floor anchoring, installation hardware included.
Option of leveling feet (DK 7493.000) or casters (DK 7495.000).

German Utility Model No.
G 92 04 135
German Registered Design No.
M 92 01 859
German Patent No. 42 07 282

Second mounting level for Rittal Data Rack
see page 780.

i.L. = available space

Rittal Data Rack	PU					Page
U		31	36	40	45	
a mm		1499.5	1721.8	1899.5	2121.8	
b mm		i.L. 1381.5	i.L. 1603.8	i.L. 1781.5	i.L. 2003.8	
U x 44.45 mm =		1377.95	1600.2	1778	2000.25	
Part No. DK		**7391.000**	**7396.000**	**7400.000**	**7445.000**	

Accessories		**Part No.**				
Second mounting level	1	7296.000	7297.000	7298.000	7299.000	780
Baying connector	3	7494.000	7494.000	7494.000	7494.000	780
Leveling feet	4	7493.000	7493.000	7493.000	7493.000	781
Cable duct	1	7410.310	7410.360	7410.400	7410.450	1051
C rail 19"/ 482.6 mm	6	7016.100	7016.100	7016.100	7016.100	1050
Cable collecting rail, 19"/482.6 mm	6	7016.110	7016.110	7016.110	7016.110	1050
Cable collecting strap, D = 10"/250 mm	6	7016.120	7016.120	7016.120	7016.120	1050
Twin casters	4	7495.000	7495.000	7495.000	7495.000	891
Depth bars	2	7401.000	7401.000	7401.000	7401.000	781
Component shelf 2 U f. one p. of m. rails D = 12"/250 mm	1	7119.250	7119.250	7119.250	7119.250	989
Component shelf 2 U f. one p. of m. rails D = 16"/400 mm	1	7119.400	7119.400	7119.400	7119.400	989
Component shelf 2 U f. one p. of m. rails D = 20"/300 mm[1)]	1	7148.035	7148.035	7148.035	7148.035	989
Keyboard drawer 2 U	1	7281.035	7281.035	7281.035	7281.035	1035
Component shelf D = 12"/300 mm* [1)]	1	7143.035	7143.035	7143.035	7143.035	991
Component shelf D = 16"/400 mm* [1)]	1	7144.035	7144.035	7144.035	7144.035	991
Component shelf D = 20"/500 mm* [1)]	1	7145.035	7145.035	7145.035	7145.035	991
Slide rails D maximum < 190 mm	10	1962.200	1962.200	1962.200	1962.200	781
Slide rails D maximum > 190 mm	10	1963.200	1963.200	1963.200	1963.200	781
Slide rails for two pairs of mounting rails*	2	7402.000	7402.000	7402.000	7402.000	781

* A second pair of mounting rails is required for mounting.
[1)]Stationary installation or full withdrawal, telescopic slides see page 986.

Rittal Data Rack

Accessories:

see pages 780/781.

Additional accessories,
see pages 876/877.

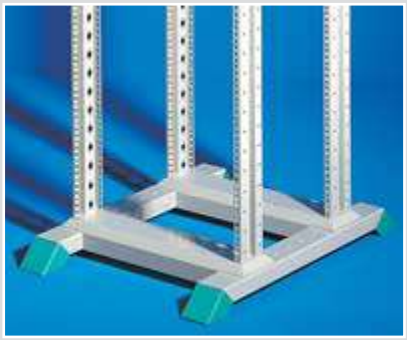
Available upon request:
- Metric (535 mm) version
- Sidewalls
- Special models and special sizes.

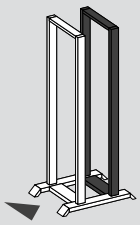
The **baying connector** can be used for baying several Data Racks.

Cable duct
for cable routing.

Roof panel for cable routing for Data Rack, for optimized cable routing in the distribution frame.
Part No. see page 780.

For Rittal Data Rack





Second set of mounting rails

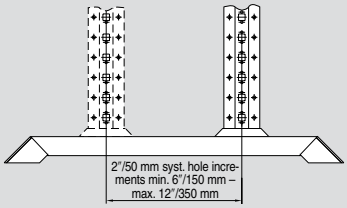
In order to accommodate 19″/482.6 mm network components or to secure component shelves, slide rails and telescopic rails. The mounting rails may be installed on a 2″/50 mm increment system hole pattern.

Material:
14 ga/2 mm sheet steel

Color:
RAL 7035 light grey

Configuration:
1 torsion resistant frame rack, installation hardware included. 19″/482.6 mm punched profile at the front, center-to-center hole distance 465 mm (470 mm at the rear), designed for installing patch panels and cable routing rails.

U	Part No. DK
31	**7296.000**
36	**7297.000**
40	**7298.000**
45	**7299.000**

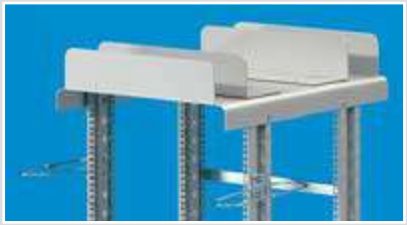


Baying connector

For assembling rows of distribution frames or for cable routing between Data Racks.

Color:
RAL 7035 light grey

PU	Part No. DK
3	**7494.000**



Roof panel for cable routing

for optimized use of the Data Rack as a corridor distributor box or cable management rack. By moving the guide panels, the individual cableways can be separately dimensioned, thus enabling structured cable routing in data highways, even in the roof area. On all Data Racks, the roof panel can be attached at two mounting levels and a distance between the levels of 14″/350 mm.

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

Configuration:
Roof panel,
installation hardware included.

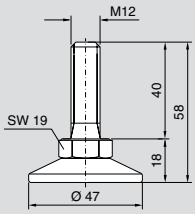
PU	Part No. DK
1	**7411.000**

Leveling feet

To compensate for height differences in uneven floors.
The leveling feet are attached to the zinc die-cast feet of the base/plinth.

Maximum permissible static load:
approx. 660 lbs/300 kg per leveling foot.

PU	Part No. DK
4	**7493.000**



Depth bars

For securing and stabilizing two pairs of 19″/482.6 mm mounting rails in the Data Rack. The length of the depth bar is adjustable, and can accommodate all mounting increments of mounting rails.

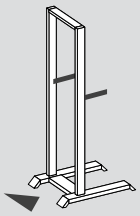
Color:
RAL 7035 light grey

	PU	Part No. DK
Depth bars	2	**7401.000**

Chassis guide for one pair of 19″/482.6 mm mounting rails

To support heavy slide-in 19″/482.6 mm electronic equipment in the Data Rack.

Material:
Sheet steel, galvanized, chromated.



	PU	Part No. SR
For equipment with a maximum installation depth D max.<190 mm	10	**1962.200**
For equipment with a maximum installation depth D max. > 190 mm	10	**1963.200**

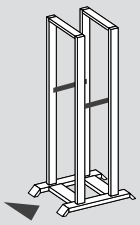
Continuous slide rail for two pairs of mounting rails, 19″/482.6 mm

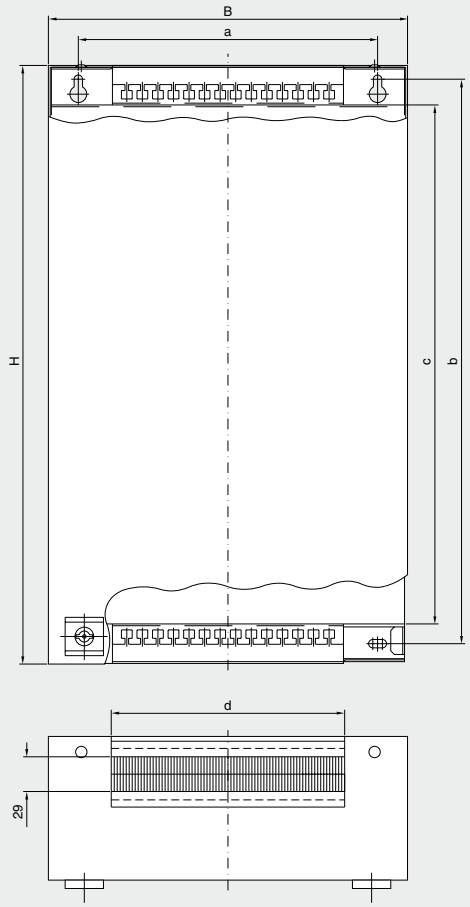
The continuous slide rail is used to support heavy installed equipment in the Data Rack. The mounting dimensions of the slide rails were selected to enable them to be combined with 20″/500 mm deep, 19″/482.6 mm component shelves.
The mounting distance of the 19″/482.6 mm mounting rails is 14″/350 mm.
Matching component shelf, 20″/500 mm deep, DK 7145.035, see page 991.

PU	Part No. DK
2	**7402.000**

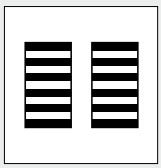
Material:
Sheet steel, galvanized, chromated.

Requirements:
Second mounting level.

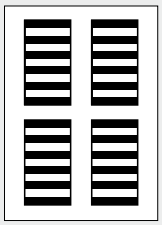




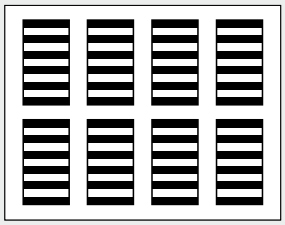
DK 7052.035 (100 DA)



DK 7053.035 (200 DA)



DK 7054.035 (400 DA)



DK 7055.035 (800 DA)

FM small cross connect boxes

Technical description/configuration:
Two-part enclosure of 16 ga/1.5 mm sheet steel, powder painted in textured RAL 7035 light grey. In 4 designs, to accommodate 100, 200, 400 and 800 paired wires.
1 wall section with mounting holes for wall mounting, prepared to accommodate FM universal mounting brackets, LSA mounting troughs and cable retainers for population.
With LSA-Plus, dividing, connector or switch-through strips.
2 comb strips for cable clamping and brush insert for cable entry.
2 – 5 shunting rings for system compatible routing of telecommunications cables.
1 cover with retaining device and two cam locks.

DK FM small distribution box	PU					Page
Height inches/mm (H)		20 /500	20 /500	28 /700	28 /700	
Width inches/mm (B)		12 /300	20 /500	20 /500	36 /900	
Depth inches/mm (T)		4.72/120	4.72/120	4.72/120	4.72/120	
a Mounting hole for width inches/mm		10 /250	18 /450	18 /450	33 /850	
b Mounting hole for height inches/mm		18.50/470	18.50/470	26 /670	26 /670	
c Clearance width mm		433	433	633	633	
d Width of cable entry, mm		195	395	395	795	
Maximum number of adjacent cable retainers or mounting troughs (LSA)		1	2	2	4	
Maximum accommodation when using cable retainers or mounting troughs (LSA)		100 pairs	200 pairs	400 pairs	800 pairs	
Shunting ring, plastic, 2.76 x 1.73″/70 x 44 mm		2	3	3	5	
Part No. DK	1	**7052.035**	**7053.035**	**7054.035**	**7055.035**	

Accessories		**Part No.**				
FM universal mounting brackets type A, L = 11″/275 mm, LSA-Plus	1 set	7031.100	7031.100	7031.100	7031.100	789
FM universal mounting brackets type B, L = 11″/275 mm, VS-Standard	1 set	7031.101	7031.101	7031.101	7031.101	789
“15” lock (Zeiss-Ikon)	2	7059.035	7059.035	7059.035	7059.035	944
“15” key (Zeiss-Ikon)	1	7059.100	7059.100	7059.100	7059.100	944
T handle without lock insert	1	2572.000	2572.000	2572.000	2572.000	941
T handle with lock insert no. 3524 E	1	2575.000	2575.000	2575.000	2575.000	941
Plastic handle with lock no. 3524 E	1	2576.000	2576.000	2576.000	2576.000	940
Plastic handle	1	2533.000	2533.000	2533.000	2533.000	940

FM small cross connect boxes

German Patent
No. 44 10 795

Accessories:

see pages 786 – 789

Additional accessories,
see pages 876/877.

Lock systems
Standard double-bit lock insert may be exchanged for 27 mm lock inserts, Type A
see page 942.
T handle and “15” lock from Zeiss-Ikon,
see pages 941 or 944.

“15” lock
from Zeiss-Ikon.

FM universal mounting bracket for LSA-Plus, VS-Standard and other standard connection systems.

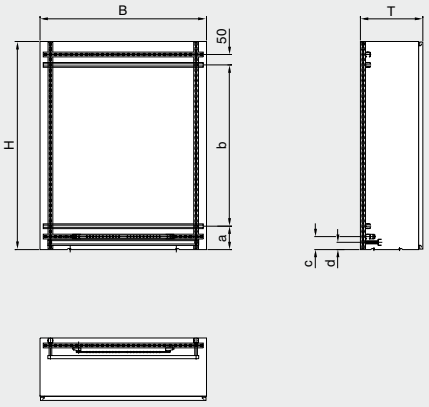
Prepared for the installation of **LSA cable retainers** or mounting troughs.

FM wallmount cross connect boxes

Technical description/ configuration:
1 enclosure of 16 ga/1.5 mm sheet steel with gland panels at the bottom,
1 door of 14 ga/2 mm sheet steel, interchangeable door hinges,
1 earth/grounding rail and
1 cable clamp rail,
2 punched rails to accommodate
FM system towers,
FM system strips,
FM system rods,
FM cable shunting strips,
1 punched rail at top to accommodate cable shunting rings.

Color:
RAL 7035 light grey

Ratings:
NEMA 12/IP 55 to EN 60 529/10.91.

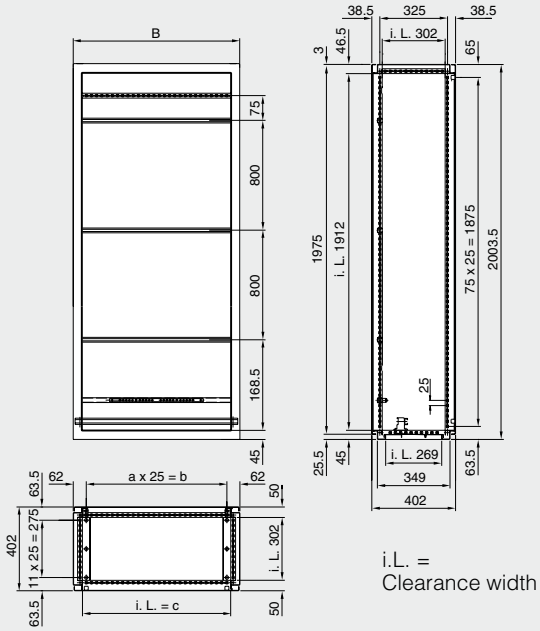


FM distribution cross connect boxes

Technical description/ configuration:
1 enclosure without sidewalls, DIN 43 660 punchings in a 1″/25 mm continuous system hole pattern depending on the enclosure type:
1 or 2 steel doors, front, 14 ga/2 mm sheet steel,
1 rear wall, screw-on, 16 ga/1.5 mm sheet steel,
1 three-piece gland panel,
1 roof panel, screw-fastened,
1 earth/grounding rail and
1 cable collecting rail,
3 punched rails to accommodate
FM system towers,
FM system strips,
FM system rods,
FM cable shunting strips,
1 punched rail at the top to accommodate cable shunting rings.

Color:
RAL 7035 light grey

Ratings:
NEMA 12/IP 55 to EN 60 529/10.91.



i.L. =
Clearance width

Modular FM wallmount cross connect boxes					Page
Part No./technical specification					
Height inches/mm (H)	24/600	30/760	40/1000	48/1200	
Width inches/mm (B)	24/600	30/760	32/ 800	32/ 800	
Depth inches/mm (T)	14/350	12/300	12/ 300	12/ 300	
Installation of FM system strips, FM system towers and FM system rods	2	2	3	3	
Installation options	**FM wallmount cross connect boxes**				
FM system towers AT&T	7003.035	7004.035	7005.035	7006.035	786
FM system strips*	7032.500	7033.500	7034.500	7035.500	787
FM system rods	7533.000	7534.000	7535.000	7536.000	788
FM cable shunting strips	7233.000	7234.000	7235.000	7236.000	788
a	75.0	80.0	87.5	87.5	
b	400.0	600.0	800.0	950.0	
c	50.0	55.0	62.5	62.5	
d	27.5	27.5	35.0	35.0	
Part No. DK	**7011.535**	**7012.535**	**7013.535**	**7014.535**	
Accessories					
Plastic cable gland panels (PU 5)	2563.000	2563.000	2563.000	2563.000	896
Cable entry gland with brush strips top/bottom	②	②	②	②	–
Cable clamp	①	①	①	①	–
Wall mounting bracket .39″/10 mm	2508.000	2508.000	2508.000	2508.000	962
Wall mounting bracket 1.57″/40 mm	2503.000	2503.000	2503.000	2503.000	962

① Included in the configuration.
② Special designs available on request.

Modular FM distribution cross connect boxes					Page
Part No./technical specification					
Height inches/mm	79/2000	79/2000	79/2000	79/2000	
Width inches/mm (B)	24/ 600	32/ 800	40/1000	48/1200	
Depth inches/mm	16/ 400	16/ 400	16/ 400	16/ 400	
Installation of FM system strips, FM system towers and FM system rods	2	3	4	5	
Installation options	**FM distribution cross connect boxes**				
FM system towers AT&T	7008.035	7008.035	7008.035	7008.035	786
FM system strips*	7038.500	7038.500	7038.500	7038.500	787
FM system rods	7538.000	7538.000	7538.000	7538.000	788
FM cable shunting strips	7238.000	7238.000	7238.000	7238.000	788
a	19	27	35	43	
b	475	675	875	1075	
c	512	712	912	1112	
Part No. DK	**7103.535**	**7104.535**	**7105.535**	**7106.535**	
Sidewall/handle/roof					
Sidewalls (PU 2)	4104.235	4104.235	4104.235	4104.235	–
Quick-fit baying clamps	4581.000	4581.000	4581.000	4581.000	139
Ergoform-S handle RAL 7035	2435.000	2435.000	2435.000	2435.000	939
Lock insert no. 3524 E	2467.000	2467.000	2467.000	2467.000	937
Roof for cable entry rear	7108.065	7108.085	7108.105	7108.125**	–
Base/plinth					
Height 3.94″/100 mm	2804.200	2823.200	2909.200	2836.200	–
Height 7.87″/200 mm	2805.200	2824.200	2910.200	2837.200	–

* FM universal mounting bracket VS-Standard, DIN strips, 71 dividing strip and distribution system series 5000 may be installed.
** Extended delivery times.

Modular FM distribution enclosures

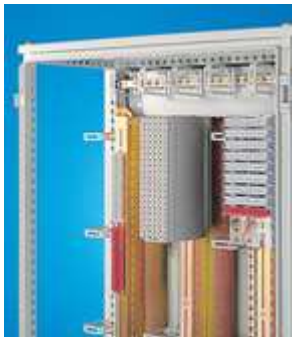
Lock system
Standard double-bit lock insert may be exchanged for 27 mm lock inserts, see page 942 and Ergoform-S lock system, see page 939 (except wall-mount cross connect boxes DK 7011.535, DK 7012.535 and DK 7013.535).

Special designs available on request:
FM distribution cross connect boxes,
Rittal FM wallmount cross connect boxes fitted to order with Rittal standard accessories (FM system towers, FM system strips, FM system rods, FM cable shunting strips, etc).

Accessories:
see pages 786 – 789.

Additional accessories, see pages 876/877.

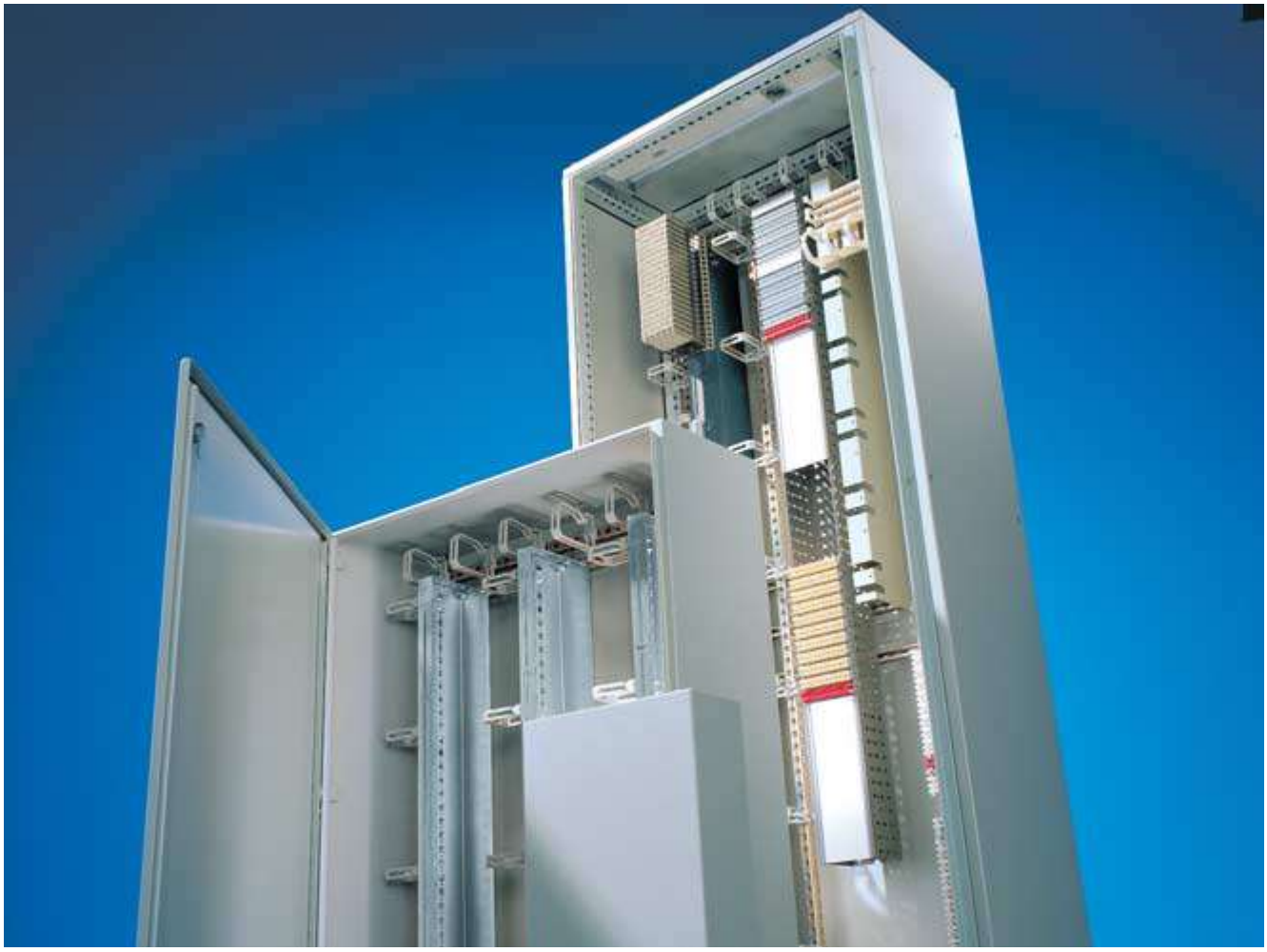
FM system towers
for wiring blocks AT & T Connector System 110 and cable ties.

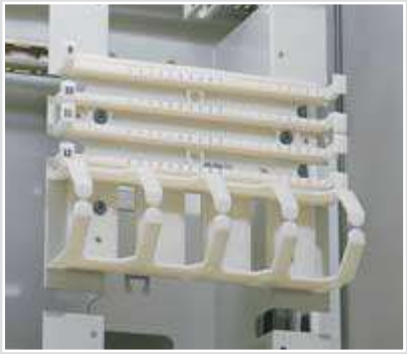


FM system strips
for DIN strips, dividing strips 71 and the new FM universal mounting brackets.

FM system rods
for LSA-Plus profile module 2/10.

For FM





FM system towers for AT&T Connector System 110

For user-specific solutions or modular FM enclosure assembly. Wiring blocks and cable retainers (backboards) for the AT&T Connector System can be mounted on the FM system towers.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
1 FM system tower
Installation hardware for wiring blocks and cable retainers.

Design:
Installation height: 4.72″/120 mm
Installation width: 8.50″/216 mm

AT&T Connector System110	Length mm	Part No. DK
200 DA	315	**7003.035***
300 DA	472.5	**7004.035***
400 DA	630	**7005.035***
600 DA	945	**7006.035***
800 DA	1260	**7007.035***
900 DA	1417.5	**7017.035***
1000 DA	1575	**7008.035***
1200 DA	1890	**7009.035***

* Lead times upon request.

FM system strips

For user-specific solutions or modular FM enclosure assembly. The following connection systems may be mounted on the FM system strips:

- DIN connector strips to DIN 47 614, type B; soldering lug strips to DIN 41 499, LSA-Plus connector strips 1/20 to DIN 47 608 with 170 mm mounting dimension, vertical (with 2 FM system strips, horizontal mounting is possible).
- cable retainers or mounting troughs for LSA connection technology.
- dividing strip 71.
- RXS series 5000 distribution system for professional assembly of modern distributor boxes with plug-type Faston technology.

The FM system strip features a 1″/25 mm DIN pitch pattern on the sides (DIN 43 660). Shunting rings (plastic) DK 7218.035, DK 7219.035 or cable shunting rings (metal) DK 7111.000, DK 7111.900, DK 7112.000 may be fitted here for cable routing. As an alternative to this, however, cable shunting strips may also be used (see page 788).

Material:
Sheet steel, galvanized, chromated.

FM system strip:
Installation height: 4.72″/120 mm
Installation width: 2.95″/ 75 mm

Supply includes:
1 FM system strip,
2 shunting rings (105 x 70 mm),
including installation hardware.

Accessories:
FM universal mounting bracket, see page 789.

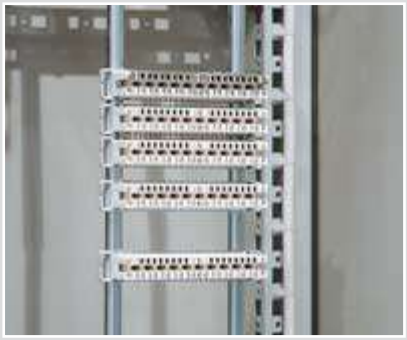
Termination options for DIN, LSA and dividing strips						
	Part No. DK					
FM system strips	**7032.500**	**7033.500**	**7034.500**	**7035.500**	**7038.500**	**7039.500**
Length mm	425	625	825	975	1625	1825
Connection system	Maximum population * paired wires					
DIN connector strip	20	60	80	100	160	180
LSA connector strip	170	250	330	390	650	730
Dividing strip 71	100	200	200	300	500	600

* Based on the following mounting dimensions:
– DIN connector strip: 170 mm
– LSA connector strip: 25 mm
– Dividing strip 71: 290 mm

Termination options for RXS distribution system series 5000						
	Part No. DK					
FM system strips	**7032.500**	**7033.500**	**7034.500**	**7035.500**	**7038.500**	**7039.500**
Length mm	425	625	825	975	1625	1825
	Number of blocks per FM system strip					
Block 128 p. wires, L= 218 Block 100 p. wires, L= 152	1 1	1 2	1 3	2 2	3 5	3 6
Block 384 p. wires, L= 640 Block 600 p. wires, L= 925	– –	– –	– –	– –	1 1	1 1
Block 104 p. wires, L= 180	2	3	4	5	8	9
Block 128 p. wires, L= 218	1	2	3	4	7	8
Block 200 p. wires, L= 333	1	1	2	2	4	5
Block 1000 p. wires, L=1690	–	–	–	–	–	1

Termination options for FM universal mounting bracket							
		Part No. DK					
FM system strips		**7032.500**	**7033.500**	**7034.500**	**7035.500**	**7038.500**	**7039.500**
Length mm		425	625	825	975	1625	1825
Maximum packs of mounting brackets		1	2	2	3	5	6
Vertical bracket distance in mm		–	50	50	50	50	35
Connection system	Pitch pattern distance in mm	Number of strips per system strip					
LSA-Plus	22.5	12	24	24	36	60	72
VS-Standard	25	11	22	22	33	55	66
Other connection systems	22.5	12	24	24	36	60	72
	17.5	15	30	30	45	75	90
	16	17	34	34	51	85	102

For FM



FM system rods

For user-specific solutions or modular FM enclosure assembly. LSA-Plus profile modules 2/10 may be mounted on the FM system rods. The rod diameter is .47″/ 12 mm and the rod spacing 3.74″/95 mm. The FM system rods may be supplemented with FM cable shunting strips, to permit the accommodation of patching cables.

Material:
Steel rod, chromated

Version:
Installation height: 4.72″/120 mm
Installation width: 4.33″/110 mm

Configuration:
2 rods,
2 rod holders, plus (with 650 paired wires or more) an additional rod spacer,
2 shunting rings (105 x 70 mm),
including installation hardware.

LSA Plus-* profile module 2/10	Length mm	PU set	Part No. DK
170 DA	1425	1	**7533.000**
250 DA	1625	1	**7534.000**
330 DA	1825	1	**7535.000**
390 DA	1975	1	**7536.000**
650 DA	1625	1	**7538.000**
730 DA	1825	1	**7539.000**

* Refers to an LSA strip system hole pattern: 1″/25 mm.

FM cable shunting strips

For user-specific solutions or modular FM enclosure assembly. FM cable shunting strips allow shunting between the connection systems.
FM cable shunting strips are supplementary to FM system strips and FM system rods, and are designed for routing patching cables. They are mounted on the sides, next to the FM system strips or FM system rods.

Material:
Sheet steel, galvanized, chromated.

Design:
Installation height: 5.20″/132 mm
Installation width: 2.76″/ 70 mm
Shunting rings: 4.14 x 4.76″/105 x 70 mm

Configuration:
1 system bar,
shunting rings,
installation hardware included.

Shunting rings	Length mm	PU set	Part No. DK
2	425	1	**7233.000**
3	625	1	**7234.000**
4	825	1	**7235.000**
5	975	1	**7236.000**
7	1625	1	**7238.000**
8	1825	1	**7239.000**

Cable shunting ring

For flexible, system-compatible cable routing on FM system strips,
FM distribution enclosures or at the sides on 19″/482.6 mm mounting rails.

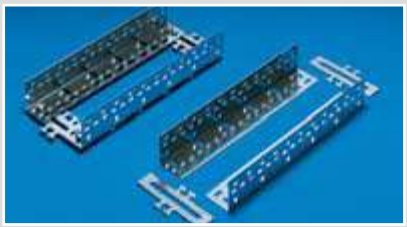
Material:
Sheet steel, galvanized, chromated.

Configuration:
Locating plate and installation hardware.

Dimensions inches/mm	PU	Part No. DK
4.72 x 3.54/120 x 90	10	**7111.900**
4.72 x 2.36/120 x 60	10	**7111.000**
3.14 x 1.57/ 80 x 40	10	**7112.000**

German Patent No. 38 13 002

Type A



Type B

Type A

Type B

Type B

Type B

FM universal mounting bracket

Universal mounting brackets consist of 2 angle brackets which can be combined with connection systems from various different manufacturers, depending on their position in relation to one another.
The angle brackets can be moved closer together or further apart, allowing strips of varying lengths to be inserted. The mounting brackets can be installed in FM small distributor boxes or on FM system strips.

Material:
Sheet steel, galvanized, chromated.

Supply includes:
2 mounting brackets, mounting fins, installation hardware.

- Type A mounting bracket for LSA-Plus strips (8 or 10 paired wires) and other standard connection systems.
- Type B mounting bracket for VS-Standard and other standard connection systems.

Mounting bracket	Length inches/ mm	Connection system	LSA-Plus	VS-Standard	Other connection systems			PU	Part No. DK
		Pitch pattern mm	22.5	25	22.5	17.5	16		
Type A	11/275	Number of strips	12	–	–	15	–	1 set	**7031.100**
Type B	11/275	Number of strips	–	11	12	–	17	1 set	**7031.101**

C rails for FM/TK distribution enclosures

for use as cable collecting rails.

Material:
Sheet steel

Surface finish:
Galvanized, chromated

Configuration:
6 C rails with end pieces and installation hardware

German Patent No. 39 30 161
US Patent No. 5 052 565
GB Patent No. 2 236 374
French Patent No. 2 651 954
Italian Patent No. 0 124 3002

For installation in the enclosure depth

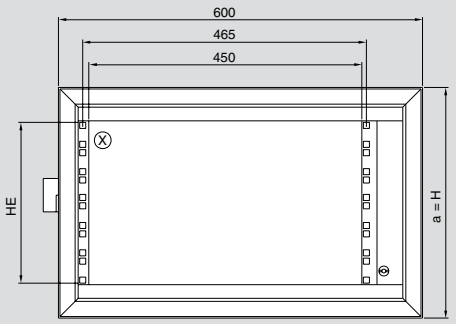
Depth inches/ mm	Length inches/ mm	PU	Part No. DK
16/400	11.42/290	6	**7091.000**

For installation in the enclosure width

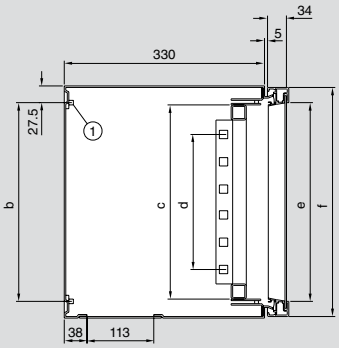
Width inches/ mm	Length inches/ mm	PU	Part No. DK
24/600	19.29/ 490	6	**7095.000**
32/800	27.17/ 690	6	**7096.000**
40/1000	36 / 900	6	**7100.000**
48/1200	43.30/1100	6	**7102.000**

Accessories:

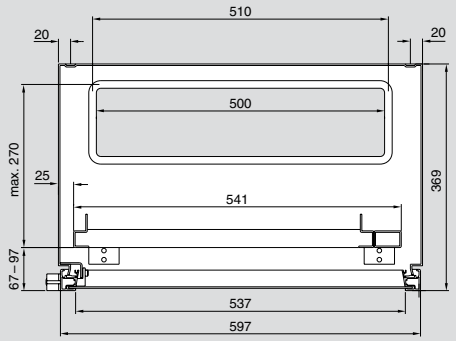
Cable clamps,
see page 981.



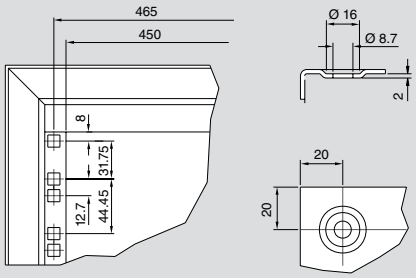
HE = U

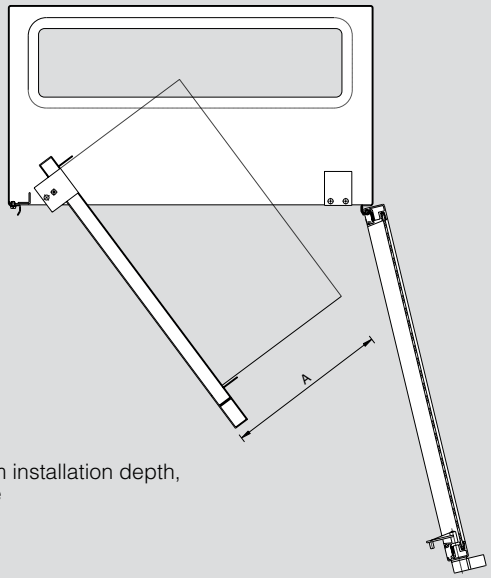


(1) M8 spot weld nut



Detail X





A = maximum installation depth, see table

Distance from inner edge of viewing door to front edge of swing frame	Front mounting position 2.64″/ 67 mm	Center mounting position 3.22″/ 82 mm	Rear mounting position 3.82″/ 97 mm
Maximum installation depth A	9.84″/250 mm	10.63″/270 mm	10.04″/255 mm
Maximum opening angle	170°	138°	147°

	PU	6 U	11 U	14 U	Page
Enclosure Part No. EL	1	**1919.200**	**1920.200**	**1926.200**	
Width (inches/mm)		24 /600	24 /600	24 /600	
Depth (inches/mm)		14.53/369	14.53/369	14.53/369	
a (mm)		380	600	760	
b (mm)		330	545	705	
c (mm)		320	542.25	675.6	
d (mm)		5 x 44.45 = 222.25	10 x 44.45 = 444.5	13 x 44.45 = 577.85	
e (mm)		317	537	697	
f (mm)		377	597	757	
Weight (lbs/kg)		45.9/20.8	58.9/26.7	68.8/31.2	
Accessories for exterior installation					
Wallmount bracket – .4″/10 mm distance – 1.57″/40 mm distance SZ	 1 1	 2508.000 2503.000	 2508.000 2503.000	 2508.000 2503.000	800
Gland panel with PG hole SZ	5	2563.000	2563.000	2563.000	896
Standard swing frame with double-bit lock insert may be exchanged for 27 mm lock inserts, Type A – see page 942.					
Accessories for inside installation					
Blanking panels		See page 1036			

Rittal EL Electronic Kombi-system, 2-part

Material:
Enclosure: 16 ga/1.5 mm sheet steel
Swing frame: sheet steel
Front door: extruded aluminum section, 3 mm acrylic

Surface finish:
Enclosure and swing frame: E-coat primer and powder painted in RAL 7032 pebble grey
Front door: brown anodized

Ratings:
NEMA 12/IP 55 to EN 60 529/10.91

Configuration:
Enclosure, front door, built-in swing frame, including installation hardware.

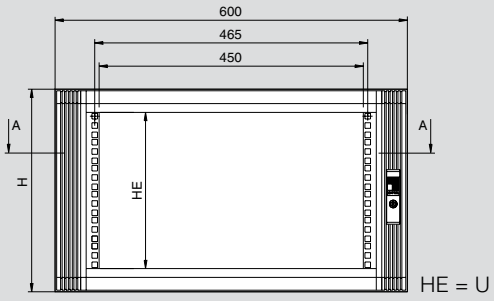
Special sizes and colors upon request.

Accessories:
see pages 800/801.

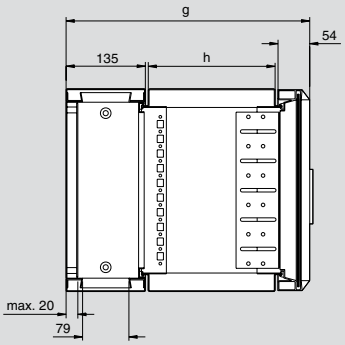
Additional accessories, see pages 876/877.

Subrack
Facility for installing Ripac subracks.
Details on page 340 – 357.

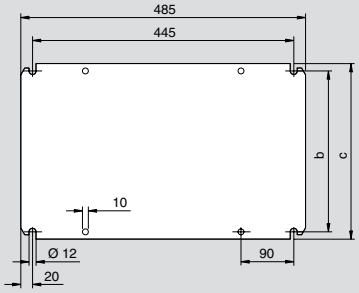
Attach to the wall using **wall mounting brackets.**
Details on page 800.



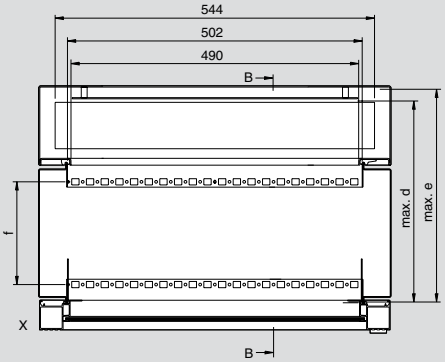
Section B – B



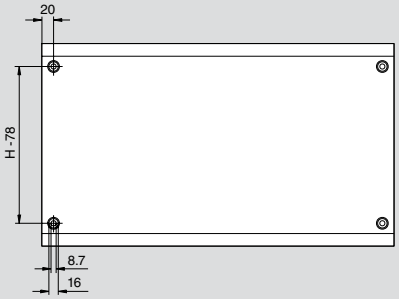
Mounting panel



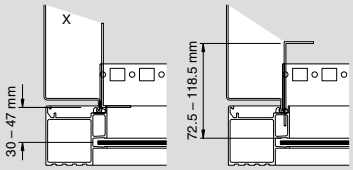
Section A – A



Layout of holes in the rear wall



Mounting bracket installation



	PU	Enclosure depth 16.34″/415 mm							Enclosure depth 20.28″/515 mm						
U		3 U	6 U	9 U	12 U	15 U	18 U	21 U	3 U	6 U	9 U	12 U	15 U	18 U	21 U
Enclosure Part No. EL	1	**2243.600**	**2246.600**	**2249.600**	**2252.600**	**2255.600**	**2258.600**	**2261.600**	**2253.600**	**2256.600**	**2259.600**	**2262.600**	**2265.600**	**2268.600**	**2271.600**
W (inches/mm)		24/600	24/600	24/600	24/600	24/600	24/600	24/600	24/600	24/600	24/600	24/600	24/600	24/600	24/600
H (mm)		212	345	478	612	746	878	1012	212	345	478	612	746	878	1012
b (mm)		141	274	407	541	674	807	941	141	274	407	541	674	807	941
c (mm)		165	299	432	565	699	832	965	165	299	432	565	699	832	965
d (mm)		342	342	342	342	342	342	342	442	442	442	442	442	442	442
e (mm)		360	360	360	360	360	360	360	460	460	460	460	460	460	460
f (mm)		175	175	175	175	175	175	175	275	275	275	275	275	275	275
g (mm)		415	415	415	415	415	415	415	515	515	515	515	515	515	515
h (mm)		216	216	216	216	216	216	216	316	316	316	316	316	316	316
Load capacity, hinged part (lbs/kg)		33.1/15	66.1/30	99.2/45	132.3/60	165.3/75	165.3/75	165.3/75	33.1/15	66.1/30	99.2/45	132.3/60	165.3/75	165.3/75	165.3/75
Accessories for exterior installation															
Wall mounting bracket – .4″/10 mm distance	1	2508.000	2508.000	2508.000	2508.000	2508.000	2508.000	2508.000	2508.000	2508.000	2508.000	2508.000	2508.000	2508.000	2508.000
– 1.57″/ 40 mm distance	1	2503.000	2503.000	2503.000	2503.000	2503.000	2503.000	2503.000	2503.000	2503.000	2503.000	2503.000	2503.000	2503.000	2503.000
Mini Ergoform	1	2242.000	2242.000	2242.000	2242.000	2242.000	2242.000	2242.000	2242.000	2242.000	2242.000	2242.000	2242.000	2242.000	2242.000
Lock inserts Mini Ergoform – No. 3524 E	1	2467.000	2467.000	2467.000	2467.000	2467.000	2467.000	2467.000	2467.000	2467.000	2467.000	2467.000	2467.000	2467.000	2467.000
– push-button with No. 2123	1	2469.000	2469.000	2469.000	2469.000	2469.000	2469.000	2469.000	2469.000	2469.000	2469.000	2469.000	2469.000	2469.000	2469.000
Cable gland panel – with brush insert	1	7705.000	7705.000	7705.000	7705.000	7705.000	7705.000	7705.000	7705.000	7705.000	7705.000	7705.000	7705.000	7705.000	7705.000
– for PG segments	1	2235.000	2235.000	2235.000	2235.000	2235.000	2235.000	2235.000	2235.000	2235.000	2235.000	2235.000	2235.000	2235.000	2235.000
PG segments	5	See accessories on pages 800/801													
Accessories for interior installation															
Slide rails	10	2240.000	2240.000	2240.000	2240.000	2240.000	2240.000	2240.000	2250.000	2250.000	2250.000	2250.000	2250.000	2250.000	2250.000
C rails	4	2238.000	2238.000	2238.000	2238.000	2238.000	2238.000	2238.000	2239.000	2239.000	2239.000	2239.000	2239.000	2239.000	2239.000
Blanking panels	3	See page 1036													

Rittal EL electronic Kombi-system, 3-part

US Patent No. 5 087 104
European Patent
No. 0 421 013
affecting DE, FR, GB, IT
German Registered Design
No. M 89 07 077
UK Reg. Design No. 2 006 041
Jap. Design-Muster No. 84 42 84
IR Reg. Design No. DM/016 423
affecting BE, CH, DE, ES, FR, IT, LU, NL

Material:
Base box and center part:
16 ga/1.5 mm sheet steel
Mounting panel:
12 ga/2.75 mm sheet steel, galvanized, chromated
Glass door: Extruded aluminum sections, die-cast aluminum corner connectors,
.16″/4 mm safety glass

Finish:
E-coat primer, textured enamel
Enclosure: RAL 7032 pebble grey
Door frame: RAL 7033 mortar grey

Ratings:
NEMA 12/IP 55 to EN 60 529/10.91

Configuration:
1 base box,
2 cable gland panels,
1 glass door,
1 center part,
2 mounting rails, 19″/482.6 mm, installed,
1 mounting panel supplied loose,
installation hardware.

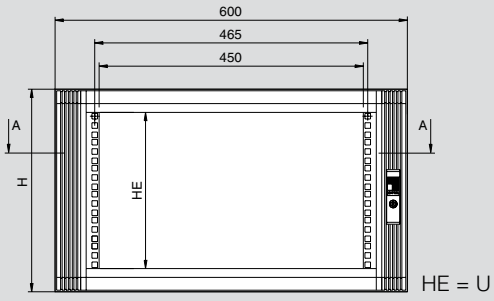
Special sizes and colors available upon request.

Accessories:
see pages 800/801.

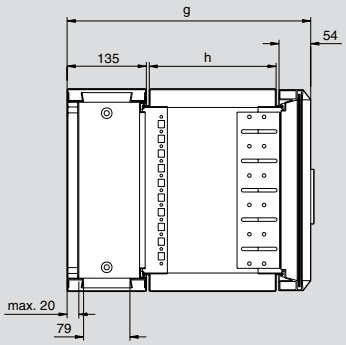
Alternative options:
EMC version,
see pages 306/307.

Gland panel
with cutouts for PG segments.
Details on page 801.

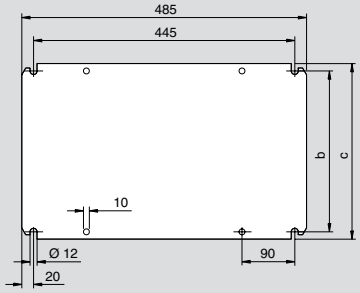
Blanking panels
available in various heights, horizontally or vertically hinged.
Details on page 1036.



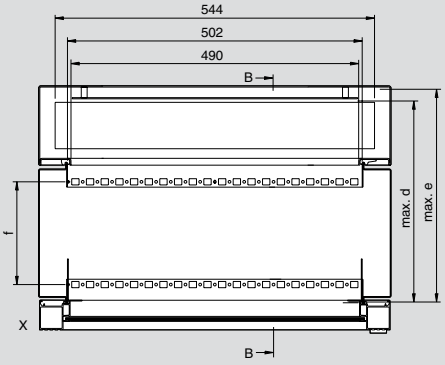
Section B – B



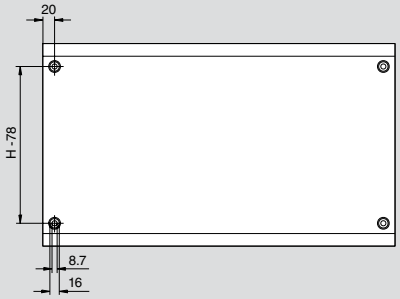
Mounting panel



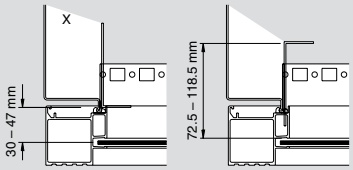
Section A – A



Hole pattern in the rear wall



Installation of mounting bracket



	PU	Enclosure depth 24.24″/615 mm				Page
U		9 U	12 U	15 U	21 U	
Enclosure Part No. EL	1	**2287.600**	**2288.600**	**2289.600**	**2291.600**	
H (inches/mm)		18.82/478	24.01/612	29.57/746	39/1012	
W (inches/mm)		24 /600	24 /600	24 /600	24/ 600	
b (mm)		407	541	674	941	
c (mm)		432	565	699	965	
d (mm)		542	542	542	542	
e (mm)		560	560	560	560	
f (mm)		375	375	375	375	
g (mm)		615	615	615	615	
h (mm)		416	416	416	416	
Accessories for exterior installation						
Wall mounting bracket – .4″/10 mm distance – .57″/40 mm distance	 1 1	 2508.000 2503.000	 2508.000 2503.000	 2508.000 2503.000	 2508.000 2503.000	800
Mini Ergoform	1	2242.000	2242.000	2242.000	2242.000	800
Lock inserts Mini Ergoform – No. 3524 E – pushbutton with No. 2123	 1 1	 2467.000 2469.000	 2467.000 2469.000	 2467.000 2469.000	 2467.000 2469.000	800
Gland panel – with brush insert – for PG segments	 1 1	 7705.000 2235.000	 7705.000 2235.000	 7705.000 2235.000	 7705.000 2235.000	801
Accessories for interior installation						
Slide rails	10	2260.000	2260.000	2260.000	2260.000	800
C rails	4	2237.000	2237.000	2237.000	2237.000	800
Blanking panels	3	See page 1036				

Rittal EL electronic Kombi-system, 3-part, depth = 24.24″/615 mm

US Patent No. 5 087 104
European Patent
No. 0 421 013
affecting DE, FR, GB, IT
German Registered Design
No. M 89 07 077
UK Reg. Design No. 2 006 041
Japanese Design Sample
No. 84 42 84
IR-Reg. Design No. DM/016 423
affecting BE, CH, DE, ES, FR, IT, LU, NL

Material:
Base box and center part:
16 ga/1.5 mm sheet steel
Mounting panel: 12 ga/2.75 mm sheet steel, galvanized, chromated
Viewing door: Extruded aluminum section, die-cast aluminum corner connectors, 4 mm safety glass

Finish:
E-coat primer, textured enamel
Enclosure RAL 7032 pebble grey
Door frame RAL 7033 mortar grey

Ratings:
NEMA 12/IP 55 to EN 60 529/10.91

Configuration:
1 base box,
2 cable gland panels,
1 glass door,
1 center part,
2 mounting rails, 19″/482.6 mm, installed,
1 mounting panel supplied loose,
installation hardware.

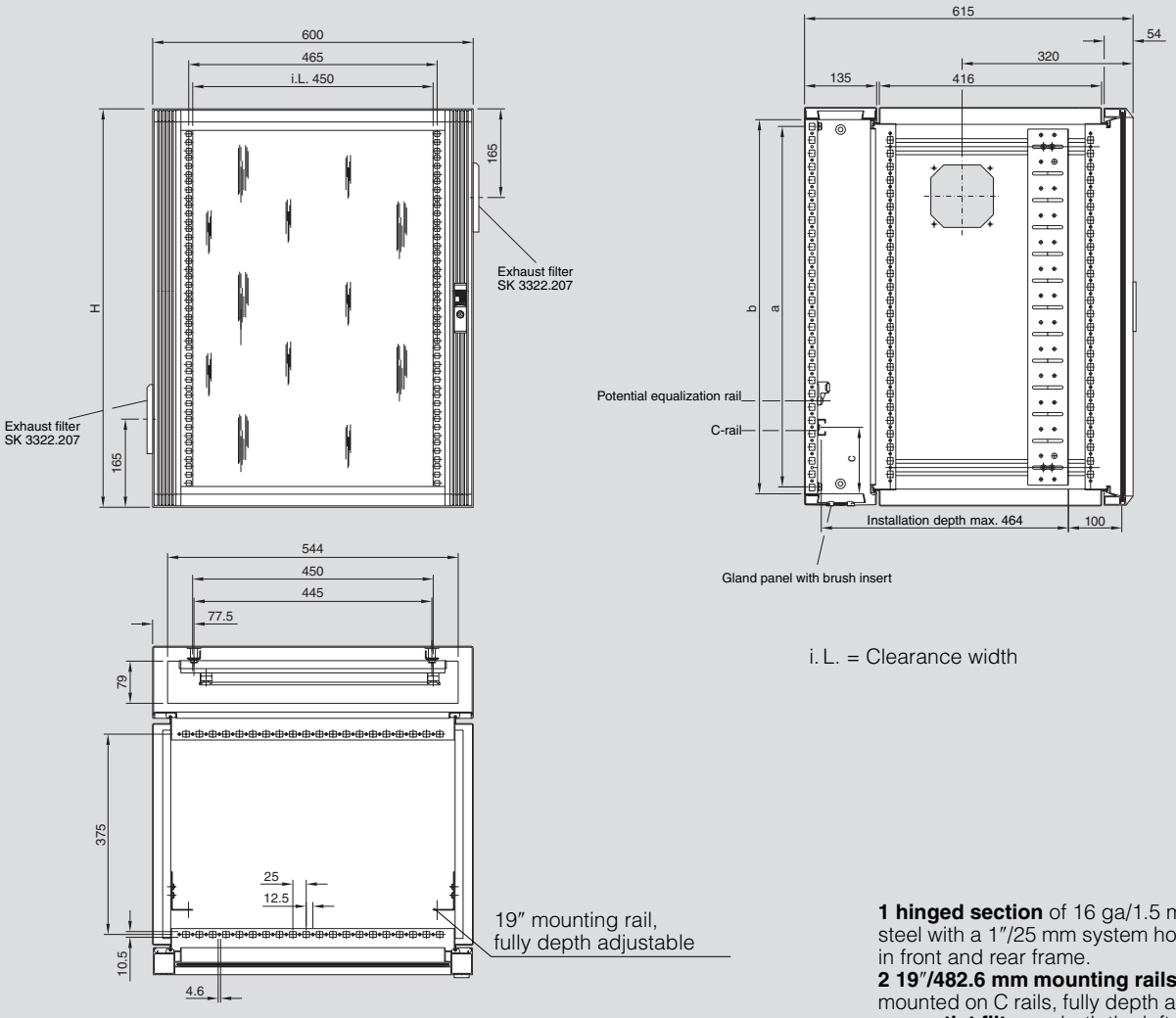
Special colors available upon request.

Accessories:
see pages 800/801.

Alternative options:
EMC version,
see pages 306/307.

Captive nuts
for securing of blanking panels and slide-in equipment M5 or M6 thread.
Details on page 1032.

Mini Ergoform
suitable for retrofitting, ready to accommodate 1.57″/40 mm semi-cylinders or lock-inserts.
Details on page 800.



i. L. = Clearance width

Technical description/configuration:
1 wall section of 16 ga/1.5 mm sheet steel with 2 vertical punched rails and **1 C rail** mounted horizontally, for cable clamping,

1 cable gland panel at the top, solid,
1 cable gland panel at the bottom, with brush inserts;
1 earth/grounding rail with star grounding
4 wall mounting brackets, .4″/10 mm.

1 hinged section of 16 ga/1.5 mm sheet steel with a 1″/25 mm system hole pattern in front and rear frame.
2 19″/482.6 mm mounting rails mounted on C rails, fully depth adjustable, one **outlet filter** on both the left and right, with the option of retrofitting a fan expansion kit.
1 viewing door, extruded aluminum section, die-cast aluminum corner connectors, 4 mm safety glass pane.

Color:
Wall section and hinged center section painted RAL 7035 light grey, viewing door in RAL 5018 teal.

DK wallmount distribution enclosures, pre-assembled, depth = 24.22″/615 mm	PU				Page
U		9	15	21	
Height (H) inches/mm		18.81/478	29.37/746	39.84/1012	
Width inches/mm		24 /600	24 /600	24 / 600	
Depth inches/mm		24.21/615	24.21/615	24.21/ 615	
a		407	674	941	
b		432	699	965	
c		103.5	124.5	133	
Part No. DK	1	**7709.635**	**7715.635**	**7721.635**	
Door					
Glass door with extruded aluminum frame/safety glass	1	①	①	①	
Sheet steel door	1	②	②	②	
Accessories					
Solid gland panel	1	2235.135	2235.135	2235.135	801
Gland panel with brush insert	1	7705.035	7705.035	7705.035	801
Gland panel for PG segments	1	2235.005	2235.005	2235.005	801
Fan expansion kit 230 V	1	7980.100	7980.100	7980.100	959
Spare filter mats	5	3322.700	3322.700	3322.700	568
Wall mounting bracket 40 mm	1	2503.000	2503.000	2503.000	800
Mini Ergoform	1	2242.035	2242.035	2242.035	800
Lock insert No. 3524 E	1	2467.000	2467.000	2467.000	800
Component shelf 2 U, static installation or full withdrawal, 12″/300 mm deep	1	7148.035	7148.035	7148.035	989
Component shelf 2 U, static installation, 10″/250 mm deep	1	7119.250	7119.250	7119.250	989

① included in configuration ② available upon special request

Basic Rittal EL, 3-part, depth = 24.21″/615 mm

Accessories:

see pages 800/801.

Additional accessories, see pages 876/877.

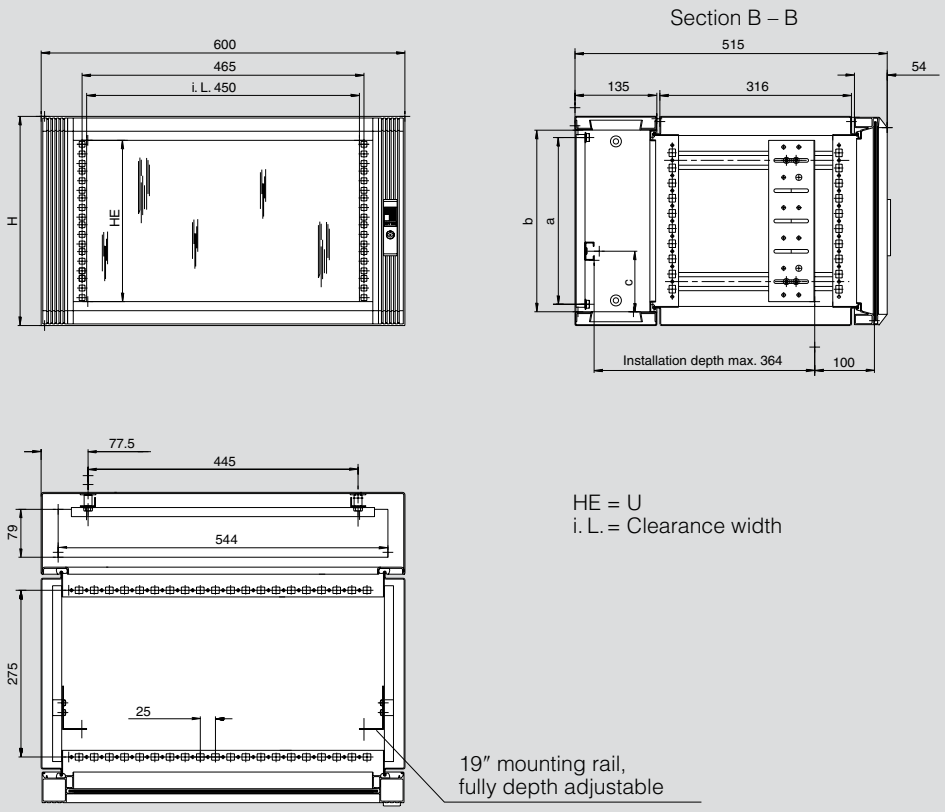
Lock systems
Standard double-bit lock insert may be exchanged for 27 mm, see page 942, or Mini Ergoform lock system, see page 800.

Available upon request:
- Fully modified wallmount distributor boxes
- Custom designs

Outlet filters, left and right, fitted as standard in the central hinged part.

The outlet filter can be extended with the **fan expansion kit.** Details on page 959.

Gland panel with brush insert may be substituted for the solid gland panel at the top. Details on page 801.



HE = U
i. L. = Clearance width

Technical description/configuration:
1 wall section of 16 ga/1.5 mm sheet steel with
2 vertical punched rails and
1 C rail mounted horizontally, for cable clamping
Cable gland panels solid, top and bottom
4 wall mounting brackets, .4″/10 mm

1 hinged center section of 16 ga/1.5 mm sheet steel with a 1″/25 mm system hole pattern in the front and rear frame.
2 19″ mounting rails
mounted on C rails, fully depth adjustable.
1 viewing door, extruded aluminum section, die-cast aluminum corner connectors, .16″/4 mm safety glass pane.

Color:
Wall section and hinged center section painted RAL 7035 light grey,
viewing door, RAL 5018 teal.

Ratings:
NEMA 12/IP 55 to EN 60 529/10.91.

DK wallmount distribution enclosures	PU							Page
U		6	9	12	15	18	21	
Height (H) inches/mm		13.58/345	18.82/478	24.09/612	29.37/746	34.56/878	39.84/1012	
Width inches/mm		24 /600	24 /600	24 /600	24 /600	24 /600	24 / 600	
Depth inches/mm		20.20/515	20.20/515	20.20/515	20.20/515	20.20/515	20.20/ 515	
a		274	407	540	674	807	941	
b		299	432	565	699	832	965	
c		99.5	103.5	120	124.5	128.5	133	
Part No. DK	1	**7706.035**	**7709.035**	**7712.035**	**7715.035**	**7718.035**	**7721.035**	
Special sizes (D = 16″/400 mm, 24″/600 mm)		②	②	②	②	②	②	
Door								
Viewing door with extruded aluminum section frame and safety glass	1	①	①	①	①	①	①	
Sheet steel door	1	②	②	②	②	②	②	
Accessories								
Gland panel with brush insert for cable entry	1	7705.035	7705.035	7705.035	7705.035	7705.035	7705.035	801
Gland panel for PG segments	1	2235.005	2235.005	2235.005	2235.005	2235.005	2235.005	801
Wall mounting bracket 1.57″/40 mm	1	2503.000	2503.000	2503.000	2503.000	2503.000	2503.000	800
Mini Ergoform handle	1	2242.035	2242.035	2242.035	2242.035	2242.035	2242.035	800
Lock insert No. 3524 E	1	2467.000	2467.000	2467.000	2467.000	2467.000	2467.000	800
Earth/grounding rail, horizontal	1	7113.000	7113.000	7113.000	7113.000	7113.000	7113.000	1013
Component shelf 2 U, stationary installation and full withdrawal	1	7148.035	7148.035	7148.035	7148.035	7148.035	7148.035	989
Component shelf 2 U, stationary installation	1	7119.250	7119.250	7119.250	7119.250	7119.250	7119.250	989
Component shelf 2 U, stationary installation, 5.51″/140 mm deep	1	7119.140	7119.140	7119.140	7119.140	7119.140	7119.140	989

① Included in configuration. ② Available upon special request.

Basic Rittal EL, 3-part, depth = 20.28″/515 mm

Accessories:
see pages 800/801.

Additional accessories,
see pages 876/877.

Lock systems
Standard double-bit lock insert may be exchanged for 27 mm lock inserts,
see page 942
or Mini Ergoform lock system,
see page 800.

Available upon request:
- Fully modified wallmount distributor boxes
- Special designs

Wall mounting bracket, 1.57″/40 mm
permits cable routing behind the enclosure.
Details on page 800.

Gland panel with brush insert
for cable entry.
Details on page 801.

Component shelf, 2 U
Punched, for stationary installation or full extension.
Details on page 989.

For EL electronic systems

Wall mounting bracket

For secure attachment of all EL wallmount enclosures. The wall mounting brackets, with .4″/10 mm or 1.57″/40 mm distance from the wall, also facilitate cable routing behind the enclosure, from the top down to the cable gland panel.

Wall distance	PU	Part No. SZ
10 mm	1	**2508.000**
40 mm	1	**2503.000**

Material:
Sheet steel, chromated

C rails

For infinite depth-variability of the mounting rails, installation hardware included.

Material:
Sheet steel, yellow chromate

For center section depth	PU	Part No. EL
216 mm	4	**2238.000**
316 mm	4	**2239.000**
416 mm	4	**2237.000**

German Patent No. 39 30 161

Slide rails

For the installation of heavy slide-in equipment.

Material:
Sheet steel, yellow chromate

For center section depth	PU	Part No. EL
216 mm	10	**2240.000**
316 mm	10	**2250.000**
416 mm	10	**2260.000**

Mini Ergoform handle

Prepared for 1.57″/40 mm semi-cylinders or for SZ 2467.000 and SZ 2469.000 lock inserts.

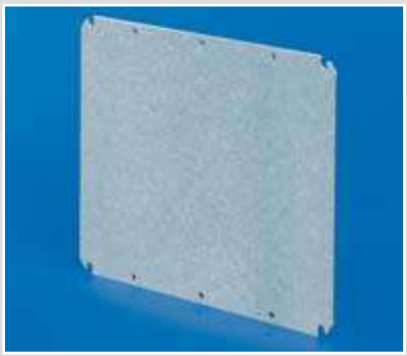
Version	Part No. EL
RAL 7032	**2242.000**
RAL 7035	**2242.035**

Lock inserts

Prepared for installation in Mini Ergoform. Part No. EL 2242.000.

Note:
Possible installation of lock inserts 27 mm, version A (see page 942) with further accessories upon request.

Lock system	PU	Part No. SZ
No. 3524 E	1	**2467.000**
Pushbutton with No. 2123	1	**2469.000**



Mounting panel

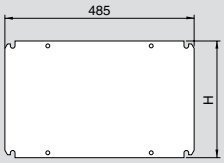
Mounting panel for retrofitting into the base frame.

Configuration:
Mounting panel

Material:
12 ga/2.75 mm sheet steel

Finish:
Galvanized

U	Height mm	Part No. EL
3	165	**2236.710**
6	299	**2236.720**
9	432	**2236.730**
12	565	**2236.740**
15	699	**2236.750**
18	832	**2236.760**
21	965	**2236.770**



Solid gland panel

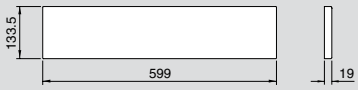
Multi-folded and welded gland panel for the base frame, with foamed-in gasket.

Configuration:
Gland panel

Material:
16 ga/1.5 mm sheet steel

Finish:
E-coat primer, textured enamel,
RAL 7032 pebble grey/RAL 7035 light grey.

Version	PU	Part No. EL
RAL 7032	1	**2235.100**
RAL 7035	1	**2235.135**



Gland panel with brush insert

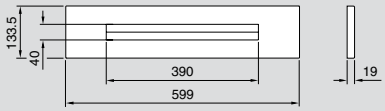
Multi-folded and welded gland panel with foamed-in seal and plastic brush inserts for simple cable entry.

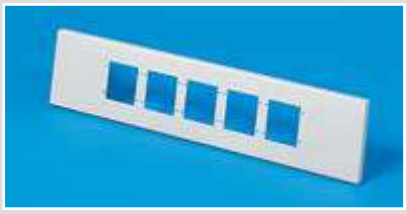
Supply includes:
Gland panel

Material:
16 ga/1.5 mm sheet steel

Version	PU	Part No. DK
RAL 7032	1	**7705.000**
RAL 7035	1	**7705.035**

Finish:
E-coat primer, textured enamel, RAL 7032 pebble grey/RAL 7035 light grey.





Gland panel for PG segments

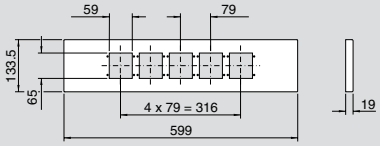
Multi-folded and welded with foamed-in seal and cutouts for PG segments
Part No. EL 2235.010 / .015 –
EL 2235.080 / .085.

Configuration:
Gland panel

Material:
16 ga/1.5 mm sheet steel

Finish:
E-coat primer, textured enamel, RAL 7032 pebble grey/RAL 7035 light grey.

Version	PU	Part No. EL
RAL 7032	1	**2235.000**
RAL 7035	1	**2235.005**



PG segments

Plastic segments with pre-punched, knock-out holes for cable glands.
Suitable for retrofitting to gland panel by simply screwing on Part No. EL 2235.000 / .005.

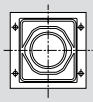
Material:
ABS, self-extinguishing to UL 94-V0.

Color:
RAL 7032 pebble grey/RAL 7035 light grey

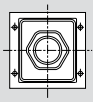
PG sizes	Part No. EL	
	RAL 7032	RAL 7035
29	**2235.010**	**2235.015**
21	**2235.020**	**2235.025**
21/11	**2235.030**	**2235.035**
16	**2235.040**	**2235.045**
16/13.5	**2235.050**	**2235.055**
13.5	**2235.060**	**2235.065**
11	**2235.070**	**2235.075**
neutral	**2235.080**	**2235.085**

PU = 5

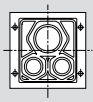
EL 2235.010 / 2235.015



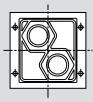
EL 2235.020 / 2235.025



EL 2235.030 / 2235.035



EL 2235.040 / 2235.045



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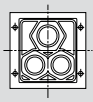
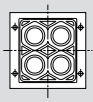
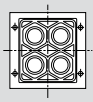


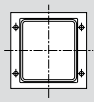
EL 2235.060 / 2235.065



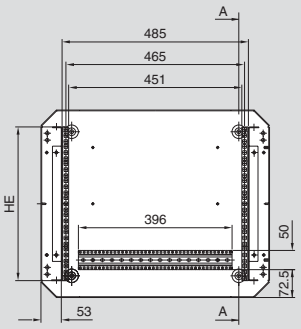
EL 2235.070 / 2235.075



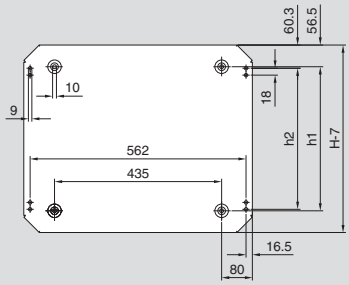
EL 2235.080 / 2235.085



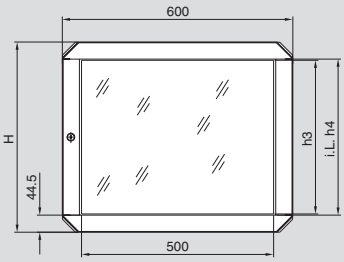
Wall section

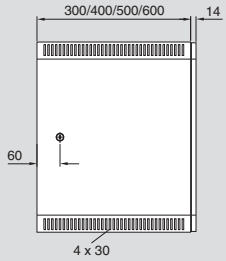


HE = U

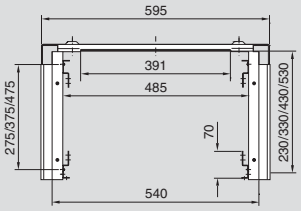


Housing cover

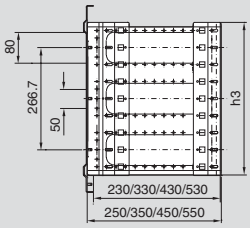


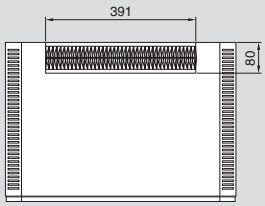


i. L. = Clearance width



Section A – A





Technical description/configuration:
1 wall section with pre-configured mounting brackets and brush insert for cable entry from below and above
1 combination rail for cable clamping from below, pre-installed to the wall section

1 enclosure cover consisting of a base and cover tray with vent slots and brush insert for cable entry from above and below, 2 security locks positioned on the sides
1 sheet steel door/viewing door (with safety glass), with security lock

1 pair of 19″/482.6 mm mounting rails, fastened 2″/50 mm from the front, infinitely depth-adjustable on the mounting bracket

U/SU	Height mm	Width mm	Depth mm	h1 (mm)	h2 (mm)	h3 (mm)	h4 (mm)	**Part No. with viewing door**	**Part No. with sheet steel door**
6/10	362	600	300	242	234	267	273	**7502.013**	**7502.113**
	362	600	400	242	234	267	273	**7502.014**	**7502.114**
	362	600	600	242	234	267	273	**7502.016**	**7502.116**
9/15	495	600	300	375	367	400	406	**7502.023**	**7502.123**
	495	600	400	375	367	400	406	**7502.024**	**7502.124**
	495	600	600	375	367	400	406	**7502.026**	**7502.126**
12/20	628	600	300	508	501	534	540	**7502.033**	**7502.133**
	628	600	400	508	501	534	540	**7502.034**	**7502.134**
	628	600	500	508	501	534	540	**7502.035**	**–**
	628	600	600	508	501	534	540	**7502.036**	**7502.136**
15/26	762	600	300	642	634	667	673	**7502.043**	**7502.143**
	762	600	400	642	634	667	673	**7502.044**	**7502.144**
	762	600	500	642	634	667	673	**7502.045**	**–**
	762	600	600	642	634	667	673	**7502.046**	**7502.146**
18/31	895	600	300	775	767	800	806	**7502.053**	**7502.153**
	895	600	400	775	767	800	806	**7502.054**	**7502.154**
	895	600	500	775	767	800	806	**7502.055**	**–**
	895	600	600	775	767	800	806	**7502.056**	**7502.156**
21/36	1028	600	300	908	901	934	940	**7502.063**	**7502.163**
	1028	600	400	908	901	934	940	**7502.064**	**7502.164**
	1028	600	600	908	901	934	940	**7502.066**	**7502.166**

Accessories		PU	for enclosure						Page
			6 U	9 U	12 U	15 U	18 U	21 U	
Mounting rails, 19″/482.6 mm		2	7502.201	7502.202	7502.203	7502.204	7502.205	7502.206	804
Mounting rails, metric		2	7502.211	7502.212	7502.213	7502.214	7502.215	7502.216	804
Gland panel, solid		2	7502.310						804
Wall mounting bracket, .4″/10 mm		1	2508.000						962
Wall mounting bracket, 1.57″/40 mm		1	2503.000						962
Combination rail for the enclosure depths		6	7502.304						805
Combination rail for the enclosure widths	12/16″ / 300/400 mm	6	7502.302						805
	20/24″ / 500/600 mm	6	7502.304						805
Slide rails for the enclosure depth	12″ / 300 mm	2	7063.000						1033
	16″ / 400 mm	2	7063.300						1033
	20/24″ / 500/600 mm	2	7063.400						1033
Earth/grounding kit		1 set	7502.240 / .260						805
Quick-release fastener		2	7502.220						804

Rittal QuickBox

Accessories:

see pages 804/805.

Additional accessories, see pages 876/877.

Material:
Wall mounting panel with mounting brackets:
14 ga/2.0 mm sheet steel
Enclosure cover:
19 ga/1.0 mm sheet steel
Door: Sheet steel door or viewing door with sheet steel frame and safety glass

Finish:
Powder painted
Enclosure: RAL 7035 light grey

Long hole slots on the mounting bracket for access to the rear of the patch panels or active components.

Quick-release fastener for simple locking from the front when there is no access to the side locks of the enclosure cover. Details on page 804.

Earth/grounding kit
For grounding all enclosure panels on the wall section. Details on page 805.

For Rittal QuickBox

Quick-release fastener

The new quick-release fastener provides optimum handling, even when used in inaccessible areas. To facilitate locking, the quick-release fastener is screwed to the mounting bracket at the front. This enables the QuickBox to be locked even when the fasteners on the sides are opened, allowing the enclosure cover to be attached and removed easily.

Material:
Sheet steel, painted RAL 7035 light grey.

Supply includes:
2 mounting brackets, including mounting material and quick-release fasteners.

PU	Part No. QB
2	**7502.220**

Solid gland panel

to cover the cable entry opening. For use in place of the standard brush insert top or bottom.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
2 gland panels
with installation hardware.

PU	Part No. QB
2	**7502.310**

Mounting rails, 19″/482.6 mm, 485 mm or 535 mm (metric)

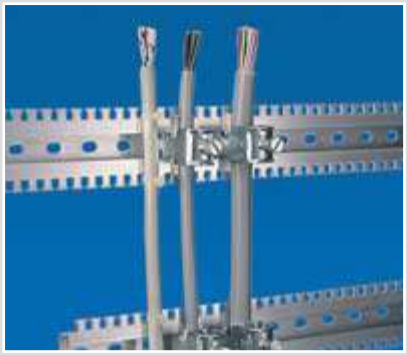
for installing 19″/metric equipment in the Rittal QuickBox.

Material:
Sheet steel

Color:
Painted RAL 7035 light grey

Configuration:
2 mounting rails,
installation hardware included.

For enclosures		Part No. QB	
U	SU	19″/482.6 mm	metric
6	10	**7502.201**	**7502.211**
9	15	**7502.202**	**7502.212**
12	20	**7502.203**	**7502.213**
15	26	**7502.204**	**7502.214**
18	31	**7502.205**	**7502.215**
21	36	**7502.206**	**7502.216**



Combination rail

for cable clamping and routing.
This features sprockets on top and bottom to which cable ties can be fastened, while cable clamps can be fastened to the built in C-rail.

Material:
Aluminum

Supply includes:
6 combination rails, installation hardware included.

For enclosure depths inches/mm	Length inches/ mm	PU	Part No. QB
12,16/300,400	8/200	6	**7502.302**
20,24/500,600	16/400	6	**7502.304**

For enclosure widths inches/mm	Length inches/ mm	PU	Part No. QB
24/600	16/400	6	**7502.304**

Accessories:

Cable ties,
see page 1010.

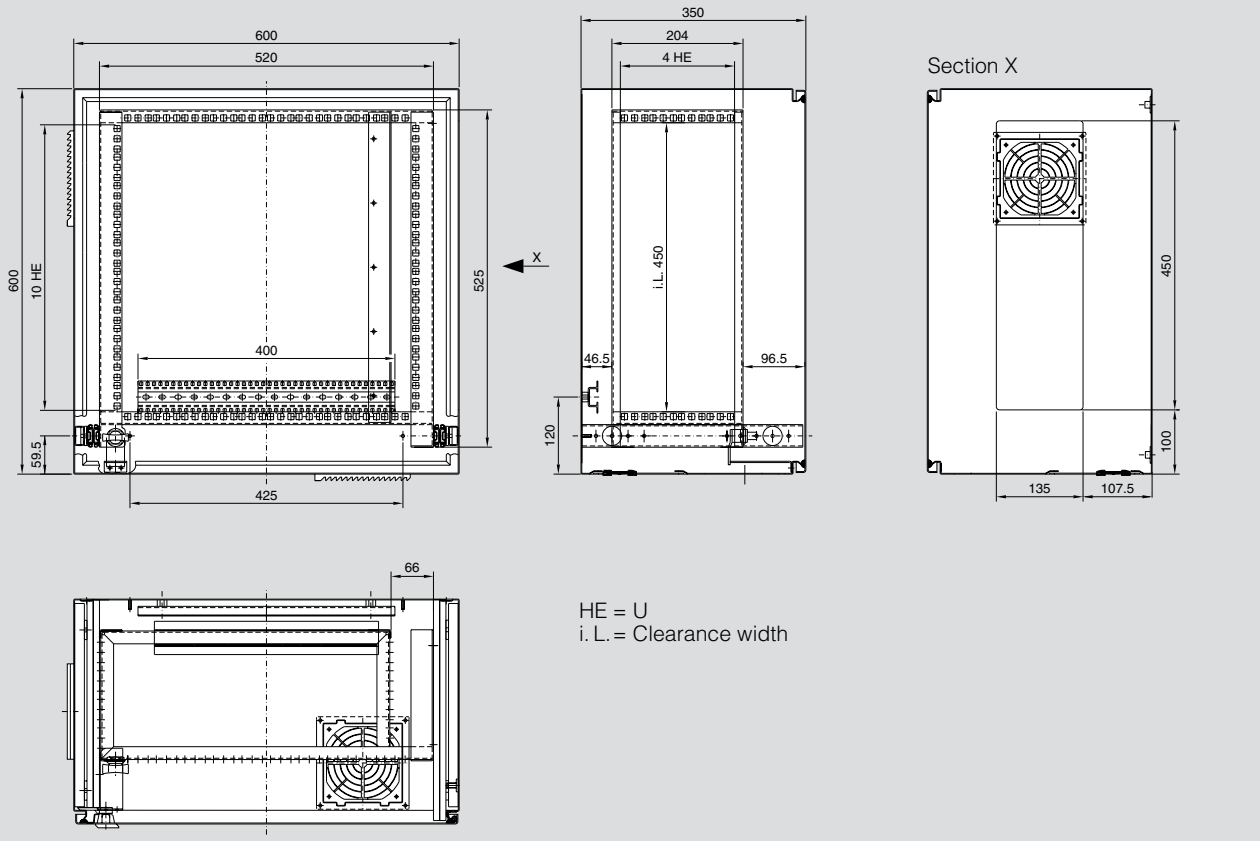
Cable clamps,
see page 981.

Earth/grounding set

Grounding conductors in the appropriate lengths to match the enclosure depth are included in the earth/grounding set, for grounding all enclosure panels on the wall mounting part. The ground strap uses a spoke connector which can be quickly disconnected and is conveniently accessible when the door is open. This way, the enclosure cover can be removed completely.

Configuration:
5 earth/ground conductors, installation hardware included.

For enclosure depth inches/mm	Part No. QB
12,16/300,400	**7502.240**
20,24/500,600	**7502.260**



HE = U
i. L. = Clearance width

Technical description/configuration:
1 wallmount distribution cabinet of 16 ga/1.5 mm sheet steel
1 door of sheet steel with two cam locks and double-bit lock insert
1 gland panel with two brush inserts for cable entry at the bottom
1 pull-out frame on telescopic slides, with one pair of 19″/482.6 mm mounting rails at the front, **10 U vertical or horizontal** and one pair of 19″/482.6 mm mounting rails **4 U at the side.**
1 outlet filter in the enclosure base
1 outlet filter on the left-hand side
1 viewing window on the right-hand side
1 combination rail at the bottom, with tabs top and bottom for cable ties and
1 C rail for cable clamps
1 cable collecting rail for fastening onto the pull-out frame at the rear
Optional accommodation of earth/grounding rail DK 7113.000 in a vertical position on the pull-out frame.

Material:
Sheet steel

Finish:
Enclosure painted RAL 7035 light grey.
Pull-out frame galvanized, chromated.

The complete solution for small networks

Active components can be installed between the side pair of 19″/482.6 mm mounting rails in the wallmount distribution cabinet with pull-out frame. LEDs and status displays of the active components can be monitored through the viewing window – no need to open the wallmount distribution cabinet. Patch panels may be used between the front pair of 19″/482.6 mm mounting rails. For easy installation, the pull-out frame can be removed from the telescopic slide via snap fasteners and subsequently re-inserted. Passive ventilation is achieved via the two fitted outlet filters; the outlet filter in the enclosure base may be supplemented with a fan expansion kit. Wall mounting brackets create adequate space for cable routing behind the wallmount distribution cabinet.

Wallmount distribution enclosures	PU		Page
Height inches/mm		24/600	
Width inches/mm		24/600	
Depth inches/mm		14/350	
Side 19″/482.6 mm level		4 U	
Front 19″/482.6 mm level		10 U	
Part No. DK	1	**7644.000**	
Accessories			
Gland panel with brushes	1	①	
Plastic cable gland panels	5	2563.000	896
Wall mounting bracket .4″/10 mm	1	2508.000	962
Wall mounting bracket 1.57″/40 mm	1	2503.000	962
Plastic handle with lock	1	2576.000	940
Viewing door, 34 mm profile depth	1	2731.000	922
Viewing door, 60 mm profile depth	1	2761.000	922
Shelf	1	7644.400	990
1 U component shelf	1	7119.140	989
Earth/grounding rails, horizontal	1	7113.000	1007
Fan extension kit 220 V (may only be installed at the bottom)	1	7980.100	959

① Included in delivery.

With pull-out frame, based on Rittal AE

Wallmount Enclosures

Accessories:
see pages 876/877.

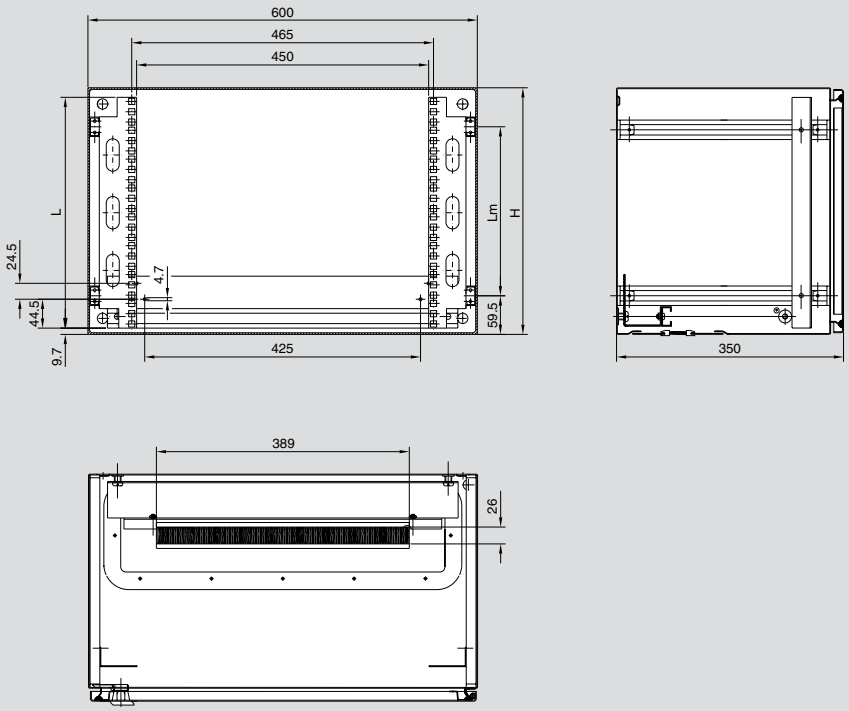
Lock system
Standard double-bit lock insert may be exchanged for plastic handle with security lock, see page 940.

Available on request:
- Fully modified wallmount distribution enclosures
- Special designs.

Viewing window to check the status displays of active components.

1 U component shelf
for individual positioning of active components.
Details on page 989.

Shelf
19″ components may also be mounted to the vertical sides here.
Details on page 990.



Wallmount distribution enclosures based on AE

The wallmount distribution cabinet, with fully depth-adjustable 19″/482.6 mm mounting rails, is the ideal solution for small network distribution over floor or small office area. Structured cabling is easily achieved, due to the gland panel with brushes in the enclosure base and a C rail for cable clamping. Cutouts on the sides next to the 19″/482.6 mm mounting rails are also included. The wall mounting bracket creates adequate space for cable routing behind the wallmount cabinet. If a plastic gland panel with PG knockouts is used instead of the standard gland panel with brushes, the wallmount distribution cabinet achieves a high protection category of NEMA 12/IP 55 (to EN 60529/10.91).

Technical description/configuration:
1 wallmount distribution cabinet of 16 ga/1.5 mm sheet steel
1 door of sheet steel, with one or two cam locks and double-bit lock inserts
1 gland panel with two brush inserts for cable entry at the bottom
2 mounting rails, 19″/482.6 mm, fully depth adjustable on C rails
1 C rail for clamping the inserted cables
1 metal bracket for optional accommodation of an earth/ground rail or power strip, 19″/482.6 mm
Enclosure painted RAL 7035 light grey.

Wallmount distribution enclosures	PU				Page
Height (H) inches/mm		15/380	24/600	30/760	
Width inches/mm		24/600	24/600	24/600	
Depth inches/mm		14/350	14/350	14/350	
L mm		355.6	577.85	711.2	
Lm mm		261	481	641	
U		8	13	16	
Part No. DK	1	**7641.000**	**7643.000**	**7645.000**	

Accessories		**Part No. DK**			
Gland panel with brush inserts	1	①	①	①	
Plastic cable gland panels	5	2563.000	2563.000	2563.000	896
Wallmount bracket .4″/10 mm	1	2508.000	2508.000	2508.000	962
Wallmount bracket 1.57″/40 mm	1	2503.000	2503.000	2503.000	962
Plastic handle with lock	1	2576.000	2576.000	2576.000	940
Viewing door, 34 mm profile depth	1	2730.000	2731.000	2732.000	922
Viewing door, 60 mm profile depth	1	2760.000	2761.000	2762.000	922
Sheet steel rain canopy, RAL 7032*	1	2511.200	2511.200	2511.200	954
Component shelf 2 U, fixed installation, 10″/250 mm	1	7119.250	7119.250	7119.250	989
Swing frame, RAL 7032*	1	2026.200	2027.200	2034.200	1021
Earth/grounding rails	1	7113.000	7113.000	7113.000	1013

① Included in delivery.
* RAL 7035 light grey available on request.

Based on Rittal AE

Accessories:
see pages 876/877.

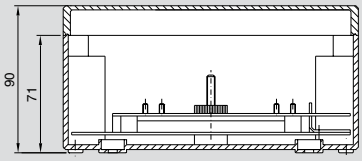
Lock system
Standard double-bit lock insert may be exchanged for 27 mm lock inserts, Type A
also security cylinder and plastic handles, Type B
see pages 940, 942.

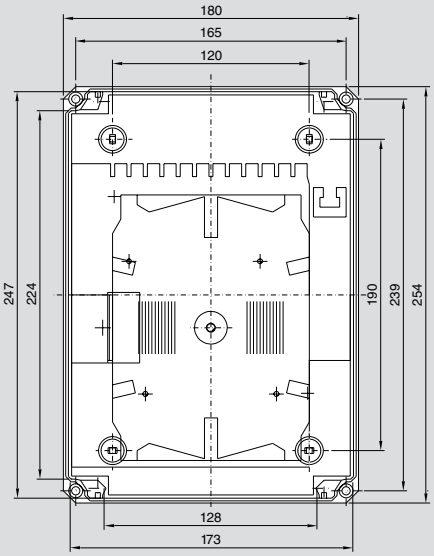
Available on request:
- Fully modified wallmount distribution enclosures
- Special designs

Earth/ground rail
fastens to the sheet metal bracket.
Details on page 1013.

Plastic handle
with integrated security lock.
Details on page 940.

Wallmount brackets
permit cable routing behind the enclosure.
Details on page 962.





Configuration of the small fiber-optic distribution box:

Mounting panel
With accommodation facilities for one or two splicing cassettes, whereby the width of the cassettes may vary from 3.62 to 4.72″/92 to 120 mm.

Dividing panel
Serves to cover the splicing cassettes and separates them from the patch cables. Accommodation facilities for patch panels and a cable clamp are also built-in.

Patch panel
Patch panels for F-SMA and E-2000-ST couplings as well as E-2000 Duplex and SC and SC duplex couplings are available.
For drawings of the cutouts, please see page 1042.
Other versions available upon request.

Cable entry
Knockouts for PG cable glands are integrated into the small fiber-optic distribution box for the purpose of cable entry. The cable glands (12 x PG 7 and 1 x PG 16) are included in the supply. The knockout apertures are also large enough for pre-assembled connectors (see below for diameters). Depending on diameter, the cable can either be held in the knockouts by a 2-part cable entry gland or cable entry grommets. Due to the variations in cable diameters, the two-part cable entry gland and the grommets are not included in the supply.
Diameters of knockouts:
.47 x .49″/12 x 12.5 mm
.07 x .89″/ 2 x 22.5 mm

Technical description/configuration:
1 enclosure and lid of fiberglass reinforced polycarbonate to accommodate splicing cassettes and patch panels
1 enclosure lid with 2 hinges; the enclosure is equipped with **knockouts** for PG screw-in cable glands;
12 x cable gland PG 7 and
1 x cable gland PG 16
1 mounting panel with variable accommodation of 2 splicing cassettes and integral anti-twist guard
1 dividing panel to cover the splicing, cassette; accommodation facilities for 2 patch panels and comb strip for cable clamping;
2 lid screws of polyamide with optional sealing; insulating caps for polyamide wall fixing screws

Gasket:
All around foamed-in-place polyurethene gasket.

Color:
RAL 7035 light grey

Ratings:
NEMA 4/IP 66 to EN 60 529.

Small fiber-optic distribution enclosures, polycarbonate	
Height inches/mm	10/254
Width inches/mm	7/180
Depth inches/mm	3.54/90
Number of fibers (when using patch panels)	1 – 24
Part No. DK	**7451.000**
12 cable glands, PG 7 (for duplex cables)	①
1 cable gland, PG 16	①
Hinges for hinged mounting of lid	①
Mounting panel with accommodation facilities for 2 splicing cassettes	①
Dividing panel for splicing cassettes and patch panels	①
Wall mounting brackets, packs of 40	**9583.000**

Patch panels (packs of 2)	Population per patch panel	Population per enclosure	**Part No. DK**
for 7.5 mm F-SMA couplings*	12	24	**7461.000**
for ST couplings*	12	24	**7462.000**
for SC, E-2000, E-2000 duplex couplings*	12/6	24/12	**7463.100**
for SC duplex couplings	6	12	**7463.200**

① Included in the configuration.

* For a drawing of the cutouts, see page 1042.

Small fiber-optic distribution enclosures, polycarbonate

Accessories:
see pages 876/877.

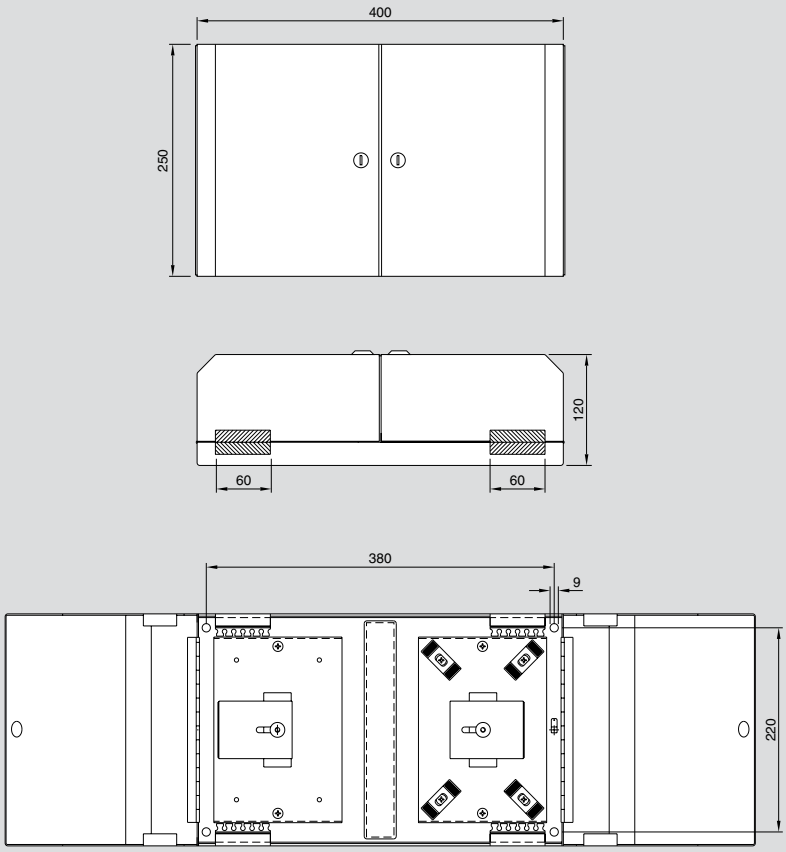
Advantages at-a-glance:

- High protection category NEMA 4/IP 66 to EN 60 529/ 10.91, also suitable for outdoor applications.
- Hinged enclosure lid.
- Sealable locking screws.
- Flexible splicing cassette accommodation for cassettes 92 – 120 mm wide.
- Accommodation of patch panels (available as accessories) with up to 24 locations for fiber-optic couplings.
- Integral strain relief for incoming and outgoing fiber-optic cables.
- Cable glands with integral strain relief included.

Patch panel for F-SMA and ST, SC duplex fiber-optic couplings.

Wall mounting brackets for mounting the enclosure from the outside.

The **small fiber-optic distribution cabinet** can accommodate up to 24 optical fibers.



Technical description/configuration:
1 enclosure to accommodate a maximum of 24 optical fibers, wall section with mounting holes for wall fastening,
2 doors with different locks, for separate access,
4 shunting rings, 70 x 44 mm,
2 splicing cassette fixture for 2 splicing cassettes,
4 rubber seals for cable entry,
4 comb strips for cable clamping.

Patch panels are easily fastened to the intermediate frame. One door to cover and lock the splicing cassette fixture, with separate lock. A second door to cover and lock the chamber/splicing cassette fixture, with separate lock.

Applications without patch panels:
If the marshalling enclosure is used without patch panels, 4 splicing cassettes, 2 on each side, may be integrated.

Material:
Sheet steel, 19 ga/1 mm

Color:
RAL 7035 light grey

DK fiber-optic marshalling enclosures	
Height inches/mm	10 /250
Width inches/mm	16 /400
Depth inches/mm	4.72/120
Number of fibers (when using patch panels)	1 – 24
Part No. DK	**7247.000**
Cable entry with rubber cable clamp strip	①
Cable clamp	①
Plastic cable shunting rings for fiber stock	①
Cassette holder, including anti-twist guard	①

Accessories	**Part No. DK**
Patch panel for 24 ST couplings	**7247.010**
Patch panel for 24 SC, E 2000 couplings*	**7247.020**
Patch panel for 12 SC duplex couplings	**7247.030**

* 12 E 2000 duplex couplings can be accommodated.

① Included in configuration.

Fiber-optic marshalling enclosures

German Patent No. 195 47 135

Accessories:
see pages 876/877.

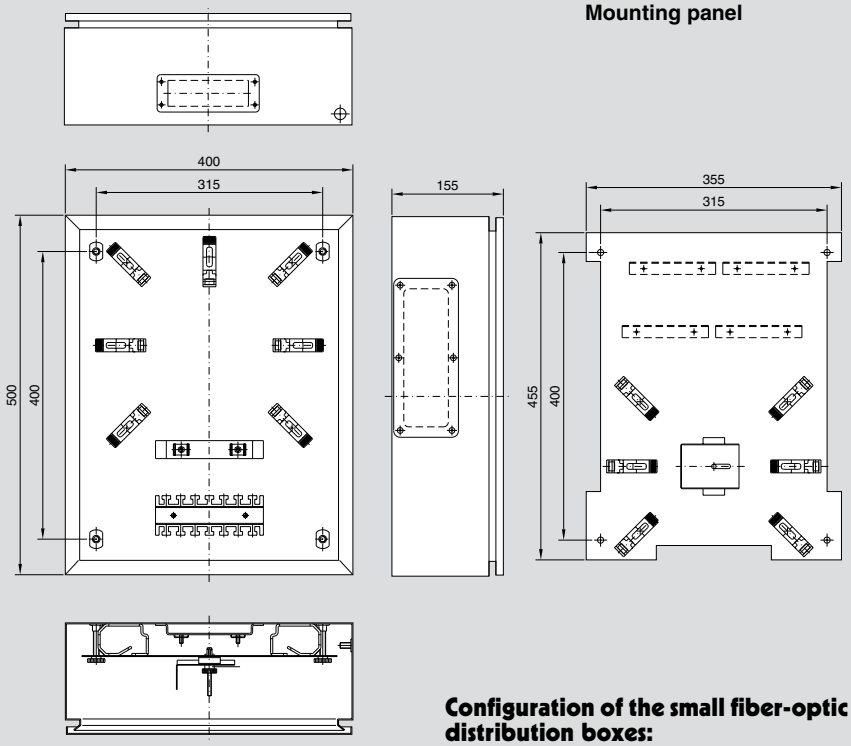
Lock system
Separate security locks for the splicing cassette fixture and the chamber, with two keys.

Patch panel
Patch panels with different cutouts are available.
For drawings of the cutouts, please see page 1042.
Other versions available on request.

Splicing cassette fixture
for different splicing cassette sizes, included as standard in the supply.

Two different locks
for separate access.

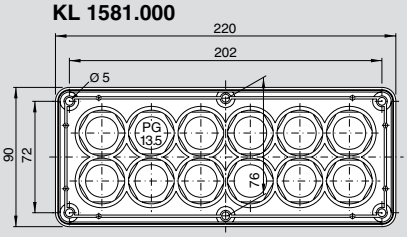
Patch panel
for fiber-optic technology.



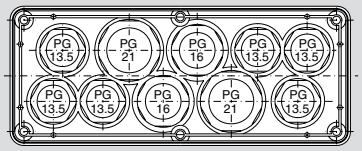
Mounting panel

Plastic cable gland panels:
(accessories)

KL 1581.000



KL 1582.000



Configuration of the small fiber-optic distribution boxes:

Technical description/configuration:
1 enclosure of sheet steel with
2 gland panels of sheet steel, sides
1 gland panel, bottom
7 cable shunting rings, 70 x 44 mm,
2 strain relief clips
1 cable clamp rail, double
1 door of sheet steel, with double-bit closures, 2 hinges on the right
1 mounting panel of sheet steel with
6 cable shunting rings, 70 x 44 mm,
4 location points for patch panels
1 splicing cassette holder.

Basic enclosure:
With cable shunting rings to accommodate the fiber stock and a strain relief system for incoming and outgoing cables.

Mounting panel:
With accommodation for
4 splicing cassettes and 4 patch panels.

Patch panels:
4 patch panels for F-SMA and ST couplings with different cutouts are available.
Other versions available on request.

Material:
Sheet steel

Color:
RAL 7035 light grey

Cable entry:
A gland panel for cable entry is fitted as standard at the bottom of the enclosure. This can be exchanged for the two-part cable gland SZ 2400.000. Retrospective insertion of cable loops at any point of an installed cable is no problem (window cutout). Gland panels are fitted on the left and right; these can likewise be removed to provide access for connection cables. If a higher protection category is required, plastic cable gland panels may also be used here.

Ratings:
NEMA 12/IP 55 to EN 60 529/10.91.

DK small fiber-optic distribution boxes		Page
Height inches/mm	20 /500	
Width inches/mm	16 /400	
Depth inches/mm	6.10/155	
Number of fibers (when using patch panels)	1 – 48	
Part No. DK	**7454.000**	
Mounting panel with splicing cassette fixture	①	
Shunting ring	①	
Cable entry	①	
Cable clamp and strain relief	①	

Patch panel

Patch panel, maximum population with 4 patch panels	Locations	PU	**Part No. DK**	
for 7.5 mm F-SMA couplings*	12	2	**7461.000**	
for ST couplings*	12	2	**7462.000**	
for SC-, E-2000-, E-2000 duplex couplings*	12/6	2	**7463.100**	
for SC duplex couplings*	6	2	**7463.200**	

Accessories	PU	**Part No.**	
Cable gland with 2 half-shells, cable diameter from 8 – 36 mm, reduced protection category	1	2400.000	909
Plastic cable gland panel, PG size 13.5, for side mounting	5	1581.000	896
Plastic cable gland panel, PG size 13.5/16/21, for side mounting	5	1582.000	896
Wall mounting bracket, zinc-plated, passivated, 40 mm	1	2503.000	962
Wall mounting bracket, zinc-plated, passivated, 10 mm	1	2508.000	962
Plastic handle	1	2533.000	940
Plastic handle with security cylinder insert	1	2576.000	940
Security cylinder insert no. 3524 E	1	2571.000	943

① Included in the supply.

* For a drawing of the cutouts, see page 1042.

Small fiber-optic distribution boxes, based on Rittal AE

This enclosure is ideal for break-out applications where the cable is routed through a nodal point (enclosure). Only fibers of the break-out cable which are actually needed are processed in the enclosure, while the remaining fibers are laid in the enclosure for use with another nodal point. The enclosure can be used with or without patch panels. Buffered fiber-optic wires and splicing cassettes can also be used.

Lock inserts system
Standard double-bit lock insert, may be exchanged for 27 mm lock inserts, Type A and security cylinders and plastic handles, Type B, see page 940 – 943.

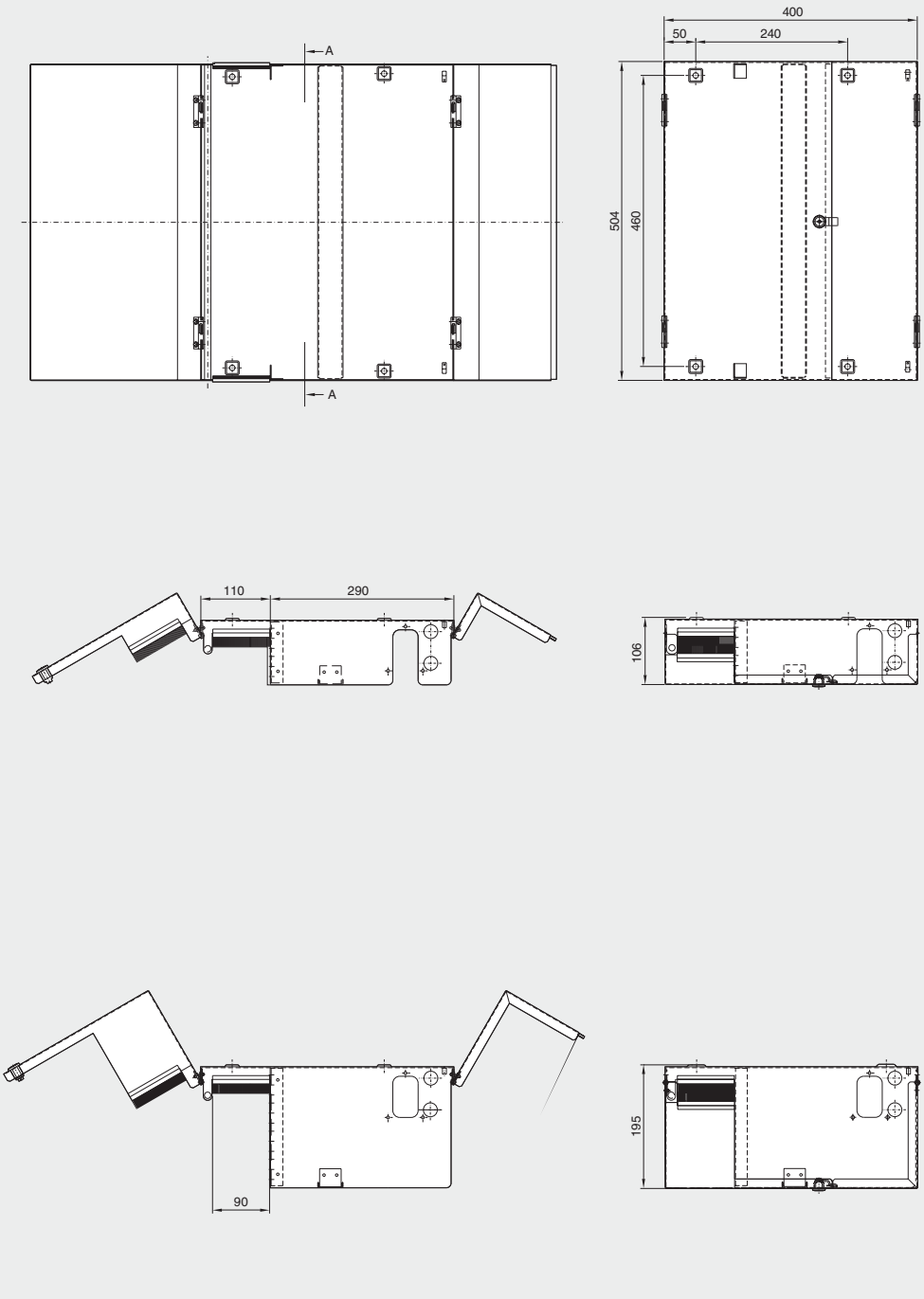
Available upon request:
- Custom designs

Accessories:
see pages 876/877.

Patch panel
4 patch panels may be mounted in one enclosure.

PG cable glands
for fiber-optic transmission cable entry with cable flange panels.
Details on page 1055.

Splicing cassette fixture
Standard configuration accommodates up to 4 splicing cassettes.



Office distribution box, 2 and 4 U

Company-wide communication demands bring about more frequent technical expansions and upgrades in the office environment. Comprehensive cabling can be achieved with the office distribution box. This wallmount distribution box provides a neat, structured solution for FTTD concepts. The vertical arrangement of the 19″/482.6 mm level guarantees a super-slimline design.

The 2 U or 4 U mounting level inside may be populated with patch panels and/or active compo-nents. Behind the 19″/482.6 mm mounting level, the installation depth is 280 mm, and there is 3.54″/90 mm of free space in front for cable routing to comply with bending radiuses. The asymmetrically divided doors allow expedient separation between the inlet and outlet of the cable unit.

Brush inserts are provided in the left-hand area of the enclosure for cable entry, with the option of attaching to the rods. On the right-hand side there are large cutouts for cables and the option of attaching PG screwed cable glands. The patch panels can be selected from the extensive range of Rittal accessories.

Office distribution box	2 U	4 U
Height inches/mm	19.84/504	19.84/504
Width inches/mm	16 /400	16 /400
Depth inches/mm	4.17/106	7.68/195
Part No. DK	**7245.000**	**7245.400**

Office distribution box, 2 and 4 U, for fiber-optic and copper cables

Material:
Sheet steel, 16 ga/1.5 mm

Color:
RAL 7035 light grey

Configuration:
Office distribution box, fully assembled.

Other models
available on request.

Lock system:
Security lock.
Separate access authorization available on request.

Variable cable entry and exit can be achieved from above and below.

Patch panels for fiber-optic and copper transmission cables.
Details on page 1038 – 1043.

Cables are inserted into the distribution box at the side cutouts or with PG screwed cable glands.

RNC enclosure:

Dimensions in mm (H x W x D)		Qty.	255 x 342 x 280	Qty.	390 x 342 x 280	Qty.	490 x 342 x 400	Qty.	564 x 560 x 580
Maximum users			4		8		12		24 (48)
Version			Modular 42 HP (1/2 19″)		Modular 42 HP (1/2 19″)		LSA 84 HP (19″)		LSA 84 HP (19″)
U			4		8		6		12
Installation			horizontal		horizontal		vertical		horizontal
Empty enclosure, single	**Part No. DK**	1	**7870.100**	1	**7870.200**	1	**7870.300**	1	**7870.400***
Empty enclosure, bulk pack	**Part No. DK**	24	**7870.500***	18	**7870.510***	12	**7870.520***	–	**–**

RNC enclosures including passive connection technology:

RNC enclosure (specifications as above):		1		1		1		1	
Distribution panel includ. patch cable category 5:									
Distribution panel, category 5, 8-port, STP, modular		1		1		–		–	
Distribution panel, category 5, 24-port, STP, LSA		–		–		1		1	
Patch cable, MegaLine 526 SC flex 4P, RJ 45 connectors both ends, moulded, cable in yellow		8	Cable length 10″/0.25 m	8	Cable length 10″/0.25 m	12	Cable length 24″/0.6 m	12	Cable length 24″/0.6 m
Complete enclosure, single	**Part No. DK**	1	**7870.110***	1	**7870.210***	1	**7870.310***	1	**7870.410***
Complete enclosure, bulk pack	**Part No. DK**	24	**7870.550***	18	**7870.560***	12	**7870.570***	–	**–**

Accessory kits:

Telephone distribution panel including patch cable category 5:		Qty.		Qty.	
Telephone distribution panel, category 3, 8-port, UTP, modular		1		–	
Telephone distribution panel, category 3, 25-port, UTP, LSA		–		1	
Patch cable, RJ 45 connectors both ends, moulded, MegaLine 526 SC flex 4P, cable in blue		8	Cable length 10″/0.25 m	12	Cable length 24″/0.6 m
Single	**Part No. DK**	1	**7870.800**	1	**7870.810**
Bulk pack	**Part No. DK**	6	**7870.580**	6	**7870.590**

Distribution panel including patch cable category 5:		Qty.		Qty.	
Distribution panel, category 5, 8-port, STP, modular		1		–	
Distribution panel, category 5, 24-port, STP, LSA		–		1	
Patch cable, RJ 45 connectors both ends, moulded, MegaLine 526 SC flex 4P, cable in yellow		8	Cable length 10″/0.25 m	12	Cable length 24″/0.6 m
Single	**Part No. DK**	1	**7870.820**	1	**7870.830**
Bulk pack	**Part No. DK**	6	**7870.595**	6	**7870.600**

Connection boxes:		Qty.	
Connection box in modular technology, 2 x RJ 45 encl. category 5, screened, surface mount	**Part No. DK**	6	**7870.610***
Connection box in KDM (LSA technology), 2 x RJ 45 encl. category 5, screened, surface mount	**Part No. DK**	6	**7870.615***

Patch cable for modular technology category 5: RJ 45 connectors both ends, moulded, MegaLine 526 SC flex 4P			Qty.	Cable length 0.6 m	Qty.	Cable length 1.0 m
Single pack (pack of 12)	Cable in yellow	**Part No. DK**	1	**7870.620**	1	**7870.621**
	Cable in blue	**Part No. DK**	1	**7870.625**	1	**7870.626**
Bulk pack (pack of 12)	Cable in yellow	**Part No. DK**	40	**7870.630**	40	**7870.631**
	Cable in blue	**Part No. DK**	40	**7870.635**	40	**7870.636**

Connection cable for LSA and modular technology category 5: MegaLine 526 SC flex 4P, RJ 45 connectors both ends, moulded, cable in RAL 7035 light grey, prefabricated		Qty.	Cable length 2.0 m	Qty.	Cable length 3.0 m	Qty.	Cable length 5.0 m
Single pack (pack of 8)	**Part No. DK**	1	**7870.622***	1	**7870.623***	1	**7870.624***
Bulk pack (pack of 8)	**Part No. DK**	40	**7870.632***	30	**7870.633***	8	**7870.634***

Installation cable for modular technology category 5:		Single cable		Bulk pack	
MegaLine 526 SC flex 4P, RJ 45 connectors, moulded, cable in RAL 7035 light grey, prefabricated (cable length in ft/m)		Qty.		Qty.	
Cable: 32.8/10	**Part No. DK**	1	**7870.910***	40	**7870.640***
Cable: 49.21/15	**Part No. DK**	1	**7870.911***	24	**7870.641***
Cable: 65.62/20	**Part No. DK**	1	**7870.912***	20	**7870.642***
Cable: 82.02/25	**Part No. DK**	1	**7870.913***	16	**7870.643***
Cable: 98.45/30	**Part No. DK**	1	**7870.914***	16	**7870.644***
Cable: 114.83/35	**Part No. DK**	1	**7870.915***	8	**7870.645***
Cable: 132.24/40	**Part No. DK**	1	**7870.916***	8	**7870.646***

Installation cable for modular technology category 5:		Single cable		Bulk pack	
MegaLine 526 SC flex 4P, RJ 45 connectors, moulded, cable RAL 7035 light grey, prefabricated (cable length in ft/m)		Qty.		Qty.	
Cable: 148.64/45	**Part No. DK**	1	**7870.917***	8	**7870.647***
Cable: 164.04/50	**Part No. DK**	1	**7870.918***	8	**7870.648***
Cable: 180.44/55	**Part No. DK**	1	**7870.919***	8	**7870.649***
Cable: 196.85/60	**Part No. DK**	1	**7870.920***	6	**7870.650***
Cable: 213.25/65	**Part No. DK**	1	**7870.921***	6	**7870.651***
Cable: 229.64/70	**Part No. DK**	1	**7870.922***	6	**7870.652***

Upon request: Installation cable for LSA technology, category 5: MegaLine 524 SC 4 P H. Specifications subject to change. *Lead times upon request.

Material:
DK 7870.100 / .200 / .300:
16 ga/1.5 mm sheet steel
Smoked grey acrylic glass
Aluminum corner trim panels
Corner feet made from thermoplastic foam
DK 7870.400:
Extruded aluminum sections
Smoked grey acrylic glass
Corner feet made from thermoplastic foam

Color:
Body: RAL 7035 light grey
Corner trim panels: RAL 7030 stone grey

Further information about RNC channels
can be found at www.rittal-net.com

RNC – Rittal-Net.com

Accessories:
see pages 820/821.

Rittal-Net.com is the passive platform for the fast installation of expandable communications networks in the small office sector.
Four designer housings, fitted with connecting leads, patch cables and distribution panels, are tailored to the special requirements of the SOHO market. Work groups of 2 to 48 users can be set up simply and quickly.

As a special integration service, complete passive systems are prefabricated for segmented user groups. When the network grows, the housings are simple to expand accordingly, true to the motto “Investments in the future are safe investments.”

Attractive design to suit any modern office environment.

The enclosures expand in line with the network, thanks to their mutual compatibility.

For RNC enclosures

Base/plinth, 2.36″/60 mm high

for 42 HP ½ 19″/269.2 mm enclosures and vertical 84 HP 19″/482.6 mm tower enclosures, to accommodate a maximum of two 3-way power strips DK 7240.110, and also as storage space for cables.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
Base/plinth, installation hardware.

For RNC enclosures 42 HP ½ 19″/269.2 mm		Part No. DK
Width inches/mm	Depth inches/mm	
13.46/342	11.02/280	**7870.710**

For RNC tower enclosures 84 HP 482.6 mm (19″), vertical		Part No. DK
Width inches/mm	Depth inches/mm	
13.46/342	15.76/400	**7870.715**

Console for wall mounting

System-compatible wall bracket for 42 HP ½ 19″/269.2 mm enclosures and vertical 84 HP 19″/482.6 mm tower enclosures, with clearance for optimum cable routing in the wall area.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
Console, installation hardware.

For RNC enclosures 42 HP ½ 19″/269.2 mm		Part No. DK
Width inches/mm	Depth inches/mm	
13.46/342	11.02/280	**7870.700**

For RNC tower enclosures 84 HP 482.6 mm (19″), vertical		Part No. DK
Width inches/mm	Depth inches/mm	
13.46/342	15.76/400	**7870.705**

Blanking panel 1 U, 42 HP ½ 19″/269.2 mm

as an extension cover.

Material: Sheet steel

Color: RAL 7035 light grey

PU	Part No. DK
2	**7870.720**

Entry panel 1 U, 42 HP ½ 19″/269.2 mm

for system-compatible entry of patch cables which complies with the minimum bending radii. Cutout approximately 8.94 x 1.18″/227 x 30 mm.

Material:
Sheet steel

Color:
RAL 7035 light grey

PU	Part No. DK
2	**7870.730**

Cable management panel 1 U, 42 HP 1/2 19″/269.2 mm

for optimum horizontal cable routing, with tray and 5 shunting rings.

Material:
Sheet steel

Color:
RAL 7035 light grey

PU	Part No. DK
1	**7502.610**

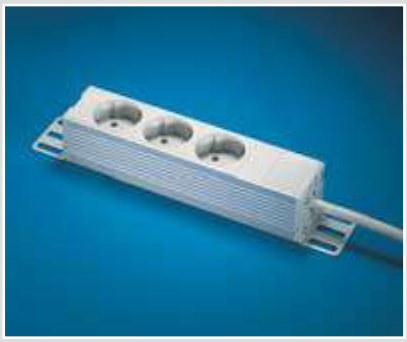
Component shelves 1 U, 1/2 19″/42 TE fixed installation

for attachment to a pair of 1/2 19″/269.2 mm mounting rails. The 5.51″/140 mm deep component shelf is the ideal support surface for small active components such as modems or mini-hubs.

Material:
Sheet steel

Color:
RAL 7035 light grey

Depth inches/mm	PU	Part No. DK
5.51/140	1	**7502.600**



3-plug power strip (without switch)

The power strip can be installed in the base/plinth and on the frame of RNC enclosures. The arrangement of the sockets at a 45° angle allows unrestricted use of angular connectors.

Technical description:
Rated voltage: 250 V
Rated current: 16 A
Connection cable:
6 ft/2 m, grey, without plug, H05VV-F3G1.5
Dimensions L x W x H:
262.6 x 44.2 x 44 mm
DIN 49 440

Material:
Aluminum, natural anodized polycarbonate sockets.

Configuration:
Power strip, 2 angle brackets, installation hardware.

Part No. DK	7240.110

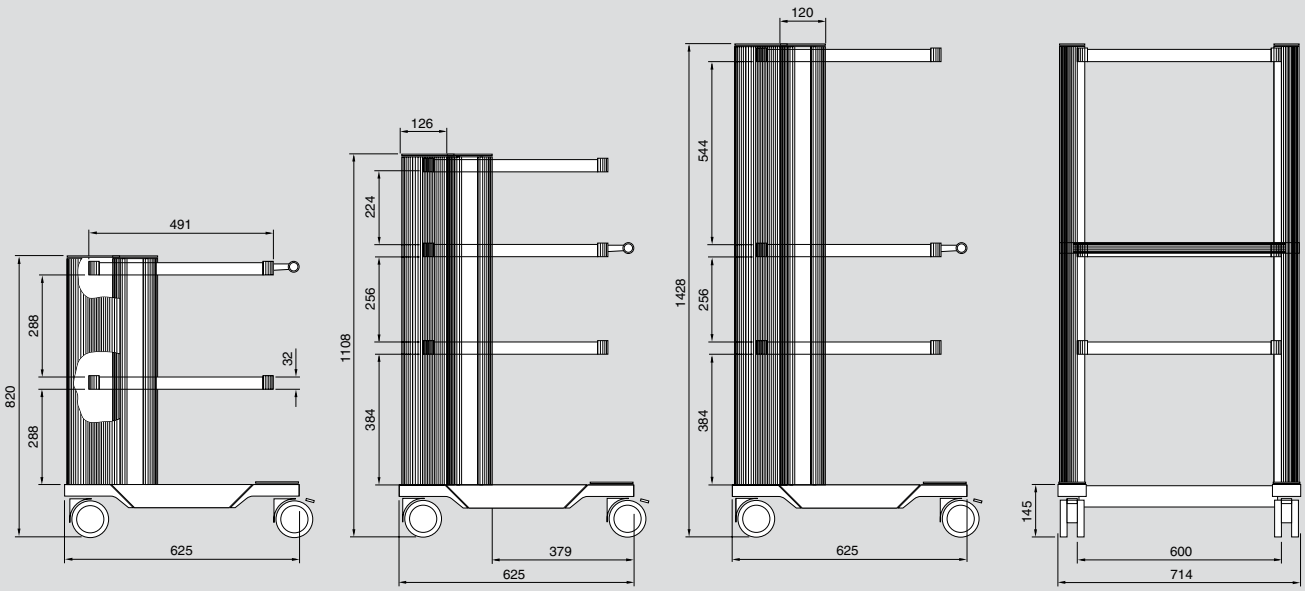
3-plug power strip (with switch)

for mounting on the frame of RNC enclosures (base/plinth mounting is not possible), illuminated 2-pole switch, with safety bars to prevent accidental contact.

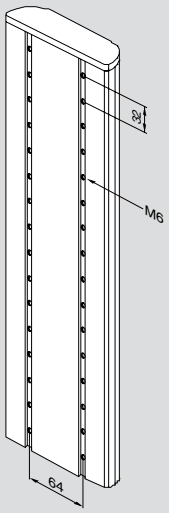
Design as above, but with dimensions L x W x H:
306.6 x 44.2 x 44 mm

Part No. DK	7240.120

Type 1 **Type 2** **Type 3**



Tapped strip



RiLab mobile workstations

The mobile workstation is ideal for positioning sensitive equipment securely while remaining flexible in terms of location. Useful accessories turn the RiLab into a “multi-use appliance” for the most diverse applications in the network environment. It can be used as a mobile laboratory or test stand, a flexible measurement station, computer support point or assembly workstation.

The versatile options are virtually unlimited. Functionally designed for 19″/482.6 mm systems, the mobile workstation can also be combined with Rittal RiCase enclosures.

RiLab mobile workstation	**Type 1**	**Type 2**	**Type 3**	Page
Height inches/mm	32.28/820	43.63/1108	56.22/1428	
Width inches/mm	28.11/714	28.11/ 714	28.11/ 714	
Depth inches/mm	24.61/625	24.61/ 625	24.61/ 625	
Part No. DK	**7600.100**	**7600.200**	**7600.300**	

Configuration				
Base frame, RAL 7035 light grey/RAL 5018 (decoration), with two integral power columns. Supporting columns each with two vertical tapped strips M6.	●	●	●	
1 shelf with handle rod, W x D 24 x 20″/600 x 490 mm	●	●	●	
1 shelf, W x D 24 x 20″/600 x 490 mm	●	●	●	
1 additional shelf, W x D 24 x 20″/600 x 490 mm	–	●	●	
4 twin casters, 4″/100 mm diameter, 2 of which lockable	●	●	●	

Accessories	**Part No. DK**			
Additional shelf, W x D 24 x 20″/600 x 490 mm	7600.500	7600.500	7600.500	824
Rotating, tilting monitor shelf, W x D 16 x 20″/410 x 491 mm	7600.530	7600.530	7600.530	825
Pull-out shelf, with integral mouse pad, W x D 21.33 x 20″/542 mm x 490 mm	7600.520	7600.520	7600.520	824
Pull-out shelf, W x D 21.33 x 20″/542 mm x 490 mm	7600.510	7600.510	7600.510	824
Drawer with integral identification strip, H x W x D 4 x 24 x 20″/96 x 600 x 490 mm	7600.540	7600.540	7600.540	825
Adaptor set for installing Rittal RiCase enclosures, tiltable	7600.590	7600.590	7600.590	825
6 socket power strip, with switch, 16 A, 250 V, for installation in the power column	7600.600	7600.600	7600.600	825

Rittal RiLab

Accessories:
see pages 824/825.

Load capacity:
Base frame 496 lbs/225 kg total
Shelves: 110 lbs/50 kg per shelf

Material:
Sheet steel, 16 ga/1.5 mm, spray finished in RAL 7035 light grey,
support column of extruded aluminum,
corner pieces and trim panels in ABS, RAL 5018 teal.

Special colors available upon request.

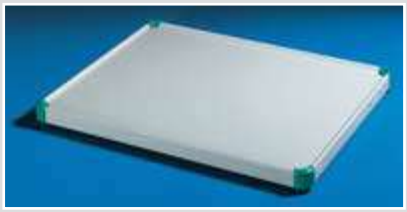
Supply includes:
1 mobile workstation, fully assembled.

The tapped strip integrated into the **supporting column** ensures flexible mounting on a 32 mm height pitch pattern.

6 socket power strip with switch, housed in the power column in a space-saving design.

RiCase enclosures can be integrated superbly into the RiLab frame using the special **adaptor set**.

For Rittal RiLab



Pull-out RiLab shelf

The pull-out shelf is fastened to the supporting pillars via telescopic slides. It guarantees an extension of up to 12″/300 mm. The shelf can be locked in an retracted or extended position via two locating points.

Load capacity:
44 lbs/20 kg surface load, static

Design:
Sheet steel, 16 ga/1.5 mm, RAL 7035 light grey,
decorative parts of ABS, RAL 5018 teal.

Configuration:
1 shelf with telescopic slides,
installation hardware included.

H x W x D inches/mm	PU	Part No. DK
1.25 x 24 x 20/ 32 x 600 x 490	1	**7600.500**

Pull-out RiLab shelf, with mouse pad

The pull-out shelf with integral mouse pad offers ideal accommodation for the mouse and keyboard. The maximum extension is 11.5″/295 mm.

Load capacity:
44 lbs/20 kg surface load, static

Design:
Sheet steel, 16 ga/1.5 mm, RAL 7035 light grey,
decorative parts of ABS, RAL 5018 teal.

Configuration:
1 shelf with telescopic slides and integral mouse pad,
installation hardware included.

H x W x D inches/mm	PU	Part No. DK
2 x 21 x 20/ 48 x 542 x 490	1	**7600.510**

Pull-out RiLab shelf, with mouse pad

The pull-out shelf with integral mouse pad offers ideal accommodation for the mouse and keyboard. The maximum extension is 11.5″/295 mm.

Load capacity:
44 lbs/20 kg surface load, static

Design:
Sheet steel, 16 ga/1.5 mm, RAL 7035 light grey,
decorative parts of ABS, RAL 5018 teal.

Configuration:
1 shelf with telescopic slides and integral mouse pad,
installation hardware included.

H x W x D inches/mm	PU	Part No. DK
2.5 x 21 x 20/ 64 x 542 x 490	1	**7600.520**

Rotating, tilting monitor shelf

The monitor shelf has an all-round safety edge. It can be tilted with infinite variation through ± 15°. Horizontally, the shelf can be rotated by 70° with infinite variation and locked.

Load capacity:
77 lbs/35 kg surface load, static

Design:
Sheet steel, 16 ga/1.5 mm, RAL 7035 light grey,
decorative parts of ABS, RAL 5018 teal.

H x W x D mm	PU	Part No. DK
32 x 410 x 491	1	**7600.530**

Supply includes:
1 monitor shelf with hinge and cable retainer,
installation hardware included.

Drawer

The drawer, which is open at the top, offers a practical solution for storing documents and equipment, and also features a front identification strip. The drawer can be closed at the top with a shelf installed above it.

Load capacity:
44 lbs/20 kg surface load, static

Configuration:
1 drawer, installation hardware included.

H x W x D inches/mm	PU	Part No. DK
4 x 24 x 20/ 96 x 600 x 490	1	**7600.540**

Design:
19″/1.0 mm sheet steel on the outside, polystyrene on the inside, RAL 7035 light grey, trim and corner pieces of ABS, RAL 5018 teal.
Telescopic ball bearings slide.

Adaptor set for Rittal RiCase enclosures, 24″/600 mm wide

The adaptor set allows RiCase (see pages 424 – 427) enclosures with a width of 24″/600 mm to be integrated into the base frame. This achieves optimum synergy between the flexibility of the mobile workstation, and the increasing opportunities of the RiCase enclosure. The adaptor set is designed in such a way that the enclosure can be locked in five stages within a tilting range of ± 15°.

Load capacity:
Maximum enclosure weight 110 lbs/50 kg

Design:
Sheet steel, 14 ga/2.0 mm, RAL 7035 light grey.

PU	Part No. DK
1 set	**7600.590**

Configuration:
1 adaptor set, consisting of two mounting brackets, installation hardware included.

6-socket power strip with switch

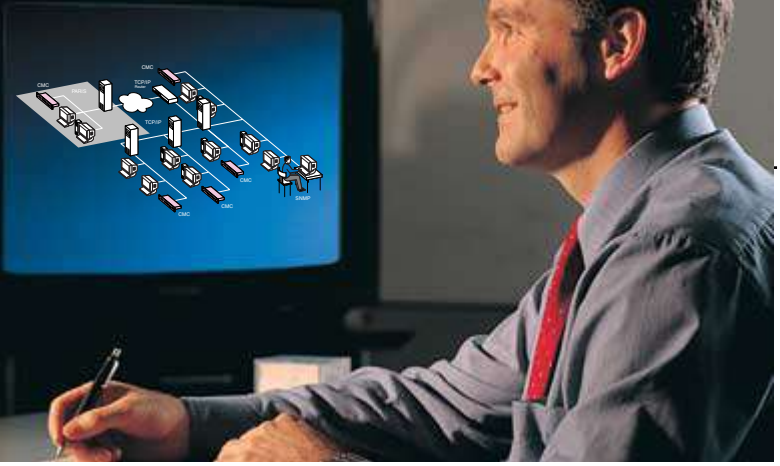
The power strip has an approx. 10ft/3 m long power cord, and is conveniently housed in the power column of the mobile workstation. This permits direct on-site power supply over short distances, without taking up any additional space.

Technical description:
Power strip with switch, 16 A, 250 V,
10 ft/m power cord, manufactured to CEI 884-1, tested to VDE.

PU	Part No. DK
1	**7600.600**

Material:
Aluminum section with polycarbonate cover, self-extinguishing to UL 94-V0.

Configuration:
1 power strip, installation hardware included.



Rittal CMC II – the complete system for monitoring, regulating and reporting all safety-relevant issues in the data network enclosure.

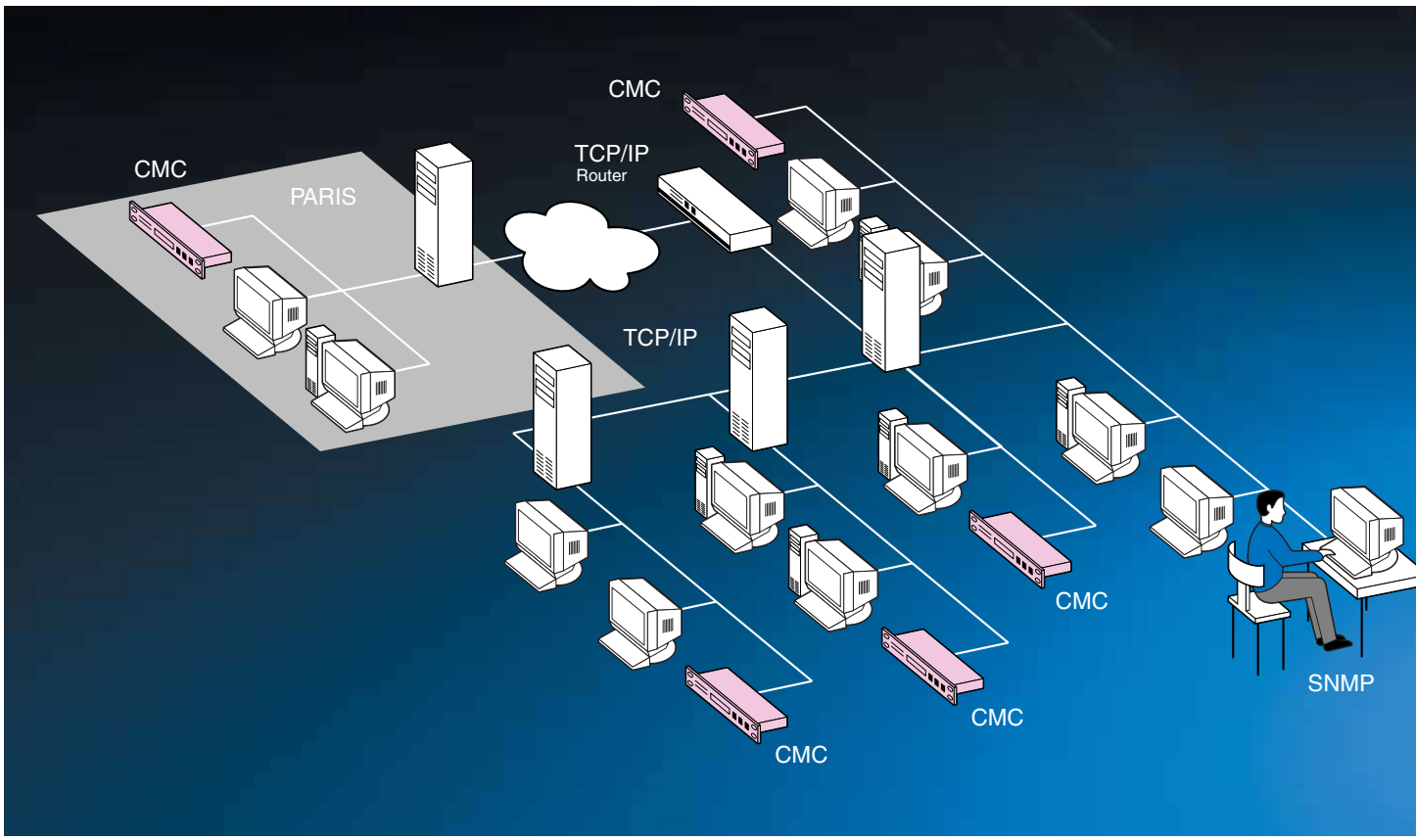
Temperature control, humidity, vibration and personalized access control are managed by the CMC II.

With its extensive range of system accessories and support of various transmission systems, the CMC II plays a key role in IT security.

■ Benefits

- **CMC II alarm reporting via TCP/IP/SNMP as standard**
- **Optional CMC II ISDN solution**
- **Monitoring of Rittal climate control equipment**
- **Extendible inputs and outputs via I^2C/Power-I^2C**
- **3-phase voltage monitoring via I^2C**
- **Plug-and-play solutions**
- **Personalized access control**
- **Wide-range power pack 48 V DC – 115/230 V AC/50/60 Hz**
- **Linking of functions with the SSC server switch**

■ CMC connection



Remote control
Thanks to bi-directional data transmission from the CMC II, many functions of the enclosure can also be displayed and controlled from a remote control center on the other side of the world, including via the web.

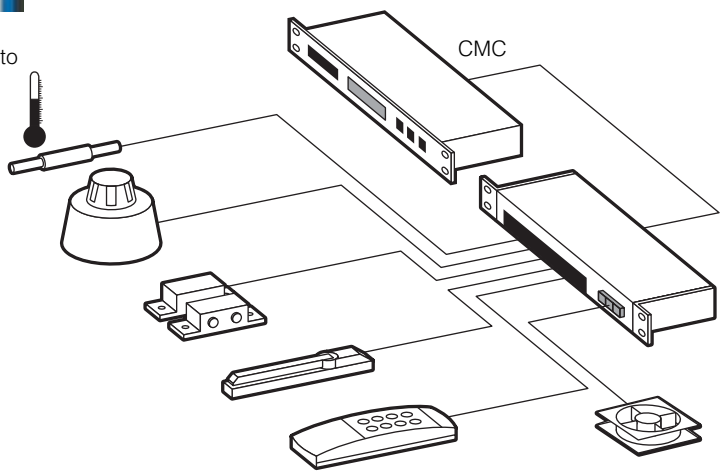
TCP/IP network
All CMC II may be integrated into the existing network interconnection via Ethernet 10BaseT. This provides a cost-effective, flexible solution for alarm relaying.

SNMP management
The supplied MIB means that existing SNMP management software or the Rittal CMC Manager may be used for the alarm headquarters on PC. Details page 829.

■ CMC II – Plug & Play – all sensors are plug-in

Cable management module
The Rittal sensors are simply plugged into the patch panel distribution box with RJ connectors.
Details on page 831.

2 U fan unit DK 7200.511
The CMC II is simply plugged into the fan unit. Infrared access sensors monitor the doors. Smoke sensor, vibration sensor and temperature sensors are all integrated into the box. The system will fit any 19″/482.6 mm enclosure with suitable dimensions.
Details on page 833.

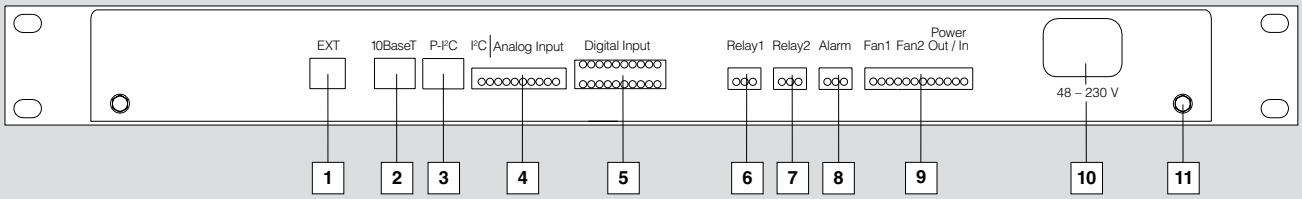


■ CMC II I²C – extensions for additional output

The CMC base unit has the following functions:
- 2 temperature sensors
- 2 analog inputs 4 – 20 mA
- 7 digital inputs
- 3 relay outputs
- 2 fan outputs
- 1 monitor 230/115 V AC

I²C bus for additional extensions
With the BUS system, up to
- 2 reader units
- 16 temperature sensors
- 16 digital inputs
- 4 relay outputs
- 6 monitors 230/115 V AC

may be connected to the CMC base unit.



1 **RJ 12 jack**
Serial interface for additional extension of the CMC II with ISDN-TA (see page 833).

2 **RJ 45 jack**
Integral Ethernet interface to IEEE 802.3 via 10BaseT.

3 **RJ 45 – Power-I²C**
P-I²C bus for connecting extension units to the I²C amplifier (cable see page 833).

4 **Analog inputs**
10-pole connector for two temperature sensors, two times 4 – 20 mA and extension via I²C bus.

5 **Digital inputs**
20-pole connector for seven input signals (floating contacts) and 24 V DC voltage source (100 mA).

6 **Relay 1**
Changeover contact 250 V AC, 5 A as standard for heater.

7 **Relay 2**
Changeover contact 250 V AC, 5 A as standard for latch mechanism.

8 **Alarm relay**
Changeover contact 250 V AC, 5 A. Each error message can be set to initiate activation of the alarm relay (freely configurable).

9 **Fan relay**
12-pole connector with main voltage monitoring, fan current monitoring and two relays for fans.

10 **Voltage supply**
The CMC II is supplied with voltage via the IEC 320 outlet (48 – 230 V DC/50/60 Hz).

11 **Cable clamping/cable management**
The 2 screws are designed for cable clamp rails DK 7610.000 / DK 7611.000 / DK 7200.110.

Technical information

Dimensions	1 U, 19″/482.6 mm rack mount with 4.13″/105 mm installation depth
Temperature range	41°F to 113°F/+ 5 °C to + 45 °C
Processor	AM186-(20 MHz), 16-bit CPU, Intel-compatible
Main memory	512 kB 16-bit DRAM
Program memory	512 kB flash EPROM
Rated voltage	48 to 230 V DC, 50/60 Hz, IEC 320 socket
Rated consumption	20 VA
Permissible voltage drop time	maximum 10 ms
Internal CMC II power pack output	24 V DC, maximum 100 mA
Serial interface	RS 232 for programming/linking to a PC, X modem
Ethernet connection	10BaseT, IEEE 802.3 (10 MB/s full duplex), TCP/IP, SNMP, TELNET, TFTP
Optical/acoustic displays	5 LEDs, LCD display with 40 characters, piezoelectric signal generator
Input	3 membrane-sealed keys
Digital inputs (power requirement per input: 7 mA)	7 (vibration/smoke/door/swing lever/reader unit/UPS1/UPS2)
Analog inputs	4 (temperature 1/2 and 2 current inputs 4 – 20 mA)
Monitoring functions	3 (mains voltage, fan 1, fan 2)
Relay outputs	3 (fan 1/2) 3 A/250 V, normally open contact
Relay outputs	3 (heater/lock/alarm) 5 A/250 V, changeover contact
Extension	I²C bus, P-I²C bus and serial interface

Network connection/setting via the CMC II menu program

A central administrator is able to monitor all network and server enclosures in internal networks as well as external networks via WANs, initiate any servicing which may be required, and implement settings on the CMC II.

US Design Model No. 411,985
German Patent No. 197 10 019
German utility model No. G 296 22 718
German Reg. Design No. M 97 05 717
Danish Design Pattern No. MR 00534
Norwegian Design Pattern No. 74617
Austrian Design Pattern No. 28798
U.K. Reg. Design No. 2070680
IR Reg. Design No. DM/042 821
with validity for BE, CH, ES, FR, IT, NL
Indian Design Pattern No. 175179

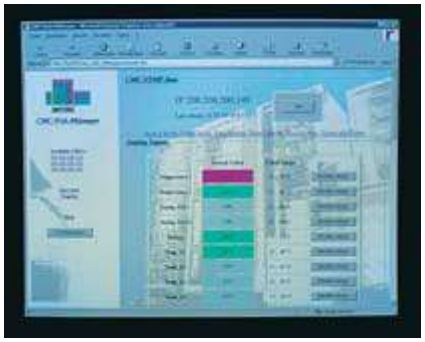
The SNMP-MIB is included with the supply of the CMC II. This allows the following functions to be incorporated in SNMP software tools:
- HP Open View
- Cabletron SPECTRUM Enterprise Manager
- OPEN NSÜ
- CINeMa
- Novell Manage Wise
- etc.

CMC II – Computer Multi Control with 512 kB Flash-ROM program memory	PU	**Part No. DK**
● Wide-range power pack 48 V – 230 V DC/50/60 Hz ● With X modem function	1	**7200.100**

For rear mounting:
Cable clamp strap (narrow) DK 7610.000,
Cable clamp strap (wide) DK 7611.000,
CMC cable clamp strap (with cover), DK 7200.110,
Connection cable to the SSC, DK 7200.541.

CMC Computer Multi Control II

The CMC Manager is an SNMP software package, specifically tailored to the CMC. It can be downloaded from our website as freeware:
http://www.rittal-corp.com



CMC Web Manager
The CMC Web Manager may be installed on a selected server in the network. From this server, users in the network are then able to retrieve, inquire and edit all relevant CMC data via the Intranet or Internet using software tools (such as Internet-Explorer 5 or Netscape Navigator.)

The software also contains a control core with the allocation of personal codes to activate individual enclosure doors via SNMP.

Minimum system requirements for the CMC Web Manager:
- Windows NT/2000
- Network connection with TCP/IP

System requirements for the user:
- Internet-Explorer 5 or Netscape Navigator, etc.

CMC Web Manager	**Part No. DK**
CD-ROM	**7200.991**

Power cable

Power is supplied to the CMC II base unit via the power cable.
The cable management module DK 7200.400 / .411 and the 2 U accessory unit DK 7200.511 may also be supplied with the power cables.

Technical specifications:
PVC cable, 3-prong with earth/grounding-prong plug and IEC cable coupler (for non-heating appliances) with CEE22 contact protection.

Configuration:
1 power cable, length 8.2 ft/2.5 m.

Country specific models	Voltage Volt	Part No. DK
D	230	**7200.210**
GB	230	**7200.211**
F/B	230	**7200.210**
CH	230	**7200.213**
USA/CDN	115	**7200.214**

Parts needed in addition to the CMC II:
Power cable for the CMC operation.

Connector kit for CMC II, screw-fastened

The sensor cables are fastened directly to the respective connector from the connector kit, which is then plugged into the CMC II base unit. In this way, the plug connections to the CMC II are easily removed and re-installed during maintenance and assembly in the network enclosure.

Programming cable

Junction cable for RS 232.
The RJ 11 jack is connected to the CMC II front, the 9-pin Sub-D to a serial PC interface.

Model	Part No. DK
Connector kit for CMC II	**7200.223**
Programming cable	**7200.221**

Parts needed in addition to the CMC II:
The connector kit is necessary for the connection of accessory coupling and PC connection.

Cable for sensor connection

The 32 ft/10 m long cable can be cut to the exact length required for optimum connection of sensors, Ergoform-S and reader units in the enclosure to the CMC II base unit.

	Part No. DK
Cable 32 ft/10 m	**7200.230**

Technical data:
LiYY 4 x 0.25 mm²

Configuration:
1 32'/10 m cable.

Power pack 24 V

This power pack is used to supply power to the smoke sensors and the Ergoform-S handle with card or coded lock. For mounting power pack use cable clamp strap DK 7611.000 / DK 7200.110, see page 828 or cable management module DK 7200.400, see page 831.

Configuration:
1 power pack with top hat rail and fastener for top hat rail, including assembly parts.

Power pack 24 V DC	Part No. DK
100 – 240 V AC	**7200.240**
36 – 72 V DC	**7200.248**

Technical specifications:
Input (DK 7200.240):
100 – 240 V ± 10 %, 50/60 Hz/AC
Input (DK 7200.248):
36 – 72 V DC
Output:
24 V DC/0.6 A

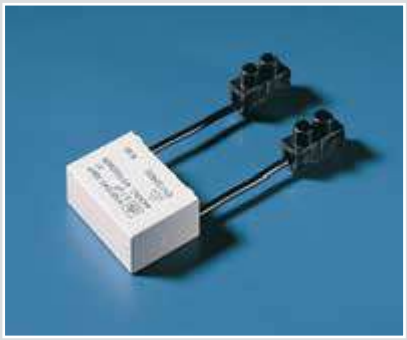
I² C-Booster

The I² C-Booster is used to reinforce the signal of the CMC I² C bus system. It can be used optionally. Rittal reader units or the extension unit may also be integrated.
Maximum cable length: 23 ft/7 m

Part No. DK	7200.600

Lead times upon request.

Rated voltage: 24 V DC
Rated current maximum: 50 mA



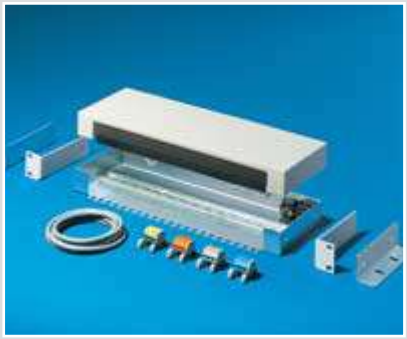
Suppressor for fans

The capacitors eliminate interferences of the fans with self-starting shaded-pole motors. Each fan unit should be provided with a capacitor which is across the mains input. The capacitors are equipped with terminals so that they are simply connected to the fan cable.

Technical data:
Dielectric strength: 275 Volt AC
Capacity: 100 nF
Type: X2

Model	PU	Part No. DK
100 nF	20	**7200.490**

Following fan systems include self-starting shaded-pole motors: (z. B. SK 3322…., SK 3323…., SK 3324…., SK 3325…., VR 3866.500 – VR 3869.500, DK 7980.000, DK 7966.035, DK 7968.035, DK 7986.035, DK 7988.035, FR 2102.320, FR 2102.330, FR 7885.000, FR 7886.000, DK 7980.660 – 7980.880, DK 7981…. – DK 7981.880, FR 2102.490, DK 7526.900, DK 7526.910 with variations).



Cable management module, mounting kit

For mounting on the 19″/482.6 mm section or on the enclosure frame. The cable management module may be fitted at a readily accessible point in the enclosure. Even in fully populated network enclosures, installation work and modifications can still be carried out to perfection. The supplied CMC connection cable gives access to all sensor connections in the cable management module. A top hat rail accommodates terminals or the 24 V power pack. The cable may be connected to the sensors using the supplied terminals. Open/ individual wiring is possible.

Model	Part No. DK
Kit	**7200.400**

Width: 19″/482.6 mm
Height: 1 U
Depth: 5.63″/143 mm + 12 mm

Material:
Sheet steel, 19 ga/1 mm, chromated

Configuration:
Base section, cover panel, terminal blocks, top hat rail, 19″/482.6 mm bracket, mounting bracket and CMC connection cable.
In conjunction with the CMC, the following are additionally required:
- 1 connection cable DK 7200.210 and
- 1 connector insert DK 7200.220

Cable management module with connection system and 24 V power pack for CMC II

For mounting on the 19″/482.6 mm mounting rails or on the enclosure frame. The cable management module may be installed in the enclosure at well accessible places. Even in fully populated network enclosures, installation work and retrofitting can still be carried out to perfection.
The connection cable attached to the rear with the CMC connector kit is simply connected to the CMC. The front is equipped with 21 RJ 11/12 jacks, 4 terminals and an IEC 320 connection.
All sensors are easily connected to the module using RJ 11/12 connectors. The 24 V power pack is integrated into the wiring concept. Power for monitoring and for the heater, fan, alarm and power pack is supplied via the IEC 320 connection.

Functional description/ connection options:
RJ 11/12 jacks for CMC accessories:
1 vibration sensor,
Part No. DK 7200.322 see page 835
4 access sensors,
Part No. DK 7200.332 see page 835
2 UPS monitoring devices with cable,
Part No. DK 7200.420 see chart at right
2 smoke alarm sensors,
Part No. DK 7200.312 see page 835

Model	Part No. DK
Wired to sensor outlets	**7200.411**

2 electromagnetic handles,
Part No. DK 7200.351/.551 see page 836
1 door release with cable,
Part No. DK 7200.430 see below
2 I^2C (reader units/extension),
Part No. DK 7200.380 / .381 / .382 see page 837
2 temperature sensors,
Part No. DK 7200.301 see page 834
1 analog sensor
(e.g. hygro-thermo sensor),
Part No. DK 7200.362 see page 834

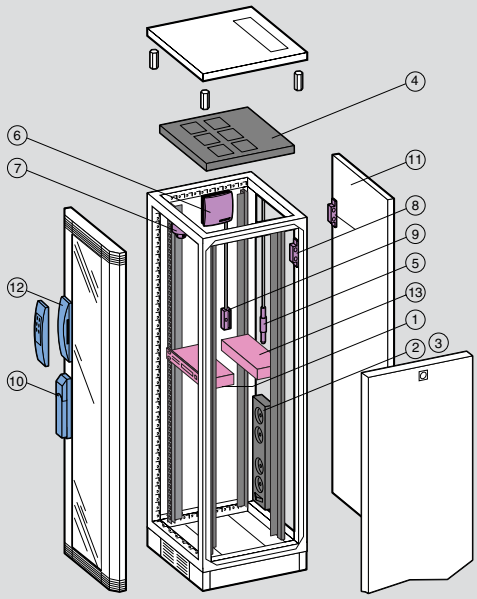
Terminals:
1 alarm (changeover contact for 250 V AC, maximum 5 A)
1 heater with fuse (normally open contact for 250 V AC, maximum 5 A)
2 fan systems with fuse (normally open contact for 250 V AC, maximum 2 A)

Additional parts needed with CMC II:
- 2 power cords,
  Part No. DK 7200.210

Technical data:
Rated voltage: 100 – 240 V AC
Dimensions: Width: 19″/482.6 mm, Height: 1 U, Depth: 4″/100 mm
Temperature range:
41 °F to 113 °F/+5 °C to + 45 °C

Accessories – power cords/ extension cable RJ 11/12

Plug	Jack	PU	Part No. DK
RJ 11	–	4	**7200.420**
RJ 12	–	4	**7200.430**
RJ 11	RJ 11	4	**7200.440**
RJ 12	RJ 12	4	**7200.450**



TS 8 pre-configured enclosure with the CMC monitoring system and CMC accessory components

Rittal now offers pre-configured network enclosures with the CMC monitoring system, and fully wired with sensors. There is a choice of 3 pre-configured enclosure models, all of which are equipped with the CMC II monitoring system. The monitoring functions of the individual variants are shown in the table.
Further details of accessory components can be found on the specified pages.

Basic configuration

Item	Pre-configured CMC enclosure based on DK-TS 7830.200, H x W x D 83 x 32 x 32″/2100 x 800 x 800 mm, painted in RAL 7035 light grey, textured	Type 1	Type 2	Type 3	Page
	Part No. DK	**7200.711***	**7200.721***	**7200.751***	
	1 glass door, front with aluminum section and comfort handle, right-hand hinge	●	●	●	
	1 rear door with comfort handle, right-hand hinge	●	●	●	
	1 roof panel for cable entry	●	●	●	
	1 gland panel, front, rear area open	●	●	●	
	1 base/plinth 100 mm with ventilation	●	●	●	
	Mounting rails, 19″/482.6 mm, 42 U, front and rear	●	●	●	
	2 sidewalls, lockable	●	●	●	
	2 TS punched sections with mounting flanges	●	●	●	
	Earth/grounding of all enclosure panels on the enclosure frame	●	●	●	
	Supplied loose: 4 spacer bolts, 4 leveling feet, 4 cable clamp rails, screws	●	●	●	
Configuration also includes, pre-configured and installed					
1	**1 Rittal Computer Multi Control** (CMC II), 1 U, DK 7200.100	●	●	●	828
2	**1 power strip** with voltage monitoring and 7 outlets	●	●		1007
3	**1 power strip,** overvoltage protection, filter with monitoring and 9 outlets			●	834
4	**1 fan mounting panel** with two monitored fans			●	959
5	**1 NTC temperature sensor**	●	●	●	834
6	**1 hygro-thermo sensor**			●	834
7	**1 smoke alarm sensor**	●		●	835
8	**4 access sensor,** front & rear door and both sidewalls	●	●	●	835
9	**1 vibration sensor**	●		●	835
10	**1 electromagnetic comfort handle front door**		●	●	836
11	**1 electromagnetic comfort handle rear door**		●	●	836
12	**1 smart card reader**		●	●	837
13	**Cable management DK 7200.411**	●	●	●	831

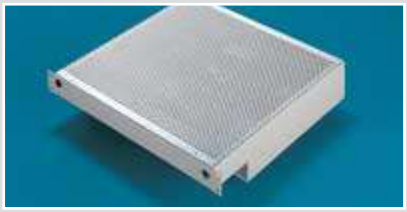
Other versions available on request. * Lead times upon request.

Climate control unit interface cable

The climate control unit interface cable has been specially designed for Rittal enclosure cooling units with integral microcontroller.
It is connected to the CMC via the extension unit DK 7200.913. In this way, the error messages shown opposite can be monitored via the network.

	Part No. DK
Interface cable	**7200.540**

The 8 alarm messages are as follows:
1. Maximum enclosure internal temperature
2. Dirty filter mat
3. Enclosure door open (only if switch installed)
4. High-pressure monitor
5. Evaporator coil
6. Current monitoring of compressor
7. Current monitoring of internal fan
8. Current monitoring of external fan



2 U accessory unit for CMC II

With the plug & play compatibility system, the CMC accessory unit is simply fitted into the 19″/ 482.6 mm section, and voila!
It contains two fans and is installed in the uppermost position of a network enclosure. The roof panel of the enclosure must be equipped with vent holes. The unit is fully wired and a CMC is simply integrated into the bottom section. The CMC basic module is not included with the supply of the unit. The unit contains a number of functions, which are listed to the right.

Accessory unit	Part No. DK
2 U	**7200.511**

Functions of the unit:
- Monitoring of the mains voltage
- Monitoring of the temperature
- Temperature control via two separate fan circuits
- Smoke monitoring
- Vibration monitoring
- Access monitoring for the front and rear doors
- Jacks for extension with:
  ups DK 7200.430, see page 831,
  electromagnetic front and rear doors DK 7200.351 / .551, reader units DK 7200.380 / .381 / .382, s. page 836
- Hygro-thermo-sensor DK 7200.362, see page 834

CMC II extension units

Up to 3 extension units may be connected to a CMC. Alarm limits may be pre-set for all temperatures/voltages.
The supplied programming software allows logical linking of the digital inputs and outputs. The logical links can be sent to the CMC via TFTP. Note: A power pack is required (DK 7200.240 / .248).

Technical data:
Temperature inputs:
4/8 x NTC (DK 7200.301)
Digital inputs:
8 (supply 24 V DC per 7 mA)
Relay outputs:
2 (changeover contacts 5 A/250 Volt)
Voltage inputs:
3 x 100 – 230 V AC
Rated voltage:
24 V DC
Rated current:
140 mA
Interface:
I^2C, P-I^2C, maximum cable length 6 ft/2 m

CMC II extension unit	Max. quantity per CMC*	Part No. DK
8 x temperature inputs	1	**7200.911**
4 x temperature inputs 8 x digital inputs 2 x relay outputs	2	**7200.913**
3 x voltage AC	2	**7200.520**

* A maximum of 3 extension units may be connected to one CMC II.

Power I^2C cable	Part No. DK
Connection from CMC II to extension unit DK 7200.911 / .913	**7200.601**

When extending DK 7200.520, a regular RJ 45 network cable may be used.

ISDN-TA

The ISDN-TA is connected to the new CMC II (DK 7200.100) via an interface adaptor. An RS 232 interface is provided on the CMC II for this purpose. This is labelled “EXT” on the back of the CMC II. Configuration of the TA is implemented using the familiar CMC menu program. Up to 8 telephone numbers for SMS messages or VdS alarm messages may be entered here.

Requirements for the ISDN connection:
- DSS1 (Euro-ISDN), must also be provided when connecting to the ISDN system
- Point-to-multi-point configuration
- Tested to I-CTR 3, BAPT 224 ZV1, BAPT 223 ZV7

- Power consumption of the S_0 bus: < 3 mW
- Voltage monitoring on the S_0 bus
- Layer 1 monitoring
- ISDN network emergency power supply detection
- BZT registration no.: A121075F
- EC registration no.: Z121149F

B channel protocol:
- X.75 with 64 kbit/s

Transmission protocol:
VdS 2465

Further information on the ISDN-TA can be found at:
http://www.ATSonline.de
eMail: Info@ATSonline.de
Not available in the U.S.A.

Control room software for TA applications

For TA applications, the alarms detected by the CMC II are transmitted via the telephone network, and received and documented by the control room software.

The control room software provides an ideal reception station for this purpose. The VdS 2465 protocol ensures reliable transmission.
Further information about the control room software is available on the Internet at:
http://www.ATSonline.de
eMail: Info@ATSonline.de

Temperature sensor

The economic solution for:
- Temperature measuring
- Temperature indication
- Temperature monitoring
- Temperature regulation

Measuring transformers, one LCD display for indication as well as relays for fan control are made available via the excellent electronic equipment of the CMC II. Two NTC sensors can be connected to one CMC II. The temperature sensor can be fitted anywhere in the network enclosure.

Temperature sensor	Part No. DK
8 ft/2.5 m power cord	7200.300
8 ft/2.5 m power cord and RJ 12 jack for cable management DK 7200.411	7200.301

Technical data:
Type: NTC
Resistance: 10 kOhm at 25 °C
Tolerance: ± 1 °C
Connection lead: LiYY 0.25 mm²

Hygro-thermo sensor

The hygro-thermo sensor determines the humidity/temperature and transfers these values into output signals 4 through 20 mA. The sensor is based on 2-wire technology and requires external 24 V voltage supply. The CMC II monitors the humidity/temperature, indications in [%] 0 – 100. The CMC II has two analog inputs 4 – 20 mA.
An external power pack DK 7200.240 / .248 is required in order to operate the sensor.

Hygro-thermo sensor	Part No. DK
w/o connection cable	7200.360
6.5 ft/2 m power cord and RJ 12 jacks for cable management DK 7200.411	7200.362

Technical data:
Rated voltage: 20 – 28 Volt DC
Rated current: 44 mA
Output signal:
4 – 20 mA corresp. to 0 – 100% humidity
4 – 20 mA corresp. to 0 – 50 °C
Measuring range:
10 – 90% humidity; 0 – 50 °C
Operating temperature:
32 °F to 122 °F/0 °C to + 50 °C

Airflow monitor/electrical contact

The airflow monitor determines whether the fan is achieving its full operating capacity. Fan motors only have a limited service life. Storage damage, dirty filter mats or jammed fan blades are promptly detected and reported by the sensor. The sensor is supplied with 24 V DC voltage and relays this to the CMC II or extension card DK 7200.913 as an output signal.
An external power pack DK 7200.240 / .248 is required in order to operate the sensor.

Version	Part No. DK
	7200.530

Technical data:
Rated voltage: 24 V DC ± 15%
Rated current maximum: 100 mA

Note:
If the sensor is not operated via the extension card, the fan must not be regulated.

CMC II power strip with interference suppressor filter and overvoltage protection

In the event of interference caused by overvoltage, the connected active network components are protected. With the relay message contact, undervoltage and any malfunctions caused by overvoltage can be reported in the network via the CMC II (SNMP trap). A green lamp on the strip indicates that the device is operational. In the CMC II enclosure, the CMC II reports the alarm via an acoustic signal, an LED and a message text. In this way, counteractive action can be initiated immediately. The second protective device is the interference suppressor filter, which protects valuable equipment as a passive component.

Technical data:
Number of outlets: 9
Length of strip: 25.59″/50 mm
Rated voltage: 230 V AC, 50/60 Hz

Part No. DK	7200.630

Rated current: 16 A
Relay alarm output: RJ 11 jack
Load capacity of relay: 50 V DC 100 mA

Technical data:
Overvoltage protection:
Arrester utilization category: D
Surge current resistance per conductor: 2.5 kA
Maximum surge current resistance:
8 kA

The following are also required for connecting to the base unit:
- Connector kit for base unit, Part No. DK 7200.223
- RJ 11 connector with 5 m cable, Part No. DK 7200.420

Smoke alarm sensor

The smoke alarm sensor is an optical smoke alarm consisting of an internal measuring chamber (with infrared LED and photodiode) and an electronic circuit board. If smoke enters the chamber, an LED light pulse is partially deflected by the smoke particles, causing it to strike the photodiode, which in turn triggers further light pulses. If these light pulses strike the photodiode again, smoke generation is signalled to the CMC II and an alarm is triggered.
An external power pack DK 7200.240 / .248 is required in order to operate the sensor – see page 830.

Smoke alarm sensor	Part No. DK
without power cord	**7200.310**
6.5 ft/2 m power cord and RJ 12 jack for cable management DK 7200.411	**7200.312**

Configuration:
1 smoke alarm sensor including assembly parts.

Smoke alarm sensor with VdS-approval

Technical data:
Rated voltage: 24 V DC
Rated alarm current: 61 mA

Vibration sensor

Vibration sensors are suitable for all fastened panels in the network enclosure. If possible, they should be fastened to the center of the sidewall or door.

If the enclosure is vibrated, the contact inside the sensor closes the circuit and triggers an alarm. The sensitivity of the contact is individually adjustable by means of an adjusting screw which presses onto a leaf spring. The sensor is an economic solution for monitoring vandalism. The high-quality electronic parts of the CMC II transfers vibrations of different intensity into a CMC II alarm.

Vibration sensor	PU	Part No. DK
without power cord	4	**7200.320**
6.5 ft/2 m power cord and RJ 11 jack for cable management DK 7200.411	2	**7200.322**

Note – new generation DK 7200.322:
Only one sensor per CMC II may be connected. The sensor has an integral RJ 11 outlet and is self-adjusting.

Access sensor

Access sensors monitor doors, sidewalls or windows in the network enclosure. The magnet is secured to the moving part (e.g. sidewall), while the reed contact is fastened to the immobile part (enclosure frame). The permanent magnet holds the reed contact in a closed position. If the door is opened or the sidewall removed, the reed contact drops out and opens the circuit, leading to an alarm in the CMC II.

***** Lead times upon request.

Access sensor	PU	Part No. DK
without power cord	4	**7200.330**
6.5 ft/2 m power cord and RJ 11 jack for cable management DK 7200.410	2	**7200.332**
VR mounting bracket	4	**7200.335***

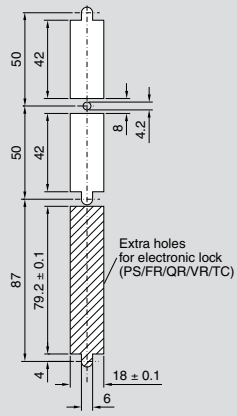
Note – new generation DK 7200.332:
The sensor has two RJ 11 outlets for easy creation of an access hasp.

CMC II alarm signal lamp

The alarm signal lamp serves as a collective fault signal for all alarms in the CMC II, e.g. overtemperature, fan defect, smoke alarm, etc. The CMC provides a user-friendly menu allowing the operator to select which message will affect the CMC II alarm relay.
The alarm signal lamp is activated via the alarm relay.
The lamp may be attached to the network enclosure or any other desired position, e.g. in the corridor.

Lamp	Part No. SZ
LED steady light component 24 V DC	**2372.000**
Connection component	**2368.010**

For other designs and technical details, see pages 1000 – 1002.



TS Ergoform-S comfort handle with electromagnetic locking

In two versions:
- TS 8 comfort handle for all TS 8 enclosures

and
- Ergoform-S handle for all FR, QR, PS, and TC.

The lock unit consists of a Rittal handle system where the handle is electro-magnetically locked. With the door closed and the handle locked home, locking is activated by a solenoid. An access sensor (DK 7200.330 / .332) is always required for monitoring the door. The CMC II enables the handle to be pulled out by deactivating the solenoid, thus allowing the door to be opened. Deactivation can be initiated via an access unit such as a smartcard reader, magnetic card reader, coded lock and/or network management systems. The handle system also contains a handle monitor. The CMC II reports an alarm if the handle is not locked home after closing the door.

The pushbutton insert supplied can also be exchanged for **security inserts.**
The handles always require an external 24 V DC power pack DK 7200.240 / .248.
Note: When using the Ergoform-S handle, extra punchings are required.

Technical data:
Rated voltage: 24 V DC
Rated current maximum: max. 100 mA (TS comfort handle)
Rated current maximum: max. 100 mA (Ergoform-S handle)

	Part No. DK
TS comfort handle	**7200.550**
Ergoform-S handle	**7200.350**
Ergoform-S handle for QR	**7200.650***
TS comfort handle with connection cable and RJ 12 connector for cable management module DK 7200.411	**7200.551**
Ergoform-S handle with connection cable and RJ 12 connector for cable management module DK 7200.411	**7200.351**
PS viewing door H x W 79 x 32″/ 2000 x 800 mm, Ergoform-S handle	**7200.790***
PS viewing door H x W 87 x 32″/ 2200 x 800 mm, Ergoform-S handle	**7200.792***

***** Lead times upon request.

Note: The following lock rods are required for PS and FR enclosures:

Lock rods

Design	Part No. DK
Bottom CMC locking rod for 79″/2000 mm high PS enclosures	**7200.371**
Bottom CMC locking rod for 79″/2000 mm high FR enclosures	**7200.372**

Other sizes upon request.

Universal lock unit

The security lock consists of a base unit and a lock counterpart. The base unit is attached to the enclosure frame, while the lock counterpart is attached to the door. The base unit can be activated via the CMC. The statement “open at zero current/ closed at zero current” can be set mechanically.

Supply includes:
Base unit, lock counterpart, without mounting kit.

Note:
Mounting kits for the various different enclosure types and enclosure doors are shown opposite.

	Part No. DK
Universal lock unit	**7200.610**

Technical data:
Rated voltage: 24 V DC
Rated current: 140 mA

Installation kit	Part No. DK
PS sheet steel door	**7200.611**
PS aluminum glass door	**7200.612**
FR steel door	**7200.613**
FR glass door	**7200.614**
TS steel door	**7200.615**
TS glass door	**7200.616**
VR enclosure	**7200.617**

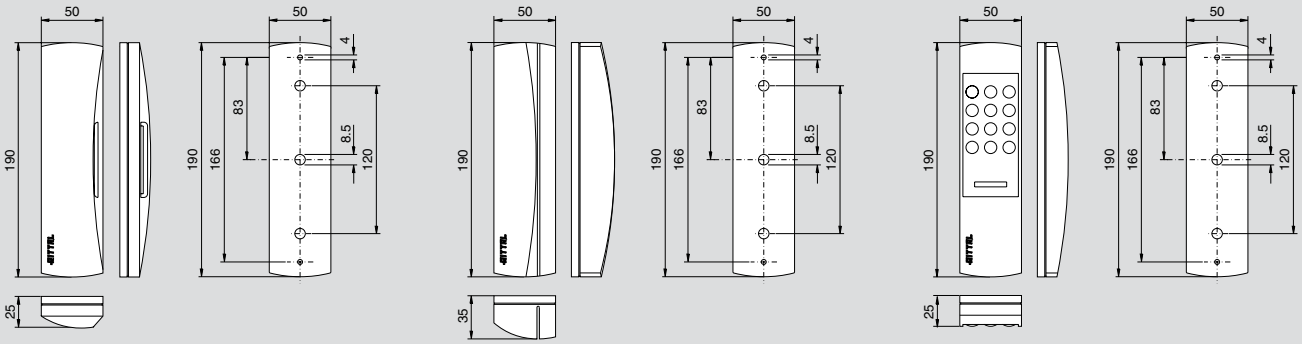
Smart card reader/ magnetic card reader/ coded lock

The door handle is enabled for authorized persons who have identified themselves with a smart card/magnetic card/code. Smart card readers/magnetic card readers/ coded locks are installed above the enclosure handle and can also serve as a central unit for enabling several doors. With network connection, the entire access procedure can also be registered with the CMC II.

Note:
Smart card readers/magnetic card readers/coded locks may only be used in conjunction with the CMC II and an electromagnetically latched lock system. 3 cards are supplied with the smart card reader/magnetic card reader. Each card contains a 4-digit code which is different on all 3 cards. All cards are access-enabled. On the coded lock, the code can be entered directly.
The authorized codes can be set in the CMC II via RS 232 or Telnet. The set code is transferred to the CMC II and, where applicable, to the network management system via the I^2C bus.
An external power pack DK 7200.240 / .248 is always required – see page 830.

	Part No. DK
Smart card reader	**7200.340**
Magnetic card reader	**7200.341**
Coded lock	**7200.342**
Smart card reader with connection cable and RJ 12 connector for cable management DK 7200.411	**7200.380**
Magnetic card reader with connection cable and RJ 12 connector for cable management DK 7200.411	**7200.381**
Coded lock with connection cable and RJ 12 connector for cable management DK 7200.411	**7200.382**

Technical data:
Rated voltage: 24 V DC
Rated current maximum: max. 20 mA
Interface: I^2C-Bus
Smart card type: I^2C chip
Magnetic card type:
magnetic stripe cards with data on track 2



Adaptor for reader units

The adaptors are used for mounting reader units. They are screw-fastened between the designer section of the door frame and the reader unit. No adaptor is required for slimline mounting levels. An adaptor is included with every reader unit for PS aluminum glass doors.

Type PC: For PC glass doors
Type VR: For VR glass doors and VR sheet steel doors
Type TS: For TS aluminum glass door.

Enclosure door/ enclosure type	PU	Part No. DK
TS	10	**7200.343**
VR	10	**7200.344**
PC	10	**7200.345**

Easy CMC

The new Easy CMC offers cost-effective basic monitoring across the entire bandwidth of enclosure applications, with its many functions and installation variants. We have the right model to suit every application, be it electronic, industrial, network or server enclosures. The system monitors temperature and offers an open interface e.g. for UPS systems, climate control equipment, smoke sensors, etc. via the digital inputs.
The system relays the alarm both acoustically, as a text in the LCD display, and visually via an LED in the display. For enclosures with sheet steel doors or perforated doors, safety handles with an optical display can also be used to allow optimum control of the enclosure from the outside.
In order to represent alarm messages from the Easy CMC on a data network with SNMP, a link via the CMC II DK 7200.100 is possible. 7 Easy CMCs may be connected to the base unit CMC II. If two extension units DK 7200.913 are used, up to 33 Easy CMCs may be connected.
In this respect, the network technology with the standard protocol TCP/IP offers great benefits in terms of alarm forwarding.

Description of the configurations:

1 U variant
The system may be mounted in all 19″/482.6 mm sections; in enclosures with a glass door, the status of the monitoring system can be read via the LCD.
Top hat rail attachment model
The system is suitable for mounting on mounting panels with cross rails TS 35/15. A safety handle with optical display may be used to relay the alarm.
IT Tower protection model
This system is designed for integration into the door frame of the Rittal IT Tower. The upper door frame bracket is simply exchanged for the Easy CMC.
There are two models available for enclosure width 22 or 16″/550 or 400 mm.

Easy CMC models	Part No. DK
1 U	**7201.100**
Top hat rail attachment	**7201.110**
IT Tower protection Enclosure width 550 mm	**7201.120**
IT Tower protection Enclosure width 400 mm	**7201.130**

Functions:

Temperature monitoring:
The system contains an NTC temperature sensor. The current temperature is shown on the LCD display and monitored for minimum and maximum limits.

Settings:
The limits are set using the 3 keys positioned in the front of the system.

Open digital inputs:
There are 2 digital inputs available for other messages. Sensors/equipment with a floating contact may be connected.
- UPS system, climate control system, and more.
- Smoke sensor DK 7200.310
- Access sensor DK 7200.330
- Airflow monitor DK 7200.530

Alarm output:
The CMC II DK 7200.100 can be connected to the digital output. In this way, alarms in the network can be forwarded to a control center via TCP/IP SNMP.

Alarm signal output:
The optical alarm signal can also be positioned with the safety handles to the outside to enable clear alarm monitoring with bayed enclosure suites. The safety handles are automatically fitted with code access and a master key (see page 839).
- Safety handle TS 8 comfort DK 7201.800
- Safety handle Ergoform-S DK 7201.810

Technical data:
Interface: I^2C bus
Rated voltage: 24 V DC

Accessories required:
Power pack 24 V DC DK 7201.200 / .210 depending on the input voltage.

Plug-in power supply unit for Easy CMC

The plug-in power supply unit is available in two variants, for an input voltage of 230 V AC, 50/60 Hz and for an input voltage of 115 V AC, 50/60 Hz. In both variants, the power pack supplies a stabilized output voltage of 24 V DC and is ideally tailored to the Easy CMC.
A power supply unit is required for each Easy CMC.

Power supply unit for Easy CMC	Part No. DK
230 V AC, 50/60 Hz/ 24 V DC	**7201.200**
115 V AC, 50/60 Hz/ 24 V DC	**7201.210**

TS 8 comfort safety handle/ Ergoform-S safety handle

The new safety handle is available in two models:
- TS 8 comfort handle for all TS 8 enclosures
- Ergoform-S handle for FR, QR, PS, TC.

The system is distinguished by its flexible access opportunities. The 3-digit code allows access to the enclosure without the need for a key. The code can be set individually with the door open.
Alternative access is provided by the master key function. The door can be opened with the handle via a semi-cylinder, irrespective of the code.
A semi-cylinder of 1.57″ or 1.77″/40 or 45 mm to DIN 18 254 may be used.
Easy retrofitting makes the handle ideal for ISP and ASP applications. The safety handle is an effective, inexpensive solution.

Safety handle	Part No. DK
TS 8 comfort handle	**7200.800**
Ergoform-S handle	**7200.810**

TS 8 comfort safety handle/ Ergoform-S safety handle for the Easy CMC

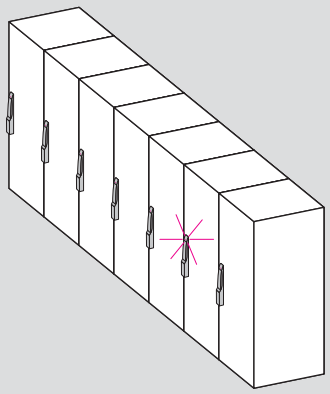
The safety handle has an integral optical signal lamp which supports the relay of a collective alarm from the Easy CMC. This provides an optimum overview of alarm status on the enclosure front.
Additionally, the safety handles offer a security access system.

The handle is available in two variants:
- TS 8 comfort handle for all TS 8 enclosures
- Ergoform-S handle for FR, QR, PS, TC.

The system is distinguished by its flexible access. The 3-digit code allows access to the enclosure without the need for a key. The code can be set individually with the door open.
Alternative access is provided by the master key function. The door can be opened with the handle via a semi-cylinder, irrespective of the code.
A semi-cylinder of 1.57″ or 1.77″/40 or 45 mm to DIN 18 254 may be used.

Interface to the Easy CMC alarm signal output:
The safety handle can be connected to the alarm signal output of the Easy CMC (DK 7201.100 and DK 7201.110). This enables structured control of the optical alarm system in bayed enclosure suites, irrespective of the enclosure configuration.

Safety handle for Easy CMC	Part No. DK
TS 8 comfort handle	**7201.800**
Ergoform-S handle	**7201.810**



The network – highly sensitive and in need of protection

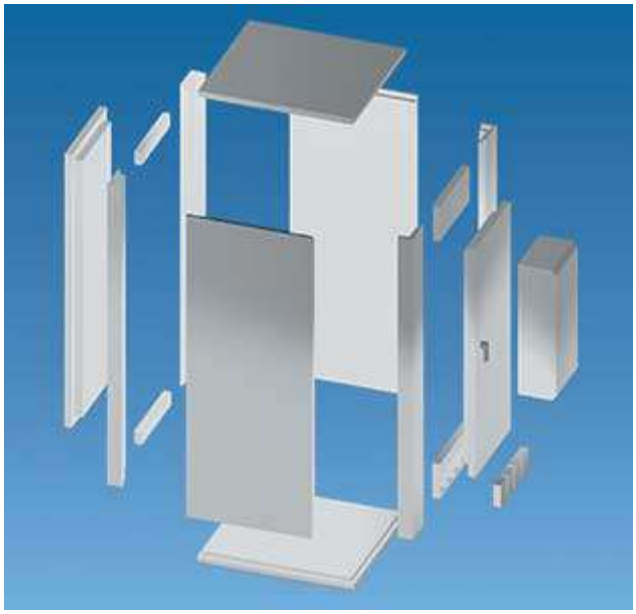
Network components represent the heart, brain and nervous system of data communications. Be it servers or LAN/WAN control units, routers, bridges or gateways, if just one of these highly sensitive components fails, the functional reliability of the entire network is at risk.

The new SYS-DATA IT modular safe system provides reliable protection from physical risks for 19″/482.6 mm network technology.
The safe is equipped with a range of components providing an expedient addition to the security system.

The revolutionary innovation behind the IT modular safe lies in its modular design: The connecting modules can be built around existing, pre-populated network and server enclosures, even while they are in operation.

Site changes for the IT modular safe are no problem at any time, due to a security enclosure which can be dismantled. A high level of protection from fire, theft and water has been proven in a number of different tests.

■ Modular safe



SYS-DATA IT modular safe

Basic version:
Modular basic enclosure, 1 key lock per door, quadruple cable bushing, electronic system control including thermostat, fire alarm and door monitoring.

Dimensions in./mm (H x W x D):
External: 94.5 x 40 x 59/
2400 x 1000 x 1500
Internal: 89 x 33.5 x 37/
2250 x 850 x 950

Weight: approx. 1764 lbs/800 kg

■ Security

Telecommunications monitoring
Relays risk messages to an external security center.

Fire alarm and extinguisher system
Smoke alarms in two-line dependency and extinguishing medium FM 200 in a 19″/482.6 mm system.

Continuous power supply
On-line system in 19″/482.6 mm technology.

■ Rittal components

Network rack
The frame in the modular safe: 47 U DK-TS, for fast, flexible population with maximum use of the interior space.

Rittal designer cooling units with power and intelligence
They cool superbly, save electricity and protect the environment at the same time – these are the outstanding properties of Rittal cooling units. Added to this is the ease of operation afforded by the integral microcontrollers for monitoring and control of the cooling units.

Electronic monitoring with Rittal Computer Multi Control
CMC (Computer Multi Control) is an electronic monitoring system which may optionally be installed in the IT modular safe. CMC monitors all physical factors and the operating state inside the IT modular safe in the network. Any dangers, such as humidity, smoke or vibration, are reported directly to an external security center. The CMC responds promptly and raises the alarm, thus preventing the high consequential costs associated with a network failure or plant shutdown.

Alarms are reported:
- optically with two color LEDs
- with an acoustic alarm
- in the form of a text message via the LCD display
- drop out of a floating alarm relay
- SNMP.

Suitable for 19″/482.6 mm systems:

- Servers
- Bridges, routers, gateways, switches
- Telecommunications
- Network management
- LAN/WAN control units

19″/482.6 mm power strip (7-socket)
Option of mounting on the frame or between the mounting rails.

■ Cable entry

Tested cable entry
In the standard configuration, up to 400 cables may be inserted into the IT modular safe.

Rittal and Lampertz – Partners in IT security

The IT modular safe is distributed by:

Lampertz GmbH + Co. KG
Postfach 540
D-57505 Betzdorf/Sieg
Telephone (+49) 27 41 2 85-0
Fax (+49) 27 41 2 85-3 40
Internet: http://www.lampertz.de
e-mail: Info@lampertz.de

Rittal and Lampertz are part of the Friedhelm Loh Group:
www.friedhelm-loh-gruppe.de

Spectro-Data Vision makes workstation visions a reality

For years, the Spectro-Data workstation system has enjoyed the reputation of a "classic" among computer workstation professionals.

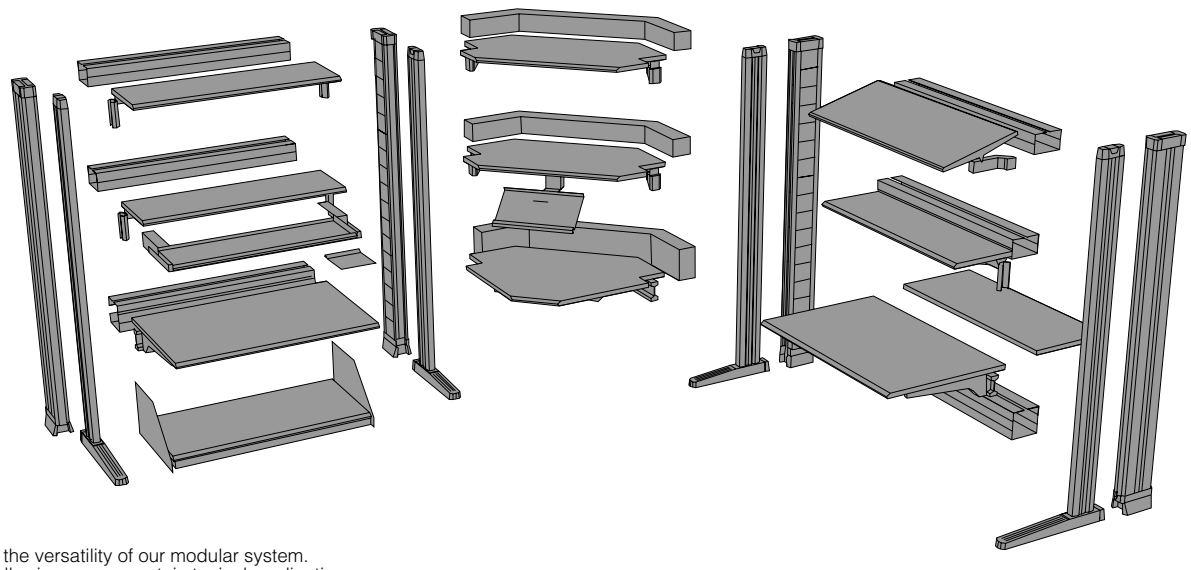
Now there is Spectro-Data Vision, a refinement of Spectro-Data, which has been consistently tailored to the requirements of future high-tech office environments. This fascinating modular system opens up a whole new dimension in workstation solutions: modular, flexible, space-saving and completely visionary.

■ Variety of solutions

Spectro-Data Vision – Ideal for the office
Spectro-Data Vision is a ideal choice for technical office workstations. It is equally well-suited to individual offices or group workstations, for call centers, user help desks or CAD workstations. Its function and ergonomics will help to boost productivity and make work a more pleasurable experience. The virtually unlimited flexibility of the system and problem free modification mean that "just-in-time" workstations and optimum adaptation to changing team or project structures couldn't be simpler.

Spectro-Data Vision – Ideal for all IT workstations
High-tech workstations in computer control desks, network and control centers and control rooms place exacting requirements on any system. Spectro-Data Vision meets these requirements. Its enormous stability permits high loads, the multi-layered concept integrates all the technology with minimum space requirements and exemplary cable management ensures order and functional reliability.

■ Modular solutions



Enjoy the versatility of our modular system. The following pages contain typical application-specific workstation configurations. Tailor-made solutions from the modular system are always possible.

Based on Spectro-Data Vision

■ Functionality

Versatile multi-functional surfaces free up space on the workstation and help you to make the best possible use of the available space. At the same time, it also offers optimum facilities for ergonomic adaptation.

The **multi-layered concept** of Spectro-Data Vision enables maximum use of the space above the workstation, thus offering up to 60% more space with the same basic area.

Functionally reliable and adaptable **cable routing components** ensure structured, flexible cable routing.

■ Future oriented

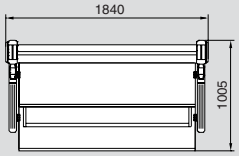
The **modular system** of Spectro-Data Vision enables you to adapt and change your workstation configuration at any time in order to integrate the hardware of the future.
The cost-effectiveness of the modular system offers investment security because it is designed for future expansion.

LAN server center, compact

For integration of host mainframes and back-up computers and for large-scale accommodation of monitoring and control monitors, handbooks and technical accessories (without hardware but fully equipped).
The unit may be extended with a network enclosure FR or TS.
Adaptation of the sidewall is achieved via a matching cable duct.

Part No. DK	7440.100

Further information and specifications, as well as delivery times, available upon request.

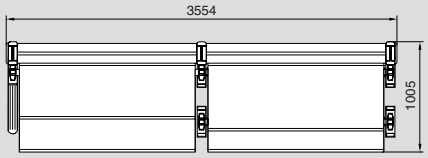


LAN server center, midsize

With monitoring component as for the compact server center but with additional load-bearing capacity for heavy hardware and technical components.
The unit may be extended with a FR or TS network enclosure.
Adaptation of the sidewall is achieved via a matching cable duct.

Part No. DK	7440.200

Further information and specifications, as well as delivery times, available upon request.

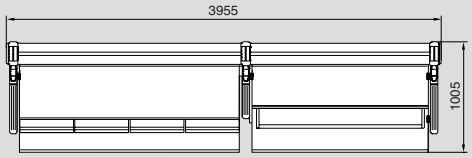


LAN management center

For integration of host mainframes and back-up computers and for large-scale accommodation of monitoring and control monitors.
The unit may be extended with a FR or TS network enclosure.
Adaptation of the sidewall is achieved via a matching cable duct.

Part No. DK	7440.300

Further information and specifications, as well as delivery times, available upon request.

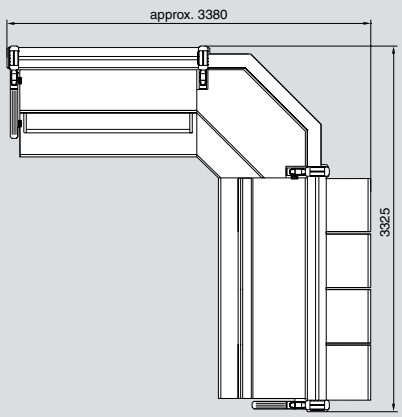


Network control station

Corner combination for complete accommodation of all hardware components for centralized control of EDP units in the network.
The unit may be extended with a network enclosure FR or TS.
Adaptation of the sidewall is achieved via a matching cable duct.

Part No. DK	7440.400

Further information and specifications, as well as delivery times, available upon request.

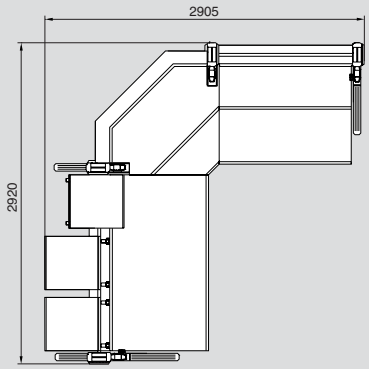


Small business LAN management

The compact solution for the control and monitoring of small networks. The compact corner configuration will fit into nearly all office environments. Connection of the Rittal flexRack 7881.120 provides secure packaging for the central computer units.

Further information and specifications, as well as delivery times, available on request.

Part No. DK	7440.500

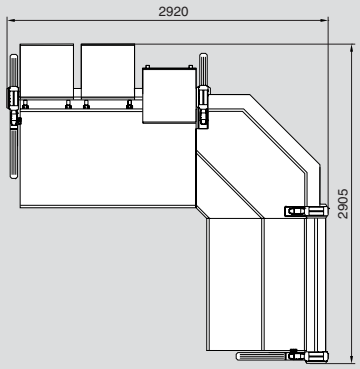


LAN test workstation

Corner configuration with space for hardware components and additional 19″/482.6 mm test equipment.
By connecting a Rittal QuickBox, all the passive equipment may be integrated into the LAN.

Further information and specifications, as well as delivery times, available on request.

Part No. DK	7440.600

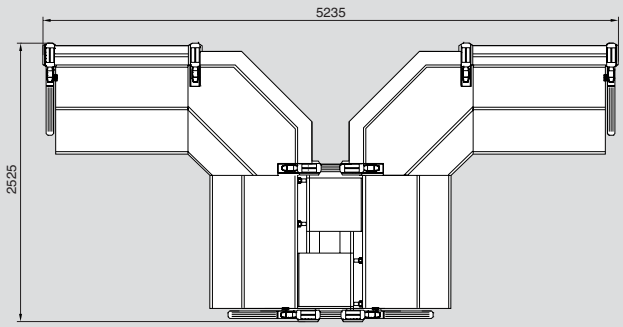


IT hotline center/call center

Single-sided or double-sided workstation configuration for functional accommodation of all hardware components and other working documents required for rapid-response customer service.
Here too, the central computers may be integrated into the Rittal flexRack 7880.120 with protection from unauthorized access.

Part No. DK	7440.700

Further information and specifications, as well as delivery times, available on request.



Service and advice from the beginning

The planning service: Peace of mind with your decision-making
Based on your requests and requirements, our workstation specialists will draw up a detailed plan (layout and perspective), showing one or more alternatives on request. This planning service is provided free of charge to customers.
Further information is available from your Rittal representative.

Perfect for every application

Rittal ITS products – ideal solutions for Interactive Terminal Systems.
Here, the vision of practical function coupled with aesthetic designs becomes a reality. Rittal's interactive terminals are ideally suited for any practical application: at point-of-information (POI) and point-of-sale (POS), as a ticket machine, or for multimedia informational centers.

Ergonomics
We design perfect ergonomic solutions, tailored to customer requirements.

Design
Aesthetics and function combine to form an impressive appearance.

Construction
A quality management system, monitored by internal audits, ensures that high quality standards are maintained.

Production
High-quality products are produced by automated, computer-controlled production equipment.

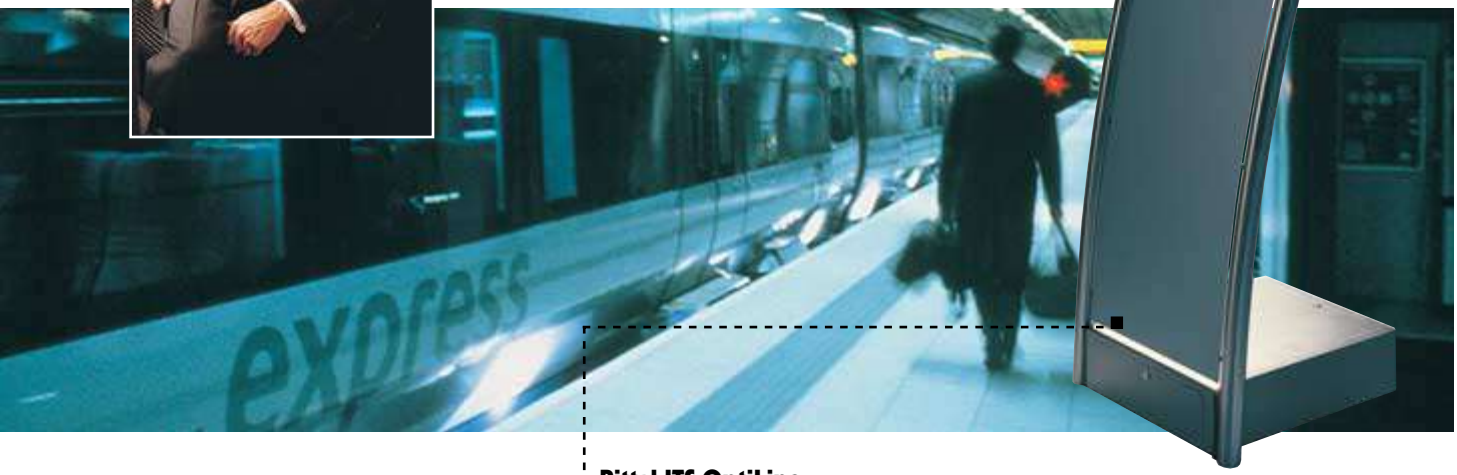
Detailed information on the full product range can be found in our brochure, "Interactive Terminal Systems."

RITTAL ITS SYSTEMS

Interactive Terminal Systems – intelligent solutions at the point-of-information

Rittal offers an extensive range of products that are designed for the interactive terminal market:

- as empty enclosures for individual installations.
- as terminals complete with Rittal active components such as hardware packages (monitor, keyboard, connector strips), add-on kits (PC system, acoustic system, climate control, printer) and complete installation.
- as customized solutions with components to order, such as camera, card reader, remote monitoring and barcode scanner.



Rittal ITS OptiLine

This enclosure, which is ideal for retail/ interior settings, features outstanding design, individuality and function.

A veritable jewel at the POS/POI, it is sure to impress with its clear, timeless lines and exclusive combination of materials in stainless steel and aluminum.

Rittal ITS ArcLine

The Rittal ITS ArcLine combines ergonomics with an attractive design. The robust construction of this sheet steel or stainless steel enclosure ensures stability, coupled with excellent protection against vandalism. A variety of standard hardware components can be easily installed.

Rittal ITS VIPLine

This modular enclosure system offers limitless flexibility in the accommodation of a wide range of system components. It is both a communication center and an eye-catching kiosk – ideal for any interior setting where interactive functions are required.

Rittal ITS OutLine

Built to withstand snow, rain, storms or heat, ITS OutLine enclosures are ideal for outdoor installations in the open air or beneath a canopy. Also suitable for indoor use, they are distinguished by their attractive appearance, high level of function, and robustness.

ITS ArcLine

Basic

Front Door

Metallic

Classic/Protec

	Basic	Front Door	Metallic	Classic	Protec
Part No. IT	**9001.100**	**9001.500**	**9001.800**	**9001.300**	**9001.700**
Part No. IT with speaker housing	**9001.200**	**9001.600**	**9001.900**	**9001.400**	**–**
External dimensions inches/mm H W D	45.47/1155 * 20.08/ 510 22.05/ 560				
Material	sheet steel			Type 304 stainless steel	
Finish	painted in RAL 7016 dark grey, finely textured		hand-polished and powder coated in clear varnish	hand-brushed	
Door	hinged, rear	hinged, front	hinged, rear		plug-type, rear
Keyboard console (see page 851)	9001.110		9001.810	9001.310	9001.310
Additional accessories (see page 850/851)	matching keyboards, hardware components, etc.				

* Width with speaker housing = 25.51″/648 mm.

Technical description/configuration:
Enclosure with top monitor cover, hinged, monitor cutout 12.6 x 9.65″/320 x 245 mm (for 17″ monitors) with 3 mm single-pane safety glass,
hinged door with security lock**,
2 fitted 19″/482.6 mm mounting rails.

** “Protec” model: Plug-type and foamed-in rear door with two cam locks.

Additional accessories:

Casters PS 4611.000,
see page 891.

Component shelves DK 7148.035 or DK 7119.400,
see page 989.

ITS VIPLine

System

Design

		Basic	System	Design
Part No. IT Installation depth inches/mm	4.14/ 105	**9002.100**	**9002.200**	**9002.300**
	6.10/ 155	**9002.110**	**9002.210**	**9002.310**
External dimensions inches/mm H W D		60.24/1530 22.05/ 560 20.83/ 529	57.09/1450 22.05/ 560 20.71/ 526	47.24/1200 22.05/ 560 16.93/ 430
Monitor tilt		10° to the vertical	30° to the vertical	70° to the vertical
Other accessories (see page 850)		hardware components		

Technical description/configuration:
Enclosure consisting of
VIP 6000 enclosure and front frame, front panel with monitor cutout H x W 9.06 x 12.04″/306 x 230 mm and attachment device for 15″/381 mm TFT display.
Hinged rear panel with security lock and star-shaped ventilation holes.
Pedestal, prepared for attaching to the floor.

Material/finish:
Enclosure: aluminum, natural
Frame section: aluminum, painted in finely textured RAL 5010 blue
Front panel: 14 ga/2 mm sheet steel, painted in finely textured RAL 9006 white aluminum
Rear panel: aluminum, natural
Pedestal, Basic and System models: painted in finely textured RAL 5010
Pedestal, Design models: stainless steel, brushed and polished.

Ordering information

ITS OptiLine

Basic

With keyboard housing and base panel

Display area	2.36″/60 mm housing depth				4.33″/110 mm housing depth			
Part No. IT	9006.100	9006.200	9006.300	9006.400	9000.100	9000.101	9000.102	9000.103
Design	Basic	With keyboard housing	With base panel	With keyboard housing and base panel	Basic	With keyboard housing	With base panel	With keyboard housing and base panel
External dimensions inches/mm H	59.65/1515	59.65/1515	60.63/1540	60.63/1540	59.65/1515	59.65/1515	60.63/1540	60.63/1540
W	22.05/ 560	22.05/ 560	24.02/ 610	24.02/ 610	22.05/ 560	22.05/ 560	24.02/ 610	24.02/ 610
D	20.47/ 520	22.05/ 560	22.83/ 580	23.62/ 600	20.47/ 520	22.05/ 560	22.83/ 580	23.62/ 600
Top display enclosure H	18.90/480				18.90/480			
W	16.93/435				16.93/435			
D	2.36/ 60				4.33/110			
PC case H	5.51/140							
W	17.13/435							
D	19.69/500							
Additional accessories (see pages 850/851)	connection kit, matching keyboards, hardware components (larger keyboard housings upon request).							

Exclusive OptiLine Configurations (available only in U.S.A.)

Part No. IT	9000.104	9000.105	9000.106
Design	Desktop with keyboard housing	With keyboard housing, base panel and printer housing	Workstation
External dimensions inches/mm H	28.58/726	60.63/1540	60.63/1540
W	22.05/560	24.02/ 610	24.02/ 610
D	20.47/520	23.62/ 600	22.83/ 580
Top display enclosure H	18.90/ 480		
W	16.93/ 435		
D	4.33/ 110		
PC case H	5.51/140		–
W	17.13/435		–
D	19.69/500		–
Additional accessories (see pages 850/851)	larger keyboard housings upon request.		

Technical description/configuration:
Top display enclosure consisting of:
Optipanel aluminum section,
front panel with monitor cutout
H x W 9.06 x 12.04″/306 x 230 mm and attachment for 15″/381 mm TFT display.
(For 9000.100/101/102/103/104/105/106; cutout not included).
Designer trim panel,
Conduit system on the sides,
bent towards the rear,
external diameter 1.89″/48 mm,
PC case with lockable front flap,
keyboard console
(IT 9006.200 and IT 9006.400),
Base panel (IT 9006.300 and IT 9006.400) only.
Printer housing (IT 9005.105) has built-in printer/paper shelf and paper slot.
Workstation (IT 9000.106) has a pedestal base with display housing, work surface and privacy screens.

Material/finish:
Front panel, designer trim panel:
Aluminum, painted in finely textured RAL 9006 white aluminum
Rear panel: aluminum, natural; Side conduit system,
PC case:
Type 304 stainless steel V2A, brushed.
Printer housing: sheet steel, powder painted
Work surface: finished composite wood
Pedestal: sheet steel housing with steel/ die-cast base.

ITS OutLine

Module

Flex

	Module	Flex
Part No. IT	9005.100	9005.200
External dimensions inches/mm H	76.77/1950	78.74/2000
W	18.11/ 460	23.62/ 600
D	22.05/ 560	5.91/ 150
Design monitor cover	–	●
Door	side	rear
Keyboard console	●	–
19″ mounting rails	●	●
Additional accessories (see page 851)	matching keyboards	–

Technical description/configuration:

OutLine Module:
Terminal enclosure with side hinged door at the bottom, with security locking rod and all-round foamed seal.
Monitor cutout H x W 9.06 x 12.04″/ 306 x 230 mm and attachment for 15″/381 mm TFT display, keyboard console, 19″/482.6 mm mounting rails.

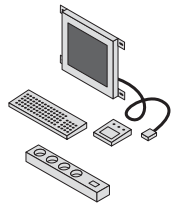
OutLine Flex:
Terminal enclosure with rear hinged door at the bottom, with security locking rod and all-round foamed seal.
Monitor cutout H x W 9.06 x 12.04″/ 306 x 230 mm and attachment for 15″ TFT display.
Designer monitor cover, 19″/482.6 mm mounting rails.

Material/finish:
Enclosure:
Type 304 stainless steel V2A, brushed monitor cover (OutLine Flex):
Type 304 stainless steel (V2A), painted in RAL 9005 black, other RAL colors available upon request.

HARDWARE PACKAGES/ADD-ON KITS

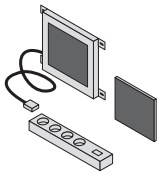
For Interactive Terminal Systems

■ Package 1 (Keyboard)



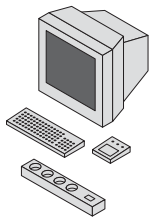
- High-quality 15″/381 mm TFT flat screen
- Robust built-in keyboard and trackball mounted in a stylish keyboard support
- Six socket power strip, with surge protection, mains filter and on/off switch
- Cable kit for simple plug & play connection of a PC

■ Package 2 (Touch)



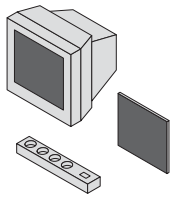
- High-quality 15″/381 mm TFT flat screen
- 15″/381 mm reflective touchscreen
- Six socket power strip, with surge protection, mains filter and on/off switch
- Cable kit for simple plug & play connection of a PC

■ Package 3 (Keyboard)



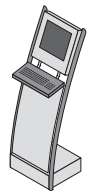
- High-quality 17″/431.80 mm CRT monitor
- Built-in keyboard and trackball mounted in a stylish keyboard support
- Six socket power strip, with surge protection, mains filter and on/off switch
- Cable kit for simple plug & play connection of a PC

■ Package 4 (Touch)

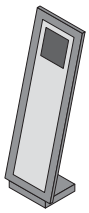


- High-quality 17″/431.80 mm CRT monitor
- 17″/431.80 mm reflective touchscreen
- Six socket power strip, with surge protection, mains filter and on/off switch
- Cable kit for simple plug & play connection of a PC

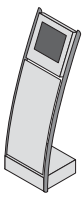
To fit terminal enclosures



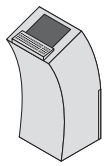
ITS OptiLine



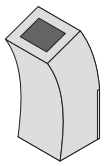
ITS VIPLine



ITS OptiLine



ITS ArcLine



ITS ArcLine

Add-on kits

PC Available upon request.	**PC** Available upon request.	**PC** Available upon request.	**PC** Available upon request.
Sound Complete acoustic system, consisting of two speakers with amplifier system, mounted on the front panel.	**Sound** Complete acoustic system, consisting of two speakers with amplifier system, mounted on the front panel.		**Sound** Complete acoustic system, consisting of two speakers with amplifier system, mounted on the front panel.
Climate control Available upon request.	**Climate control** Available upon request.		**Climate control** Available upon request.
Printer Available upon request.	**Printer** Available upon request.		**Printer** Available upon request.

Assembly services
All packages and add-on kits are fully assembled in the respective enclosure, wired, connected, ready for operation and tested.
The add-on kits are only available in conjunction with the respective enclosure.

Hardware components are consistently upgraded in line with the latest state-of-the art technology. Technical details of the current components are available on request.
Specifications subject to change.

Membrane keyboard

For installing in the keyboard supports for ArcLine, OptiLine and OutLine Module.
Surf the web with ease:
Separate keys for Internet-specific functions are provided on the membrane keyboard. The touchpad or trackball allows you to navigate in all directions on the screen.

Color:
RAL 7035 light grey

Dimensions (H x W x D):
Keyboard: 4.45 x 11.93 x .67″/
113 x 303 x 17 mm
Touchpad: 4.45 x 3.86 x .67″/
113 x 98 x 17 mm
Trackball: 4.45 x 3.86 x1.22″/
113 x 98 x 31 mm

Ratings:
Keyboard and touchpad:
Front NEMA 13/IP 65
Trackball: IP 54, idle

	Part No. IT
Keyboard	**9004.100**
Touchpad	**9004.110**
Trackball	**9004.120**

Benefits:
- SMD short-stroke key, actuator travel 0.25 mm
- All input devices are wipe-clean and resistant to standard cleaning agents and solvents to DIN 41 115
- No additional drivers are required
- With Internet-specific function keys and locked special keys for crash-free operation
- 3 m connection cable with PS/2 connectors

! For European applications only. U.S.A. versions are available; please contact Rittal for further details.

Stainless steel keyboard

For installing in the keyboard supports for ArcLine, OptiLine and OutLine Module. Offers all the benefits of a membrane keyboard (see above) but additionally with:
- Laser-inscribed V2A (stainless steel) key caps and V2A front panel
- Suitable for damp outdoor conditions, due to its exceptionally robust design.

Other keyboards – e.g. silicone keyboards, long-stroke keyboards etc. – are also available upon request.

	Part No. IT
Keyboard	**9004.200**
Trackball	**9004.210**

Material:
Stainless steel

Dimensions:
See membrane keyboard

Protection ratings:
See membrane keyboard

! For European applications only. U.S.A. versions are available; please contact Rittal for further details.

Keyboard supports for ITS ArcLine

All supports are prepared for the installation of Rittal membrane and stainless steel input devices – see above.

! For European applications only. U.S.A. versions are available; please contact Rittal for further details.

For ArcLine	Part No. IT
IT 9001.100 IT 9001.200 IT 9001.500 IT 9001.600	**9001.110**
IT 9001.300 IT 9001.400 IT 9001.700	**9001.310**
IT 9001.800 IT 9001.900	**9001.810**

Connection kit for ITS OptiLine, fitted

Extends OptiLine terminals with a pre-fitted cable kit which is laid between the upper display enclosure and bottom PC case. This will make the self-installation of your hardware easy.

Configuration:
VGA patch cable (for TFT display), 2 PS/2 patch cables (keyboard and mouse), cinch jack patch cable (for sound connection), earth/grounding wire and 2 mains cables.

PU	Part No. IT
1 set	**9006.010**

Note:
The connection kit can only be ordered together with an OptiLine terminal.

Safe and secure, in all kinds of weather

Rittal CS outdoor enclosures set the highest safety standards in the industry – be it for IT technology, traffic control, industrial or environmental technology, power distribution or data and telecommunication networks. High grade materials like aluminum, aluminum/zinc and stainless steel offer protection from corrosion and vandalism and the use of our standard modular components makes economical solutions to specialized customer requirements possible.

Air conditioners, heat exchangers, filter fans and panel heaters, offered at various output levels, ensure proper operating temperature inside your outdoor enclosure. The segregation of interior and exterior cycles in the air conditioners and heat exchangers will keep moisture and dust from entering into the enclosure. The microcontroller makes intelligent climate management possible.

OUTDOOR ENCLOSURES

Table of Contents
Outdoor Enclosures

Pages

■ **System overview** 854 – 855

■ **CS outdoor enclosures**
Polemount enclosures 856 – 857
Compact enclosures 858 – 859
Basic enclosures 860 – 861
Modular enclosures 862 – 865

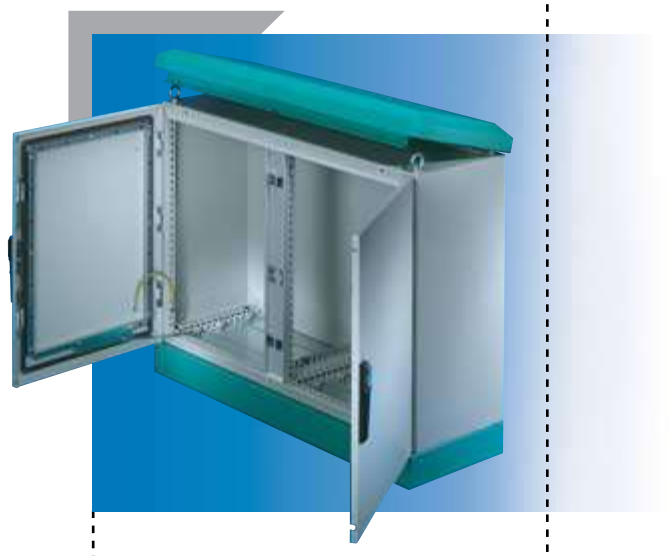
■ **CS climate control units**
Heat exchangers 866 – 867
Air conditioners 868
Rackmount fans 869
Panel heaters 869

■ **CS indoor racks** 870 – 871

■ **CS accessories** 872 – 875

Modular CS outdoor enclosures

All around double-wall design perfection combined with our modular concept – Rittal's quick installation system accessories and climate control units can be attached into a roof, door or side wall of the modular cabinets.



CS basic enclosures

A variety of readily available solutions for traffic control, power supply or environmental technology. The single wall, all-aluminum enclosure will impress with its multitude of installation options.

Polemount enclosures

Compact enclosures

Technical features

Polemount enclosures

- All-aluminum construction, powder painted
- Single wall construction
- Double wall construction of the roof and door
- Safety locks
- 19″ or 23″ rack mount capabilities with options for mounting panel
- 2 C-rails to secure the enclosure to a pole are standard components
- Total of 16 rows of installation mounting holes
- NEMA 3R/12, designed to Telcordia 487

Compact enclosures

- Either all-aluminum or sheet metal construction, aluminum-zinc coated, both are powder painted
- NEMA 3R/12; Telcordia 487 compliant
- Single wall enclosure
- Ergoform-S handle with safety lock
- Inside components: built-in mounting panel
- Rain canopy and 4″/100 mm transportation plinth are standard

Applications

Polemount enclosures

Distributor box for telecom/ data networks, or applications with a low degree of active equipment.

- Wireless communication
- Data networks
- Traffic control technology

Compact enclosures

Passive distribution technology or applications with a low number of active components.

- Passive distribution
- Relay stations
- Traffic control technology
- Signalling technology

User benefits

Polemount enclosures

- Special design hood with solar shield capabilities
- Double wall construction of the roof and door provides economical environmental and vandalism protection
- Pole or wallmount option
- A panel heater option will prevent condensation build-up

Compact enclosures

- 2 standard sizes
- Quick-install frame with 1″/25 mm hole pattern around perimeter of enclosure
- Removable enclosure body
- 44″/1100 mm enclosures allow for compartmentalization and separate access
- Strong high frequency protection, since the body of the enclosure is formed and welded from a single sheet

Pages 856/857

Pages 858/859

Basic enclosures

- All-aluminum construction, powder painted
- Single wall enclosure
- Ergoform-S handle with safety lock system
- Inside configuration with mounting angles, mounting panel and component shelves
- Rain canopy and 4″/100 mm high transportation plinth are standard
- **NEMA 3R/12, Telcordia 487 compliant**

Applications with a low number of active equipment in telecommunications, environmental technology and data communications.

- Environmental technology
- Traffic control technology
- Signalling technology
- Distribution technology
- Industry

- 12 standard sizes
- Flexible cable entry via the split bottom cable entry panels
- 47″/1200 mm wide enclosure is available either with overlapping doors, or with double doors and screwed-in mullion
- Economical enclosure concept
- Strong high frequency protection, since the unibody of the enclosure is formed and welded from a single sheet

Pages 860/861

Modular enclosures

- All-aluminum double wall construction, powder painted
- Double wall enclosure
- Ergoform-S handle with safety lock system
- Inside configuration with mounting angles, mounting panel and component shelves
- **NEMA 3R/12, Telcordia 487 compliant**

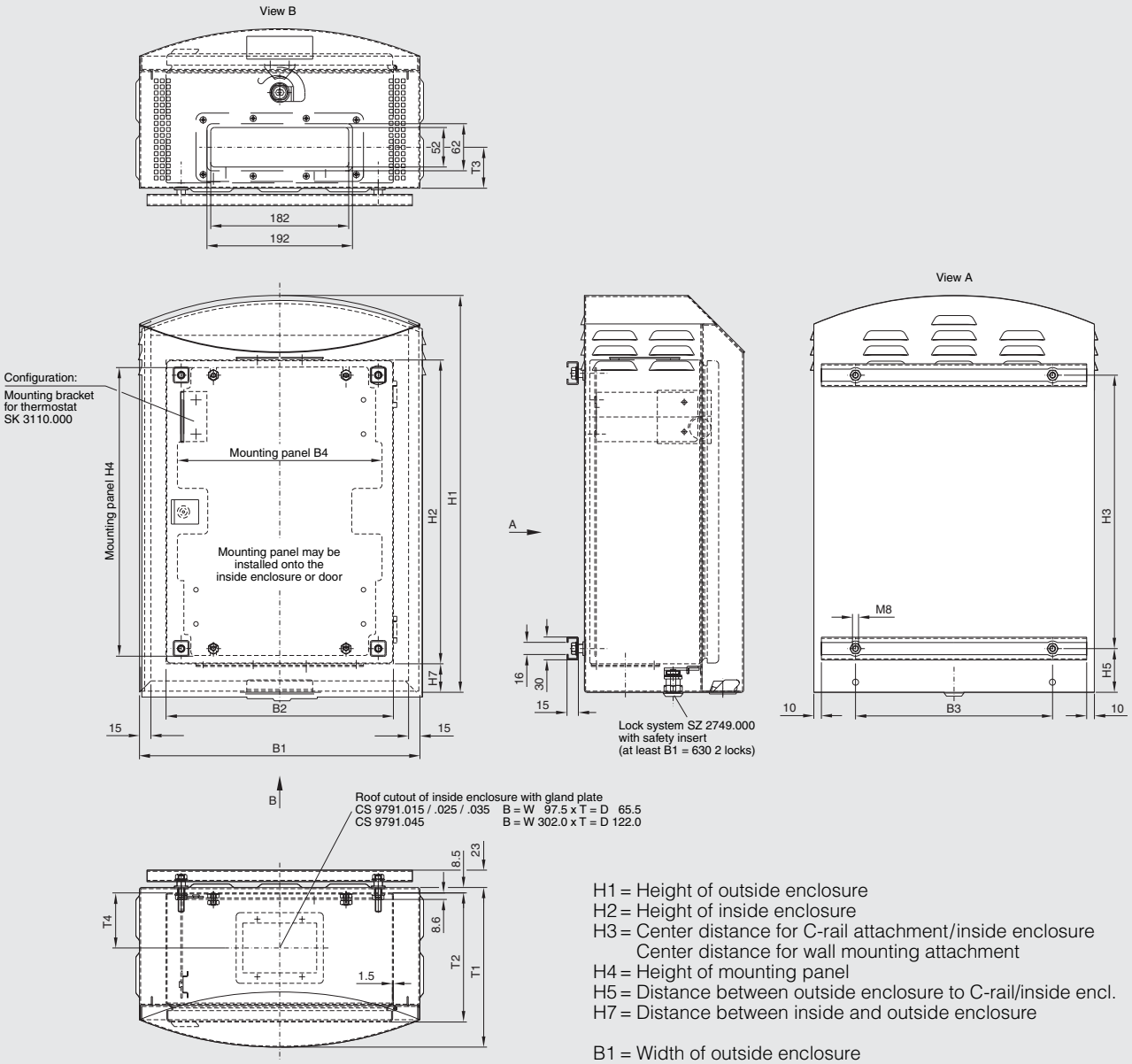
All kinds of telecommunication applications, including wireless and wireline telecommunications.
The modular system, as well as the flexibility and adaptability of the climate control units, are ideal for systems technology with a high active component population and their power supply. The high heat loss of these components is efficiently dissipated with the power of our climate control components.

Base stations for mobile wireless and wireless applications of all kinds, like:

- Remote DCC applications
- Remote switching applications
- Wireless base stations (CDMA, 6SM, TDMA, etc.)
- Microwave applications

- 4 standard sizes
- Door and rear wall feature double wall construction
- The side wall surrounds the base module and plinth, which ensures a high protection against vandalism
- Climate control with air conditioners and air/air heat exchangers
- Climate control may be installed on the rear wall, side wall, door or roof
- The double-wall design provides passive cooling and lessens intensity of solar loading
- Modules may be combined for special custom projects

Pages 862 – 865



H1 = Height of outside enclosure
H2 = Height of inside enclosure
H3 = Center distance for C-rail attachment/inside enclosure
Center distance for wall mounting attachment
H4 = Height of mounting panel
H5 = Distance between outside enclosure to C-rail/inside encl.
H7 = Distance between inside and outside enclosure

B1 = Width of outside enclosure
B2 = Width of inside enclosure
B3 = Center distance for C-rail attachment/inside enclosure
Center distance for wall mounting attachment
B4 = Width of mounting panel

T1 = Depth outside enclosure
T2 = Depth inside enclosure
T3 = Distance between outside enclosure and center of bottom gland panel
T4 = Distance between outside enclosure and center of top gland panel

Technical description/ material of enclosure:
Aluminum AlMg3
Outside enclosure: 14 ga/2.0 mm
Inside enclosure: 16 – 14 ga/1.5 – 2.0 mm
Doors: 14 ga/2.0 mm
Mounting panel:
11 ga/2.0 mm aluminum AlMg3

Finish of inside and outside enclosure:
Housing and doors:
powder painted in RAL 7032
Mounting panel: aluminum AlMg3, chromated

Protection ratings of inside enclosure:
NEMA 3R/12 or IP 55 per EN 60529/10.91

Part No.	H1	H2	H3	H4	H5	H7	B1	B2	B3	B4	T1	T2	T3	T4
CS 9791.015	522.5	400	360	380	57.5	37.5	370	300	260	270	210	170	55.5	72.5
CS 9791.025	560	440	400	410	58	38	420	350	310	320	210	170	55.5	72.5
CS 9791.035	700	565	525	535	63	43	530	460	420	430	265	220	82	72.5
CS 9791.045	780	580	540	550	55	35	630	580	540	550	380	333	82	155

Enclosure					Page
Height in mm outside/inside	522.5/400	560.5/440	700/565	780/580	
Width in mm outside/inside	370 /300	420 /350	530/460	630/580	
Depth in mm outside/inside	210 /170	210 /170	265/220	380/333	
Part No. CS	**9791.015**	**9791.025**	**9791.035**	**9791.045**	
Accessories					
Wall bracket (PU = 4) CS	9765.120	9765.120	9765.120	9765.120	872
Pole bracket CS	9765.125	9765.125	9765.125	9765.125	872
Swivel frame, 19"/482.6 mm CS	–	–	–	9765.130	872
Panel heater, 30 Watt SK	3115.000	3115.000	3115.000	3115.000	562
Temperature control SK	3110.000	3110.000	3110.000	3110.000	569

Configuration:
Inside enclosure with door,
aluminum mounting panel,
safety lock,
foamed-on gasket,
gland panel, bottom,
outside enclosure with built-in
louvered ventilation,
special design hood with
safety lock,
C-rails.

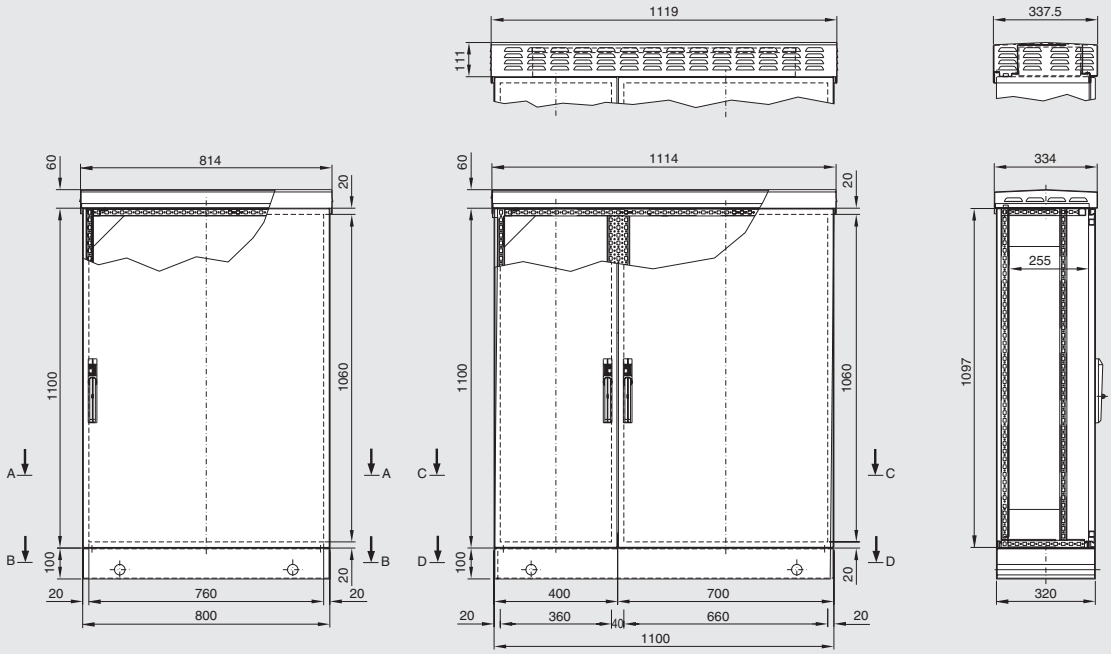
US Patent No. 6 024 236
German Design
No. 297 16 467
German Design
No. 97 08 625
UK Registered Design
No. 2 072 965
IR Reg. Design Nr. DM/044 110
applicable to ES, FR, IT,
Indonesia

Swivel frame
for the vertical installation of 19″/482.6 mm modules.
Details see page 872.

Pole clamp
for mounting on round or rectangular poles.
Details see page 872.

Complete inside installation
of the wallmount enclosure per customer specifications is possible.

Roof design for enclosures (W = 44″/1100 mm)
with roofmount heat exchanger 15 W/K



Technical description/ material of enclosure:
Aluminum AlMg3 or sheet steel, aluminum/zinc coated
Housing: 14 ga/2.0 mm
Doors: 14 ga/2.0 mm
Mounting panel:
11 ga/3.0 mm aluminum AlMg3/
11 ga/3.0 mm sheet steel

Finish of enclosure:
Housing and doors:
powder painted in RAL 7035
Mounting panel:
chromated/galvanized

Protection ratings of housing:
NEMA 3R/12 or IP 55 per EN 60 529/10.91

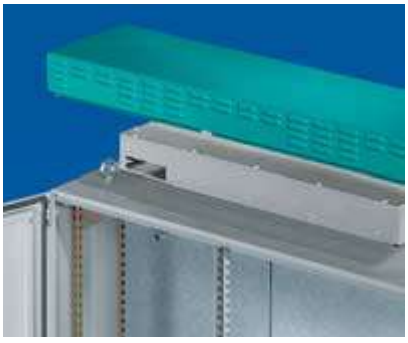
Rain canopy:
Aluminum AlMg3, 14 ga/2.0 mm, powder painted in RAL 5018

Plinth:
Aluminum AlMg3, 11 ga/3.0 mm, powder painted in RAL 5018

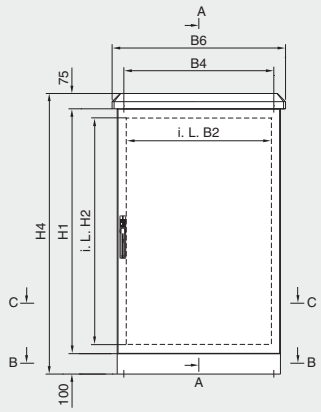
Material	**Aluminum AlMg3**		**Aluminum/zinc sheet metal**	
Enclosure	Single door	Double door	Single door	Double door
Height in inches/mm	44/1100	44/1100	44/1100	44/1100
Width in inches/mm	32/ 800	44/1100	32/ 800	44/1100
Depth in inches/mm	14/ 320	14/ 320	14/ 320	14/ 320
Part No. CS	**9771.115**	**9772.115**	**9771.110**	**9772.110**
Accessories Part No. CS				
Roofmount heat exchangers, 15 W/K	**–**	**9767.012**	**–**	**9767.012**
Rain canopy for roofmount heat exchanger	**–**	**9779.053**	**–**	**9779.004**

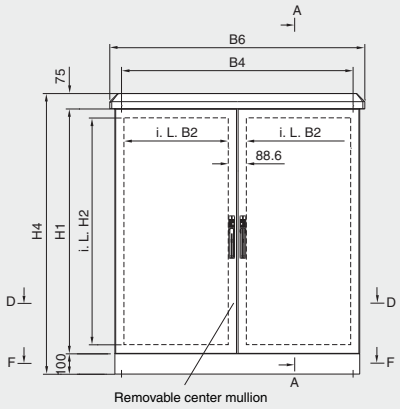
Configuration:
Single or double door enclosure,
door(s) with 130° hinge,
with door stop 110°,
Ergoform-S handle
with safety lock,
3-point lock system,
foamed-on door gasket,
mounting panel(s),
mounting frame
with 1″/25 mm DIN hole
pattern,
enclosure base frame,
plinth,
rain canopy.

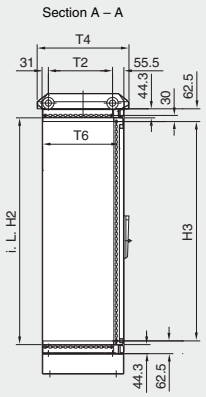
Plastic cable gland panel
with PG holes for cable connectors.
Details see page 896.



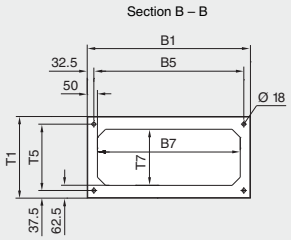
Roofmount heat exchangers 15 W/K
for climate control in conjunction with a rain canopy.

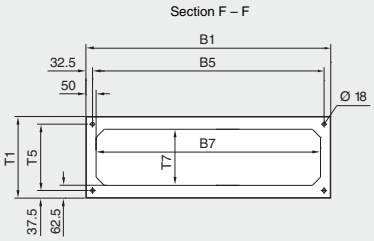


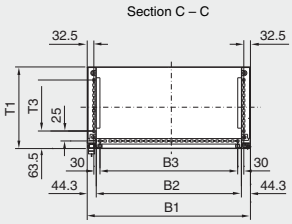


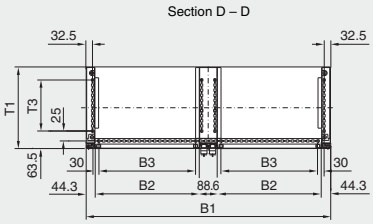


i. L. = available space









H1 = Height of basic enclosure
H2 = Clearance between enclosure frame members
H3 = Section of system hole pattern
H4 = Total height

B1 = Width of basic enclosure/ standard base/plinth
B2 = Clearance between enclosure frame sections
B3 = Section of system hole pattern
B4 = Eyebolts, center-to-center
B5 = Hole distance between plinth and plinth mount
B6 = Width of roof (overall width)
B7 = Clearance of standard plinth opening

T1 = Depth of basic enclosure/ standard plinth
T2 = Eyebolts, center-to-center
T3 = Section of system hole pattern
T4 = Depth of roof (overall depth)
T5 = Hole distance between plinth and plinth mount
T6 = Possible installation depth
T7 = Clearance of standard plinth opening

Height (H1)	800	1200	1400	1200	800	1200	1400	1200	800	1200	1200	1400	Page
Width (B1) in mm	600	600	600	600	800	800	800	800	1200	1200	1200	1200	
Depth (T1)	400	400	400	500	400	400	400	500	400	400	500	400	
Part No. CS without center rail	**9783.040**	**9783.050**	**9783.060***	**9783.030**	**9783.010**	**9783.020**	**9783.120***	**9783.110**	**9784.110***	**9784.120***	**9784.140***	**9784.130***	
Part No. CS with center rail	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**9784.010**	**9784.020**	**9784.040***	**9784.030***	
Door(s)	1	1	1	1	1	1	1	1	2	2	2	2	
H2	711.4	1111.4	1311.4	1111.4	711.4	1111.4	1311.4	1111.4	711.4	1111.4	1111.4	1311.4	
H3	675	1075	1275	1075	675	1075	1275	1075	675	1075	1075	1275	
H4	975	1375	1575	1375	975	1375	1575	1375	975	1375	1375	1575	
B2	511.4	511.4	511.4	511.4	711.4	711.4	711.4	711.4	511.4	511.4	511.4	511.4	
B3	475	475	475	475	675	675	675	675	475	475	475	475	
B4	540	540	540	540	740	740	740	740	1140	1140	1140	1140	
B5	535	535	535	535	735	735	735	735	1135	1135	1135	1135	
B6	650	650	650	650	850	850	850	850	1250	1250	1250	1250	
B7	500	500	500	500	700	700	700	700	1100	1100	1100	1100	
T2	314.5	314.5	314.5	414.5	314.5	314.5	314.5	414.5	314.5	314.5	414.5	314.5	
T3	300	300	300	400	300	300	300	400	300	300	400	300	
T4	450	450	450	550	450	450	450	550	450	450	550	450	
T5	325	325	325	425	325	325	325	425	325	325	425	325	
T6	349	349	349	449	349	349	349	449	349	349	449	349	
T7	275	275	275	375	275	275	275	375	275	275	375	275	

Accessories

Cable entry panel, solid, CS	9785.017	9785.017	9785.017	9785.020	9785.018	9785.018	9785.018	9785.019	2 x 9785.017	2 x 9785.017	2 x 9785.020	2 x 9785.017	873
Cable entry panel, divided, CS	9785.011	9785.011	9785.011	9785.014	9785.012	9785.012	9785.012	9785.013	2 x 9785.011	2 x 9785.011	2 x 9785.014	2 x 9785.011	873
Mounting panel, CS	9765.090	9765.092	9765.098	9765.092	9765.097	9765.095	9765.099	9765.095	9765.190	9765.191	9765.191	9765.192	873
Pad mount kit, CS	9765.182	9765.182	9765.182	9765.082	9765.088	9765.088	9765.088	9765.084	9765.089	9765.089	9765.086	9765.089	872

Enclosure suites with 16″/400 mm wide baying enclosures by request. *** Lead time upon request.**

Material:
Aluminum AlMg3
Body, roof and doors:
14 ga/2.0 mm
Plinth: 11 ga/3 mm

Finish:
Powder painted
Body and door: RAL 7035
Roof and plinth: RAL 5018

Configuration:
One piece enclosure,
with open floor,
3-point lock via Ergoform-S
handle and safety insert
Plinth: 4″/100 mm high
Rain canopy: 3″/75 mm high

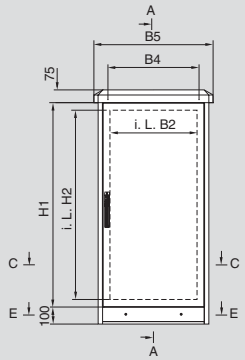
Protection ratings of enclosure:
NEMA 3R/12 or
IP 55 per EN 60 529/10.91
in conjunction with the cable entry panels offered in the accessories section.

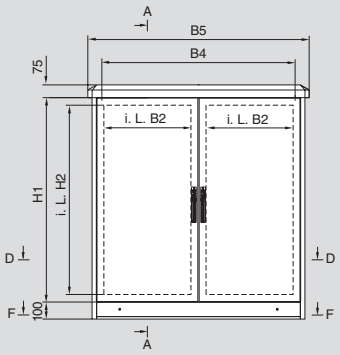
Accessories:
see pages 876-877
or keyword index.

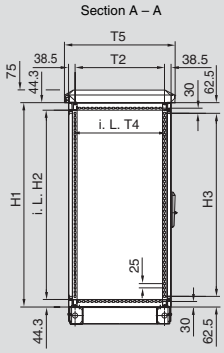
Rain canopy
to protect from adverse weather conditions, with 1″/25 mm rim around perimeter.

Base frame
may be closed off with one piece or three piece cable entry plates.
Details on page 873.

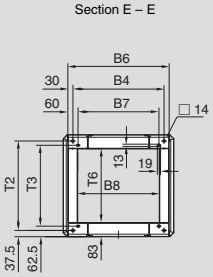
Cable entry grommets
combined with cable entry plates to seal off all sorts of cables.
Details on page 892.

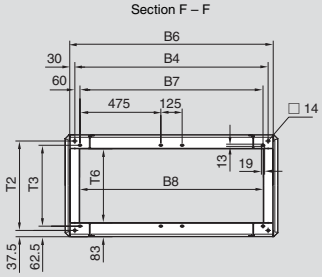


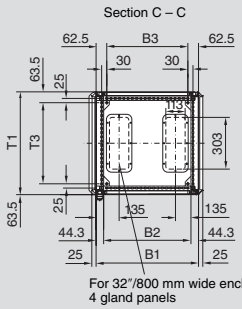




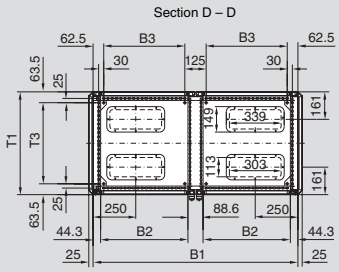
i. L. = available space







For 32″/800 mm wide enclosures or larger 4 gland panels



Enclosure body

H1 = Height of module housing
H2 = Clearance between frame members
H3 = Section with system hole pattern

B1 = Width of module housing
B2 = Clearance between frame members
B3 = Section with system hole pattern
B4 = Eyebolts, center-to-center Hole distance, plinth-base mount
B5 = Width of roof (overall width)
B6 = Width of standard and battery plinth
B7 = Hole distance, plinth-base mount
B8 = Clearance in standard plinth opening

T1 = Depth of module housing
T2 = Eyebolts, center-to-center Hole distance, plinth-base mount
T3 = Section with system hole pattern Hole distance, plinth-base mount
T4 = Possible depth of installation
T5 = Depth of roof (overall depth)
T6 = Clearance in standard plinth opening

Part No. CS	**9751.125**	**9751.145**	**9751.165**	**9752.125**	Page
Height (H1) in inches/mm	48/1200	48/1200	63/1600	48/1200	
Width (B1) in inches/mm	24/ 600	32/ 800	32/ 800	48/1200	
Depth (T1) in inches/mm	24/ 600	20/ 500	24/ 600	24/ 600	
Plinth height in inches/mm	4/ 100	4/ 100	4/ 100	4/ 100	
Rain canopy in inches/mm	3/ 75	3/ 75	3/ 75	3/ 75	
Total height in inches/mm	54/1375	54/1375	70/1775	54/1375	
H2	1111.4	1111.4	1511.4	1111.4	
H3	1075	1075	1475	1075	
B2	511.4	711.4	711.4	511.4	
B3	475	675	675	475	
B4	535	735	735	1135	
B5	700	900	900	1300	
B6	595	795	795	595	
B7	475	675	675	1075	
B8	479	679	679	1079	
T2	525	425	525	525	
T3	475	375	475	475	
T4	554	454	554	554	
T5	650	550	650	650	
T6	434	334	434	434	
System accessories					
19″ rails DK	7688.000	7688.000	7690.000	7688.000	875
19″ rail installation kit DK	7696.000	7698.000	7698.000	7696.000 + 4371.000	875 + 977
Installation rails, metric (T-groove) DK	–	7000.240	7000.330	7000.240	875
Metric rail installation kit DK	–	7000.100	7000.100	7000.100 + 4371.000	875 + 977
Mounting panel CS	9765.092	9765.095	9765.096	9765.191	873
Pad mount kit CS	9765.083	9765.084	9765.085	9765.087	872
Plastic cable entry gland panels SZ	2562.000	2562.000	2562.000	2562.000	896

Technical description/ configuration:
Completely pre-installed double-wall housing, consisting of base module, roof and plinth.
Base module:
Completely closed towards the top and sides, floor closed off with 4 cable entry plates (24″/600 mm width has two cable entry plates).
Double rear wall secured from the inside.
Double wall door with Ergoform-S padlock handle with 3-point locking system, foamed-on gasketing.
Pressure actuated door close.
Doubled side wall covers inside enclosure and plinth; secured from the inside, with fasteners invisible from the outside.
Plinth: 4″/100 mm high.

Material:
Housing, roof and side wall: aluminum AlMg3, 14 ga/2.0 mm
Plinth: aluminum AlMg3, 11 ga/3.0 mm

Finish:
Housing and side wall: powder painted in RAL 7035
Roof and plinth: powder painted in RAL 5018

Protection ratings:
NEMA 3R/12
Telcordia 487 compliant

Accessories:
see pages 876-877 or keyword index.

Pressure actuated door stop
to secure door is standard on all modular outdoor enclosures.

Mounting angles/rails
19″ or metric versions; installation depth adjustable on the 1″/25 mm hole pattern.
Details see page 875.

Rittal Modular Enclosures

The CS modular enclosure system is the best solution wherever protection for technical equipment of modern telecommunication systems is required. It is modular, flexible and geared to meet customer requirements (several standard versions of this aluminum enclosure system are stocked and readily available). If special configurations are required, they can be accommodated easily and economically from our standard components, exactly to your individual specifications. In addition to our large program of Rittal accessories, we offer total system integration.

Housing:

The frame for the enclosure system is based on the ES 5000. Our large program of system accessories make the inside installation easy and quick. Four gland panels (24″/600 mm width: two gland panels) provide ample space for cable entry. The doors and rear wall are double walled for solar shielding.

Side wall:

The side wall module serves as protection against vandalism and, because of its double wall construction, assists the climate control of the enclosures as a solar shield. The side wall seamlessly covers the inside enclosure, plinth and climate control hood. The side wall fasteners are not visible and are only accessible from the inside or by removing the rear wall. There is no access to forcefully open the enclosure. The 1″/25 mm spacing between the outside and inside side walls create an air channel that diminishes the effects of solar loading and facilitates the heat exchange of the inner enclosure.

Plinth:

There are three versions of plinths available:
A 4″/100 mm high transportation plinth, a 16″/350 mm high battery drawer and a 16″/350 mm cable base. The battery drawer may be pulled out with heavy duty telescopic rails and holds a set of batteries for power supply located in a drawer. A removable panel provides access to the 16″/350 mm high battery base. The battery drawer as well as the battery base are only accessible with the door open.

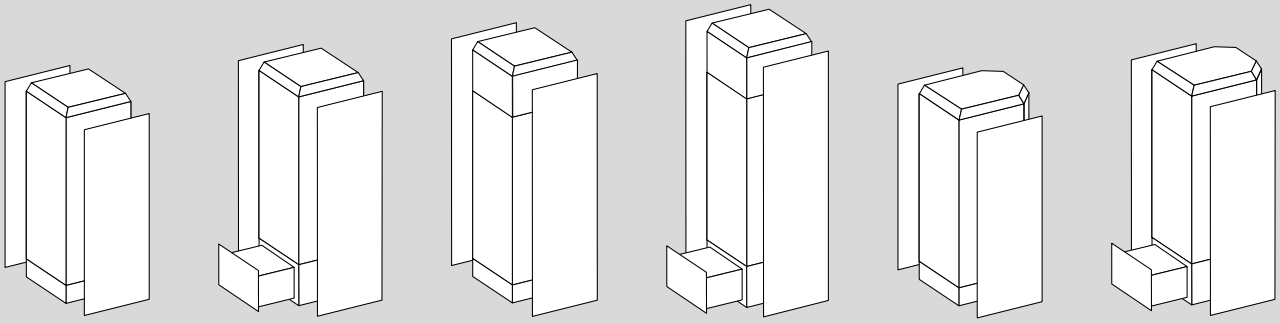
Roof:

The 3″/75 mm rain canopy has a 1″/25 mm rim around its perimeter. It is hinged and can be opened upward. Built-in louvers provide ventilation while maintaining the NEMA 3R/12 protection level.

Climate control:

Air/air heat exchangers may be mounted to the enclosures in several ways:
Wallmount – with a choice of side or rear wall installation.
Doormount – with a choice of external, partially recessed or fully recessed installation.
Roofmount – The climate control unit is installed onto the roof panel and housed by a climate control hood between the inside enclosure and roof.

The Versatility of the CS modular outdoor enclosures



Bayed enclosure suite option consisting of 4 modular enclosures of HWD 55 x 26 x 30″/1400 x 650 x 750 mm.

Specially tailored advantages for customized projects:
The single source. Rittal can provide the enclosure, the climate control and the cable management. Our program of total system integration covers the AC and DC power supply circuits as well as all the customer's system components. Fully equipped systems are tested in our own laboratories under maximum load conditions, simulating field requirements.

Empty enclosures as well as typical standard configurations have been tested and meet the following standards:
NEMA 3R/12,
ETS 300 019, DIN IEC 68,
IEC 721, Telcordia 487,
IEC 61 969 (mechanical construction of electronic equipment – for outdoor enclosures).

The heat exchangers with built-in panel heater provide the ideal operating temperature for your equipment.

Standard system integration, completely wired with fuse protection and emergency power generating unit.

Roofmount heat exchangers
Type 1

Without microcontroller, no heater.

Roofmount heat exchangers
Type 2

Standard with microcontroller and panel heater.
Mounting frames required:
CS 9765.051 for
CS 9764.012,
CS 9765.052 for
CS 9764.022.

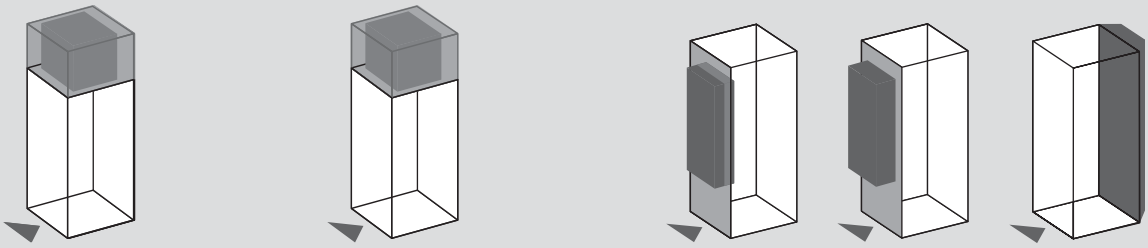
Universal mount heat exchangers
Type 3

Standard with microcontroller and panel heater.

Installation options:
- in the door or rear wall
- externally, on the door or rear wall
- built into the side wall
- externally, on the side wall.

Wallmount heat exchangers
Type 4

Standard with microcontroller and panel heater. Ideal for installation into side or rear wall. The photograph depicts the heat exchanger including the special designer hood (not included in the standard system configuration).



Part No. CS		**9764.040**	**9764.012**	**9764.022**	**9768.072**	**9763.012**	**9763.032**	**9768.082**
Installation		Type 1 roofmount	Type 2 roofmount		Type 3 universal	Type 4 wallmount		
Component dimensions (mm)	Height Width Depth	158 470 380	390 535 400	390 635 500	1075 540 215	1170 515 151.5	1170 780 160	910 630 370
Minimum enclosure dimensions (inches/mm)	H x W/H x D	–	–	–	51 x 28/ 1300 x 700	48 x 24/ 1200 x 600	48 x 32/ 1200 x 800	48 x 32/ 1200 x 800
	W x D	24 x 20/ 600 x 500	24 x 20/ 600 x 500	28 x 24/ 700 x 600	–	–	–	–
Continuous heat output (W/C)		**30**	**60**	**85**	**75**	**60**	**90**	**175**
Panel heater (W)		–	400		800	400		
Rated voltage	DC (fan/ microcontroller)	48 V						
	AC (heater)	–	230 V / 50/60 Hz					
Rated current maximum	DC (fan/ microcontroller)	1.3 A	3.1 A		3.4 A	3.2 A	3.1 A	5.5 A
	AC (heater)	–	1.9 A		3.8 A	1.9 A		
Temperature range		– 27 °F to 149 °F/– 33 °C to + 65 °C						
Air displacement of fans – (unimpeded air flow) –	Internal/ external cycle fan	203 cfm/ 345 m^3/h	489 cfm/ 830 m^3/h		430 cfm/ 730 m^3/h	489 cfm/830 m^3/h		1212 cfm/ 2060 m^3/h
Temperature control		without*	microcontroller**					
Type of connection		control field						
Weight (lbs/kg)		15.4/7	37.5/17	53/24	48.5/22	68.3/31		81.6/37
Protection ratings per EN 60 529		NEMA 3R/12; IP 55 (internal cycle to exterior cycle)						
Material (housing)		aluminum				sheet steel	aluminum	
Finish		painted, RAL 7035						

* Temperatures may be controlled by customer.
** Units are equipped with a temperature sensitive component control (internal/external cycle, panel heater). Setpoints are factory set. Modifications by special request.

CE

Optional accessory:

Cable connector kit for CS outdoor heat exchangers.
Details see page 875.

For CS modular and compact outdoor enclosures

The distinguishing performance factor of the Rittal heat exchangers is the efficient use of ambient air to cool the enclosure interior temperature.

Doormount heat exchangers
Type 5

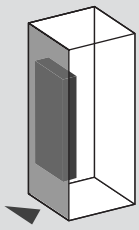
Standard microcontroller.

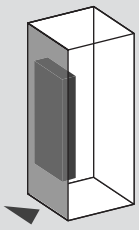
Doormount heat exchangers
Type 6

Standard microcontroller and panel heater.

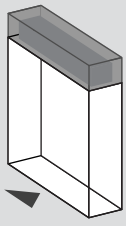
Roofmount heat exchangers
Type 7

For installation into the rain canopy of the 44″/1100 mm wide CS compact outdoor enclosure.





(9768.042)



Part No. CS		9768.032	9768.012	9768.052	9768.042	9768.062	9767.012
Installation		Type 5 doormount			Type 6 doormount		Type 7 roofmount*
Component dimensions (mm)	Height Width Depth	1000 1005 110	1005 510 150	1206 635 201	1050 445 150	1050 575 195	95 855 240
Minimum enclosure dimensions (inches/mm)	H	48/1200	48/1200	56/1400	52/1300	52/1300	–
	W	24/600	26/650	30/750	26/650	32/800	44/1100
Continuous heat output (W/C)		**40**	**60**	**130**	**85**	**120**	**15**
Panel heater (W)		400			–		
Rated voltage	DC (fan/ microcontroller)	48 V					
	AC (panel heater)	230 V / 50/60 Hz			–		
Rated current maximum	DC (fan/ microcontroller)	2.0 A	3.2 A	4.2 A	6.4 A	7.9 A	1.0 A
	AC (panel heater)	1.9 A			–		
Temperature range		– 27 °F to 149 °F/– 33 °C to + 65 °C					
Air displacement of fans – (unimpeded air flow) –	Internal/ external cycle fan	303 cfm/ 515 m^3/h	312 cfm/ 530 m^3/h	692 cfm/ 1175 m^3/h	600 cfm/ 1020 m^3/h		59 cfm/ 100 m^3/h
Temperature control		Microcontroller**					without***
Type of connection		control field				plug Sub D 13W3****	plug Sub D 3W3****
Weight (lbs/kg)		26.66/13	33/15	61.72/28		70.54/32	13.23/6
Protection ratings per EN 60 529		NEMA 3R/12 /IP 55 (internal cycle to exterior cycle)					
Material (housing)		aluminum					
Finish		painted, RAL 7035					

* For compact enclosure.
** Units are equipped with a temperature sensitive component control (internal/external cycle, panel heater). Setpoints are factory set. Modifications by special request.
*** Temperatures may be controlled by customer.
**** Special connector cable included in standard configuration.

Optional accessory:

Cable connector kit for CS outdoor heat exchangers.
Details see page 875.

CE

AIR CONDITIONERS

For CS modular outdoor enclosures

Roofmount air conditioners
Type 1

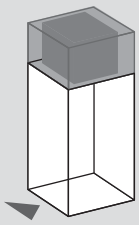
Standard with microcontroller and 400 Watt heater.
Mounting frame CS 9765.051 is required.

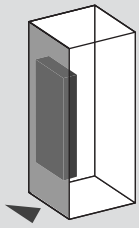
Doormount air conditioners
Type 2

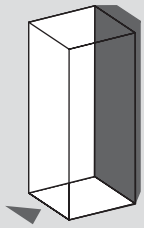
Standard with microcontroller and 400 Watt heater.

Wallmount air conditioners
Type 3

Standard with microcontroller and 400 Watt heater.
Installation on the rear wall or the side wall is an alternative option.
The photo shows the air conditioner including special design hood (not included in standard configuration).





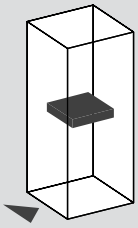


Part No. CS		**9762.012**	**9768.100**	**9761.012**	**9761.032**	**9761.042**
Installation		Type 1 roofmount	Type 2 doormount	Type 3 wallmount		
Component dimensions (mm)	Height Width Depth	390 535 400	1070 430 210	1170 515 151.5	1132 615 151.5	1100 776 250
Minimal enclosure dimensions (inches/mm)	H x W/H x D	–	48 x 24/ 1200 x 600	48 x 24/ 1200 x 600	48 x 32/ 1200 x 800	48 x 32/ 1200 x 800
	W x D	24 x 20/ 600 x 500	–	–	–	–
Useful cooling capacity (BTU/W) EN 814	**L35 L35 L35 L50**	**3073/900 2561/750**	**3073/900 2220/650**	**3073/900 2561/750**	**4918/1400 3586/1050**	**8586/2500 6830/2000**
Rated voltage	AC	230 V / 50/60 Hz				
Rated current maximum		4.0 A	4.0 A	3.5 A	5.5 A	10.0 A
Starting current		10.7 A	11.6 A	10.8 A	15.5 A	32.0 A
Power consumption (W)	L35 L35 L35 L50	460 520	470 530	450 520	900 1000	1450 1650
Refrigerant		R134 a				
Maximum allowable pressure (psi/bar)		377/26	406/28	348/24	348/24	406/28
Temperature range		– 27 °F to 149 °F/– 33 °C to + 65 °C				
Air displacement of fans – unimpeded air flow – (cfm/m³/h)	internal cycle external cycle	336/570 336/570	341/580 253/430	518/880 518/880	500/850 518/880	853/1450 853/1450
Temperature control		microcontroller*				
Type of connection		control field				
Weight (lbs/kg)		64/29	68/31	99/45	106/48	114.6/52
Protection ratings per EN 60 529		NEMA 3R/12; IP 55 (internal cycle to external cycle)				
Material (enclosure body)		aluminum		sheet steel		aluminum
Finish		painted, RAL 7035				

* Units are equipped with a temperature sensitive component control (internal/external cycle, panel heater). Setpoints pre-set at the factory. Modifications by special request.

Optional accessory:

Cable connector kit CS outdoor air conditioners.
Details on page 875.



Rackmount fans

19″/482.6 mm or metric size to support the internal air circulation. Use of the rackmount fans will prevent heat pockets.

Part No. CS		9769.001	9769.002
Installation		metric installation rails	19″ installation rails
Component dimensions (inches/mm)	H W D	50 (2 SU) 21/535 8/200	44 (1 U) 19/482.6 8/200
Rated voltage		36 V DC to 72 V DC	
Rated current maximum		0.28 A	
Temperature range		– 27 °F to 131 °F/– 33° C to + 55 °C	
Air displacement (unimpeded air flow)		**147 cfm/250 m³/h**	
Type of connection		Terminal block	
Number of fans		3	
Weight (lbs/kg)		7.1/3.2	6.6/3.0
Material (housing)		aluminum	
Finish		natural aluminum	

Customer may adjust temperature setting.
Details on SK 3110.000 see page 571.

CE

Enclosure panel heaters

Complete unit, installation ready with attached connector cable.

Heater modules

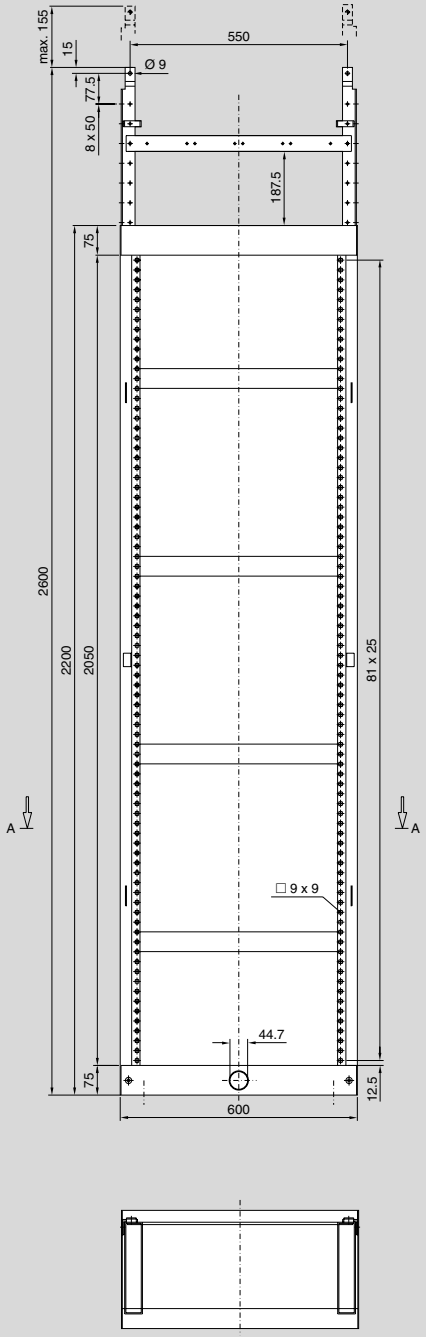
Complete unit, installation ready. 19″/482.6 mm rackmount with 3 heating elements and 3 fans.

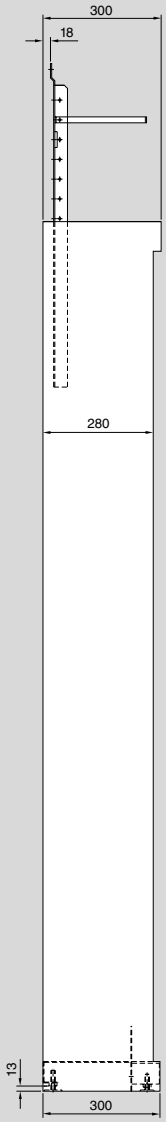
Part No. CS		9769.015	9769.023
Installation		inside the enclosure	19″ installation rails
Component dimensions (mm)	H W D	85 325 225	2 U/87.2 19″/482.6 236
Required heat output		**1000 W**	**600 W**
Rated voltage		230 VAC/50/60 Hz	
Rated current maximum		5.0 A	2.6 A
Temperature range		– 27 °F to 149 °F/– 33 °C to + 65 °C	
Air displacement (unimpeded air flow)		70 cfm/120 m³/h	283 cfm/480 m³/h
Type of connection		connector cable with wire end bushing	IEC plug in the front (3 pole)
Weight (lbs/kg)		6.6/3.0	6.83/3.1
Material (housing)		aluminum	
Finish		natural aluminum	natural aluminum, front panel painted

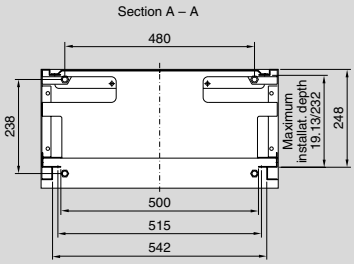
CE cULus

CE

Customer may adjust temperature settings.
Details of SK 3110.000 see page 571.







Technical description/ configuration:
Frame assembly, consisting of
2 side walls,
roof and base frame,
front plinth trim cover,
2 installation rails,
ceiling panel mount,
4 leveling feet,
4 rear wall rails,
flat parts, grounded.

Material:
Side walls, roof and base frame:
sheet steel,14 ga/2.0 mm
Installation rails: aluminum extrusion

Finish:
Powder painted in RAL 7035, textured
Installation rails: aluminum, clear chromate

Rear wall (Accessories):
Screwed on rear wall:
sheet steel, 14 ga/2.0 mm,
powder painted in RAL 7035

Height in inches/mm		87/2200
Width in inches/mm		24/ 600
Depth in inches/mm		12/ 300
Metric installation rails	**Part No. CS**	**9790.043**
19″/482.6 mm installation rails	**Part No. CS**	**9790.042**
Accessories		
Rear wall	**Part No. CS**	**9790.003**

CS Indoor Racks

The assembled rack can hold metric as well as 19″ installation rails (per IEC 907 or IEC 297 and DIN 41 494). The standard rack conforms to ETSI-Norm 300 119-3 and can easily be adapted to customer specifications.

The following are possible variations of the CS indoor rack:

- Closed front door
- Vented front door
- Doors divided horizontally
- Drop doors
- Overlapping doors
- Roof module
- Cutouts in the flat parts
- Inside installation with system accessories

CS indoor rack with ventilated front door.

19″ or metric installation rails may be mounted directly into the enclosure. They are infinitely depth adjustable.

Inside installation of component shelves and a splice box.

Swivel frame, 19″/482.6 mm for CS polemount outdoor enclosures

For the vertical installation of 19″/482.6 mm components into the polemount outdoor enclosure CS 9791.045. The swivel frame provides access from all sides to the installed components.

Material:
19″ frame: aluminum
Swivel frame: sheet steel

PU	Part No. CS
1	**9765.130**

Configuration:
Swivel frame, 5U, installation materials included.

Polemount brackets for CS polemount outdoor enclosures

To mount the Rittal CS polemount outdoor enclosure onto a wall.

Material:
Type 304 stainless steel

PU	Part No. CS
4	**9765.120**

Polemount brackets for CS polemount outdoor enclosures

To mount the Rittal CS polemount outdoor enclosure to a round or rectangular pole.
For pole diameters/size:
Ø up to 7.48″/190 mm, □ to 5.90″/150 mm.

Material:
Clamps: sheet steel, galvanized
Retainer strap: Type 304 stainless steel

PU	Part No. CS
1 set	**9765.125**

Configuration:
1 set = 2 retainer straps,
4 clamps,
4 drawing angles.

Photo includes enclosure plinth.

Concrete plinth for CS outdoor enclosures

A special concrete plinth is available for each CS outdoor enclosure (with standard dimensions). Height approximately 40″/1000 mm. It is set approximately 28″/700 mm deep into the ground. The plinth consists of concrete flat parts that can be easily assembled on site.

Configuration:
1 set = base plate,
one-piece side panel left and right,
two-piece rear and front wall,
installation materials.

Base dimensions of housing W x D inches/mm	Part No. CS
CS compact housing	
32 x 13/ 800 x 320	**9765.080**
44 x 13/1100 x 320	**9765.081**
CS module and basic housing	
24 x 16/ 600 x 400	**9765.182**
24 x 20/ 600 x 500	**9765.082**
24 x 24/ 600 x 600	**9765.083**
32 x 16/ 800 x 400	**9765.088**
32 x 20/ 800 x 500	**9765.084**
32 x 24/ 800 x 600	**9765.085**
48 x 16/1200 x 400	**9765.089**
48 x 20/1200 x 500	**9765.086**
48 x 24/1200 x 600	**9765.087**

PU = 1 set
Lead time by request.

Mounting panels for CS module and basic enclosures

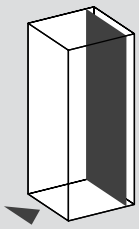
To create installation surfaces.
The mounting panel locations are adjustable along the 1″/25 mm hole pattern.

Material:
Aluminum, 11 ga/3 mm

Configuration:
Mounting panel,
including installation hardware.

For enclosure dimensions H x W inches/mm	Part No. CS
32 x 24/ 800 x 600	**9765.090**
40 x 24/1000 x 600	**9765.091**
48 x 24/1200 x 600	**9765.092**
55 x 24/1400 x 600	**9765.098**
63 x 24/1600 x 600	**9765.093**
32 x 32/ 800 x 800	**9765.097**
40 x 32/1000 x 800	**9765.094**
48 x 32/1200 x 800	**9765.095**
55 x 32/1400 x 800	**9765.099**
63 x 32/1600 x 800	**9765.096**
32 x 48/ 800 x 1200	**9765.190**
48 x 48/1200 x 1200	**9765.191**
55 x 48/1400 x 1200	**9765.192**

PU = 1



Bottom panels for CS basic enclosures

To close off the floor opening and for cable entry.

Material:
Aluminum, 14 ga/2 mm

For enclosure dimensions W x D inches/mm	PU	Part No. CS one piece	Part No. CS divided
24 x 16/ 600 x 400	1 set	**9785.017**	**9785.011**
24 x 20/ 600 x 500	1 set	**9785.020**	**9785.014**
32 x 16/ 800 x 400	1 set	**9785.018**	**9785.012**
32 x 20/ 800 x 500	1 set	**9785.019**	**9785.013**
48 x 16/1200 x 400	1 set	**2 x 9785.017**	**2 x 9785.011**
48 x 20/1200 x 500	1 set	**2 x 9785.020**	**2 x 9785.014**

Padlock handle system for CS outdoor housings

The Ergoform-S padlock handle system provides comfort and additional security with its hasp for adding a padlock to the locking system. Bore diameter for hasp: 35″/9 mm.

PU	Part No. CS
1	**9785.030**

Enclosure light 48 V DC for CS outdoor enclosures

Especially designed for use in CS enclosures with emergency backup batteries for the installed equipment.

Technical data:
Rated voltage: 48 V
Rated current: 0.38 A
Power consumption: 14 W
Dimensions: H x W x D 4.6 x 18 x 2″/
117 x 452 x 50 mm

PU	Part No. CS
1	**9765.100**

CE

Connection accessories

The following components will make connecting the enclosure lights a snap:

Description	Cable length	PU	Part No. CS
Connector feed	10′/3 m	1	**9765.137**
Connector direct (through) wire cable	3.25′/1 m	1	**9765.138**

CS Distribution box for outdoor housings

For easy breaker installation. Installation as AC distribution (3 U) or DC distribution (1 U or 2 SU).

Material:
Sheet steel, painted in RAL 7035.

Configuration:
CS Distribution box with screwed on cover.

CS Distribution box, empty	Height	Part No. CS
AC distribution, 19″	3 U	**9765.136**
DC distribution, metric	2 SU	**9765.135**
DC distribution, 19″	1 U	**9765.139**

PU = 1

The CS Distribution box is also available completely pre-wired, ready to connect per customer specifications.
AC distribution.
DC distribution with up to 18 automated controls.

Per customer request.

Test adapter for CS air conditioners

The 9 pin sub-D junction provides testing for all CS air conditioners. A manual test run may be done as an alternative.

Configuration:
1 set = test adapter including 7 ft/2 m connector cable.

PU	Part No. CS
1 set	**9765.050**

CE

Cable connector kit for CS outdoor air conditioners

For easy hook-up of CS air conditioners. All cables are pre-fabbed with the appropriate plugs. Cable length is approximately 8 ft/2500 mm.

PU	Part No. CS
1 set	**9765.105**

Configuration:
1 set = 3 AC cables, door switch and alarm connector.

Cable connector kit for CS outdoor heat exchangers

For easy hook-up of CS heat exchangers. All cables are pre-fabbed with the appropriate plugs. Cable length is approximately 8 ft/2500 mm.

Version	Part No. CS
3 cables for AC/DC and alarm circuit	**9765.110**
2 cables for DC- and alarm circuit	**9765.115***

* only for CS 9768.042

19″/482.6 mm mounting angles for CS module and basic enclosures

For the installation of 19″ components. Installation on the front frame members; no depth adjustment possible. Easily retrofitted. Installation hardware included.

Material:
Sheet steel

For enclosure dimensions H x W inches/mm	U	PU	Part No. CS painted, RAL 7035	Part No. CS galvanized, chromated
32 x 24/ 800 x 600	15	4	**9785.001**	**9785.002**
48 x 24/1200 x 600	24	4	**9785.003**	**9785.004**
55 x 24/1400 x 600	29	4	**9785.005**	**9785.006**

Installation rails for CS module and basic housings

For the installation of metric and 19″ components in outdoor enclosures. The installation rails are depth adjustable along the 1″/25 mm hole pattern. A kit is necessary for the installation of the rails.

Version/material:
19″ installation rails with holes in U-pattern: sheet steel, chromated
Installation rails with built-in T-groove for slide nut, metric or 19″ mounting option depending on the installation kit: aluminum-extrusion, chromated

Configuration:
2 installation rails, including installation hardware.

Enclosure housing inches/mm	T-groove installation rails			19″ installation rails	
	SU	U	Part No. DK	U	Part No. DK
32/ 800	26	15	**7000.150**	15	**7685.000**
48/1200	42	24	**7000.240**	24	**7688.000**
55/1400	51	29	**7000.290**	29	**7689.000**
63/1600	58	33	**7000.330**	33	**7690.000**

The T-groove installation rails can only be used for 32″/800 mm wide enclosures.

Assembly kit for installation rails

For mounting installation rails into CS enclosures.

Material:
Sheet steel, chromated

Configuration:
2 installation brackets, installation hardware included.

Enclosure with inches/mm	Assembly kit for T-groove installation rails	Assembly kit for 19″ installation rails
	Part No. DK	Part No. DK
24/600	–	**7696.000**
32/800	**7000.100**	**7698.000**

		Pages		Pages
	BASES/PLINTHS	**878 – 890**	Transportation casters Leveling feet Base securing bracket	881/885 886/887 886
	FLOOR	**891 – 901**	Twin casters Cable entry plates and grommets Gland panels Cable clamps Support rails	891 892 896 898 899
	WALLS	**902 – 909**	Sidewalls Divider walls Modular panels Covers with door	902 – 905 906 – 907 908 909
	BAYING SYSTEMS	**910 – 917**	Corner enclosures	917
	DOORS/ LOCK SYSTEMS	**918 – 953**	Door variations Modular front design System windows Door, external Locking systems Hinges Door, internal	918 – 923 924 – 927 928 – 933 934 – 935 936 – 947 948 – 949 950 – 953
	ROOFS/ WALL ASSEMBLIES	**954 – 963**	Roof components Wallmounting components	954 – 961 962 – 963
	INTERIOR INSTALLATION	**964 – 996**	Mounting panels System rails Component shelves Printer carriages Mobile PC workstation carriages General accessories	964 – 969 970 – 985 986 – 993 994 995 996

RITTAL SYSTEM ACCESSORIES

Contents

		Pages		Pages
	SYSTEM LIGHTS	**997 – 999**	Connection accessories	999
	SIGNAL LIGHTS	**1000 – 1003**	Optical/audible components Mounting components	1001 1002
	NEMA 6/IP 67 MOUSE, MOUSE PAD	**1004 – 1005**	NEMA 6/IP 67 mouse, mouse pad	1004 – 1005
	POWER DISTRIBUTION	**1006 – 1009**	Power strips Energy boxes	1006 – 1008 1009
	CABLE MOUNTING/ GROUNDING	**1010 – 1013**	Cable accessories Grounding/ potential equalization accessories	1010 1011 – 1013
	19″ INSTALLATION SYSTEMS	**1014 – 1037**	Swing frames Mounting rails Drawers Blanking panels	1014 – 1025 1026 – 1033 1034 – 1035 1036
	DK ACCESSORIES	**1038 – 1059**	Patch panels Splice boxes Cable routing General DK accessories	1038 – 1045 1046 – 1049 1050 – 1056 1057 – 1059

877

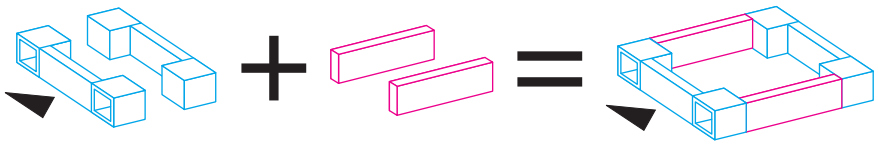
For TS 8

■ The modular base/plinth concept

Regardless of the enclosure depth, the base/plinth components at the front and rear, pre-configured with corner pieces, are always the same for the chosen width.

The side trim panels are simply selected according to the enclosure depth and the required base/plinth configuration. The modular concept produces exceptional advantages in terms of cost and function.

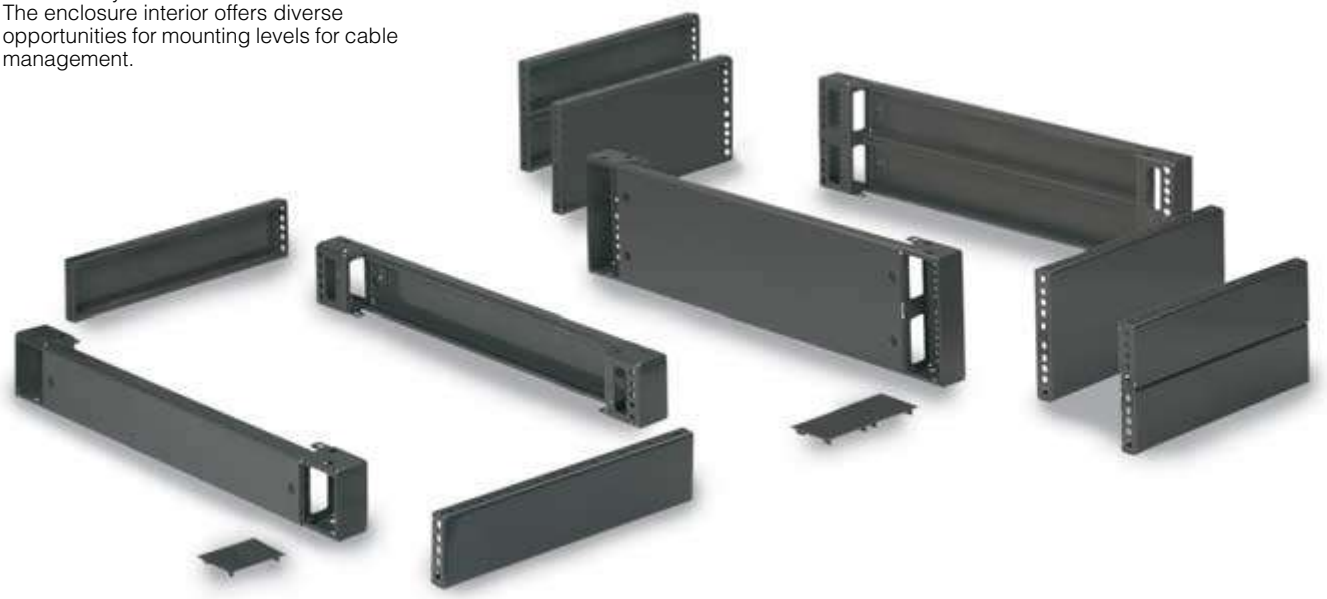
Assembly on the enclosure is conveniently carried out from the outside. The enclosure interior offers diverse opportunities for mounting levels for cable management.



One Part No. for **base/plinth components** front and rear.

One Part No. for the **base/plinth trim panels at the sides.**

One complete **base/plinth.**



■ One step ahead in detail

Three options for base/ plinth installation:

- From the outside, with the cover cap removed.
- From the inside, directly onto a bracket on the corner piece with M12 bolt, of the base/plinth component.
- From the inside, with the separate base fixing plate. In this case, there is no need to move the enclosure for the holes in the base.

The connection between the base/ plinth component and the base/ plinth trim, as well as between the enclosure and the base/plinth, is conveniently done from the outside. Simply snap the cover cap into position, and it's ready.

Stabilization of bayed base/plinths with a base/plinth trim piece rotated by 90°.

Ideal positioning of a cable clamp rail in bayed, 8"/200 mm high base/ plinths.

A mounting surface – in this case a C-rail – may also be installed in the depth with support brackets.

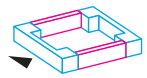
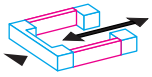
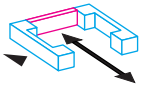
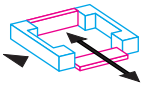
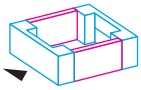
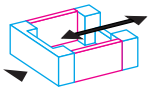
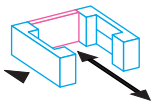
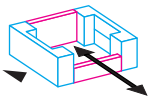
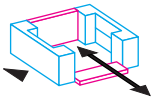
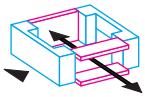
Supports for cable routing, are attached between two brackets or spacers (PS 4199.000), see page 984.

The quick-assembly block provides versatile location for C-rails and cross rails, see page 984.

■ Modular base/plinth diversity

Thanks to the logical breakdown of the entire base/plinth into two ordering units, all dimensional variations are achieved with minimum stock levels.

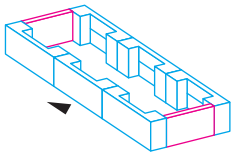
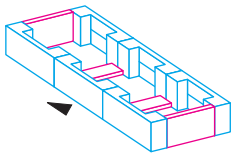
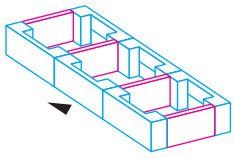
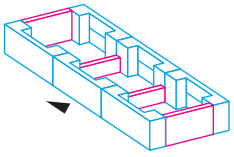
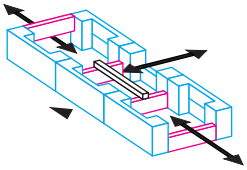
Other advantages include easier assembly, versatile cable entry capabilities and the stabilizing baying connection.

	Basic form	Cable gland options				
					Stabilization of bayed bases/plinths	
4″/ 100 mm						
8″/ 200 mm						

■ Function and cost benefits

Fewer parts, more possibilities, decreased costs, quick assembly – the formula for the new modular base/plinth system.

The following table illustrates five out of a wide range of possible solutions on three bayed bases/plinths with 8″/200 mm height. In addition it also demonstrates the potential savings on trim panels compared with a complete 8″/200 mm base/plinth system with two trim panels of 4″/100 mm height at the side in each case.

Example	New configuration PU = packing unit	Functional advantage	Savings potential instead of 12 trims with 4″/100 mm
	3 PU base/ plinth components 1 PU base/plinth trim 8″/200 mm high	Continuous cable chamber	2 trims with 8″/200 mm
	3 PU base/ plinth components 1 PU base/plinth trim 8″/200 mm high 1 PU base/plinth trim 4″/100 mm high Base/plinth baying brackets TS 8601.100, see page 881.	Additional stabilization for transportation purposes with base/plinth trim rotated by 90°.	2 trims with 8″/200 mm 2 trims with 4″/100 mm
	3 PU base/ plinth components 2 PU base/plinth trim 8″/200 mm high	Shielding of the bases/plinths from one another	4 trims with 8″/200 mm
	3 PU base/ plinth components 1 PU base/plinth trim 8″/200 mm high 1 PU base/plinth trim 4″/100 mm high	Additional connection of the base/plinth	2 trims with 8″/200 mm 2 trims with 4″/100 mm
	Other options: ● Side cable entry by fitting a 4″/100 mm base/plinth trim panel (top or bottom). ● Cable entry from the rear by dismantling one or more trim panels of the base/plinth components. ● Cable clamp rail fitted on the 4″/100 mm high trim panel.		

For TS 8

Base/plinth components front and rear for TS

Base/plinth components consisting of one trim panel and two pre-configured corner pieces. In 8″/200 mm high base/plinth components, the rear trim panel consists of two parts for cable entry.

Configuration:
1 set =
2 base/plinth components,
4 cover plates,
4 screws and captive nuts M12
for attachment to the enclosure.

Accessories:
Base securing bracket SO 2817.000, see page 886.

For enclosure width inches/mm	PU set	Part No. TS 4″/ 100 mm high	Part No. TS 8″/ 200 mm high
16/ 400	1	**8601.400**	**8602.400**
20/ 500	1	**8601.500**	**8602.500**
24/ 600	1	**8601.600**	**8602.600**
32/ 800	1	**8601.800**	**8602.800**
39/1000	1	**8601.000**	**8602.000**
47/1200	1	**8601.200**	**8602.200**

	Material	Color
Components	Sheet steel	RAL 7022
Plates	Plastic	RAL 9005

Base/plinth trim, side for TS

For mounting between the base/plinth components. With 8″/200 mm height, two 4″/100 mm base/plinth trims may also be used. Base/plinth trim (4″/100 mm high) may be installed rotated by 90° in order to stabilize bayed base/plinth components.

Material:
Sheet steel

Color:
RAL 7022 umber grey

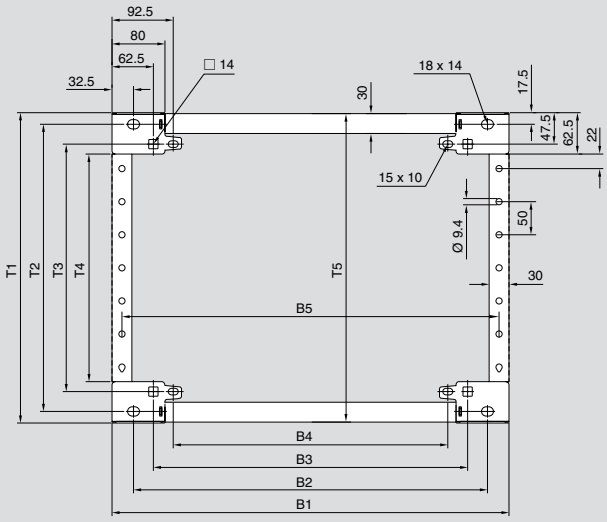
Configuration:
1 set =
2 base/plinth trim panels, including material for attaching on the base/plinth components.

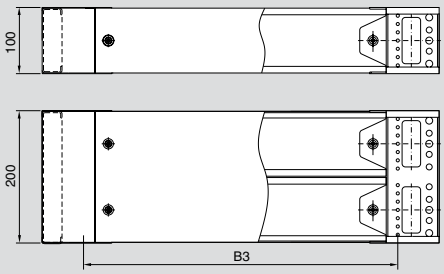
For enclosure depth inches/mm	PU set	Part No. TS 4″/ 100 mm high	Part No. TS 8″/ 200 mm high
16/400	1	**8601.040**	**8602.040**
20/500	1	**8601.050**	**8602.050**
24/600	1	**8601.060**	**8602.060**
32/800	1	**8601.080**	**8602.080**

Accessories:
Assembly bolts for cable clamp rails SO 2819.000, see page 887.

Additional parts needed:
Base/plinth baying brackets TS 8601.100, see right-hand page, when installing rotated by 90°, to stabilize bayed base/plinth components.

Alternative option:
Base/plinth, RAL 7035 light grey, base/plinth, vented, see page 882.





Description of the hole patterns
B1/T1 = External dimension
B2/T2 = For screw-fastening in the threaded corner piece from below
B3/T3 = For screw-fastening with captive nuts to the enclosure base from below or above
All holes (B2 – B4 / T2 – T4) may be used for screw-fastening to the base.

Base/plinth components front/rear						Base/plinth trim, side					
Width inches/mm	B1	B2	B3	B4	B5	Depth inches/mm	T1	T2	T3	T4	T5
16/ 400	400	335	275	215	370	16/ 400	369	335	275	244	368
20/ 500	500	435	375	315	470	20/ 500	469	435	375	344	468
24/ 600	600	535	475	415	570	24/ 600	569	535	475	444	568
32/ 800	800	735	675	615	770	32/ 800	769	735	675	644	768
39/1000	1000	935	875	815	970	36/ 900*	869	835	775	744	868
47/1200	1200	1135	1075	1015	1170	40/1000*	969	935	875	844	968

* Part No. see page 882

Connecting plinth trim for TS

For covering gaps in the case of back-to-back or corner enclosure suites. Simply push in between the trim panels and the corner piece before tightening the screws.

Material:
Sheet steel

Color:
RAL 7022 umber grey

For enclosure height inches/mm	PU	Part No. TS
4/100	2	**8601.110**
8/200	2	**8601.120**

Base/plinth baying brackets for TS

Necessary if the trim panels are rotated by 90° in order to stabilize enclosures that have been bayed for transportation.

Material:
Sheet steel, zinc, chromated.

Configuration:
Baying brackets, M8 x 16 mm fasteners

PU	Part No. TS
20	**8601.100**

Transportation casters

For locating into the base/plinth corner piece, 4″/100 or 8″/200 mm high, by lifting or tilting.
Ground clearance: approx. 4″/100 mm.

Maximum permissible static load:
220 lbs/100 kg per twin caster

Configuration:
1 set =
4 casters,
4 twin casters,
2 x with, 2 x without brake.

Color:
RAL 7022 umber grey

PU	Part No. TS
1 set	**8800.390**

For TS 8

Base/plinth adaptor for leveling feet and twin casters

Connection component for the attachment of leveling feet PS 4612.000, see page 891, to the base/plinth.

Material:
Sheet steel, zinc-plated, chromated.

PU	Part No. TS
4	**8800.220**

Base/plinth components front and rear for TS

Base/plinth component consisting of one trim panel and two pre-configured corner pieces.
Design with solid or vented trim panel.
Height: 4″/100 mm

Material:
Base/plinth = sheet steel, painted
Trim panel = plastic

Color:
RAL 7035 light grey

Configuration:
1 set =
2 base/plinth components,
4 trim panels,
4 M12 screws and captive nuts
for attachment to the enclosure.

For enclosure width inches/ mm	PU set	Part No. TS trim panel solid	Part No. DK trim panel vented
24/600	1	**8601.605**	**7825.601**
32/800	1	**8601.805**	**7825.801**

Accessories:

Filter mat for trim panel, vented, see right-hand page.

Base assembly plate SO 2817.000, see page 886.

Base/plinth dimensions, see page 880

Side base/plinth trim for TS

For mounting between the base/plinth components. In order to stabilize bayed base/plinth components, base/plinth trims may be installed rotated by 90°.
Height: 4″/100 mm

Material:
Sheet steel, painted

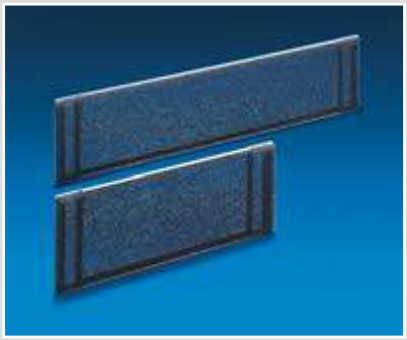
Color:
RAL 7035 light grey

Configuration:
1 set =
2 base/plinth trims including parts for attaching to the base/plinth components.

For enclosure depth inches/mm	PU set	Part No. TS
24/600	1	**8601.065**
32/800	1	**8601.085**
36/900	1	**8601.095**
40/1000	1	**8601.015**

Additional parts needed:

Base/plinth baying bracket TS 8601.100, see page 881, when installed rotated by 90°, to stabilize bayed base/plinth components.



Filter mat for base/plinth component, vented

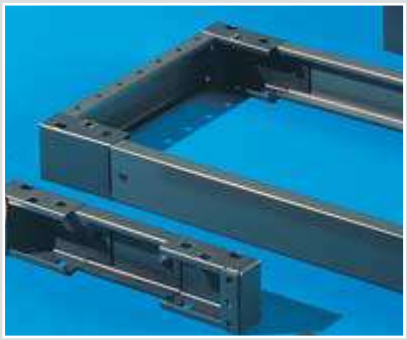
To conceal the trim in the base/plinth component. The mounting frame is simply pushed into the base/plinth trim.
Filter class G3 to DIN EN 779.

Configuration:
Filter mat with mounting frame.

Replacement filter mats – configuration:
Filter mats without mounting frames for base/plinth trims up to 32″/800 mm wide.

For enclosure width inches/ mm	For base/plinth component Part No.	PU	**Part No. DK**
24/600	7825.601	1	**7561.500**
32/800	7825.801	1	**7581.500**

	PU	**Part No. DK**
Replacement filter mat	5	**7582.500**



Base/plinth, complete

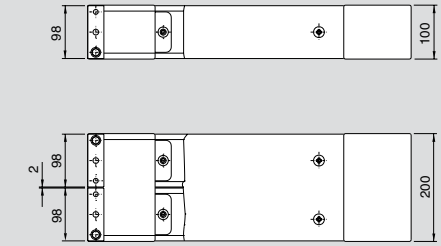
Consisting of:
trim panels front and rear with fitted corner pieces and trim panels at the side.

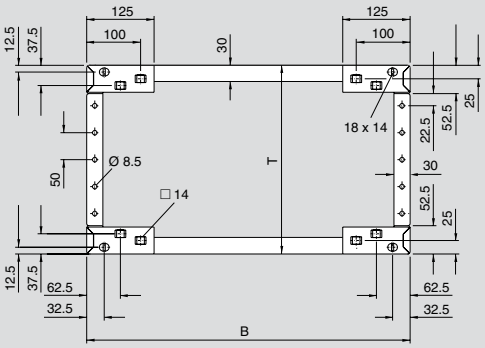
Material:
Sheet steel

Color:
RAL 7022 umber grey

Configuration	Height	
	4″/100 mm	8″/200 mm
Corner pieces	4	4
Trim panels, front/rear	2	1 x 8″/ 200 mm 2 x 4″/ 100 mm
Trim panels, side	2	4

Installation hardware including 4 screws and M12 captive nuts for mounting on the enclosure.





T = enclosure depth – 2″/50 mm
B = enclosure width

Bases/plinths for PS/ES/MC/PC/DK-PS/AP universal console

For enclosure W x D		Part No. SO	
inches	mm	4″/100 mm high	8″/200 mm high
16 x 20	400 x 500	**2873.200**	**2874.200**
16 x 24	400 x 600	**2883.200**	**2884.200**
24 x 16	600 x 400	**2804.200**	**2805.200**
24 x 20	600 x 500	**2807.200**	**2808.200**
24 x 24	600 x 600	**2813.200**	**2814.200**
24 x 32	600 x 800	**2846.200**	**2847.200**
24 x 39	600 x 1000	**2822.200**	**2825.200**
32 x 14	800 x 350	**2990.200**	**2991.200**
32 x 16	800 x 400	**2823.200**	**2824.200**
32 x 20	800 x 500	**2829.200**	**2830.200**
32 x 24	800 x 600	**2833.200**	**2834.200**
32 x 32	800 x 800	**2848.200**	**2849.200**
32 x 39	800 x 1000	**2899.200**	**2898.200**
39 x 14	1000 x 350	**2992.200**	**2993.200**
39 x 16	1000 x 400	**2909.200**	**2910.200**
39 x 20	1000 x 500	**2914.200**	**2915.200**
39 x 24	1000 x 600	**2916.200**	**2917.200**
39 x 32	1000 x 800	**2919.200**	**2920.200**
39 x 39	1000 x 1000	**2937.200**	**2938.200**
47 x 14	1200 x 350	**2994.200**	**2995.200**
47 x 16	1200 x 400	**2836.200**	**2837.200**
47 x 20	1200 x 500	**2839.200**	**2840.200**
47 x 24	1200 x 600	**2844.200**	**2845.200**
47 x 32	1200 x 800	**2853.200**	**2854.200**
47 x 39	1200 x 1000	**2939.200**	**2940.200**
63 x 14	1600 x 350	**2996.200**	**2997.200**
63 x 16	1600 x 400	**2905.200**	**2906.200**
63 x 20	1600 x 500	**2927.200**	**2928.200**
63 x 24	1600 x 600	**2929.200**	**2930.200**
63 x 32	1600 x 800	**2933.200**	**2934.200**
71 x 16	1800 x 400	**2988.200**	**2989.200**
71 x 20	1800 x 500	**2903.200**	**2904.200**
71 x 24	1800 x 600	**2963.200**	**2964.200**
71 x 32	1800 x 800	**2935.200**	**2936.200**

Bases/plinths for AE/AK/AP consoles

For enclosure/console		Base/plinth depth inches/mm	Part No. SO	
Width inches/mm	Depth inches/mm		4″/100 mm high	8″/200 mm high
24/ 600	12/300	11 /279	**2816.200**	**2826.200**
24/ 600	12/300	18.5/470	**2923.200**	**2823.200**
24/ 600	16/400	14.5/370	**2911.200**	**2912.200**
32/ 800	12/300	11 /279	**2818.200**	**2828.200**
32/ 800	16/400	14.5/370	**2901.200**	**2902.200**
32/ 800	20/500	17.3/440	**2841.200***	**2842.200***
32/ 800	20/500	18.5/470	**2924.200**	**2824.200**
39/1000	12/300	11 /279	**2801.200**	**2802.200**
39/1000	16/400	14.5/370	**2891.200**	**2892.200**
47/1200	16/400	14.5/370	**2921.200**	**2922.200**
47/1200	20/500	18.5/470	**2925.200**	**2825.200**
47/1200	24/600	17.3/440	**2851.200***	**2852.200***
63/1600	16/400	14.5/370	**2961.200**	**2962.200**
63/1600	20/500	17.3/440	**2863.200***	**2864.200***

***** Only fits bottom sections of 20″/500 mm deep AP consoles.
Transportation bases, see page 890.

Accessories:

Fastening bolts for cable clamp rails,
see page 887.

Base securing bracket,
see page 886.

Transportation casters

For base/plinth, (see page 884).
Mounts onto the base/plinth corner piece, 4″/100 mm or 8″/200 mm high.
Ground clearance: approximately 2.36″/60 mm.

Maximum permissible static load:
220 lbs/100 kg per twin caster

Configuration:
1 set =
4 casters,
4 twin casters,
2 x with, 2 x without brake.

Color:
RAL 7022 umber grey

PU	Part No. PS
1 set	**4570.000**

Stainless steel base/plinth, complete

Consisting of:
trim panels front and rear (for height 8″/200 mm with corner pieces and removable trim panel on one side) and trim panels at the side.

Material:
Type 304 stainless steel (V2A)

Finish:
Brushed

Configuration	Height inches/mm	
	4/100	8/200
Corner pieces	–	2*
Trim panels front/rear	2	2
Trim panel, side	2	4

* Corner pieces with removable trim panel, for optional mounting at the front or rear.

Installation hardware including 4 screws and M12 captive nuts for mounting.

Accessories:

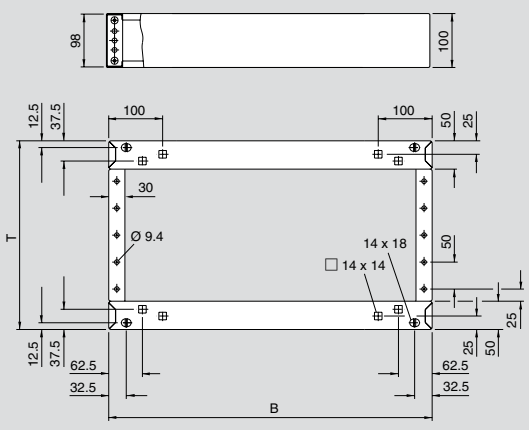
Leveling feet,
see page 887.

Perforated panels,
see page 886.

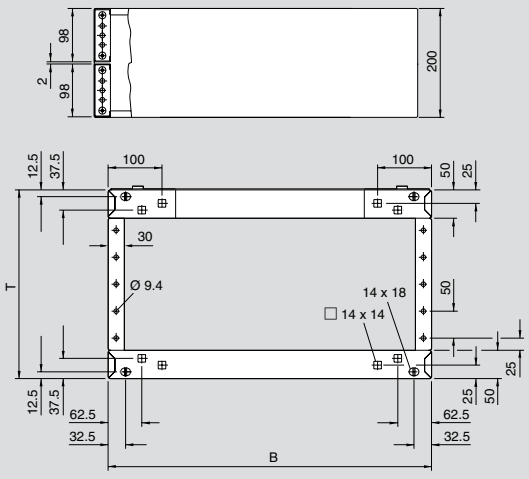
Bases/plinths for PS/ES/PC/AP universal console

For enclosure		Part No. SO	
Width inches/mm	Depth inches/mm	4″/100 mm high	8″/200 mm high
24/ 600	16/400	**2865.000**	**2875.000**
24/ 600	20/500	**2868.000**	**2876.000**
24/ 600	24/600	**2855.000**	**2877.000**
32/ 800	16/400	**2869.000**	**2878.000**
32/ 800	20/500	**2866.000**	**2879.000**
32/ 800	24/600	**2856.000**	**2880.000**
40/1000	16/400	**2867.000**	**2885.000**
47/1200	16/400	**2870.000**	**2886.000**
47/1200	20/500	**2860.000**	**2887.000**
47/1200	24/600	**2857.000**	**2888.000**

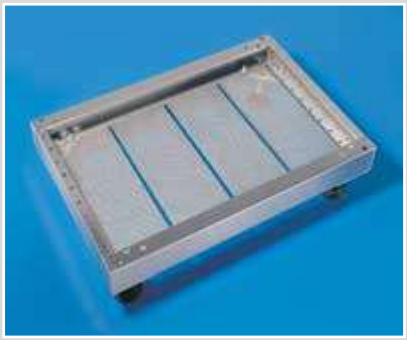
Base/plinth 4″/100 mm high



Base/plinth 8″/200 mm high



T = enclosure height – 2″/50 mm
B = enclosure width



Perforated panel

For cable entry in the stainless steel base/plinth (see page 885), e.g. when using leveling feet, see page 887. A perforated panel segment is 7″/175 mm wide. Perforations accommodate cable ties SZ 2597.000, for clean cable routing, see page 1010.

Material:
Type 304 stainless steel

For enclosure depth inches/mm	Number of perforated panels needed for base/plinth width* inches/mm				Part No. SO
	24/600	32/800	40/1000	48/1200	
16/400	3	4	5	6	**2907.000**
20/500	3	4	5	6	**2908.000**
24/600	3	4	5	6	**2913.000**

PU = 4 pieces

* To completely close the opening.

Leveling feet, 4″/100 mm high

For mounting on TS, PS and ES enclosures to compensate for floor irregularities of ± 15 mm.

Height: 4″/100 mm.

Maximum permissible static load:
770 lbs/350 kg per foot.

Configuration/material:
1 set =
4 feet, brass, nickel-plated,
4 threaded bolts, Type 304 stainless steel,
4 mounting panels, Type 304 stainless steel,
installation hardware for attaching to the enclosure.

PU	Part No. SO
1 set	**2859.000**

Base securing bracket

For fastening the base/plinth to the floor without moving the enclosure or the bayed suite. For screws up to 12 mm Ø.

Material:
Sheet steel, zinc-plated, chromated.

PU	Part No. SO
10	**2817.000**

German Utility Sample No. G 93 08 162
French Patent No. 94 06 612
Dutch Patent No. 193 235

Mounting bolts for cable collecting rails

These lockable mounting bolts allow cable collecting rails or commercially available C-rails to be installed in 4″/100 mm base/plinth trims.

Material:
Hexagon steel rod, 0.75″/9 mm across flats,
M12 zinc-plated, chromated.

PU	Part No. SO
10	**2819.000**

Accessories:

Cable collecting rails,
see page 898.

Leveling feet

For installation below
- complete plinth, see page 884,
- complete stainless steel plinth, see page 885.

To compensate for unevenness of floor and easy access for floor cleaning.

Maximum permissable static load:
880 lbs/400 kg

Material:
Type 304 stainless steel

Configuration:
1 set =
4 leveling feet, 4 mounting plates, including installation hardware.

Thread	PU	Part No. SO
M12	1 set	**2889.000**
M16	1 set	**2890.000**

German Utility Sample No. G 94 06 468

Cable chamber for TS

The alternative to the base/plinth. The cable chamber has system holes in the depth for PS/TS accessories.
The front and rear sheet steel trim panels are simply inserted at the bottom with a guide, and bolted to the frame at the top.
If required, cable chambers may be bayed at the sides; baying is done in the same way as at the base frame of the enclosure.

Material:
Sheet steel

Color:
RAL 7032 pebble grey, textured

Configuration:
Cable chamber with screws for enclosure installation.

For enclosure width inches/mm	For enclosure depth inches/mm	Part No. TS
16/ 400	20/500	**8600.450**
16/ 400	24/600	**8600.460**
24/ 600	20/500	**8600.650**
24/ 600	24/600	**8600.660**
32/ 800	20/500	**8600.850**
32/ 800	24/600	**8600.860**
39/1000	20/500	**8600.050**
39/1000	24/600	**8600.060**
47/1200	20/500	**8600.250**
47/1200	24/600	**8600.260**

Order primered version with the suffix .xx1.

Accessories:

C-rail 30/15,
see page 980.

Baying systems, see pages 910 – 917.

Side panels for cable chamber

For finishing the sides, additional to the enclosure side panel. Simply insert, lift up and screw-on.

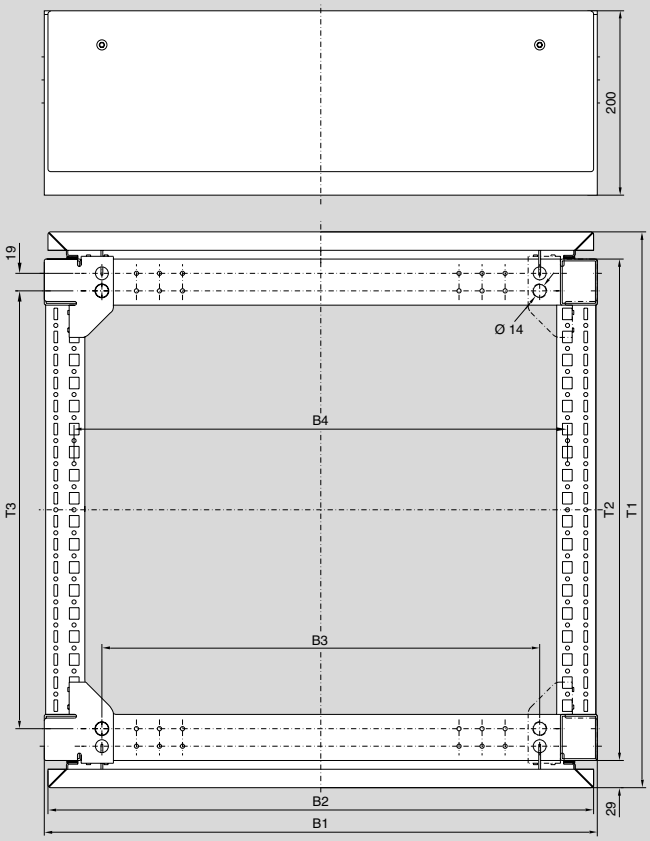
Material:
Sheet steel

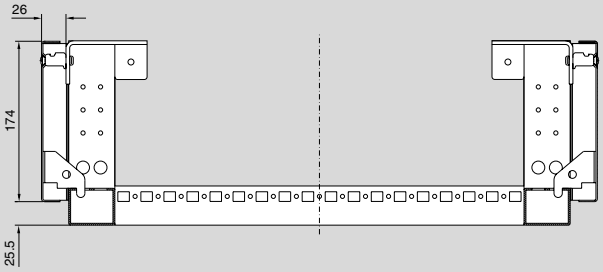
Color:
RAL 7032 pebble grey, textured

For enclosure depth inches/mm	PU	Part No. TS
20/500	2	**8600.010**
24/600	2	**8600.020**

Order primered version with suffix .xx1.

Configuration:
Side panels, installation hardware included.





Enclosure width inches/mm	16/ 400	24/ 600	32/ 800	40/ 1000	48/ 1200
B1	400	600	800	1000	1200
B2	392	592	792	992	1192
B3	275	475	675	875	1075
B4	335	535	735	935	1135

Enclosure depth inches/mm	20/ 500	24/ 600	32/ 800	–	–
T1	502	602	802	–	–
T2	444	544	744	–	–
T3	375	475	675	–	–

Base/plinth, 12″/300 mm high

For
- AK compact enclosures
- AP console systems (not for universal consoles)

With angle brackets for cable collecting rails.

Material:
Sheet steel

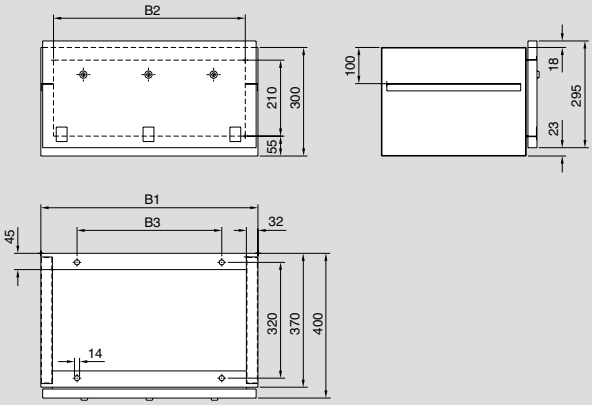
Color:
RAL 7032 pebble grey, textured

Configuration:
Cable plinth with push-in front, including 2 cam locks. Not assembled.

For enclosure W x D inches/mm	B1 mm	B2 mm	B3 mm	Part No. SO
24 x 16/ 600 x 400	600	530	400	**1656.200**
32 x 16/ 800 x 400	800	730	600	**1658.200**
48 x 16/ 1200 x 400	1200	1130	1000	**1662.200**

Accessories:

Cable collecting rails,
see page 898.



Mobile base on casters

For TS/PS/ES/PC (based on PS)/AP enclosures, consisting of base, un-assembled, 4 casters, 2 x with, 2 x without brake.

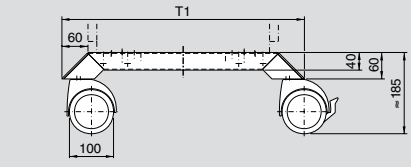
Load capacity per caster:
264 lbs/120 kg static load

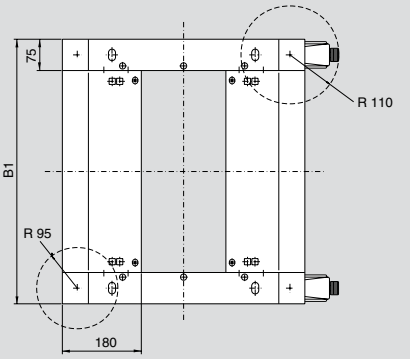
Overall load capacity:
793 lbs/360 kg static load

Finish:
Powder painted RAL 7032 pebble grey/ RAL 7035 light grey,
casters RAL 7033 stone grey/ RAL 5018 turquoise.

German Registered Design No. M 92 01 858
German Patent No. 42 00 315
Irish Registered Design No. Dm/023580 affecting DE, FR, IT

For enclosure W inches/ mm	For enclosure D inches/ mm	Part No. SO RAL 7032/7033	Part No. SO RAL 7035/5018
24/600	16/400	**2979.200**	–
24/600	20/500	**2980.200**	–
24/600	24/600	**2981.200**	**2981.235**
24/600	32/800	**2982.200**	**2982.235**
32/800	16/400	**2983.200**	–
32/800	20/500	**2984.200**	–





T1 = encl. depth + 6″/150 mm
B1 = enclosure width

Transportation plinth

For transporting heavy, bayed enclosure suites. Available in 8″/200 mm increments from 2 to 5 m. Transport plinths have 2 supports welded-in to receive cross-bars for transportation.
Variable holes, suitable for all enclosure widths of 24″/600 mm and above.

Finish:
Surface treated with rust inhibiting agent, may be overpainted.

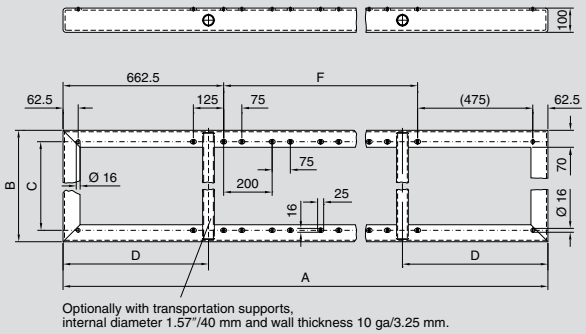
Note:
Please state the required width and depth of the enclosure suite when ordering.

Version with transportation supports

Color	PU	Part No. SO
Primed in reddish-brown rust-inhibiting paint	1	**1228.010**
Similar to RAL 7022	1	**1228.110**
Similar to RAL 7032	1	**1228.210**
Similar to RAL 7035	1	**1228.310**

Version without transportation supports

Color	PU	Part No. SO
Primed in reddish-brown rust-inhibiting paint	1	**1228.000**
Similar to RAL 7022	1	**1228.100**
Similar to RAL 7032	1	**1228.200**
Similar to RAL 7035	1	**1228.300**



Optionally with transportation supports, internal diameter 1.57″/40 mm and wall thickness 10 ga/3.25 mm.

Enclosure depth inches/mm	B	C
16/400	369	275
20/500	469	375
24/600	569	475
32/800	769	675

inches/mm	A	79/2000	87/2200	95/2400	102/2600	110/2800	118/3000	126/3200	134/3400	142/3600	150/3800	158/4000	165/4200	173/4400	181/4600	189/4800	197/5000
mm	D	300	300	300	300	300	600	600	600	600	600	600	1000	1000	1000	1000	1000
	F	800	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800

Base/plinth for DK-EL

The base/plinth can be installed onto all DK-EL and EL enclosures with a center section of 316 mm or 416 mm deep. Holes must be punched for attaching to the center section; a drilling template is supplied. These may also be installed with casters for use as a mobile base.

Material:
Sheet steel

Color:
RAL 7022 umber grey

Configuration:
Base/plinth, including 4 leveling feet and installation hardware.

Base/plinth center section depths inches/mm	PU	Part No. DK/VR
12.44/316	1	**7505.300**
16.38/416	1	**7505.400**
Additional casters for base/plinth	4	**3805.500**

Leveling feet

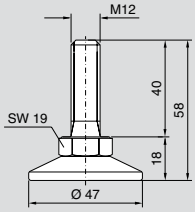
To compensate for height differences in the event of floor irregularities.
Thread length 1.57″/40 mm.
Thread M12 for direct screw-fastening into the enclosure corner pieces.
Maximum permissible static load: approximately 661 lbs/300 kg per leveling foot.

For:
- TS 8 enclosures
- PS 4000 enclosures
- PC enclosure systems
- Pedestal base plate CP 6137.035 – CP 6137.535
- Cable plinths

PU	Part No. PS
4	**4612.000**

Additional parts needed:

For mounting on the TS base/plinth: base/plinth adaptor TS 8800.220, see page 882.



Twin casters

For mobile use, easily fitted.
Thread M12.

Suitable for	Load capacity (per caster)	Ground clearance inches/mm	Lock	PU	Color	Part No.
TS, PS, PC enclosure system, Data Rack, pedestal base plate CP 6137.035 – CP 6137.535, cable plinth PC 4601.200	88 lbs/40 kg	2/50	4 without	1 set	black	**PS 4611.000**
TS, PS, PC pedestals, CP 6141.XXX, pedestal base plate CP 6137.035 – CP 6137.535, Data Rack	165 lbs/75 kg	3.35/85	2 with, 2 without	1 set	black with grey running surface	**CP 6148.000**
TS, PS, ES, AP, AK, PC enclosure system, pedestal base plate CP 6137.035 – CP 6137.535, cable base/plinth PC 4601.200, Data Rack	264 lbs/120 kg	4.92/125	2 with, 2 without	1 set	black	**DK 7495.000**
						PC 4634.500
					turquoise/ black	**PC 4634.000**

PS 4611.000

DK 7495.000

CP 6148.000

PC 4634.500

PC 4634.000

Cable entry plates

For simple, fast cable entry and sealing in conjunction with:
- Cable entry grommets
- Connector grommets.

These are used instead of segments of the standard, divided gland panels.

Material:
Sheet steel, zinc, chromated.

Configuration:
2 or 4 cable entry plates, installation hardware included.

US Patent No. 5 422 436
German Patent No. 42 07 281
European Patent No. 0 560 119
affecting FR, GB, IT, NL
Japanese Patent No. 2 533 052

For installation in TS 8 and PC enclosures based on TS 8

Enclosure width inches/mm	Cutouts	PU	Part No. TS
24/ 600	5	2	**8800.060**
32/ 800	8	2	**8800.080**
40/1000	4	4	**8800.100**
48/1200	6	4	**8800.120**

For installation in PS/ES; PC enclosures based on ES and PS; AP universal consoles

Enclosure width inches/mm	Cutouts	PU*	Part No. PS
24/ 600	5	2	**4320.700**
32/ 800	8	2	**4321.700**
40/1000	10	2	**4323.700**
48/1200	6	4	**4325.700**

* Includes filler panels.

Cable entry grommets

In conjunction with the cable entry plate for simple, fast sealing of cables inserted into the base area of enclosures.

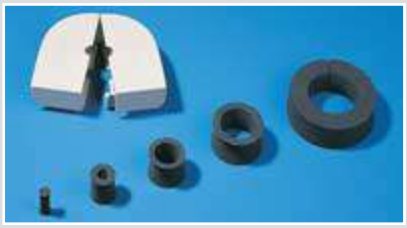
Material:
Outer cover: polypropylene
Gasket: cell rubber

Ratings:
NEMA 12/IP 55 to EN 60 529/10.91

Cables per grommet	maximum Ø mm	Part No. PS
8	13	**4316.000**
3	21	**4317.000**
1	47	**4318.000**

PU = 25 pieces

US Patent No. 5 422 436
German Patent No. 42 07 281
European Patent No. 0 560 119
valid for FR, GB, IT, NL
Japanese Patent No. 2 533 052

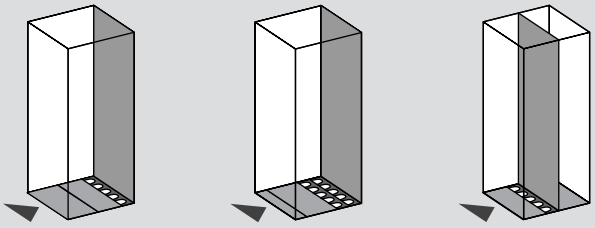


Connector grommets
Used with cable entry plates, for the entry of power cords with plugs.
Suitable for cable diameters from 0.31 to 1.48″/8 to 36 mm.

German Patent No. 40 28 570

PU	Part No. PS
10	**4311.000**

Material:
Outer cover: polypropylene covered with thermoplastic elastomer
Gasket: cell rubber

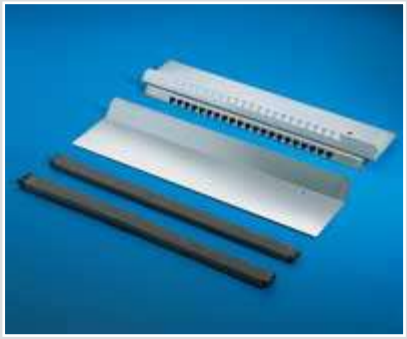


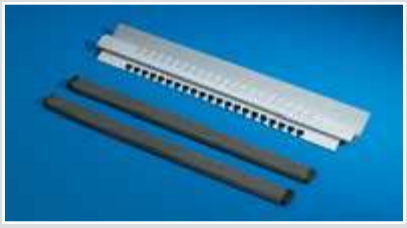
Three examples from a wide range of possibilities
The illustrations show three examples for the positioning of cable entry plates instead of the standard 3-part segmented gland panels. This way the cable entry plate can be installed to match the mounting panel location.
Cable entry plates, as do gland panels, may also be inserted in the enclosure depth, right and left, dimensions permitting.

Foam rubber cable clamp strip

For simple, quick sealing of the cable entry between the gland panels. Particularly suitable for identical cable cross-sections. Cross-section: 1.18 x 1.18″/30 x 30 mm.

PU	Part No. SZ
10 ft/3 m	**2573.000**





EMC gland panels

For shielded cables with a maximum diameter of 20 mm.
EMC cable shield contact over a conductive rubber cable clamp strip. Combined EMC/IP seal provides low-resistance contact between cable shield and gland panel.

For all enclosures with a depth of 16, 20, 24 or 32″/400, 500, 600 or 800 mm.

German Patent No. 196 04 219

Width inches/ mm	Part No. TS		Part No. PS
	single row	twin row	single row**
24/ 600	**8800.660**	**8800.760**	**4314.060**
32/ 800	**8800.680**	**8800.780**	**4314.080**
39/ 1000	**8800.600***	**8800.700***	**4314.100**
47/ 1200	**8800.620***	**8800.720***	**4314.120***

PU = 1 set
* Covers only one half of enclosure.
** For installation in PS/ES; PC ES/PS based; AP universal consoles with contact clip PS 4313.000, see page 311.

Single-row version (upper illustration):
For one cable entry level in conjunction with standard gland panel.

Supply includes:
1 set =
1 gland panel with twin hammer-head punching,
1 sliding gland panel,
2 IP/EMC gaskets.

Twin row version (bottom illustration):
May only be used in conjunction with single-row EMC gland panels. Provides a further cable entry level.

Configuration:
1 set =
1 gland panel with twin hammer-head punching and integral sliding gland plate,
2 IP/EMC gaskets.

Metal cable ties

For 360° contact of shielded cables on the EMC gland panel. The cable ties are not toothed, thereby eliminating the risk of damage to insulation and braided screens.

Material:
Type 316 (similar to V4A), anti-magnetic and rust-proof.

Length inches/ mm	Width inches/ mm	PU	Part No. SZ
5/125	0.06/4.6	50	**2598.125**
8/200	0.06/4.6	50	**2598.200**

1 pack = 50 pieces

Tightening tool

For simple tightening of metal cable ties SZ 2598.125 and SZ 2598.200.

Material:
Handle: polypropylene
Blades: chrome vanadium steel, tempered, nickel-plated

	PU	Part No. SM
Tightening tool	1	**2585.000**

EMC cable entry bushings

The EMC cable entry bushings permit super-fast, EMC-compatible cable entry into the zinc gland panels. Simply lock. Other benefits include:

- 360° contact.
- Fastens without lock nuts.
- May be used with PG or metric holes.
- Flexible adjustment for all cable diameters.
- Contact directly at the point of cable entry on the enclosure.
- The spring action means permanent contact pressure.
- The cable insulation is only stripped off at the shielded point of contact.

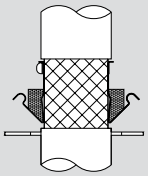
Material:
Stainless steel

Supply includes:
Cable entry bushings
including seals and cable ties.

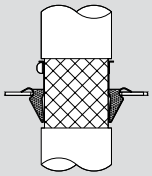
German Patent No. 197 01 959

Cable shield diameter				Hole diameter				PU	Part No. SZ
inches		mm		inches		mm			
from	to	from	to	from	to	from	to		
1.51	1.63	13	16	1.98	1.14	25	29	5	**2491.150**
1.71	1.87	18	22	1.18	1.34	30	34	5	**2491.200**
1.91	1.06	23	27	1.38	1.54	35	39	5	**2491.250**
1.10	1.26	28	32	1.57	1.73	40	44	5	**2491.300**

Installation diagram:
before snapping into place



Spring-loaded piece snap-fastened, seal compressed



EMC cable bushings

The cable sheathing may be interrupted at the contact point or removed completely inside the enclosure. The cable shield in the enclosure is retained if required.

The lock nut (included) cuts automatically into the paint when screwed down, thus creating a conductive connection.

Protection category:
IP 68 to EN 60 529/10.91

Cable bushings, PG

PG size	Cable diameter		Cable shield diameter		PU	Part No. SZ
	inches	mm	inches	mm		
9	0.16 – 0.26	4.0 – 6.5	0.06 – 0.26	1.5 – 6.5	5	**2411.090**
11	0.20 – 0.31	5.0 – 8.0	0.10 – 0.26	2.5 – 6.5	5	**2411.110**
13.5	0.31 – 0.41	8.0 – 10.5	0.26 – 0.41	6.5 – 10.5	5	**2411.140**
16	0.45 – 0.61	11.5 – 15.5	0.37 – 0.53	9.5 – 13.5	5	**2411.160**
21	0.55 – 0.71	14.0 – 18.0	0.41 – 0.57	10.5 – 14.5	1	**2411.210**
21	0.67 – 0.81	17.0 – 20.5	0.51 – 0.71	13.0 – 18.0	1	**2411.211**
29	0.79 – 0.98	20.0 – 25.0	0.59 – 0.83	15.0 – 21.0	1	**2411.290**
36	0.94 – 1.10	24.0 – 28.0	0.71 – 1.00	18.0 – 25.5	1	**2411.360**
36	1.06 – 1.26	27.0 – 32.0	0.94 – 1.22	24.0 – 31.0	1	**2411.361**
42	1.41 – 1.57	36.0 – 40.0	1.30 – 1.54	33.0 – 39.0	1	**2411.420**

Cable bushings, metric

Size	Cable diameter inches	Cable diameter mm	Minimum* shield diameter inches/mm	PU	Part No. SZ
M16	0.16 – 0.31	4 – 8	.12/ 3	5	**2843.160**
M20	0.24 – 0.47	6 – 12	.20/ 5	5	**2843.200**
M25	0.39 – 0.55	10 – 14	.31/ 8	5	**2843.250**
M32	0.51 – 0.70	13 – 18	.39/10	1	**2843.320**
M40	0.70 – 0.25	18 – 25	.59/15	1	**2843.400**
M50	0.87 – 1.26	22 – 32	.75/19	1	**2843.500**
M63	1.34 – 1.73	34 – 44	1.18/30	1	**2843.630**

* Minimum shield diameter =
cable diameter less cable sheathing.

Other sizes available upon request.

Gland panel with brush insert

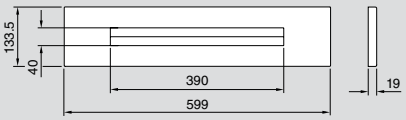
For EL 3-part wallmount enclosures in exchange for the solid gland panel. Multi-folded, welded gland panel with foamed-in seal and plastic brush inserts for simple cable entry.

Configuration:
1 cable entry plate

Material:
16 ga/1.5 mm sheet steel

Finish:
E-coat primed,
textured enamel,
RAL 7032 pebble grey or
RAL 7035 light grey.

Gland panel with brush insert	Part No. DK
RAL 7032	**7705.000**
RAL 7035	**7705.035**



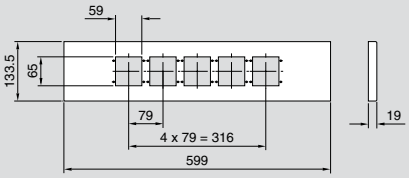
Gland panels for PG segments

For EL 3-part wallmount enclosures. Multi-folded and welded gland panel with foamed-on gasket and cutouts for PG segments Part No. EL 2235.010 – EL 2235.085.

Material:
16 ga/1.5 mm sheet steel, painted

Color:
RAL 7032 pebble grey or
RAL 7035 light grey

Gland panel	Part No. EL
RAL 7032	**2235.000**
RAL 7035	**2235.005**



PG segments

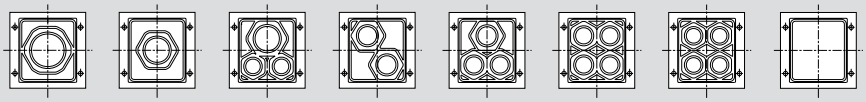
Plastic segments with pre-punched holes for cable bushings. Suitable for retrofitting with screws to gland panel Part No. EL 2235.000 / .005 or into corresponding cutouts in enclosure surfaces and pedestal base plate CP 6137.000, CP 6137.500.

Material:
ABS, self-extinguishing per UL 94-V0.

Color:
RAL 7032 pebble grey or
RAL 7035 light grey

PG sizes	PU	Part No. EL	
		RAL 7032	RAL 7035
29	5	**2235.010**	**2235.015**
21	5	**2235.020**	**2235.025**
21/11	5	**2235.030**	**2235.035**
16	5	**2235.040**	**2235.045**
16/13.5	5	**2235.050**	**2235.055**
13.5	5	**2235.060**	**2235.065**
11	5	**2235.070**	**2235.075**
neutral	5	**2235.080**	**2235.085**

EL 2235.010 EL 2235.015 | **EL 2235.020 EL 2235.025** | **EL 2235.030 EL 2235.035** | **EL 2235.040 EL 2235.045** | **EL 2235.050 EL 2235.055** | **EL 2235.060 EL 2235.065** | **EL 2235.070 EL 2235.075** | **EL 2235.080 EL 2235.085**



Plastic cable gland panels

With pre-punched PG holes for cable glands. Use for sealing standard gland panels.
Temperature range: for use from
– 40 °F to 158 °F/– 40 °C to + 70 °C.

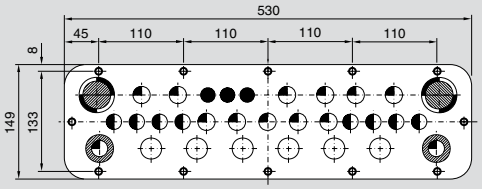
Material:
SZ 2560.000, SZ 2561.000 = PS
SZ 2562.000 = ABS
SZ 2563.000 = polyamide, glass bead-reinforced

Color:
RAL 7032 pebble grey

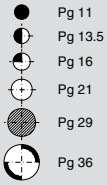
Rating:
NEMA 12/IP 54

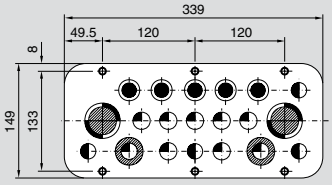
Slotted metal gland panels for metric cable glands available upon request.

For	PU	Part No. SZ
AE 1032.600/ AE 1035.600	10	**2560.000**
AE 1030.600/ AE 1031.600/ AE 1380.600/ AE 1038.600	10	**2561.000**
AE 1110.600/ AE 1114.600/ AE 1338.600/ AE 1100.600/ AE 1045.600/ AE 1057.600/ AE 1050.600 AE 1130.600/ AE 1213.600/ AE 1350.600	5	**2562.000**
AE 1039.600/ AE 1339.600/ AE 1060.600/ AE 1076.600/ AE 1077.600/ AE 1180.600/ AE 1058.600/ AE 1090.600/ AE 1360.600/ AE 1376.600/ AE 1073.600/ AE 1260.600/ AE 1280.600/ EL 1919.200/ EL 1920.200/ EL 1926.200	5	**2563.000**
DK 7011.535/ DK 7012.535/ DK 7013.535/ DK 7014.535/ DK 7644.000/ DK 7641.000/ DK 7643.000/ DK 7645.000	5	**2563.000**

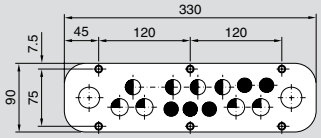


SZ 2563.000

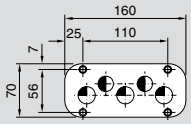




SZ 2562.000



SZ 2561.000



SZ 2560.000

Plastic cable gland panels

For KL and small fiber-optic distributors, based on AE.
With pre-punched PG holes for cable glands. Seals standard gland panels.
Temperature range:
– 40 °F to 158 °F/– 40 °C to + 70 °C.

Color:
RAL 7032 pebble grey

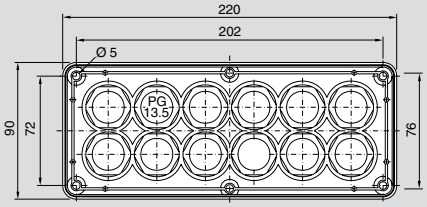
PG	Knockouts	PU	Part No. KL
13.5	12	5	**1581.000**
13.5 16 21	6 2 2	5	**1582.000**

Material: ABS

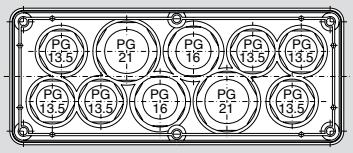
Configuration: PU = 5

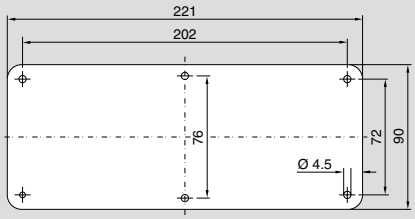
Rating: NEMA 12/IP 54

KL 1581.000



KL 1582.000





Metal gland panels

With cutout for connector	PU	Part No. KL	
		RAL 7035	RAL 7032
16-pole	6	**1158.560**	**1158.060**
24-pole	6	**1158.540**	**1158.040**
Solid	6	**1158.500**	**1158.000**

Slotted for metric cable glands available on request.

Width divider

Divides 47″/1200 mm wide TS enclosures into two halves.

Material:
Sheet steel, zinc, chromated.

Supply includes:
1 set =
1 bracket each for left/right,
2 compensating plates for the top,
installation hardware.

PU	Part No. TS
1 set	**8800.200**

Additional parts needed:

Depending on the installation situation:

TS punched rail 18 x 38 mm,
see page 975.

PS punched section without mounting flange,
see page 977.

Three examples of width division

Width division can be used to install, for example, a mounting panel, cable clamp rail or two system support rails in one half of a 47″/1200 mm wide enclosure. Examples 2 and 3 assume that the enclosure is fitted with a standard mounting panel. The supply of enclosures with a mounting panel includes two TS punched rails .70 x 1.50″/18 x 38 mm, which may be used for width division.

1st mounting situation:

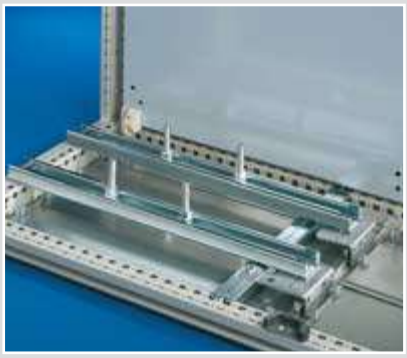
Two mounting panels, side by side.
Two mounting panels (from 24″/600 mm wide enclosures) in a 47″/1200 mm wide enclosure permit independent positioning and easy handling.
It is recommended to order the enclosure without a mounting panel.

Additional parts needed:

2 mounting panels from 24″/600 mm wide enclosures.

4 x TS punched rails
.70 x 1.50″/18 x 38 mm according to the enclosure depth, see page 975,
for installation and attachment in the enclosure base.

1 x PS punched section without mounting flange .91 x 2.87″/23 x 73 mm according to the enclosure depth, see page 977,
for attachment at the top.



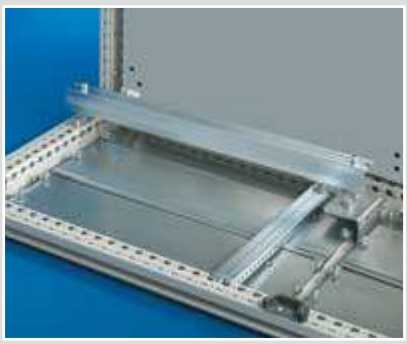
2nd mounting situation:

System support rails, fitted on the left.
While heavy installed equipment rests on the system support rails, the remaining floor space is left free for unhindered cable entry.

Additional parts needed:

2 system support rails PS 4361.000,
see page 899.

1 x TS punched rail
.70 x 1.50″/18 x 38 mm according to the enclosure depth (included in the configuration of the standard enclosure).



3rd mounting situation:

Cable clamp rail, installed on the left.
With 47″/1200 mm wide enclosures, the width divider allows cable entry and cable clamping to be arranged differently on the left and right of the enclosure.

Additional parts needed:

1 cable clamp rail PS 4191.000,
see page 898.

1 x TS punched rail
.70 x 1.50″/18 x 38 mm according to the enclosure depth (included in the configuration of the standard enclosure).

Cable collecting rails (right angle section)

For strain relief with cable entry. Depth-variable mounting on a 1″/25 mm system hole pattern on the horizontal frame members or in 4″/100 mm high side base/plinth trim pieces. For bolts: SO 2819.000, see page 887.

Material:
Sheet steel, zinc, chromated.

Configuration:
Right angle sections, installation hardware included.

For TS/PS/ES/PC
AP universal console/plinth

Enclosure width inches/mm	Length inches/mm	PU	Part No. PS
16/ 400	15.16/ 385	2	**4193.000**
24/ 600	23.03/ 585	2	**4191.000**
32/ 800	30.91/ 785	2	**4192.000**
40/1000	38.78/ 985	2	**4336.000**
48/1200	46.65/1185	2	**4196.000**
53/1600	62.40/1585	2	**4338.000**
71/1800	70.28/1785	2	**4339.000**

(Also suitable for AP/AK/AE base/plinth).

For AP/AK/AE
mounting on the mounting panel

Enclosure width inches/mm	Length inches/mm	PU	Part No. AS
24/ 600	19.29/ 490	3	**2036.200**
32/ 800	27.17/ 690	3	**2038.200**
40/1000	35.04/ 890	3	**1805.200**
48/1200	42.91/1090	3	**2037.200**

Cable clamps for cable collecting rails

For attaching cables to cable collecting rails (see above), with plastic insert.

Material:
Sheet steel, zinc, chromated.

Cable Ø inches	Cable Ø mm	Part No. SZ
0.24 – 0.47	6 – 12	**2350.000**
0.47 – 0.63	12 – 16	**2351.000**
0.55 – 0.71	14 – 18	**2352.000**
0.71 – 0.87	18 – 22	**2353.000**
0.87 – 1.02	22 – 26	**2354.000**
1.02 – 1.18	26 – 30	**2355.000**
1.18 – 1.34	30 – 34	**2356.000**
1.34 – 1.50	34 – 38	**2357.000**
1.50 – 1.65	38 – 42	**2358.000**
1.65 – 1.81	42 – 46	**2359.000**
1.81 – 1.97	46 – 50	**2360.000**

Cable clamps

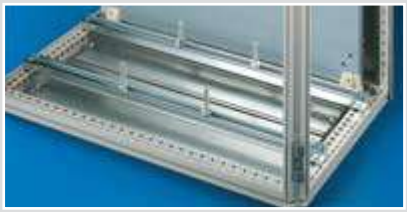
For attaching cables to C-rails, with plastic insert.

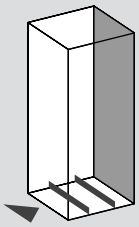
Material:
Sheet steel, zinc, chromated.

Cable Ø inches	Cable Ø mm	PU	Part No. DK
0.24 – 0.47	6 – 12	25	**7077.000**
0.47 – 0.71	12 – 18	25	**7078.000**
0.71 – 0.87	18 – 22	25	**7097.000**
0.87 – 1.02	22 – 26	25	**7097.220**
1.02 – 1.18	26 – 30	25	**7097.260**
1.18 – 1.34	30 – 34	25	**7097.300**
1.34 – 1.50	34 – 38	25	**7097.340**
1.50 – 1.65	38 – 42	25	**7098.000**
2.20 – 2.52	56 – 64	25	**7099.000**

! Additional parts needed:

For matching C-rails, see page 980.





System support rails

For heavy installed equipment, such as transformers. T-head screw and slot in the support rail facilitate any attachment dimension.

For installation in:
- TS 8 on the horizontal section, may also be installed in the depth without a mounting panel
- All other enclosures, sections or punched sections with slots for captive nuts or threaded blocks in the width.

Material:
Sheet steel, zinc, chromated.

Enclosure width in./mm	PU	Part No. PS
24/ 600	2	**4361.000**
32/ 800	2	**4362.000**
40/1000	2	**4347.000**
48/1200	2	**4363.000**

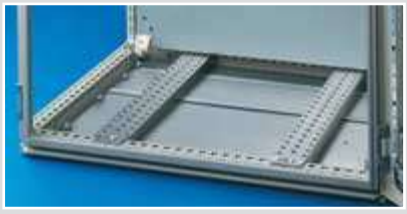
Configuration:
2 system support rails,
4 T-head screws M12 x 60 mm,
including installation hardware.

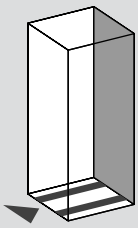
Optional accessory:
Width division e.g. for installing 2 system support rails (for 24″/600 mm width) in 48″/1200 mm wide enclosures, see page 897.

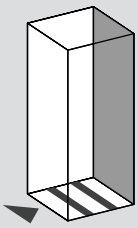
Enclosure depth in./mm	PU	Part No.
20/500	2	**9960.644**
24/600	2	**9960.643**
31/800	2	**9960.645**

Top-mounted transformer rails

(not illustrated)
Used for mounting equipment on top of PS/ES enclosures, in conjunction with adjustable support rails (see above).







Support rails

For heavy installed equipment, with mounting holes. Particularly suitable for the installation of base isolators.

For installation in:
- TS 8 on the horizontal section in the width and depth
- All other enclosures, sections or punched sections with slots for captive nuts or threaded blocks in the depth.

Material:
Sheet steel, zinc, chromated.

Configuration:
4 support rails,
installation hardware.

Enclosure width/depth inches/mm	PU	Part No. PS
16/400	4	**4394.000**
20/500	4	**4395.000**
24/600	4	**4396.000**
32/800	4	**4398.000**

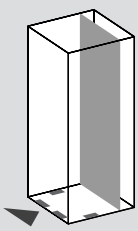
Base assembly bracket

For anchoring the enclosure at any position on the base frame, particularly in cases where the existing holes in the frame or base tray cannot be used due to installed equipment or because the substructure prevents them from being used.

Material:
Sheet steel, zinc, chromated.

For TS/PS/ES/AP universal console

PU	Part No. TS
4	**8800.210**



Condensate discharge

Particularly with outdoor locations and extreme temperature fluctuations, condensation will form in the enclosure. By using this condensate discharge, the moisture is routed to the outside, rather than collecting inside the enclosure. Labyrinth effect: reliable discharge from the inside, protection against splashes from the outside.
A hole diameter of .63″/16 mm is required (AE sheet steel already has the holes in the base).

Material:
Polyamide

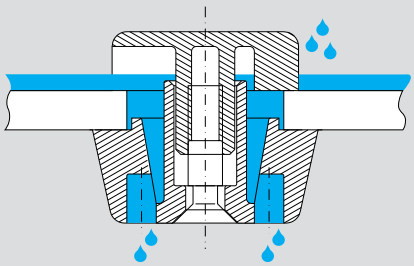
Color:
Similar to RAL 7032 pebble grey
(AE sheet steel already has the holes in the base).

Material:
Polyamide

Color:
Similar to RAL 7032 pebble grey

Rating:
NEMA 12/IP 54

PU	Part No. SZ
6	**2459.000**



Transport kit for DK-TS

For convenient transportation of the populated network enclosures to their final destination or as a mobile rack.
The casters are inserted directly into the frame and secured with screws. Assembly is achieved by lifting or tilting the enclosure, so retrofitting is no problem.
After transportation to the installation site, transport casters can be removed if desired and the enclosure re-aligned on leveling feet.

Maximum permissible load:
1763 lbs/800 kg

Supply includes:
1 set =
4 casters (2 non-steerable)
and installation hardware.

PU	Part No. DK
1 set	**7825.900**

Note:
The enclosure must not have any gland panels or a gland panel frame, because the casters are screw-fixed directly into the base frame.

Optional accessory:

Leveling feet (M12, thread length 1.57″/40 mm) PS 4612.000,
see page 891.

One-piece gland panel for DK-TS

The slotted gland panel has a cutout in the rear for cable entry, which is closed with brush inserts. The ventilation holes may be covered with a filter mat above the holes. Used in exchange for the standard gland panel.

Material:
Sheet steel, zinc, chromated.

Configuration:
1 gland panel,
installation hardware included.

For enclosure inches/mm		Part No. DK
Width	Depth	
24/600	24/ 600	**7825.660**
24/600	32/ 800	**7825.680**
24/600	36/ 900	**7825.690**
32/800	24/ 600	**7825.860**
32/800	32/ 800	**7825.880**
32/800	36/ 900	**7825.890**
32/800	40/1000	**7825.810**

Filter mat for gland panel

To conceal the slots in the gland panel. Depending on the enclosure depth, several filter mats may be required for complete concealment.

Enclosure depth inches/mm	No. of filter mats
24/ 600	1
32/ 800	2
36/ 900	2
40/1000	3

PU	Part No. VR
1	**3804.000**

Gland panel modules for DK-TS

For use in the base frame of the network enclosure. The 9.35″/237.5 mm deep gland panel is available in two variations:
used in exchange for an existing gland panel of the same depth.

- **For cable entry:**
  The plate is equipped with a brush strip.
- **Vented:**
  The ventilation holes may be covered with a filter mat. This is optionally secured from the inside or outside with nylon tape.

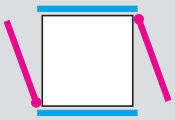
Material:
Sheet steel, zinc, chromated.

Configuration (cable entry):
1 gland panel with brush strip,
including installation hardware.

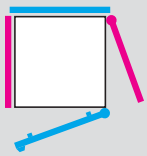
Configuration (vented):
1 gland panel with filter mat and Velcro fastener, including installation hardware.

For enclosure width inches/ mm	Part No. DK	
	Design	
	For cable entry	Vented
24/600	**7825.361**	**7825.360**
32/800	**7825.381**	**7825.380**

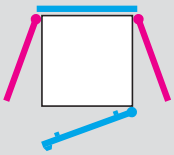
Sidewalls

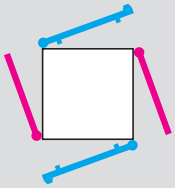


The TS sidewall provides additional access to the TS interior, thanks to the option of hinging.



Important:
Red areas (sidewalls), hinged and unhinged, must always be opposite one another. Blue areas (doors/rear walls) must always be opposite one another.
Only one surface on each vertical enclosure section may be hinged.





Note:
Climate control sidewalls with integral air conditioner may be retrofitted instead of an enclosure sidewall,
see page 464.

Automatic grounding equalization.

German Patent No. 198 01 720

Sidewalls, screw-fastened, for TS

Easy positioning on the frame with the location aid. Six enclosure wall holders with grounding insert ensure automatic grounding equalization and higher EMC protection. Grounding bolts with contact surface are built-in.

Note:
Enclosure sidewall fasteners may be installed from the inside or outside of the enclosure.
Area available for population:
external dimensions 4″/100 mm

Material:
16 ga/1.5 mm sheet steel

Ratings:
NEMA 12/IP 55 to EN 60 529/10.91

Finish:
E-coat primed RAL 7044 silk grey, textured powder paint RAL 7032 pebble grey or RAL 7035 light grey on the outside.

Configuration:
2 sidewalls including
12 enclosure wall fasteners,
12 raised torx countersunk screws and
12 hex screws, as well as
12 grounding inserts.

Alternative options:

Sidewalls, asymmetrical,
see right page.

Sidewalls for modular front design,
see page 926.

Sidewalls, plug-type,
see page 904.

Climate control sidewalls,
see page 464.

Optional accessory:

Grounding straps,
see page 1011.

For enclosure		External dimensions		Part No. TS RAL 7032	Part No. TS RAL 7035
Height inches/mm	Depth inches/mm	Height inches/mm	Depth inches/mm		
47/1200	24/ 600	47.13/1197	22.13/562	–	**8170.235**
55/1400	20/ 500	55.00/1397	18.19/462	**8145.200**	**8145.235**
63/1600	24/ 600	62.87/1597	22.13/562	–	**8166.235**
63/1600	32/ 800	62.87/1597	30.00/762	–	**8168.235**
71/1800	16/ 400	70.85/1797	14.25/362	**8184.200**	**8184.235***
71/1800	20/ 500	70.85/1797	18.19/462	**8185.200**	**8185.235***
71/1800	24/ 600	70.85/1797	22.13/562	**8186.200**	**8186.235**
71/1800	32/ 800	70.85/1797	30.00/762	–	**8188.235**
71/1800	36/ 900	70.85/1797	33.94/862	–	**8189.235**[1)]
71/1800	39/1000	70.85/1797	37.87/962	–	**8180.235**[1)]
79/2000	16/ 400	78.62/1997	14.25/362	**8104.200**	**8104.235**
79/2000	20/ 500	78.62/1997	18.19/462	**8105.200**	**8105.235***
79/2000	24/ 600	78.62/1997	22.13/562	**8106.200**	**8106.235**
79/2000	32/ 800	78.62/1997	30.00/762	**8108.200**	**8108.235**
79/2000	36/ 900	78.62/1997	33.94/862	–	**8109.235**[1)]
79/2000	39/1000	78.62/1997	37.87/962	–	**8100.235**[1)]
87/2200	24/ 600	86.49/2197	22.13/562	**8126.200**	**8126.235**
87/2200	32/ 800	86.49/2197	30.00/762	–	**8128.235**
87/2200	36/ 900	86.49/2197	33.94/862	–	**8129.235**[1)]

* Lead times upon request.
[1)] Depth 36″/900 mm or wider, one additional flat part holder in top/bottom center.

For primed versions, please replace the Part No. extension with .300.

Sidewalls, asymmetrical for TS

The alternative to the standard sidewall for improved visual appearance in the event of back-to-back, back-to-side or corner baying. The gap (A) which occurs with standard sidewalls is reduced to a standard dimension (B), see technical drawing.

In the case of the TS 8 corner enclosure, an asymmetrical sidewall is included in the configuration.
The number of additionally required asymmetrical sidewalls depends on the baying configuration selected.

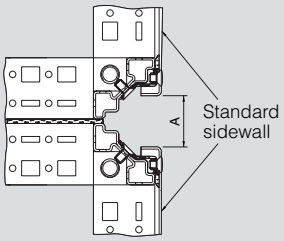
Material:
16 ga/1.5 mm sheet steel

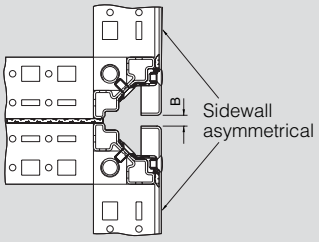
Finish:
RAL 7032 pebble grey/RAL 7035 light grey

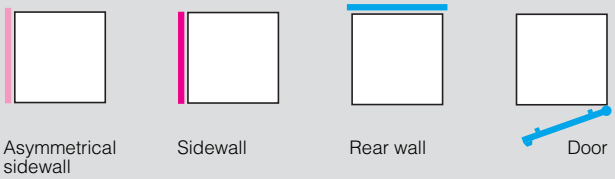
Configuration:
2 sidewalls, installation hardware included.

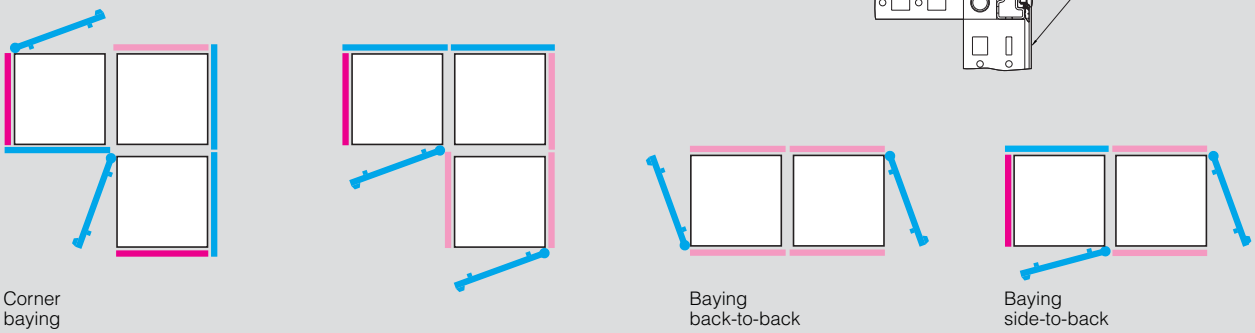
For enclosure Height inches/ mm	Depth inches/ mm	Part No. TS RAL 7032	Part No. TS RAL 7035
71/1800	16/400	**8184.400**	**8184.500**
71/1800	20/500	**8185.400**	**8185.500**
71/1800	24/600	**8186.400**	**8186.500**
79/2000	16/400	**8104.400**	**8104.500**
79/2000	20/500	**8105.400**	**8105.500**
79/2000	24/600	**8106.400**	**8106.500**
79/2000	32/800	**8108.400**	**8108.500**
87/2200	24/600	**8126.400**	**8126.500**

Lead times upon request.
For primed versions, please replace the Part No. extension with .450.









Hinge for sidewall

180° opening angle allows uninhibited access. Assembly may be carried out from either the inside or outside of the enclosure: simply replace 3 enclosure sidewall fasteners with hinges.

Material:
Zinc die-cast

Finish:
Powder painted textured
RAL 7032 pebble grey/RAL 7035 light grey.

Configuration:
Hinges, including installation hardware.

Note:
180° door hinges must be used to hinge sidewalls and doors on the same enclosure corner (see page 948).

Version	PU	Part No. TS
RAL 7032	6	**8800.010**
RAL 7035	6	**8800.110**

German utility model No. 298 20 604

Sidewalls

Sidewalls, plug-type for TS

Sidewall with three options:
– with latch
– with lock
– with internal latch.

Plug-and-play compatibility system: insert the sidewall into the base, press upwards into the recessed handle, and rotate the two toggle locks – there's no faster way of finishing off an entire enclosure suite at the side.
In addition, all Rittal cable routing components may be attached to the integral top hat rail.

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

Configuration:
2 sidewalls with toggle locks.

Note:
In conjunction with system chassis with mounting flanges or divider kits for the outer level, these must be notched in the center – see opposite page.

For enclosure inches/mm		Part No. DK
Height	Depth	
71/1800	24/ 600	**7824.186**
71/1800	32/ 800	**7824.188**
71/1800	36/ 900	**7824.189**
71/1800	40/1000	**7824.180**
79/2000	24/ 600	**7824.206**
79/2000	32/ 800	**7824.208**
79/2000	36/ 900	**7824.209**
79/2000	40/1000	**7824.200**
87/2200	24/ 600	**7824.226**
87/2200	32/ 800	**7824.228**
87/2200	36/ 900	**7824.229**

Optional accessory:

Lock for side panel,
see below.

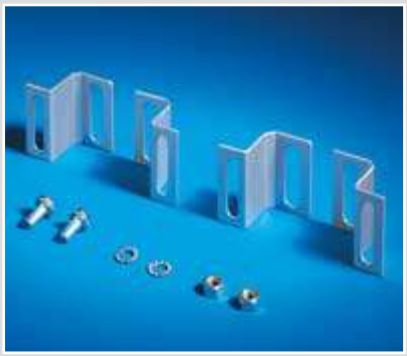
Internal latch,
see below.

Lock for side panel, plug-type

With lock insert, lock no. 3524 E,
in exchange for the existing toggle locks.

Configuration:
Lock including installation hardware.

PU	Part No. DK
4	**7824.500**



Internal latch for side panel, plug-type

Additional security is achieved via the option of latching the side panel from the inside.
The side panels on the frame section are screw-fastened from the inside with latching brackets.

Configuration:
Latching brackets including installation hardware.

PU	Part No. DK
4	**7824.510**

TS system chassis .67 x 2.87″/ 17 x 73 mm, notched

The system chassis with mounting flanges are notched in the center and prepared for use with plug-in type sidewalls. Variable, with 5 rows of holes for universal skeleton structures or partial assembly. Simply locate into the TS holes and secure.

Material:
Sheet steel, zinc, chromated.

Configuration:
TS punched sections with mounting flanges, including installation hardware.

German Patent No. 196 47 802

For the outer mounting level

For enclosure width/depth inches/mm	PU	Part No. DK
24/ 600	4	**7828.064**
32/ 800	4	**7828.084**
36/ 900	4	**7828.094**
40/1000	4	**7828.104**

Side panels for TS cable chamber

Simply insert, flip up and secure with 2 screws.

Material:
Sheet steel

Finish:
Painted RAL 7032 pebble grey, textured

Configuration:
Sidewalls, including installation hardware.

For enclosure depth inches/mm	PU	Part No. TS
20/500	2	**8600.010**
24/600	2	**8600.020**

For primed versions, please replace the Part No. extension with .xx1.
Lead times upon request.

Side panel for TS top mounting module

To finish off the side of a top mounting module or bayed suite.

Material:
16 ga/1.5 mm sheet steel

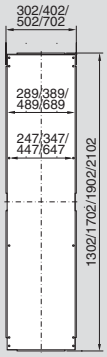
Finish:
Painted textured RAL 7032 pebble grey/ RAL 7035 light grey.

4 side panel holders with grounding inserts ensure automatic grounding/bonding and a higher level of EMC protection. Grounding bolts are pre-integrated.

Version	PU	Part No. TS
RAL 7032	2	**8801.770**
RAL 7035	2	**8801.775***

* Lead times upon request.

Divider walls



Divider panel for TS

For shielding individual enclosure sections. Thanks to the symmetry of the frame system, the divider panel can also be used at the rear, subject to the correct dimensions. All-round double fold for stability and to hold the gasket.
Notches in the corners and half-way up the sides permit the use of angular baying brackets, even with a fitted divider panel.
For mounting on the outer mounting level. This leaves the inner level free for further assemblies.

Material:
16 ga/1.5 mm sheet steel, zinc

Ratings:
NEMA 12/IP 54 to EN 60 529/10.91

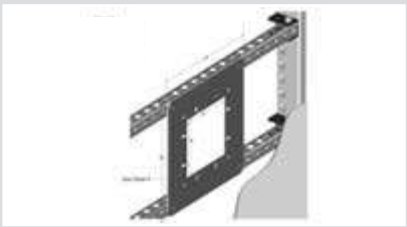
Configuration:
Divider panel, installation hardware

For enclosure inches/mm Height	Depth	Part No. TS
55/1400	20/500	**8609.450**
71/1800	16/400	**8609.840**
71/1800	20/500	**8609.850**
71/1800	24/600	**8609.860**
79/2000	16/400	**8609.040**
79/2000	20/500	**8609.050**
79/2000	24/600	**8609.060**
79/2000	32/800	**8609.080**
87/2200	24/600	**8609.260**

Optional accessory:

Cover with door,
see page 909.

Baying bracket for enclosures with fitted divider panel,
see page 916.



Wireway reinforcement brackets

The Rittal wireway reinforcement support bracket is used as an accessory for both PS and ES enclosures to facilitate easy installation of NEMA style wireway directly to the sidewall or roof.

Configuration:
Sidewall/roof mounting with hardware.
System bars for installation up to 100 mm deep.
Dual brackets for variable mounting of system bars.
M6 bolts and screws for fastening for wireway plate.

Material:
11 ga sheet steel

Finish:
RAL 7044 silk grey

For TS enclosures also order 8800.370 for installation.

Electromate or industrial wireway families

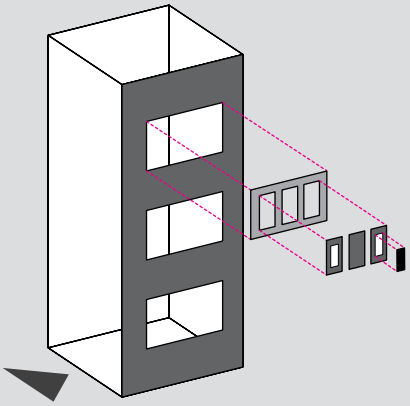
Lay-in Type 12	Feed-through Type 12	Stainless steel feed-through Type 4X	For wireway (inches)	Description	Part No.
●	●		2.5 x 2.5	wireway reinforce plate	**9967667**
●	●	●	4.0 x 4.0		**9967668**
●	●	●	6.0 x 6.0		**9967669**
●	●		8.0 x 8.0		**9967670**
●			6.0 x 12.0		**9967671**

A (inches/mm)	B (inches/mm)	C (inches/mm)	D (inches/mm)	Size (inches)	Part No.
05.91/150	05.91/150	2.50/063.5	02.50/ 63.5	2.5 x 2.5	**9967667**
07.87/200	07.87/200	04.00/101.6	04.00/101.6	4.0 x 4.0	**9967668**
09.84/250	09.84/250	06.00/152.4	06.00/152.4	6.0 x 6.0	**9967669**
12.79/325	12.79/325	08.13/203.2	08.13/203.2	8.0 x 8.0	**9967670**
15.75/400	15.75/400	12.00/304.8	06.00/152.4	6.0 x 12.0	**9967671**

The divider wall and modular panel system

More possibilities:
The 6, 9 or 10 cutouts of a divider wall are individually equipped with modular panels for 16-pole or 24-pole connectors, with modular panels for cable entry and with solid modular panels.

Faster assembly:
Usually only part of the total number of connector cutouts are used. Due to the new divider panel technique the cutouts do not need to be covered individually. The solid modular panel is used instead. The benefits: less panels, less screws, less assembly work.



Divider panel for modular TS panels

With cutouts for the installation of modular panels for connectors or for cable entry, and also for the entry of busbar systems and other installed equipment. All-round double fold for stability and to hold the gasket. Thanks to the symmetry of the enclosure frame, divider panels may also be installed at the rear, dimensions permitting. For mounting on the outer mounting level. This leaves the inner level free for further population.

Material:
14 ga/2 mm sheet steel, zinc-plated

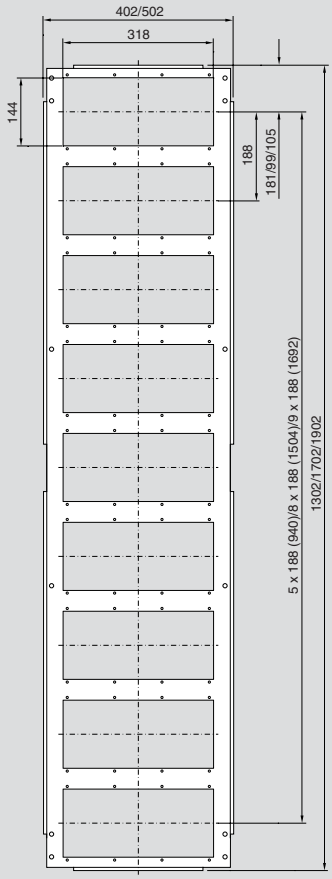
Configuration:
Divider panel, installation hardware and Torx screws M5 x 12 mm for mounting the modular panels are included.

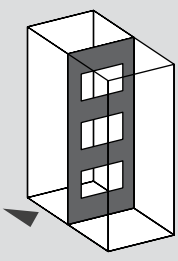
Note:
Notches in the corners and half-way up the sides permit the use of angular baying brackets, even with a divider wall installed.

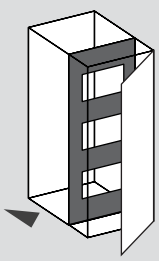
Optional accessory:

Cover with door,
see page 909.

Baying bracket TS 8800.470 for enclosures with installed divider panels,
see page 916.



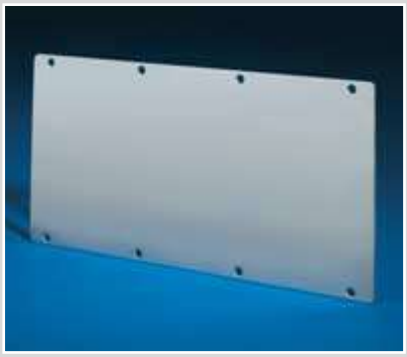




For enclosure Height inches/mm	For enclosure Depth inches/mm	Number of cutouts	PU	Part No. TS
55/1400	20/500	6	1	**8609.180**
71/1800	20/500	9	1	**8609.100**
71/1800	24/600	9	1	**8609.110**
79/2000	20/500	10	1	**8609.120**
79/2000	24/600	10	1	**8609.130**

Modular panels

Modular panels...



...solid

for sealing unused cutouts. Easily machined for individual cutouts.

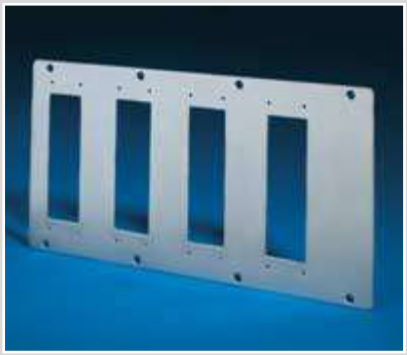
Material:
Sheet steel, zinc, chromated.

Configuration:
Modular panel, including gasketing.

Design	Cutouts	PU	Part No. TS
Solid	–	1	**8609.160**
For 16-pole connectors	4	1	**8609.150**
For 24-pole connectors	4	1	**8609.140**
For cable entry	1	1	**8609.170**

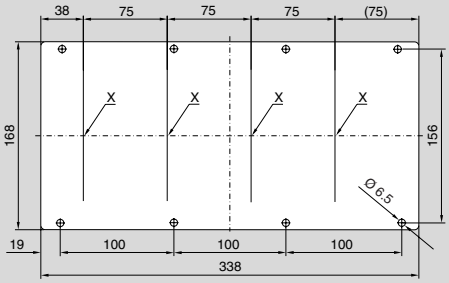
Optional accessory:

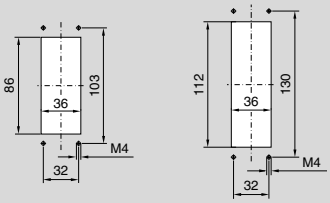
Adaptor, cover plate, cable gland for connector cutouts,
see right side.



...for 16-/24-pole connectors

with cutouts to accommodate connectors. As well as mounting on divider panels, modular panels may also be attached to the 1″/25 mm system hole pattern of the enclosure and to rails of the TS/PS system. For sealing unused cutouts. Easily machined for individual cutouts.





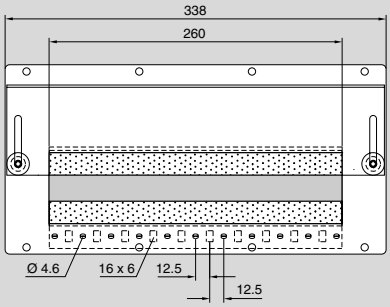
X 16-pole X 24-pole

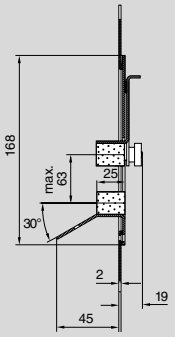
...for cable entry

for the entry of pre-assembled cables. Sealed, routing is achieved via adjustable angle brackets with inserted foam cable clamp strip. Attachment bracket, punched, for cable clamping.

Optional accessory:

Cable ties for fast assembly
SZ 2597.000,
see page 1010.





Adaptor for connector cutouts

For using connectors with varying numbers of poles, including seal for adaptor and assembly accessories.

Material:
Sheet steel, zinc, chromated.

For reduction	PU	Part No. SZ
From 24-/16-poles	5	**2479.000**
From 24-/10-poles	5	**2480.000**
From 24-/ 6-poles	5	**2481.000**
From 16-/10-poles	5	**2401.000**
From 16-/ 6-poles	5	**2402.000**

Cover plate for connector cutouts

For unused cutouts, including gasket and installation hardware.

Material:
Sheet steel, zinc, chromated.

For	PU	Part No. SZ
24-pole cutouts	20	**2477.000**
16-pole cutouts	20	**2478.000**

Cable gland for connector cutouts (24-/64-pole)

For inserting two pre-assembled cables through the connector cutout without dismantling the cable connector.
For cable diameters from 8 – 36 mm.

Supply includes:
1 set =
2 half-shells, including gasketing,
1 assembly clamp.

PU	Part No. SZ
1 set	**2400.000**

For mounting cutout 36 x 112 mm.

Cover with door for TS

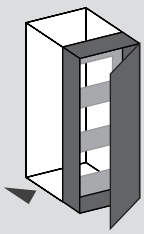
To protect and finish off connectors or other installed equipment. 8"/200 mm wide cover, with opening at the top or bottom for cable entry, including a cover plate for unused opening.

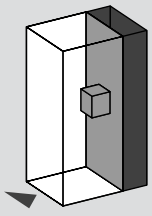
Material:
Sheet steel
Cover: 16 ga/1.5 mm,
door: 14 ga/2.0 mm.

Finish:
Painted textured RAL 7032 pebble grey or RAL 7035 light grey

Configuration:
Cover, door with lock rods and double-bit lock insert,
1 cover plate for top or bottom.

Note:
May also be installed at the rear to extend the enclosure depth. To cover the resultant gap, we recommend asymmetrical side-walls (see page 903). This way, frequency converters for heat dissipation can be installed into a divider panel (see page 906) with the heat sinks facing outwards and protected/concealed with a cover.





For enclosure Height inches/ mm	Depth inches/ mm	Part No. TS RAL 7032	Part No. TS RAL 7035
79/2000	20/500	**8609.000**	**8609.020***
79/2000	24/600	**8609.010**	**8609.030***

* Lead times upon request.

For primed versions, please replace the Part No. extension with .xx1.

Optional accessory:

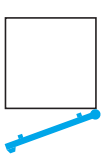
Lock inserts,
see page 937.

Comfort handle,
see page 936.

180° hinges,
see page 948.

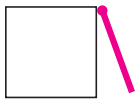
BAYING SYSTEMS

For TS 8

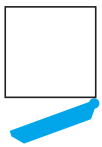

Door with lock

Rear wall

Sidewall


Hinged sidewall

Sidewall, asymmetrical

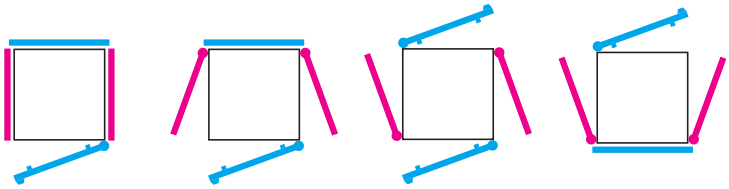

Climate control door

Climate control sidewall

Adjacent door

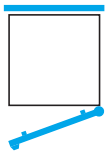
Important note:

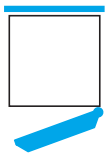
- Red areas (sidewalls hinged and unhinged) must always be opposite one another.
- Blue areas (doors/rear walls) must always be opposite one another.



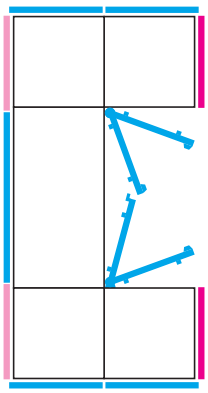
The versatile door and sidewall concept also applies to the following baying variations:

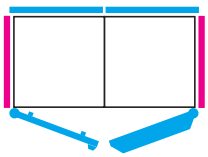
. . . Infinite possibilities

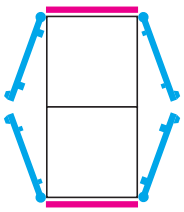

TS 8 standard enclosure

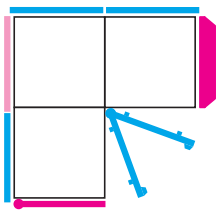

TS 8 climate controlled enclosure

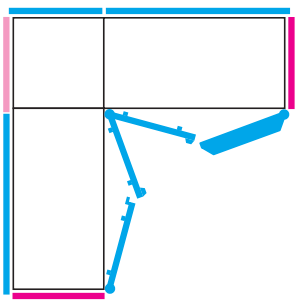
TS 8 corner enclosure

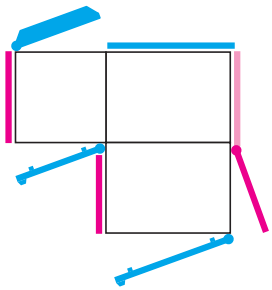


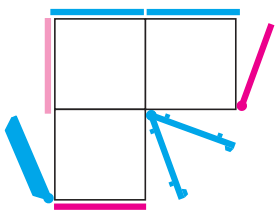








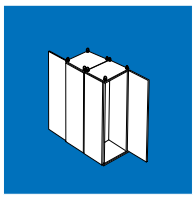
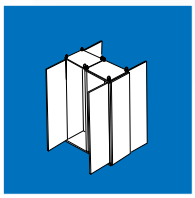
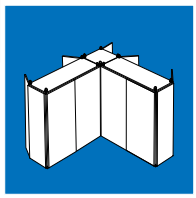
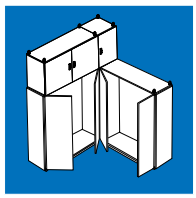
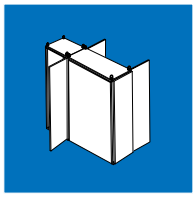
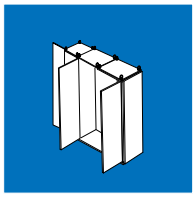
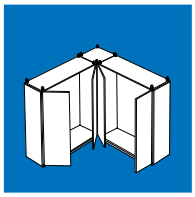
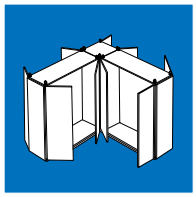
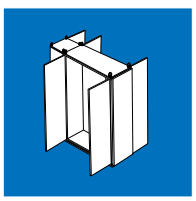
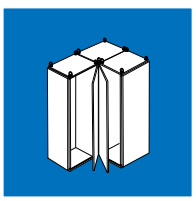
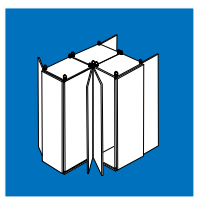
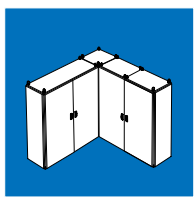




For TS 8

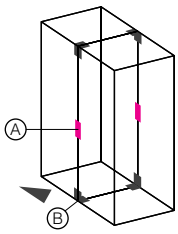
Bayable on all sides

Increase your space utilization with unique baying options. Whether around corners, forwards, backwards, to the left or right or even upwards, the baying possibilities are unlimited.

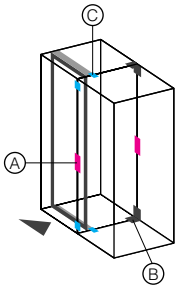
As illustrated above, the versatile door and sidewall concept also applies to the diverse baying options. Whether hinged on the left or right, single door or double door, the symmetrical frame structure allows any baying configuration, without restricting door function. Infinite possibilities are available!

For robust baying connection when transporting bayed enclosure suites



2 quick-fit baying clamps Ⓐ
TS 8800.500 (see page 914).

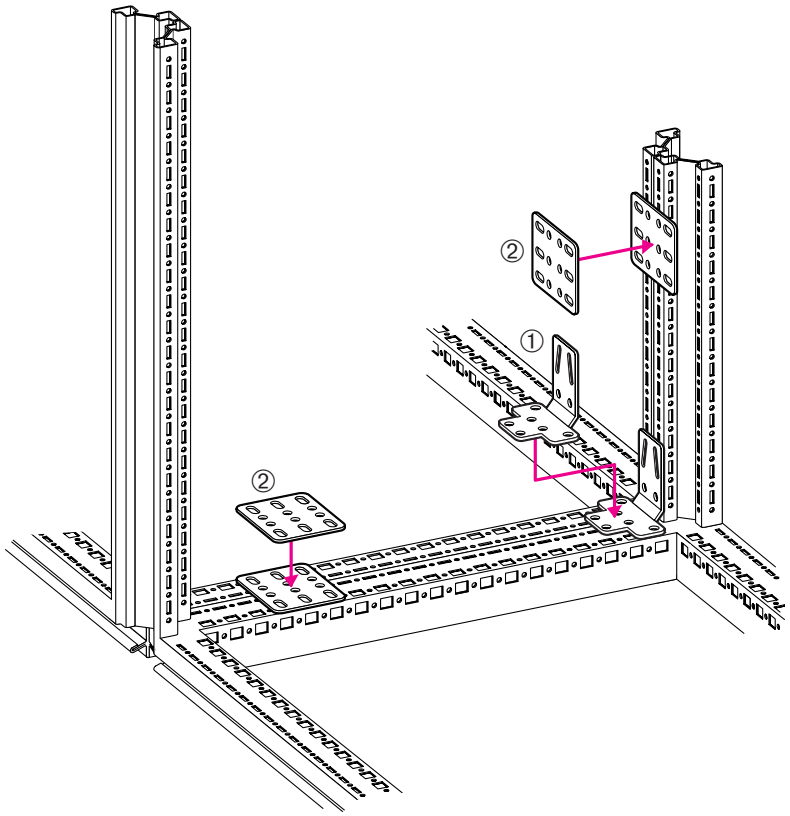
4 angular baying brackets Ⓑ
TS 8800.430



2 quick-fit baying clamps Ⓐ
TS 8800.500 (see page 914).

2 angular baying brackets Ⓑ
TS 8800.430

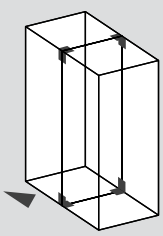
4 baying brackets Ⓒ
PS 4582.500 (if the angular baying brackets cannot be fitted in the normal installation position due to installed equipment such as a large swing frame).



Notes:
- A combination of quick-fit baying clamps and baying brackets may also be used.
- In addition, the outer baying brackets may be used (see page 915) for reinforcement.
- When transporting large, heavy enclosure combinations by crane, we additionally recommend the use of combination angles PS 4540.000.

! Additional parts needed:

For protection category IP 55:
one connector/clamp is required half-way up the enclosure height,
see pages 914/915.



① Angular baying bracket TS/TS

The sturdy connection when transporting bayed enclosures.

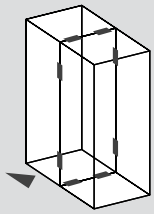
Material:
Sheet steel, zinc-plated, chromated.

Configuration:
4 angular baying brackets,
including installation hardware.

Screw-fastening may be an option
- Horizontally and vertically with 8 screws
- Horizontally with 2 screws and M8 threaded blocks, vertically with 4 screws.

PU	Part No. TS
4	8800.430

For robust baying connection when transporting bayed enclosure suites



② Baying brackets TS/TS and TS/PS

These are used for additional stabilizing, or in cases where obstructions are caused by:
- Mounting panel brackets
- Large swing frames
- Busbar supports

Material:
Sheet steel, zinc, chromated.

Configuration:
Baying brackets,
including installation hardware.

PU	Part No. PS
4	**4582.500**

Combination angle

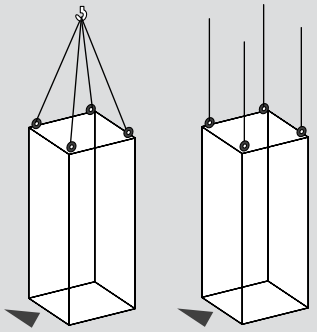
For optimum distribution of tensile forces during transportation of bayed enclosures by crane.

Material:
Sheet steel, zinc-plated, chromated.

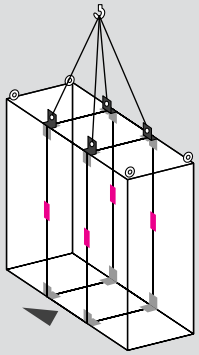
Configuration:
Combination angles,
including installation hardware.

Optional accessory:
Cover for baying,
see page 916.

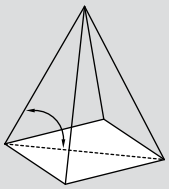
PU	Part No. PS
4	**4540.000**



Individual enclosures are reliably transported using the eyebolts included with the supply.
For symmetrical loads, the following maximum permissible loads apply:
at 45° sling angle: 1080 lbs/ 4800 N
at 60° sling angle: 1440 lbs/ 6400 N
at 90° sling angle: 3060 lbs/13,600 N



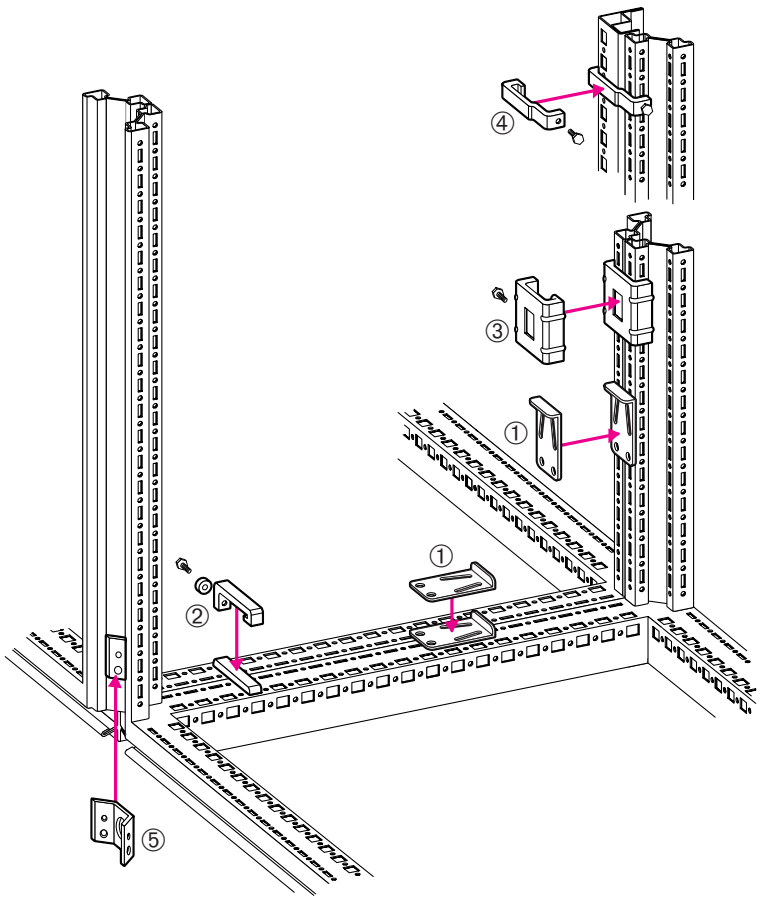
For the enclosure combination with angular baying brackets, quick-fit baying clamps and combination angles shown here, the load capacity with a sling angle of 60° is as follows for:
the left-hand enclosure: 1575 lbs/ 7000 N
the middle enclosure: 3150 lbs/14,000 N
right-hand enclosure: 1575 lbs/ 7000 N



The sling angle between the roof plate and the sling has a significant influence on the total permissible load.
Where possible, the sling angle should not be less than 60°.

Note:
For larger baying combinations, we recommend the use of a transport base/ plinth, see page 890.

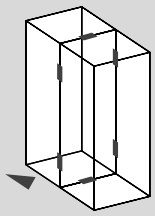
For baying at the installation site or for provisional siting in the workshop



Notes:
- A combination of baying clamps and quick-fit baying clamps may also be used.
- In addition, the outer baying clamp may be used for reinforcement.

! Additional parts needed:

For transporting bayed enclosures, see pages 912/913.



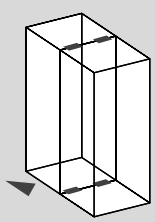
① Quick-fit baying clamps for TS/TS

For quick **on-site assembly,** also suitable for **temporary** use in the workshop. Simply attach the screws, insert the quick-fit baying clamp, tap in with a hammer and lock.

Material:
Sheet steel, zinc, chromated.

Configuration:
Quick-fit baying clamps, installation hardware included.

PU	Part No. TS
6	8800.500



② Baying clamp, horizontal TS/TS and TS/PS

For mounting on the horizontal enclosure sections of:
- Two TS enclosures
- One TS enclosure and one PS enclosure.

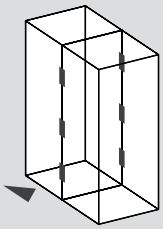
Material:
Cast steel, zinc, chromated.

Configuration:
Baying clamps, installation hardware included.

PU	Part No. TS
4	8800.400

German Patent No. 197 35 251
French Patent No. 98 104 58
Japanese Patent No. 2 965 975

For baying at the installation site or for provisional siting in the workshop



③ Baying clamp, vertical TS/TS

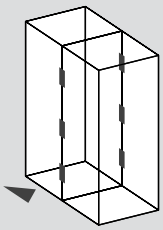
For mounting on the vertical enclosure sections of two TS enclosures.

Material:
Sheet steel, zinc, chromated.

Configuration:
Baying clamps,
installation hardware included.

PU	Part No. TS
6	8800.410

German patent No. 197 35 251
French patent No. 98 104 58
Japanese patent No. 2 965 975



④ Baying clamp, vertical TS/PS

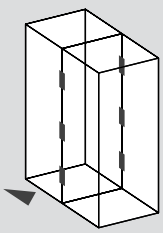
For mounting on the vertical enclosure sections of:
- One TS enclosure and one PS enclosure.

Material:
Cast steel, zinc, chromated.

Configuration:
Baying clamps,
installation hardware included.

PU	Part No. TS
6	8800.420

German Patent No. 198 01 185



⑤ Baying connector, external

For connecting bayed TS profiles from the outside.

Installation:
Simply position on the outside and screw-on from either the inside or outside.

Material:
Sheet steel, zinc, chromated.

Configuration:
Baying connectors,
installation hardware included.

PU	Part No. TS
6	8800.490

German Patent No. 197 37 668

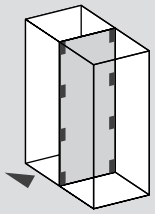
Baying bracket TS/TS

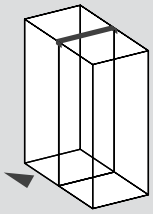
For retrofit baying of enclosures with a divider wall or divider wall for module plates. Only suitable for mounting in conjunction with the angle brackets of the divider wall (included with the supply of the divider wall).

Note:
May also be used for side or rear wall attachment/fastening of enclosures. In such cases, additional holes must be drilled in the side or rear wall.

Material:
Sheet steel, zinc, chromated.

PU	Part No. TS
8	**8800.470**





Cover for baying (top)

A cover may be clipped over the space between two enclosures, simply with two end caps. This prevents dirt and liquid from collecting on the baying seal.

Note:
May also be installed in the width with enclosure suites bayed back-to-back.

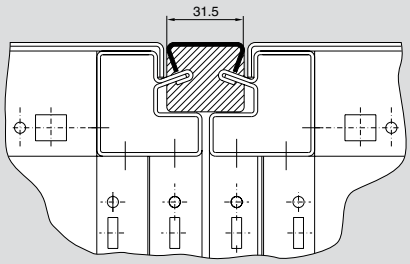
Material:
Cover section: sheet steel, painted
End caps: plastic

Surface finish:
RAL 7032 pebble grey/
RAL 7035 light grey

Configuration:
Cover and 2 end caps.

For enclosure depth inches/mm	PU	Part No. TS RAL 7032	Part No. TS RAL 7035
16/400	1	**8800.440**	**8800.840**
20/500	1	**8800.450**	**8800.850**
24/600	1	**8800.460**	**8800.860**
32/800	1	**8800.480**	**8800.880**

German Patent No. 197 37 667



Angular baying bracket

The alternative to baying bracket PS 4582.500, see page 913 (for mounting on the TS horizontal section) and for individual interior installation.

Material:
Sheet steel, zinc, chromated.

PU	Part No. PS
4	**4582.000**

Filler panel for DK-TS

The panel is screwed to the outside of the enclosure frame and serves as a filler panel when baying 79″/2000 mm high enclosures of varying depths.

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

Difference in depth inches/mm	Part No. DK
4/100	**7067.100**
8/200	**7067.200**

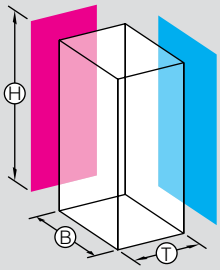
Configuration:
Panel, installation hardware included.

TS 8 corner enclosures

The corner enclosure and the supplied components will accommodate the various baying options of the TS 8 frame on all outer surfaces. Fitted with a rear wall (mounted on the longest side) and an asymmetrical sidewall (see page 903, mounted on the left), the corner enclosure also permits the option of baying in both the width and the depth.
The gland panels are aligned parallel to the rear wall. In TS 8 enclosures with an equal depth and width, the gland panels may also be rotated by 90°.
The baying system is identical to all other TS 8 enclosures.

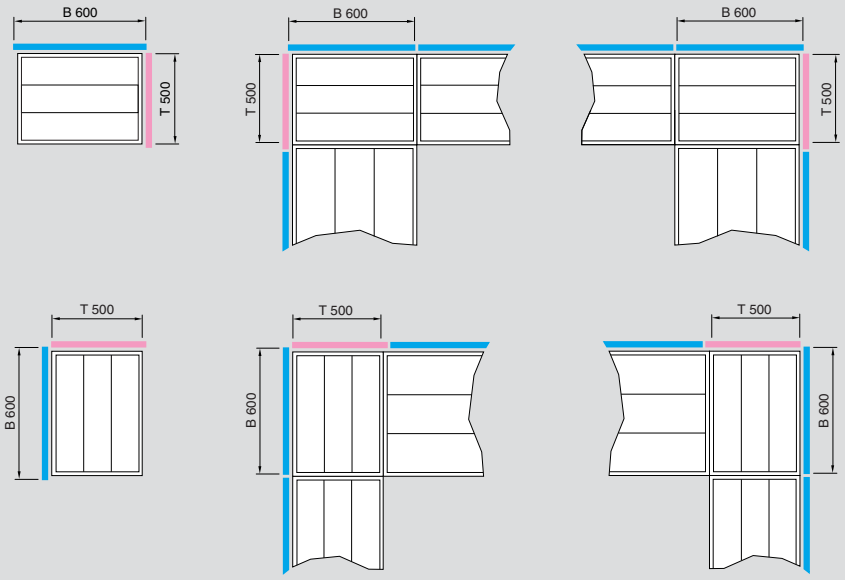
Height inches/ mm	Width inches/ mm	Depth inches/ mm	Part No. TS RAL 7032	Part No. TS RAL 7035
71/1800	16/400	16/400	**8484.400**	**8484.300**
71/1800	20/500	16/400	**8584.400**	**8584.300**
71/1800	24/600	16/400	**8684.400**	**8684.300**
71/1800	20/500	20/500	**8585.400**	**8585.300**
71/1800	24/600	20/500	**8685.400**	**8685.300**
71/1800	24/600	24/600	**8686.400**	**8686.300**
79/2000	16/400	16/400	**8404.400**	**8404.300**
79/2000	20/500	16/400	**8504.400**	**8504.300**
79/2000	24/600	16/400	**8604.400**	**8604.300**
79/2000	32/800	16/400	**8804.400**	**8804.300**
79/2000	20/500	20/500	**8505.400**	**8505.300**
79/2000	24/600	20/500	**8605.400**	**8605.300**
79/2000	32/800	20/500	**8805.400**	**8805.300**
79/2000	24/600	24/600	**8606.400**	**8606.300**
79/2000	32/800	24/600	**8806.400**	**8806.300**
87/2200	24/600	24/600	**8626.400**	**8626.300**

Lead times upon request.



Configuration	Material Sheet steel	Finish
Enclosure frame	16 ga/1.5 mm	E-coat primed RAL 7044 silk grey
Roof	16 ga/1.5 mm	E-coat primed RAL 7044 silk grey Powder to powder painted on the outside in textured RAL 7032 pebble grey
Rear wall, at the longest side	16 ga/1.5 mm	
Sidewall	16 ga/1.5 mm	
Gland panels, divided lengthwise	16 ga/1.5 mm	zinc

Baying examples



B = width
T = depth

Viewing door for TS

For use instead of a sheet steel door or rear panel.

Design:
Frame:
extruded aluminum,
zinc die-cast corner pieces,
powder painted in RAL 7035 light grey

Single-pane safety glass, 3 mm thick,
mask imprinted from the inside
RAL 7015 slate grey

Locking rod with double-bit insert

180° hinges (4 pieces)

Ratings:
NEMA 12/IP 55 to EN 60 529/10.91

US Design Patent No. 418 608
German Registered Design No. M 98 03 844
IR Registered Design No. DM/045 440 with validity For BE, FR, NL, HU, LU
UK Reg. Design No. 2 076 673
South Korean Reg. Design No. 0 240 621
Russian Reg. Design No. 46 300
Japanese Reg. Design No. 1 056 165

For enclosure inches/mm		Part No. TS
Height	Width	
71/1800	24/600	**8610.680**
71/1800	32/800	**8610.880**
79/2000	24/600	**8610.600**
79/2000	32/800	**8610.800**
87/2200	24/600	**8610.620**
87/2200	32/800	**8610.820**

! Additional parts needed:

When mounting instead of the rear panel, fastening components for frame TS 8800.040 are also required, see below.

+ Optional accessory:

Lock inserts,
see page 937.

Comfort handle,
see page 936.

Handle adaptor for TS glass door

The handle adaptor compensates for the design slant in the door profile to enable installation of the comfort handle.

Material:
Plastic

Configuration:
1 adaptor plate,
1 extension for drive,
2 installation screws.

Color	Part No. TS
RAL 7035 light grey	**8611.080**
RAL 8019 grey brown	**8611.090**

Door catches for TS frame

For retrofitting a glass door or sheet steel door instead of a rear wall.

Material:
Zinc die-cast

Configuration:
Mounting components,
including installation screws.

PU	Part No. TS
4	**8800.040**

Sheet steel door

May be used as a front or rear door.
For retrofitting existing enclosures.
When using in a bayed enclosure suite, please ensure that the door hinges are on the same side.

Door opening angle:
180° for freestanding enclosures
130° for bayed configurations

Lock:
Swivel handle including security lock No. 3524 E (see page 938), may be exchanged for comfort handle.

Material:
Sheet steel, painted

For enclosure inches/mm		Part No. DK
Height	Width	
79/2000	24/600	**7824.205**
79/2000	32/800	**7824.207**
87/2200	24/600	**7824.225**
87/2200	32/800	**7824.227**

Optional accessory:
Comfort handle,
see page 936.

Color:
RAL 7035 light grey

TS sheet steel door, vented

May be used as a front or rear door.
For optimum air flow in network enclosures with a high proportion of active equipment.
The door is perforated across the entire interior surface (Ø 3 mm) to aid air circulation.
When used in a bayed enclosure suite, please ensure that the door hinges are on the same side.

Door opening angle:
180° for freestanding enclosures
130° for bayed configurations

Lock:
Swivel handle including security lock No. 3524 E (see page 938), may be exchanged for comfort handle.

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

For enclosure inches/mm		Part No. DK
Height	Width	
71/1800	24/600	**7824.183**
71/1800	32/800	**7824.184**
79/2000	24/600	**7824.203**
79/2000	32/800	**7824.204**
87/2200	24/600	**7824.223**
87/2200	32/800	**7824.224**

Optional accessory:
Comfort handle,
see page 936.

TS viewing door, vented

May be used as a front or rear door.
For optimum air throughput in network enclosures with a high proportion of active equipment.
The door consists of a viewing window with 3 mm single-pane safety glass as well as perforated surfaces (diameter 3 mm) at the sides for air entry.

Door opening angle:
180° for freestanding enclosures
130° for bayed configurations

Lock:
Comfort handle including security lock insert (lock No. 3524 E)

For enclosure inches/mm		Part No. DK
Height	Width	
71/1800	24/600	**7824.181**
71/1800	32/800	**7824.182**
79/2000	24/600	**7824.201**
79/2000	32/800	**7824.202**
87/2200	24/600	**7824.221**
87/2200	32/800	**7824.222**

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

Note:
Variable door concept:
climate control sidewalls with integral air conditioner may be retrofitted instead of an enclosure sidewall in an 71″/1800 mm or 79″/2000 mm high, 24″/600 mm or 32″/800 mm wide TS enclosure, without the need for major assembly work.

Alternative option:
Climate control doors,
see pages 460 – 463.

Adaptor door TS

To extend the enclosure depth by 4″/ 100 mm. This creates the necessary space at the rear for retrofitting deeper active components or space for system specific cable management at the front. With an adaptor door, for example, a pre-installed server rack can easily be converted into a combination server rack/patch rack. Retrofitting with deeper components is easily achieved while the system is up. The adaptor door is perforated for ventilation. Simple cable routing is provided by brush inserts at the top and bottom.

Door opening angle:
180° for freestanding enclosures
130° for bayed configurations

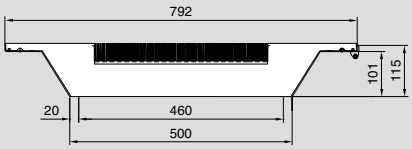
Lock:
Comfort handle including lock insert (lock No. 3524 E).

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

For enclosure inches/mm		Part No. DK
Height	Width	
79/2000	32/800	**7824.780**

Other dimensions and side adaptor available upon request.



Viewing door for PS/ES

May be used instead of a sheet steel door or rear wall.

Design:
Frame:
extruded aluminum,
zinc die-cast corner pieces,
powder painted in
RAL 7035 light grey

Single-pane safety glass,
3 mm thick,
inserted with clamping strip

Lock rods with double-bit insert

180° hinges (2)

Ratings:
NEMA 12/IP 54 to EN 60 529/10.91

For enclosure inches/mm		Part No. PS
Height	Width	
63/1600	24/600	**4503.000**
63/1600	32/800	**4507.000**
71/1800	24/600	**4504.000**
71/1800	32/800	**4508.000**
79/2000	24/600	**4505.000**
79/2000	32/800	**4509.000**
87/2200	24/600	**4506.000**
87/2200	32/800	**4587.000**

! Additional parts needed:

When used instead of a rear door:
door catches for frame PS/ES,
see opposite page.

+ Optional accessory:

Lock inserts 27 mm,
Type A,
see right page.

Ergoform-S, locking system
see page 939.

US Design Patent No. Des. 378 701
German Registered Design
No. M 94 03 158
IR Registered Design No. Dm/031 022
with validity For BE, CH, DE, ES, FR, IT, LU, NL
UK Registered Design No. 2 042 640
Japanese Registered Design
No. 15510/95

Door catches for PS/ES frame

For replacing a rear wall with a glass door or sheet steel door.

Material:
Zinc die-cast

Configuration:
1 set =
2 mounting components, top/bottom,
1 mounting component, center,
screws.

For enclosures	PU	Part No. PS
PS	8 set	**4194.000**

For enclosures	PU	Part No. PS
ES	8 set	**4167.000**

Bezel for PS/ES

As edge protection or for individual front design without a door. Frame construction with corner connectors. Universally adaptable by simply cutting the sections to length and connecting them with the corner pieces.
May also be used in conjunction with mounting rails,
19″/482.6 mm mounting rails PS 4389.000 – PS 4392.000 (see page 1026).

Material:
Aluminum

Color:
RAL 7033 mortar grey, textured

Configuration:
1 set =
2 sections, L = 74.80″/1900 mm,
2 sections, L = 43.31″/1100 mm,
4 corner pieces, installation hardware.

For enclosures up to inches/mm		PU	Part No. PS
Height	Width		
79/2000	48/1200	1 set	**4578.200**

Bezel frame for TS

Upon request, all enclosures in the TS 8 series can be produced with a bezel installed instead of the door(s).

Version:
Extruded aluminum section,
zinc die-cast corner pieces,
powder painted
RAL 7035 light grey

Lead times upon request.

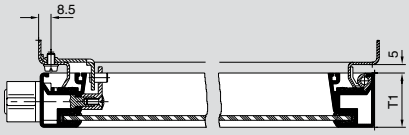
Viewing doors for AE

For a maximum view of the components in enclosures. Glass doors may be installed on the enclosures instead of sheet steel doors.

Rating:
NEMA 12/IP 54 to EN 60529/10.91

Material:
Frame: aluminum, natural anodized
Glass panel: acrylic

Configuration:
Glass door including plastic handle with lock insert no. 3524 E.



T1 = Profile depth

For enclosures	H inches/ mm	W inches/ mm	**Part No. FT** T1 = 1.34″/ 34 mm*	**Part No. FT** T1 = 2.36″/ 60 mm*
AE 1039.600 / AE 1339.600 / AE 1009.600	14.84/377	23.50/597	**2730.000**	**2760.000**
AE 1050.600 / AE 1350.600 / AE 1007.600	19.57/497	19.57/497	**2733.000**	**2763.000**
AE 1010.600 / AE 1060.600 / AE 1360.600	23.50/597	23.50/597	**2731.000**	**2761.000**
AE 1012.600 / AE 1076.600 / AE 1376.600	31.38/757	23.50/597	**2732.000**	**2762.000**
For 3 U subracks in PS door installation	7.56/197	23.50/597	**2734.000**	**2764.000**

Visible area: (Height – 2.33″/60 mm) x (Width – 2.33″/60 mm).

* Maximum installation depth: T1 – (minus) 0.16″/4 mm.

Operating panels for AE

To convert AE enclosures into operator housings; may be used as a door or as the rear wall.
Frame construction with corner connectors on the inside, 9 ga/3 mm aluminum panel secured from the inside and sealed against the frame.

Protection ratings:
NEMA 12/IP 54 to EN 60529/10.91

Material:
Aluminum, natural anodized.

Configuration:
Aluminum frame, display panel, hinges, brackets.

German Patent No. 28 47 994
European Patent No. 0 010 763
affecting AT, BE, CH, FR, GB, NL, SE

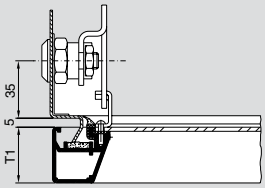
For enclosures	Height inches/ mm	Width inches/ mm	**Part No. FT**
AE 1002.600 AE 1032.600 AE 1035.600	11.69/ 297	7.76/ 197	**2740.000***
AE 1004.600 AE 1030.600 AE 1031.600	11.69/ 297	14.84/ 377	**2741.000**
AE 1006.600 AE 1380.600	14.84/ 377	14.84/ 377	**2742.000**
AE 1008.600 AE 1038.600 AE 1338.600	23.50/ 597	14.84/ 377	**2743.000**
AE 1007.600 AE 1013.600 AE 1050.600 AE 1350.600	19.57/ 497	19.57/ 497	**2745.000**
AE 1009.600 AE 1039.600 AE 1339.600	14.84/ 377	23.50/ 597	**2744.000**
AE 1010.600 AE 1060.600 AE 1360.600	23.50/ 597	23.50/ 597	**2746.000**

Area available for installations:
(Height – 2.76″/70 mm) x (Width – 2.76″/ 70 mm).

* May only be used at the rear wall.

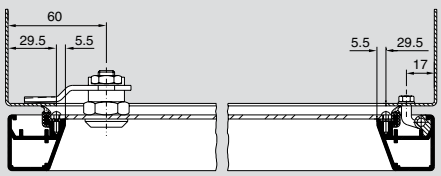
Lock options for AE housings

Lock FT 2749.000



T1 = Profile depth 1.34″/34 mm

Lock FT 2749.000



Cam lock

For retrofitting to the operating area or enclosure wall of operating panels. Standard double-bit insert may be exchanged for Type C-lock inserts (see page 942).

	Part No. FT
Cam lock	**2749.000**

Plastic handle

For operating panels, but only in conjunction with cam lock FT 2749.000.
With lock insert no. 3524 E.

	Part No. SZ
Plastic handle	**2485.000**

Viewing window for operating panels and AE compact enclosures

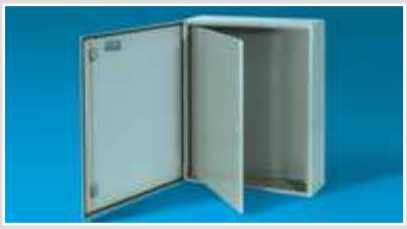
To protect installed display and control components.
Build height of the display and control components beneath the viewing window: maximum 1.37″/35 mm.

Material:
Frame: aluminum, natural anodized
Viewing panel: smoked acrylic

Configuration:
Viewing window with integral hinge and lock insert No. 3524 E.

For FT operator panel	For AE compact enclosure	Part No. FT
2741.000	1030.680/ 1031.680	**2791.000**
2742.000	1380.680	**2792.000**
2744.000	1039.680/ 1339.680	**2794.000**

Lead times upon request.



Dead front kits for AE

For AE enclosures		Part No.
1050.600	1350.600	**9962957**
1060.600	1360.600	**9962958**
1076.600	1037.600	**9962959**
1077.600	1073.600	**9962960**

Floor stand kit for AE/PS/TS/CS

Bolts directly to all freestanding PS and ES enclosures. AE (>1000 mm) and AK enclosures requires adapter plate.

Material:
14 ga carbon sheet steel, painted

Color:
Flat powder painted in RAL 7032 pebble grey

	Part No. PC
Floor stand kit	**9966271**

Configuration:
4 12″ legs, adapter plate, installation hardware and templates included.

For TS 8

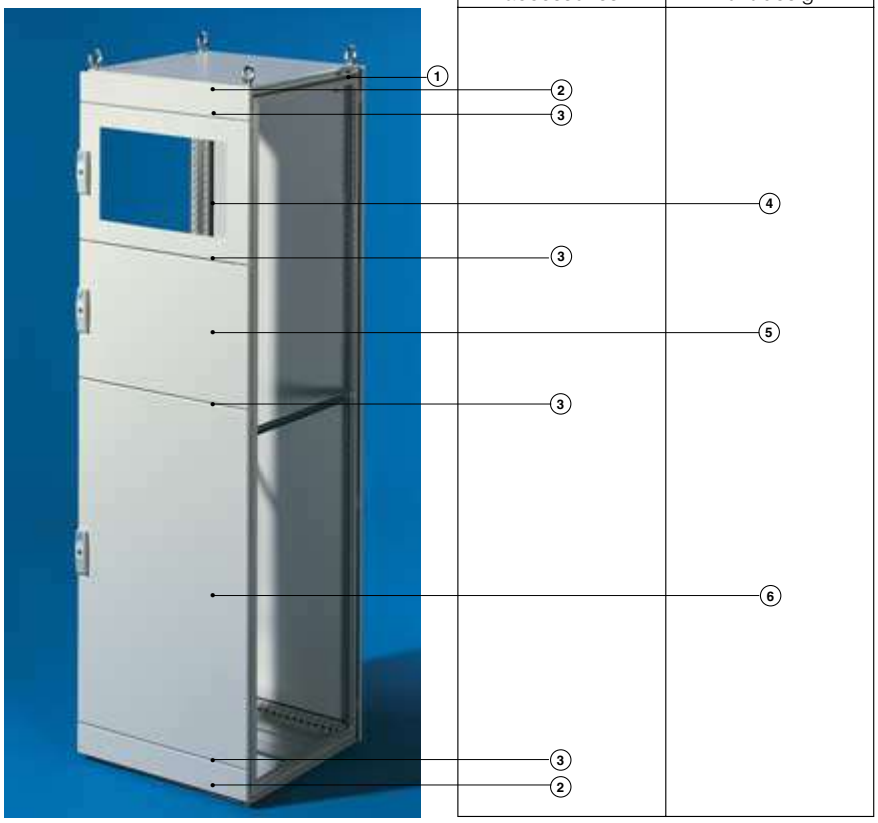
Modular front design

for TS 8606.612,
HWD 79 x 24 x 24″/2000 x 600 x 600 mm,
for TS 8806.612,
HWD 79 x 24 x 32″/2000 x 800 x 600 mm
(see pages 126/127),
and all other 24″/600 mm and 32″/800 mm wide TS 8 enclosures instead of a door or rear wall can be positioned in suite between enclosures with standard door configurations. Special sidewalls such as TS 8106.212 are required if used as a freestanding enclosure or at the end of an enclosure suite.

The partial doors with and without viewing panels can be quickly combined with cross members. A trim panel and a cross member each are required at each top and bottom end. The requirements for your individual front design and the considerations which must be taken into account are illustrated on the sample configuration to the right.

Protection ratings
For a completed enclosure, NEMA 12/IP 55 to EN 60529/10.91.

Configuration example



Legend:
① Basic enclosure, height 79″/2000 mm, see pages 126/127
② Trim panels, height 4″/100 mm
③ Cross member
④ Partial door with viewing window, height 16″/400 mm
⑤ Partial door without viewing window, height 16″/400 mm
⑥ Partial door with viewing window, height 40″/1000 mm

Trim panels TS

Required as upper and lower height trim.

Material:
14 ga/2 mm sheet steel

Finish:
Textured

Configuration:
2 trim panels, installation hardware.

Height inches/mm	Color RAL	Part No. TS Width 24″/600 mm	Part No. TS Width 32″/800 mm
4/100	7032	**8801.610***	**8801.810***
4/100	7035	**8801.510***	**8801.110***

***** Lead times upon request.

Additional parts needed:
Mullion,
see below.

Mullion TS

as sealing member between:
- Trim panels
- Partial doors

includes installation hardware.

Material:
Sheet steel

Color:
Primered RAL 7044 silk grey

PU	Part No. TS Width inches/mm 24/600	Part No. TS Width inches/mm 32/800
5	**8801.630**	**8801.830**

Partial doors TS

Option of hinging door on the right or left side with or without viewing window.
In the case of doors without viewing window (height 24 – 40″/600 – 1000 mm), the installation of monitor frame SZ 2305.000 (see page 932) is possible.
Standard double-bit lock insert may be exchanged for lock inserts, and for comfort handle for enclosures 24″/600 mm high or higher. Details on page 936.

Material:
14 ga/2 mm sheet steel

Finish:
Textured

Configuration:
1 partial door with hinges and lock system, M8 grounding studs
1 x centered, for height 8, 16″/200, 400 mm,
1 x top and bottom for height 24″/600 mm and above.

Additional parts needed:
Mullion,
see left page.

Solid

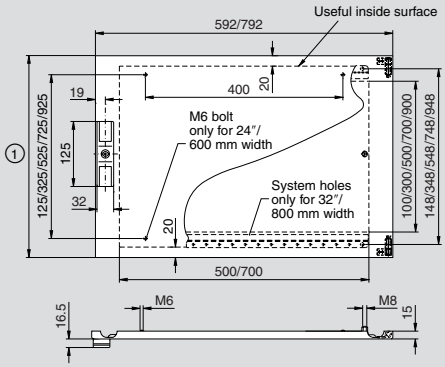
Height inches/ mm	Color RAL	Part No. TS Width inches/mm 24/600	Part No. TS Width inches/mm 32/800
8/200	7032	**8801.620***	**8801.820**
8/200	7035	**8801.520***	**8801.120***
16/400	7032	**8801.640***	**8801.840**
16/400	7035	**8801.540***	**8801.140***
24/600	7032	**8801.660***	**8801.860**
24/600	7035	**8801.560***	**8801.160***
32/800	7032	**8801.680***	**8801.880**
32/800	7035	**8801.580***	**8801.180***
40/1000	7032	**8801.600***	**8801.800**
40/1000	7035	**8801.500***	**8801.100***

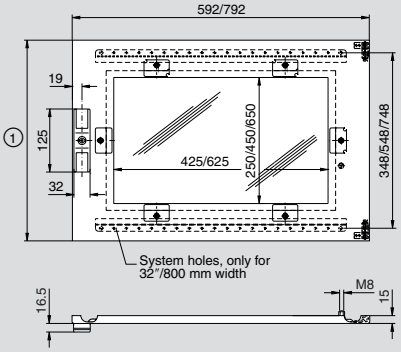
With viewing window, single-pane safety glass, 3 mm

Height inches/ mm	Color RAL	Part No. TS Width inches/mm 24/600	Part No. TS Width inches/mm 32/800
16/400	7032	**8801.650***	**8801.850**
16/400	7035	**8801.550***	**8801.150***
24/600	7032	**8801.670***	**8801.870**
24/600	7035	**8801.570***	**8801.170***
32/800	7032	**8801.690***	**8801.890**
32/800	7035	**8801.590***	**8801.190***

***** Lead times upon request.

① Height minus 2 mm





Drawer TS

Height 4″/200 mm.
For mouse and keyboard with a maximum width of 20/28″; 500/700 mm.
A high level of protection is retained, even with the flap open.
Standard double-bit lock insert may be exchanged for 27 mm lock inserts, Type A, see page 942;
cylinder inserts, plastic handles and T handles, Type B, see pages 940 – 943.

Material:
Sheet steel

Finish:
Textured

Color	Part No. TS Width inches/mm 24/600	Part No. TS Width inches/mm 32/800
RAL 7032	**8801.710**	**8801.910***
RAL 7035	**8801.715***	**8801.915***

***** Lead times upon request.

Configuration:
Drawer including installation hardware.

Additional parts needed:
Mullion,
see left page.

For TS 8

Console TS

Height 8″/200 mm.
For installing
- Keyboards, NEMA 6/IP 67 mouse and mouse pad
- Display and control components

with screw-on cover plates top and bottom.

Material:
Sheet steel

Finish:
Textured

Configuration:
Console, installation hardware included.

Color	Part No. TS	
	Width inches/mm 24/600	Width inches/mm 32/800
RAL 7032	**8801.700**	**8801.900***
RAL 7035	**8801.705***	**8801.905***

* Lead times upon request.

Additional parts needed:

Cross mullion,
see page 924.

TS sidewalls for modular front design

For attachment to the vertical interior frame member.
The TS 8106.200 (page 902) sidewall retainers could conflict with the partial door fasteners.

Material:
16 ga/1.5 mm sheet steel

Ratings:
NEMA 12/IP 55 to EN 60 529/10.91

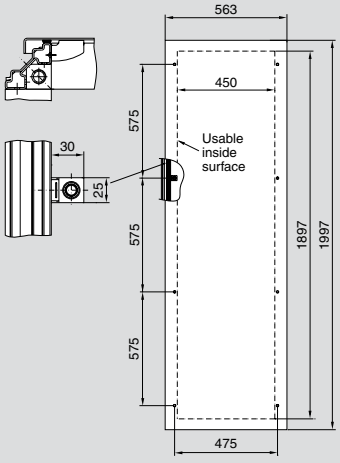
Finish:
E-coat primed RAL 7044 silk grey, powder painted on the outside in textured RAL 7032 pebble grey/
RAL 7035 light grey.

Configuration:
2 sidewalls,
16 retainers with continuous bonding.

Note:
Can also be used in enclosures without modular front design!

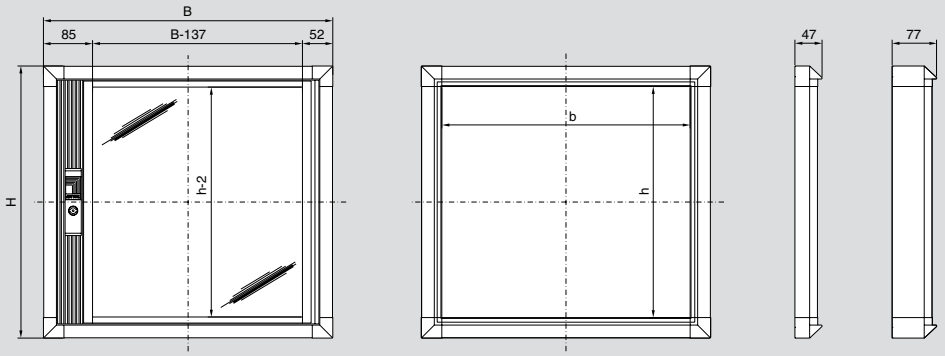
For enclosure inches/mm		Actual outside dimensions in mm		Color RAL	Part No. TS
H	D	H	D		
79/ 2000	24/ 600	1997	563	7032	**8106.212***
		1997	563	7035	**8106.512***

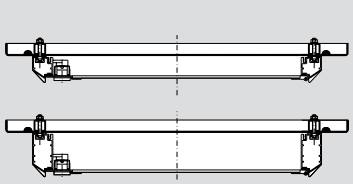
* Lead times upon request.

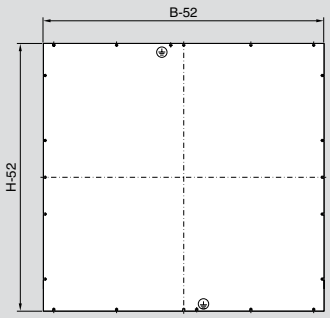


NOTES:

System windows

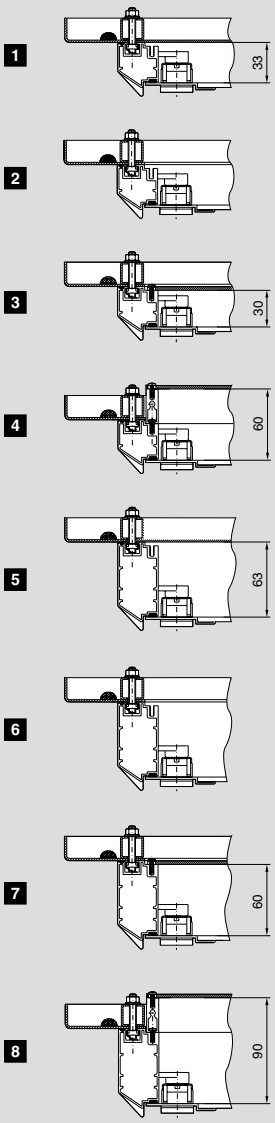






Viewing area (B – 137) offset by 16.5 mm towards the hinge side.

B = width



Mounting options:

	Mounting type		Installation depth behind system window in mm
	System window, 30 profile	System window, 60 profile	
1	on surface		33
2	via cutout		–
3	via cutout with display panel		30
4	via cutout with spacer frame and display panel		60
5		on surface	63
6		via cutout	–
7		via cutout with display panel	60
8		via cutout with spacer frame and display panel	90

To fit TS/PS/ES with width (inches/mm)	Window size (mm) External W	External H	Internal w	Internal h	**Part No. FT** 30 profile	**Part No. FT** 60 profile	**Part No. FT** Spacer frame	**Part No. FT** Display panel
24/600	500	270	430	200	**2735.100**	**2736.100**	**2737.100**	**2738.100**
		370		300	**2735.110**	**2736.110**	**2737.110**	**2738.110**
		470		400	**2735.120**	**2736.120**	**2737.120**	**2738.120**
		570		500	**2735.130**	**2736.130**	**2737.130**	**2738.130**
		670		600	**2735.140**	**2736.140**	**2737.140**	**2738.140**
32/800	700	270	630	200	**2735.160**	**2736.160**	**2737.160**	**2738.160**
		370		300	**2735.170**	**2736.170**	**2737.170**	**2738.170**
		470		400	**2735.180**	**2736.180**	**2737.180**	**2738.180**
		570		500	**2735.190**	**2736.190**	**2737.190**	**2738.190**
		670		600	**2735.200**	**2736.200**	**2737.200**	**2738.200**
Other sizes**					**2735.009***	**2736.009***	**2737.009***	**2738.009***

Locking systems
Standard double-bit lock insert may be exchanged for 27 mm lock inserts, Type A – see page 942, and Ergoform-S locking system (except H = 270 mm), see page 939.

** Please also specify the outside dimensions of the viewing window.

* Lead times upon request.

Example 1: System window (30 profile) to fit door width 20″/500 mm
with Width W = 400 mm x Height H = 480 mm (w x h = 330 mm x 410 mm)
Part No. FT 2735.009 / W x H = 400 x 480 mm.
Example 2: Spacer frame for system window in example 1
Part No. FT 2737.009 / to fit window W x H = 400 x 480 mm.
Example 3: Display panel for system window in example 1 or spacer frame in example 2
Part No. FT 2738.009 / to fit window W x H = 400 x 480 mm.

System presentation

The new generation – the system window comprises the following components:

1. Base frame:
- Easily screwed to the door, due to matching dimensions (tubular door frame may be used as a drilling template)
- Readily height-adjustable
- Stabilizes the door cutout
- Conceals the cutting edge
- The rain canopy
  – prevents dirt from contaminating the gasket
  – protects the glass from being lifted out
  – prevents dirt and liquid from falling behind the window when it is opened.

2. Viewing window:
- Made from single-pane safety glass:
  – high resistance to solvents and scratches
  – anti-static
  – reduced risk of injury if broken.
- Integral cam lock with double-bit insert, easily exchanged for all standard lock inserts and semi-cylinders in the Ergoform-S locking system
- Hinge with 180° opening angle, easily inserted.

3. Spacer frame:
- As an alternative to the deeper system window, why not make use of the space inside the door?

4. Display panel:
- For screw-fastening to the base or spacer frame, with mounting slots. Pre-mount the screws at the bottom of the frame, locate the plate, and tighten the screws
- Lends itself to machining of:
  – cutouts and holes
  – labeling
  – engraving
  – pre-wiring before mounting.

Material:
System windows:
extruded aluminum sections with zinc die-cast corner pieces and single-pane safety glass.

Spacer frame:
extruded aluminum sections

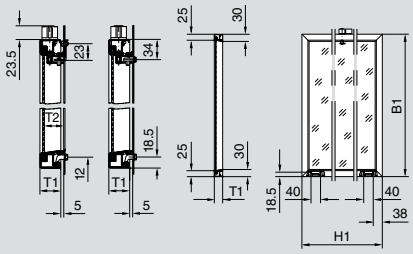
Display panel:
11 ga/3 mm aluminum, natural anodized.

Finish:
Base frame and spacer frame: powder painted in RAL 7030 stone grey.
Hinge and lock section: anodized in E6 C-32 (bronze)
Other colors available upon request.

Ratings:
NEMA 12/IP 54 per EN 60 529/ 10.91

Optional accessory:

Locking system,
see page 939.



Viewing window

To protect display and control components. Frame construction with inside corner connectors.

Profile height 1.34″/34 mm =
height of installed components = 30 mm
Profile height 24″/60 mm =
height of installed components = 56 mm

Ratings:
NEMA 12/IP 54 to EN 60 529/10.91

Material:
Frame: aluminum, natural anodized
Glass panel: acrylic

Configuration:
Viewing window, including plastic handle with lock insert No. 3524 E.

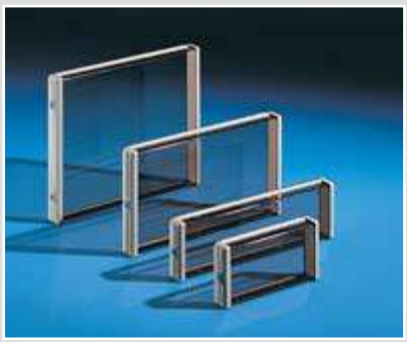
H1 inches/ mm	B1 inches/ mm	T1 mm	Part No. FT
19.57/497	19.57/497	34	**2733.000**
19.57/497	19.57/497	60	**2763.000**
7.76/197	23.50/597	34	**2734.000**
7.76/197	23.50/597	60	**2764.000**
14.84/377	23.50/597	34	**2730.000**
14.84/377	23.50/597	60	**2760.000**
23.50/597	23.50/597	34	**2731.000**
23.50/597	23.50/597	60	**2761.000**
29.80/757	23.50/597	34	**2732.000**
29.80/757	23.50/597	60	**2762.000**

Visible surface:
(Height – 2.36″/60 mm) x
(Width – 2.36″/60 mm)
T2 = D = maximum installation depth
(T2 ≙ T1 – 4 mm).

Folding FT stay

A gas pressurized spring holds the viewing window securely open (top or side). When the viewing window is closed, the gas pressurized spring disappears into the frame section.

PU	Part No. FT
2	**2772.000**



Acrylic glass cover

To conceal door cutouts or door installations, to protect against dust, dirt and unauthorized access.
With security lock no. 3524 E.
Max. installation depth 1.69″/43 mm.

Material:
Frame: extruded aluminum sections with die-cast corner pieces
Glass panel: smoked acrylic

Metric acrylic glass cover

Width inches/ mm	Height inches/ mm	Depth mm	Part No. FT
15.75/400	7.87/200	1.87/47.5	**2784.000**
	15.75/400		**2785.000**
19.67/500	7.87/200		**2786.000**
	15.75/400		**2787.000**
23.62/600	7.87/200		**2788.000**
	15.75/400		**2789.000**

Visible surface:
(H – .81″/20.5 mm) x (W – 2.76″/40 mm).

19″ acrylic glass cover

U	Width inches/ mm	Height inches/ mm	Depth inches/ mm	Part No. FT
3	12.60/ 320	6.22/ 158	1.87/ 47.5	**2780.000**
3	21.02/ 534			**2781.000**
6		11.48/ 291.5		**2782.000**
9		16.73/ 425		**2796.000**

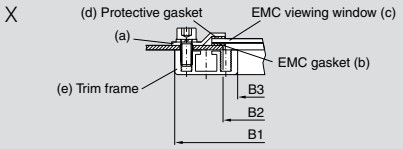
Visible surface:
(H – .81″/20.5 mm) x (W – 2.76″/40 mm).

Ratings:
NEMA 12/IP 54 per EN 60 529/10.91

German Patent No. 39 23 104
French Patent No. 2 649 852
GB Patent No. 2 235 583

EMC viewing window

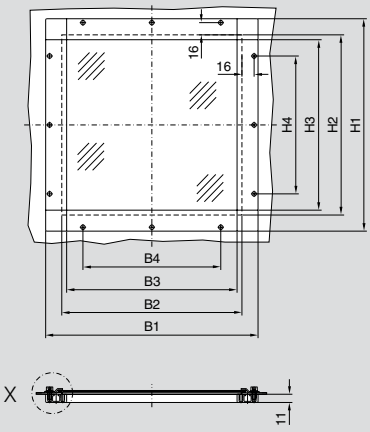
- A useful addition to EMC enclosures and EMC cases for viewing the status displays of a PLC or the display of a frequency inverter inside the enclosure.
- May also be installed in PS 4000 and ES 5000 enclosures with the use of contact clips.
- Only a door cutout is required for mounting.
  - the EMC viewing window is installed with the mounting frame (inside) and the bezel (outside).
  - a protective gasket between the bezel and EMC viewing window will cushion any stresses occurring, which could otherwise destroy the glass.
  - the door cutout is concealed by the bezel.
- The EMC viewing window achieves the approximate shielding effects shown in the table below.



Configuration	Detail	Material	Finish
Mounting frame (inside)	a	Sheet steel	Zinc-plated
EMC gasket	b	Polyurethane foam with electrically conductive coating	
EMC viewing window	c	Double-pane safety glass and a conductive inner layer of blackened copper	
Protective gasket	d	Neoprene	
Trim frame	e	Extruded aluminum section with plastic corners	Powder coated in RAL 7030

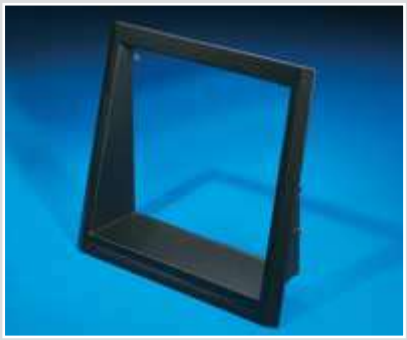
Shielding effect

Frequency	1 MHz	10 MHz	100 MHz	400 MHz	1 GHz
Attenuation in dB	107	111	85	70	58



Dimensions (inches/ mm)	Part No. SZ			
	2429.100	2429.200	2429.300	2429.400
B1 = Overall width	11.14/283	17.68/449	22.55/649	25.55/649
B2 = Width of door cutout	9.49/241	16.02/407	23.90/607	23.90/607
B3 = Clearance width* of trim frame	8.94/227	15.48/393	23.35/593	23.36/593
B4 = Distance between fastening screws	7.87/200	13.78/350	17.72/450	17.71/450
H1 = Overall height	11.14/283	17.68/449	17.68/449	25.55/649
H2 = Height of door cutout	9.49/241	16.02/407	16.02/407	23.90/607
H3 = Clearance height* of trim frame	8.94/227	15.47/393	15.47/393	23.35/593
H4 = Distance between fastening screws	7.87/200	13.78/350	13.78/350	17.72/450

* Of the visible area.



Monitor frame

For enclosing a door cutout for all standard monitors up to 19″/482.6 mm.

Protection ratings:
NEMA 12/IP 54 to EN 60 529/10.91

Configuration:
Frame, including safety glass panel.

For door width in inches/mm	24/600 and 32/800	
Part No. SZ	**2305.000**	
Dimensions in inches/mm	Width	Height
External dimensions	18.50/470	16.93/430
Viewing area	14.76/375	12.80/325
Cutout required	16.34/415	14.77/375

German Registered Design
No. M 93 03 143

Stainless steel viewing window

The perfect solution for display and control components in all areas where stringent hygiene standards are required. Standard with internal 130° hinges and all-round gasket. The double-bit lock insert can be exchanged for 27 mm lock inserts, Type A, see page 942 and the Ergoform-S handle SZ 2452.000, see page 939.

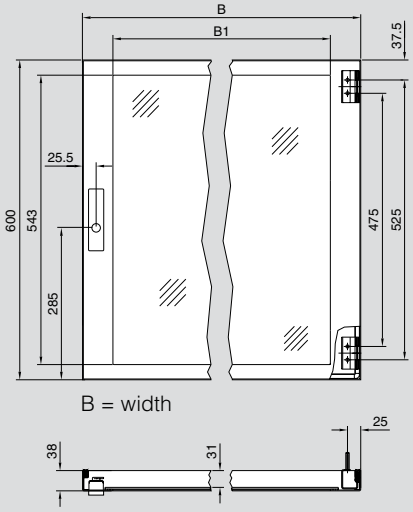
Ratings:
NEMA 12/IP 54 to EN 60 529/10.91

Material:
Type 304 stainless steel
Single-pane safety glass

Configuration:
Viewing window with cam lock, including installation hardware.

Height inches/mm	Width inches/mm	Depth inches/mm	B1 inches/mm	Part No. FT
24/600	20.55/522	1.50/38	16.06/408	**2793.560**
	28.43/722		23.94/608	**2793.760**

Lead times upon request.



Operating panels

For equipping enclosure doors with operating panels. May be installed on any sufficiently large surface.
Frame construction with corner connectors from the inside, 9 ga/3 mm aluminum panel sealed against the frame.
Standard installation with 2 hinges and 2 brackets (included in configuration), lockable; can be opened with a cam lock (see below).

Material:
Aluminum, natural anodized.

Protection ratings:
NEMA 12/IP 54 per EN 60 529/10.91

Height inches/ mm	Width inches/ mm	Depth inches/ mm	Part No. FT
11.69/297	7.83/ 199	1.34/ 34	**2740.000**
	14.92/ 379		**2741.000**
14.84/377			**2742.000**
23.50/597			**2743.000**
19.56/497	19.64/ 499		**2745.000**
14.84/377	23.59/ 599		**2744.000**
23.50/597			**2746.000**

Area available for population:
(Height – 70 mm) x (Width – 70 mm).

Dimensions of aluminum panel:
(Height – 54 mm) x (Width – 54 mm).

Cam lock

May be retrofitted to operating panels.
Standard with double-bit insert.

PU	Part No. FT
1	**2749.000**

Optional accessory:
Lock inserts, Version C, see page 942.

Plastic handle

Only in conjunction with cam lock FT 2749.000.
With lock insert No. 3524 E.

PU	Part No. SZ
1	**2485.000**

Viewing window for operator panel

To protect display and control components.

Material:
Frame: aluminum, natural anodized
Glass pane: smoked acrylic

Configuration:
Viewing window with integral hinge and lock insert No. 3524 E.

For operating panel	Part No. FT
FT 2741.000	**2791.000**
FT 2742.000	**2792.000**
FT 2744.000	**2794.000**

Other sizes available upon request.

Fold-away keyboard

For installation in 24″/600 mm and 32″/800 mm wide doors or 32″/800 mm wide side walls.

Material:
Lid: sheet steel
Enclosure: fiberglass-reinforced plastic

Protection ratings:
NEMA 12/IP 55 per EN 60 529/10.91

Configuration:
Enclosure and lid with cylinder lock No. 3524 E, including gasket and installation hardware.

RAL Version	Panel size ″/mm	Shelf size mm	PU	Part No. PS
7032	32/800	320/650	1	**4636.000**
7035	32/800	320 x 650	1	**4636.500***
7032	24/600	375 x 375	1	**9962008**

* Lead times available upon request.

US Patent No. 5 082 336
German Patent No. 39 30 188
Japanese Patent No. 2 809 848

Alternative option:

The alternative to the fold-away keyboard:
- VIP 6000 keyboard housing, see page 186 or
- Optipanel keyboard housing, see page 204

may be used in conjunction with enclosure duct connectors CP 6006.000 (see page 220) via an internal reinforcement plate fastened to the door.
Any size and design can be customized upon request.

Additional accessories:

Keyboard drawer
Part No. CP 6002.000/ CP 6003.000,
see pages 215, 216.

Connector grommet
Part No. SZ 2400.500,
see page 212.

Identification strip

For individual field designations on the door, including transparent cover and installation hardware.
For labels:
Height: 1.14″/29 mm
Width: enclosure width – 5.91″/150 mm,
Thickness: .03″/0.75 mm

Color: RAL 7033 mortar grey

Enclosure with inches/mm	Part No. SZ
24/600	**2403.000**
32/800	**2404.000**

German Registered Design No. M 92 02 456
IR Reg. Design No. Dm/023 581 with validity for DE, FR, IT

Aluminum strip for AP

Prevents wiring diagrams from slipping or falling.

For console	PU	Part No. AP
AP 2611.200 / AP 2613.200 / AP 2668.600	3	**2678.000***
AP 2641.200 / AP 2643.200 / AP 2672.600	3	**2682.000***
AP 2666.600	3	**2676.000***

Door cutout trim for subracks

To conceal the cutout edges during door installation.

Material:
Aluminum

Width inches/mm	PU	Part No. UN
½ 19/269.2	2	**3634.060**
19/482.6	2	**3634.070**

Design profile section

For the individual design of:
- Enclosure surfaces
- Machine panels
- Display panels

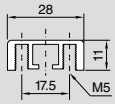
or as a functional element for:
- Field dividers, e.g. operator panel/ display panel
- Protective/display panel frame around installed equipment
- Trim frame around cutouts
- Mounting frame for viewing windows and installation plates
- End strip to prevent circuit diagrams from slipping off horizontal surfaces.

Material:
Extruded aluminum section

Color:
RAL 5017 bright blue

PU	Part No. SZ
2	**2311.200**

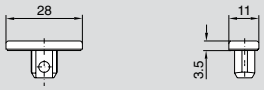
PU = 2 design profile sections
length = 6.3 ft/1930 mm,
20 fillister head screws
M5 x 10 mm,
20 serrated lock washers.



Section end piece, straight

For finishing the profile section:
- At interruptions, e.g. at the lock plate on the door
- At the end of the design profile section.

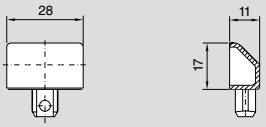
PU	Part No. SZ
12	**2312.100**



Section end piece, beveled

For finishing off the section:
- At the end of the design section.

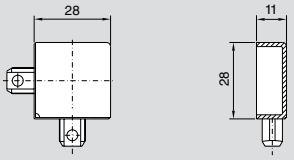
PU	Part No. SZ
12	**2312.200**

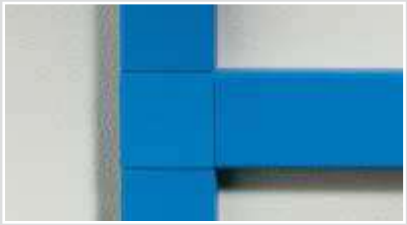


Section cover piece

For 90° corner connection.

PU	Part No. SZ
12	**2312.300**

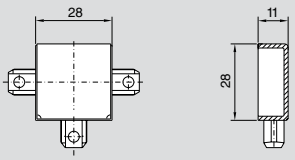




Section T piece

For dividing designer frames into different functional areas, viewing panel and operator panel.

PU	Part No. SZ
12	**2312.400**



Material:
Plastic

Color:
RAL 5017 bright blue

For TS 8

The Rittal comfort handle

The Rittal comfort handle is the perfect new addition to our locking systems:

- Four lock pieces, combined with four hinges, ensure optimum locking.
- The lock rods have one locking direction and are separated from the lock mechanism, thus allowing lock inserts to be easily exchanged.
- The door area can be maximized for installed equipment, because the folding handle does not take up any swivel space.

The new locking system and new comfort locking system offer an overall range of benefits.

US Design Patent No. 428 322
German Patent No. 198 01 721
German Registered Design No. M98 00 539
IR Reg. Design No. Dm/045 065 affecting BE, CH, ES, FR, IT, NL, HU, LU
Austrian Design No. 32290
Czech Design No. 28278
UK Reg. Design No. 2 075 910
Swedish Design No. 64 750
South Korean Design No. 241 505
Israeli Design No. 30 123
Slovenian Design No. 98 500 73
Russian Design No. 46307
South African Design No. 98/0865
Finnish Design No. 20461
Chinese Design No. 983 03439
Australian Design No. 13887
Brazilian Design No. DI 580 1235-4
Japanese Design No. 1 081 561
Taiwanese Design No. 68683 ROC

Comfort handle for lock inserts

Prepared for the installation of lock inserts, safety and pushbutton inserts (see right top).

Length: .97″/295 mm

Material:
Zinc die-cast

Finish:
Powder painted

Design	Part No. TS
RAL 7032	**8611.010**
RAL 7035	**8611.020**
RAL 8019	**8611.250**

Additional parts needed:

Handle adaptor for mounting on a TS glass door,
see page 918.

Comfort handle for lock inserts and padlock

Prepared for the installation of lock inserts, safety and pushbutton inserts, and with additional shackle (hole diameter 8 mm) for a padlock.

Material:
Zinc die-cast

Finish:
Powder painted

Version	Part No. TS
RAL 7032	**8611.030**
RAL 7035	**8611.290**
RAL 8019	**8611.260**

Additional parts needed:

Handle adaptor for mounting on a TS glass door,
see page 918.

Accessories:

Multiple lock,
see page 945.

Lock inserts

For comfort handles and the standard TS lock (in exchange for the standard double-bit lock insert).

Material:
Zinc die-cast

Version	Part No. TS
7 mm square	**8611.100**
8 mm square	**8611.110**
6.5 mm triangular	**8611.220**
7 mm triangular	**8611.120**
8 mm triangular	**8611.130**
Screwdriver	**8611.140**
Daimler-Benz	**8611.150**
Double-bit, 3 mm	**8611.160**
Fiat	**8611.170**

Lock and pushbutton inserts

For installation in the comfort handles for lock inserts.

Design	Part No. TS
Lock insert Lock No. 3524 E	**8611.180***
Pushbutton insert	**8611.190**
Pushbutton and lock insert, lock No. 12 321, no other lock is possible	**8611.200***

* With 2 keys.

Comfort handle

With lock insert E1.
Only for use with **VW/Audi.**
Supplied without key.

Length: 11.61″/295 mm

Other VW locks available on request.

Version	Part No. TS
RAL 7032	**8611.040**

! Additional parts needed:

Handle adaptor for mounting on a TS glass door,
see page 918.

Comfort handle for semi-cylinder

Prepared for the installation of commercially available semi-cylinders, 40 or 45 mm in length, to DIN 18 254 and lock and push-button inserts, see below.

Length: 11.89″/302 mm.

Version	Part No. TS
RAL 7032	**8611.060**
RAL 7035	**8611.070**
RAL 8019	**8611.270**

! Additional parts needed:

Handle adaptor for mounting on a TS glass door,
see page 918.

Lock and pushbutton inserts

For installation in:
- The comfort handle for semi-cylinder, see above,
- Ergoform-S standard, see page 939.

Design	Part No. SZ
Lock insert Lock No. 3524 E	**2467.000***
Pushbutton insert	**2468.000**
Lock and pushbutton insert, lock No. 2123; no other lock is possible	**2469.000***

* With 2 keys.

For TS 8

Comfort handle

Prepared for ASSA locking system.

Version	Part No. TS
RAL 7032	**8611.050**
RAL 7035	**8611.280**

Additional parts needed:

Handle adaptor for mounting on a TS glass door, see page 918.

Lock rod latch to CNOMO*

To fit all lock rods in TS doors and viewing doors with standard lock or comfort handle.
The latch prevents the locking bars from moving when the door is open.
For mounting on the bolt of the bar guide.

Configuration:
Lock rod latch with installation hardware.

PU	Part No. TS
10	**8611.210**

* CNOMO is a specification by the French automobile industry.
For safety reasons, it must not be possible to lock the handle while the door is open.

Additional parts needed:

For CNOMO*
6.5 mm triangular insert TS 8611.220, see page 937.

Spring washer

When disassembling the lock rods, the spring washers cannot be used again.

Material:
Spring steel

PU	Part No. TS
100	**8800.070**

Finish:
Zinc, chromated

Assembly tool for spring washers

For simple press-on installation of the spring washers above, with built-in ring magnet.

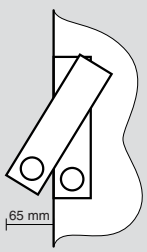
PU	Part No. TS
1	**8800.270**

Swivel handle for DK-TS

With lock insert, lock No. 3524 E.
The use of semi-cylinders is not possible.

Note:
When used in a bayed enclosure suite, it is necessary for the hinges to be on the same side.

Version	Part No. DK
RAL 7035	**7829.300**



Ergoform-S locking system

For retrofitting in all enclosures, console systems and swing frames with lock rods (except TS 8) as well as windows. No machining work required. When unlocked, the handle is tilted out and swung around to open the lock.

Material:
Zinc die-cast

Finish:
Powder painted

US Patent No. 4 631 937
US Design Patent No. Des. 292,171
German Patent No. 34 07 700
European Patent No. 0 155 543
with validity for DE, FR, GB, IT
Australian Patent No. 572 965
Japanese Patent No. 1680 637
Japanese Design Pattern No. 762 637

Ergoform (standard)

To fit all doors, glass doors and swing frames with rod-type locking (except KS fiberglass series enclosures). Prepared for the installation of semi-cylinders, 40/45 mm total length and all 27 mm lock inserts to DIN 18 254 Type A (see page 942).
Not suitable for KS series fiberglass enclosures.

Version	Part No. SZ
RAL 7032 with brown handle	**2450.000**
Brown	**2451.000**
Matte nickel plated	**2452.000**
RAL 7032 pebble grey	**2454.000**
RAL 7035 light grey	**2435.000**
RAL 7032* with brown handle and shackle	**2455.000**

* Hole diameter = 7 mm for padlock or multiple lock.

To fit **KS series fiberglass enclosures.** Ready for the installation of semi-cylinders, 40/45 mm total length and all 27 mm lock inserts to DIN 18 254 Type A (see page 942).

Version	Part No. KS
RAL 7032 with brown handle	**1490.000**

Optional accessory:

Lock and pushbutton inserts, see page 937.

Lock inserts, Type A, see page 942.

E1

ASSA

Ergoform (special)

With lock insert E1 (Volkswagen/Audi).
Only for use in **VW/Audi** manufacturing plants. Supplied without key.
Other Volkswagen locks available on request.

E1	Part No. SZ
RAL 7032 with brown handle	**2456.000**

Ready for ASSA locking system.

ASSA	Part No. SZ
Completely brown	**2453.000**

CNOMO

To fit all PS and ES enclosures with CNOMO lock, 6.5 mm (French motor car industry).
Triangular lock insert. The handle can only be locked if the door is completely closed. Not suitable for viewing doors.

CNOMO	Part No. SZ
RAL 7032 with brown handle	**2421.000**

Plastic handles

Plastic handles

With cylinder insert.
Lock No. 3524 E including installation hardware, gasket and 2 keys.

The universal locking system allows a suitable handle to be installed for almost any application or customer specification. Please check the product ordering page for the appropriate handles for your specific enclosure.

Version B

Design	Part No. SZ
RAL 9011	**2576.000**
RAL 7030	**2439.000**

Version B,
but without cylinder insert.

Part No. SZ	**2533.000**

Version G

Part No. SZ	**2599.000**

Version C

Part No. SZ	**2485.000**

Version E

Part No. KS	**1484.000**

T-handles

Material:
Zinc die-cast, chromated.

Configuration:
Includes gasket and 2 keys.

Version B

Design	Part No. SZ
With safety cylinder insert No. 3524 E	**2575.000**
Without safety cylinder insert	**2572.000**

Version C

Design	Part No. SZ
With safety cylinder insert No. 3524 E	**2535.000**
Without safety cylinder insert	**2536.000**

Lock inserts

The universal locking system allows a suitable lock to be installed for almost any application or customer specification. Please check the product ordering page for your particular application.

Version A

Material:
Zinc die-cast

Length 27 mm	Part No. SZ
7 mm square	**2460.000**
8 mm square	**2461.000**
7 mm triangular	**2462.000**
8 mm triangular	**2463.000**
Screwdriver	**2464.000**
Daimler-Benz	**2465.000**
3 mm double-bit	**2466.000**
Fiat	**2307.000**
6.5 mm triangular (CNOMO)	**2460.650**

Version C

Material:
Zinc die-cast

Length 41 mm	Part No. SZ
7 mm triangular	**2527.000**
8 mm triangular	**2528.000**
7 mm square	**2523.000**
8 mm square	**2526.000**
Daimler-Benz	**2522.000**
3 mm double-bit	**2483.000**

Version D

Material:
Zinc die-cast

Length 47 mm	Part No. SZ
7 mm triangular	**2555.000**
8 mm triangular	**2556.000**
7 mm square	**2557.000**
8 mm square	**2558.000**
Daimler-Benz	**2554.000**
3 mm double-bit	**2484.000**

Version E

Material:
Plastic

	Part No. KS
7 mm triangular	**1485.000**
8 mm triangular	**1486.000**
7 mm square	**1487.000**
8 mm square	**1488.000**
Screwdriver	**1489.000**
Double-bit	**1492.000**

Security inserts

Material:
Zinc die-cast

Version B

Lock No. 3524 E
with 2 keys.

Part No. SZ	2571.000

Version C

Lock No. 3524 E
with 2 keys.

Part No. SZ	2525.000

Version B

Lock No. VW E1
without keys.

Other VW locks upon request.

Part No. SZ	2540.000

Version C

Stainless steel
screwdriver insert.

Part No. SZ	9964.254

Cam turnbuckle locks

No. 15 security lock

For retrofitting in all FM/fiberoptic small distributors (Zeiss-Ikon No.15).
For cross-bit keys.

Color:
RAL 7035 light grey

Lock	PU	Part No. DK
No. 15	2	**7059.035**

No. 15 key

Cross-bit key for security lock (Zeiss-Ikon No. 15).
Two keys are required for one small distributor.

Key	PU	Part No. DK
No. 15	1	**7059.100**

Standard cam/latch lock

Zinc die-cast housing, nickel plated.

Cam/latch lock	Part No. SZ
With double-bit insert*	**2520.000**
With safety cylinder insert lock No. 3524 E	**2530.000**

* Can be replaced with Type C lock inserts, see page 942.

Plastic, cam/latch lock

Fiberglass-reinforced polyamide, also as a replacement for AE compact enclosures.

Plastic cam/latch lock	Part No. SZ
With double-bit insert*	**2420.000**
With safety cylinder insert No. 3524 E	**2430.000**

* Can be replaced with Type B cylinder inserts, see page 943, and 27 mm lock inserts, Type A, see page 942.

Stainless steel cam/latch lock

Entirely of Type 304 stainless steel. For AE compact enclosures with cam lock.

S/S cam/latch lock	Part No. SZ
With double-bit insert	**2304.000**

Half-cylinder safety lock

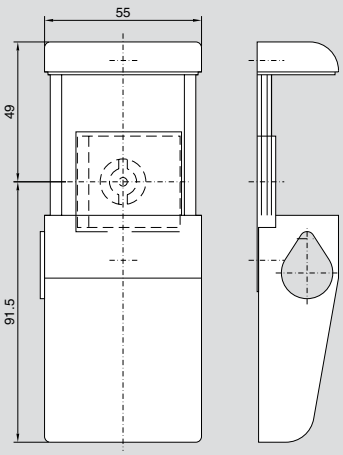
for compact AE enclosures in sheet steel or stainless steel.
For retrofitting to any single door enclosure with turnbuckle cam lock. The cover plate is locked by half-cylinders, 40/45 mm total length (to DIN 18 254). An additional cover protects the cylinder from dirt. The protection rating of the enclosure is not affected.

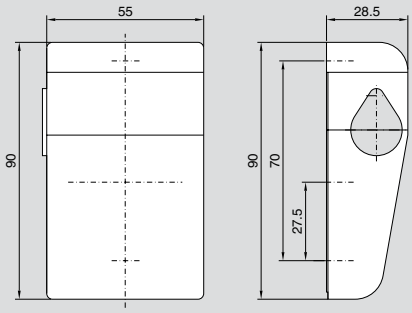
Material:
Zinc die-cast

Configuration:
Supplied without the half-cylinder security insert.

For AE	Part No. SZ
Powder painted RAL 7032, textured	**2534.000**
Nickel plated (matt finish)	**2534.500**

US Patent No. 5 916 282
German Patent No. 195 12 280
European Patent No. 0778 913
with validity For GB, FR, IT
Japanese Patent No. 3.088.465





Lock cover

for padlocks or multiple locks.
For retrofitting on any AE compact enclosure in sheet steel or stainless steel and with turnbuckle cam lock.

Material:
Zinc die-cast, chromated

PU	Part No. SZ
1	**2493.000**

Safety lock-out

Prevents unauthorized opening of the enclosure and accidental activation of the system.
The safety lock-out is the ideal solution in cases where individual access for several persons is required for maintenance and repair purposes.
The safety lock-out provides space for 6 padlocks.

Material:
Sheet steel, chromated

PU	Part No. SZ
1	**2493.500**

Locking accessories

Lock cover

Can accept a lead seal for all enclosure types with Rittal specific locks, such as AE, EB and AP.

Material:
Polyamide

Color:
RAL 7032 pebble grey

PU	Part No. SZ
2	**2476.000**

German utility model
No. G 92 1 8 330
German registered design
No. M 92 07 062

Enclosure keys

For lock inserts (one double-bit key is supplied with every enclosure).

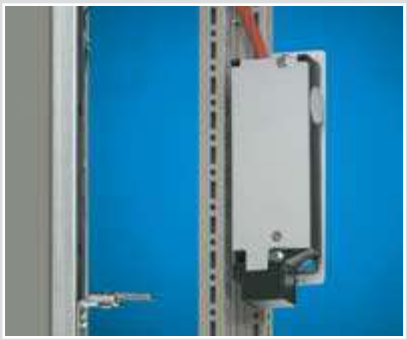
Key	Part No. SZ
Double-bit key no. 5	**2531.000**
Security key No. 3524 E	**2532.000**
7 mm triangular key	**2545.000**
8 mm triangular key	**2546.000**
7 mm square key	**2547.000**
8 mm square key	**2548.000**
Daimler key	**2521.000**
Fiat	**2308.000**

Universal enclosure key set

Double-bit, 8 mm square, 8 mm triangular (also for 7 mm inserts), with integral screwdriver.

	Part No. SZ
Universal enclosure key set	**2549.000**

French Design Model No. 813 248



Electrical security interlock

Fitted to doors to protect against contact with live electrical equipment while the main switch is ON.
Function:

- Locks the door when the main switch is ON.
- Main power (voltage) is only enabled while the door is closed.
- Monitoring of the lock magnet via an additional closing contact.

Connection voltage for lock magnet	Part No. SZ
230 V AC 11 VA	**2416.000**
24 V DC 8 W	**2418.000**
120 V AC 8 VA	**2419.000**

Configuration:
Security interlock, activator, mounting angle, installation hardware.

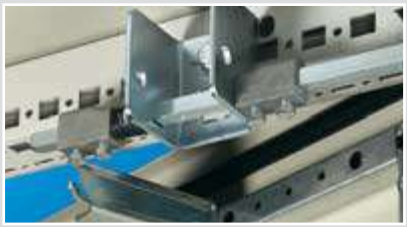
! Additional parts needed:

For double door enclosures (for the overlapping door, for the message “enclosure door closed”), Rittal door-operated switch PS 4127.000,
see page 999.

Disconnect system for suites of TS/PS enclosures

Installs on main door. Activates interlock mechanism for adjoining non-FMD applications.
Adjacent doors cannot be opened until the main door has been opened.

Subsequent locking of adjacent doors in the suite is possible, they are automatically included in the locking operation.



Interlock activator
Installed into the main enclosure and every fourth adjacent enclosure.

	Part No. PS
Interlock activator	**4912.000**

Slave door defeater kit
Installation on slave door. Each door requires separate interlocking rod.

	Part No. PS
Slave door interlock	**4911.000**

Interlocking rods
To extend locking from the main enclosure to the adjacent enclosures of a bayed suite.

An interconnecting rod corresponding to the width of the enclosure is required for each adjacent enclosure.

For slave enclosure width inches/mm	PU	Part No. PS
24/ 600	10	**4916.000**
32/ 800	10	**4918.000**
47/1200	10	**4920.000**

Flange mount disconnect lock

For safety locking of enclosures and bayed suites in conjunction with the following types of main switches:

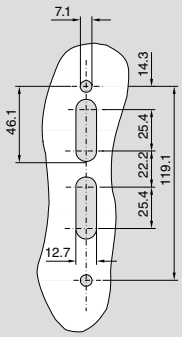
- Allen Bradley 1494 V-H1 (activating lever)
- Square D 9422 A1
- ITE Siemens Max-Flex series/FHOH
- General Electric TDA Type 1 and 2
- Cutler-Hammer.

For assembly, a main door lock plus adjacent cubicle latch mechanisms are required, together with interconnecting rods to match the bayed enclosures.

Note:
Flange mount disconnect main may only be installed on the right side of bayed enclosure configurations.

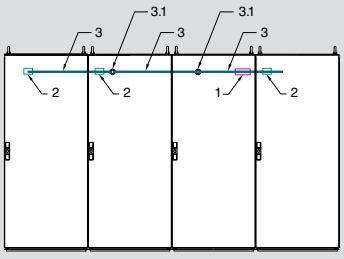
Master door lock for	Part No.
TS	**TS 8611.310**
PS	**PS 4910.000**

Cutout for disconnect

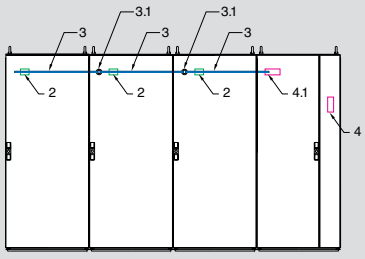


See our INDUSTRIAL STRENGTH catalog for specific details on switches.

Door locking for TS bayed suites (through the door disconnect)



Flange mount disconnect lock



1. Operating mechanism, installation in enclosure with main switch.
2. Adjacent door locking, installation in adjacent enclosure.
3. Interconnecting rod.

3.1 Connection component (included in the configuration of interconnecting rods).

4. Main door lock (flange mounted).

4.1 Operating mechanism, installation in main enclosure (included in the supply of main door lock position 4).

130° hinges for TS

For retrofitting a sheet steel door instead of a rear wall.

Material:
Zinc die-cast

Configuration:
4 x 130° hinges,
including installation hardware.

PU	Part No. TS
4	**8800.020**

Additional parts needed:
Mounting components for frame
TS 8800.040,
see page 918.

180° hinges for TS

For retrofitting sheet steel doors with original 130° hinge configuration.
Door assemblies such as the comfort handle may reduce the door opening angle.

One-person assembly:
- Exchange the hinge parts on the frame for 180° hinges (4 screws)
- Drill the door at the pre-marked points
- Screw the hinge parts onto the door
- Slide the door into position
- Press the captive hinge pins into place.

PU	Design	Part No. TS
4	RAL 7032	**8800.030**
4	RAL 7035	**8800.190**
4	RAL 8019	**8800.230**

Configuration:
4 x 180° hinges,
including installation hardware.
For double doors, two packs are required.

Note:
The hinge pins may only be loosened and the door removed with the door open.
The hinge cannot be dismantled from the outside with the door closed (access protection).

Hinge for TS side panel

The 180° opening angle allows unhindered access. Assembly may be carried out from either the inside or outside of the enclosure: simply replace 3 enclosure sidewall fasteners with hinges.

Material:
Zinc die-cast

Finish:
Powder painted in textured
RAL 7032 pebble grey
RAL 7035 light grey.

Configuration:
Hinges, including installation hardware.

Sidewalls and door hinges can only be installed on the same enclosure vertical when 180° door hinges are used (see above).

Design	PU	Part No. TS
RAL 7032	6	**8800.010**
RAL 7035	6	**8800.110**

German Design Sample
No. 298 20 604

130° hinges for PS/ES

For retrofitting a sheet steel door in place of the rear wall.
Includes installation hardware.

Also requires PS 4194.000 lock parts (see page 921).

PU	Part No. PS
6	4190.000

German Patent No. 35 65 028
European Patent No. 0 157 344
affecting DE, FR, NL, SE

180° hinges

For replacing in standard doors with 130° hinges.
Includes installation hardware.

For PS/ES

Material:
Aluminum

PU	Part No. PS
6	4189.000

For PS/ES

Material:
Type 304 stainless steel

PU	Part No. PS
6	4156.000

For AK/AP

Material:
Sheet steel

PU	Part No. SZ
6	2579.000

For AE

Material:
Zinc die-cast

PU	Part No. SZ
2	2449.000

Hinge pin remover

For safe and easy removal of hinge pins.

For enclosures	Part No. SM
AP/AK	2431.000
AE/FM	2432.000

Support rails

For attachment of:
- Cable channels
- Cable conduit clips
- Contact hazard protection covers
- Equipment installed on the door
- Cable collecting and attachment.

.18″/4.5 mm diameter hole on 25 mm DIN system hole pattern.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
PU = 20, includes installation screws.

Optional accessories:

M5 machine screws or self-tapping screws,
see page 981.

For TS/PS/ES

For door width inches/mm	Part No. PS
16/ 400	**4594.000**
20/ 500	**4309.000**
24/ 600	**4596.000**
32/ 800	**4598.000**
36/ 900	**4579.000**
40/1000	**4599.000**

For AE

For AE enclosures	Part No. SZ
1007.600**, 1013.600**, 1018.600**, 1019.600**, 1050.600*, 1057.600, 1100.600, 1110.600, 1114.600*, 1130.600, 1213.600*, 1350.600*	**2325.000**
1009.600**, 1010.600** 1012.600**, 1039.600 1058.600, 1060.600 1076.600, 1090.600 1260.600*, 1339.600 1360.600, 1376.600	**2326.000**
1014.600**, 1073.600 1077.600	**2327.000**
1016.600**, 1017.600** 1180.600, 1280.600*	**2328.000**

* Door bars must be cut to length for these models.
** Only in conjunction with mounting bars.

Punched mounting strip for AE stainless steel, universal consoles*

For stainless steel doors on AE compact enclosures. Fastens to enclosures with threaded bolts, for mounting of
- Door rails AE
- Door stays SZ 2519.000, see page 953.

Holes Ø 3.7 mm in a 1″/25 mm DIN system hole pattern.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
PU = 20,
including nuts and serrated washers.

Suitable for AE	Length inches/ mm	Part No. SZ
1005.600, 1006.600, 1009.600	12.52/ 318	**2310.038***
1007.600, 1013.600	17.24/ 438	**2310.050**
1008.600, 1010.600	21.18/ 538	**2310.060**
1012.600, 1014.600	27.48/ 698	**2310.076**
1016.600, 1018.600	36.93/ 938	**2310.100**
1017.600, 1019.600	44.80/1138	**2310.120**

***** For door at the top.

Optional accessories:

Screws,
see page 981.

Mounting brackets Mounting panels

Optional accessories:

Mounting brackets,
mounting panels, screw-on,
see page 978.

Desk panel

Mounted on the tubular door stiffener frame of TS/PS/ES/PC or on any sufficiently large surface.
When required for servicing, it folds out quickly with a maximum support area and after use can be returned between the tubular door frames in this space-saving design.
Maximum load 66 lbs/30 kg.

Material:
Sheet steel

Color:
RAL 7032 pebble grey,
with non-slip surface.

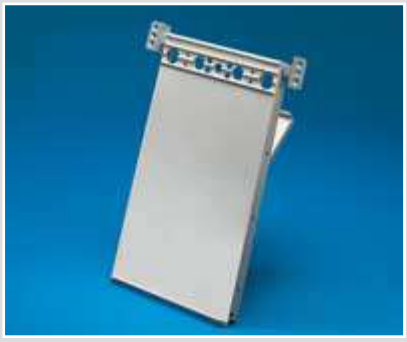
Support area inches/mm		For door width inches/mm	**Part No. PS**
Width	Depth		
16.26/413	15.74/400	24/600	**4638.600**
24.13/613		32/800	**4638.800**

Optional accessories:

Wiring diagram desk PS 4120.000, see below.

Print pocket PS 4116.000 or PS 4118.000, see page 952.

Door stay PS 4583.000, see page 953.



Writing board

Holds wiring diagrams during trouble shooting and maintenance work. Up to A4 sized support area.
The writing board may be installed according to the door width.
For mounting on the door stiffener frame.

For door width inches/mm	Required/possible number of desks	
	minimum	maximum
16/ 400	1	1
20/ 500	1	1
24/ 600	2	2
32/ 800	2	3
40/1000	3	3

Material:
Desk: polypropylene
Mounting angle: zinc die-cast

Color:
Similar to RAL 7044 silk grey

Configuration:
1 writing board (W = 8.27″/210 mm).
includes installation hardware.

For enclosures	PU	**Part No.**
TS/PS/ES/PC	1	**PS 4120.000**
AK	1	**SZ 2544.000**

Disk box

Mounts to any flat surface with double-stick tape.
Capacity: maximum 15 (5 1/4″)
or 18 (3 1/2″) disks.

Material:
Polyamide

Color:
RAL 7033 mortar grey

	Part No. SZ
Disk box	**2446.000**

German Registered Design
No. M 92 07 061
UK Reg. Design No. 2 029 365
IR Reg. Design No. Dm/025 474
affecting FR, IT

Sheet steel print pockets for TS/PS/ES/PC

Fastens to the tubular door stiffener frame at any given height.

Color:
Similar to RAL 7044 silk grey

Fits door width of inches/ mm	Inside clearance in inches/mm			Part No. PS
	H	W	D	
16/ 400	10.24/ 260	10.04/ 255	3.54/ 90	**4114.000**
20/ 500		13.98/ 355		**4115.000**
24/ 600		17.91/ 455		**4116.000**
32/ 800		25.79/ 655		**4118.000**
36/ 900		29.72/ 755		**4123.000**
32/1000		33.66/ 855		**4124.000**

Sheet steel print pockets for AK

Screws onto the left or right of the door stiffener frame at any height.
The opposite side is fastened with adhesive tape.

Color:
RAL 7032 pebble grey

For paper size	Inside clearance in inches/mm			Part No. SZ
	H	W	D	
A4/letter	10.24/ 260	11.73/ 298	2.28/ 58	**2516.000**
A3/ landscape		17.08/ 434		**2517.000**

Plastic print pockets

Mounted with adhesive tape to the inside of doors.

Material:
Polystyrene
with self-adhesive installation strips.

Color:
Similar to RAL 7044 silk grey

For paper size	Inside clearance in inches/mm			Part No. SZ
	H	W	D	
A3 landscape	11.30/ 287	17.24/ 438	1.77/ 45	**2513.000**
A4/letter portrait	10.08/ 256	8.97/ 228	.67/ 17	**2514.000**
A5 landscape	6.93/ 176			**2515.000**

Print pockets with transparent pouch

With welded-on transparent pouch and self-adhesive backing.

Paper size	Part No. SZ
A4/letter	**2510.000**
A3	**2512.000**

Cable conduit and clips

The perfect way to route cables from enclosure or mounting panel to door. The cable conduit clip is designed to match the system holes of the TS/PS/ES and 19″/482.6 mm system installation holes, so no drilling is required for installation. Commercial cable ties can easily be fastened to the intake/outlet of the conduit.

Material:
Cable conduit: polythene
Cable conduit clip: polyamide

Cable conduit

Ø inches/mm	PU	Part No. SZ
.63/16	25 m	**2595.000**
1.14/29	25 m	**2589.000**
1.42/36	25 m	**2596.000**
1.89/48	25 m	**2590.000**

Cable conduit clip

For cable conduit Ø inches/mm	PU	Part No. SZ
.63/16	20	**2593.000***
1.14/29	20	**2591.000***
1.42/36	20	**2594.000**
1.89/48	20	**2592.000**

***** Installation in AE compact enclosures with universal bracket SZ 2373.000, see page 996.

Cable Conduit Clip:
US Patent No. 4 779 828
German Patent No. 37 60 110
European Patent No. 0 257 367
affecting DE, ES, FR, GB, IT

Door stop

Keeps the door open. Installs on door and enclosure frame
with angle stops at:
– 90°
– 110°
– 130°

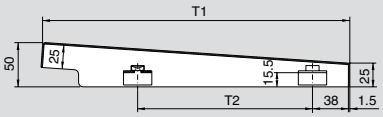
For	PU	Part No. PS/SZ
TS/PS/ES	5	**4583.000**
AK/AP consoles (not shown)	5	**2518.000**
AE (except AE 1032.600 & AE 1035.600) and all AE stainless steel enclosures* (not shown)	5	**2519.000**

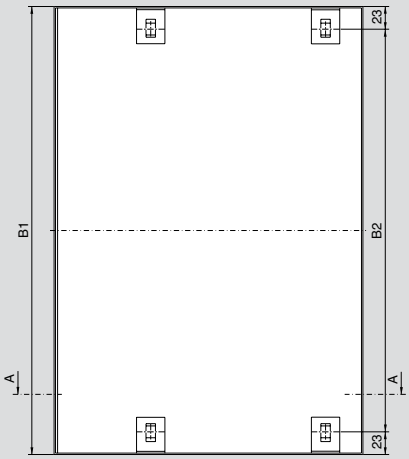
* For AE stainless steel and only in conjunction with punched mounting bars, see page 950. Can only be mounted on top (not shown).

Door alignment wheel

Fastens to the door frame and makes closure of doors easier when heavy components such as air conditioners are mounted to the door.

PU	Part No. PS
10	**4538.000**





Rain canopies for AE

Ideal protection for outdoor applications, with water run-off to the rear. Easily retrofitted. Installation hardware included.

Note:
For outdoor applications we usually recommend a rain canopy over the enclosure or covering the gap between the door or screwed-on rear wall and the enclosure, in order to protect against long term exposure to water and UV rays.
The tests of IP protection levels for water protection (2nd code digit to EN 60 529) should not be applied to enclosures installed outdoors or in similar conditions.
Rain canopies in sheet steel, stainless steel or aluminum are also available for other enclosures upon special request.

Sheet steel version (inches/mm)

For AE enclosures	B1	B2	T1	T2	Part No. SZ
1031.600* 1038.600* 1380.600*	15.4/ 391	13.4/ 340	9.3/ 235	4.7/ 120	**2501.200**
1039.600* 1060.600* 1076.600*	24.1/ 611	22.1/ 560		3.8/ 95	**2502.200**
1339.600* 1360.600* 1376.600*			14.8/ 375	9.3/ 235	**2511.200**

* Also suitable for AE XXXX.650 and XXXX.680.

Stainless steel version (inches/mm)

Part No. AE	H	W	D	H	W	D	NEMA	Rain canopy SZ
	inches			mm				
Type 304 stainless steel								
1002.600	11.81	7.87	6.10	300	200	155	1, 4, 4X, 12	**2470.000**
1004.600	11.81	14.96	6.10	300	380	155	1, 4, 4X, 12	**2471.000**
1005.600	14.96	11.81	8.27	380	300	210	1, 4, 4X, 12	**2361.000**
1006.600	14.96	14.96	8.27	380	380	210	1, 4, 4X, 12	**2472.000**
1009.600	14.96	23.62	8.27	380	600	210	1, 4, 4X, 12	**2473.000**
1097.000	15.75	11.81	8.27	400	300	210	1, 4, 4X, 12	**2361.000**
1007.600	19.69	19.69	8.27	500	500	210	1, 4, 4X, 12	**2362.000**
1097.020	19.69	19.69	11.81	500	500	300	1, 4, 4X, 12	–
1008.600	23.62	14.96	8.27	600	380	210	1, 4, 4X, 12	**2472.000**
1010.600	23.62	23.62	8.27	600	600	210	1, 4, 4X, 12	**2473.000**
1097.030	27.56	19.69	9.84	700	500	250	1, 4, 4X, 12	–
1012.600	29.92	23.62	8.27	760	600	210	1, 4, 4X, 12	**2473.000**
1014.600	29.92	29.92	11.81	760	760	300	1, 4, 4X, 12	**2474.000**
1097.050	29.92	35.43	11.81	760	900	300	1, 12	**2363.000**
1097.060	35.43	59.06	11.81	900	1500	300	1, 12	–
1097.010	39.37	23.62	9.84	1000	600	250	1, 4, 4X, 12	–
1016.600	39.37	31.50	11.81	1000	800	300	1, 4, 4X, 12	**2475.000**
1018.600	39.37	39.37	11.81	1000	1000	300	1, 12	**2363.000**
1017.600	47.24	31.50	11.81	1200	800	300	1, 4, 4X, 12	**2475.000**
1019.600	47.24	39.37	11.81	1200	1000	300	1, 12	**2363.000**
1097.040	59.06	35.43	11.81	1500	900	300	1, 4, 4X, 12	–
Type 316 stainless steel								
1097.100	15.75	11.81	8.27	400	300	210	1, 4, 4X, 12	**2361.000**
1097.120	19.69	19.69	8.27	500	500	210	1, 4, 4X, 12	**2362.000**
1097.160	23.62	23.62	8.27	600	600	210	1, 4, 4X, 12	**2473.000**
1097.130	27.56	19.69	9.84	700	500	250	1, 4, 4X, 12	–
1097.170	29.92	23.62	8.27	760	600	210	1, 4, 4X, 12	**2473.000**
1097.180	29.92	29.92	11.81	760	760	300	1, 4, 4X, 12	**2474.000**
1097.110	39.37	23.62	9.84	1000	600	250	1, 4, 4X, 12	–
1097.190	39.37	31.50	11.81	1000	800	300	1, 4, 4X, 12	**2475.000**
1097.150	47.24	39.37	11.81	1200	1000	300	1, 12	**2363.000**
1097.140	59.06	35.43	11.81	1500	900	300	1, 4, 4X, 12	–

Optional accessories:

Condensate discharge,
see page 900.

Topmount module for TS

As a cable chamber for cable feed from above or for power distribution with busbar systems across bayed enclosures. The standard TS roof panel is used to cover the top of the enclosure. The height increases by 8"/200 mm with the topmount module installed.

The cover cannot be installed with a top-bayed arrangement. For expansion accessories for top and bottom, see diagram and explanation below.

Configuration:
Topmount module,
2 trim panels (front and rear),
8 retainers with automatic potential equalization,
4 threaded bars with eyebolts.

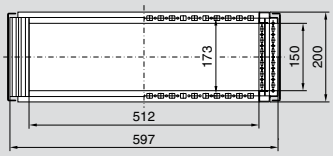
Material:
16 ga/1.5 mm sheet steel

For enclosure Width (B) inches/ mm	Depth inches/ mm	Part No. TS RAL 7032	Part No. TS RAL 7035
16/ 400	24/600	**8801.720**	**8801.725***
24/ 600		**8801.730**	**8801.735***
32/ 800		**8801.740**	**8801.745***
39/1000		**8801.750**	**8801.755***
47/1200		**8801.760**	**8801.765***

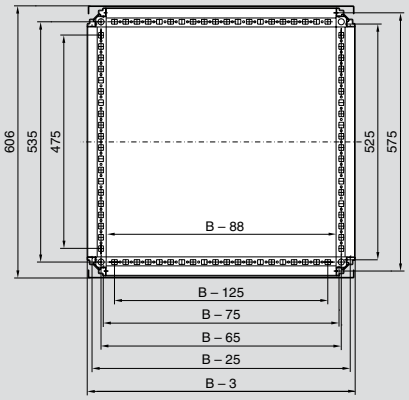
* Lead times upon request.

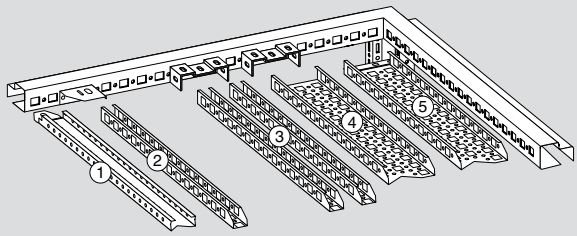
Finish:
Painted textured RAL 7032 pebble grey/ RAL 7035 light grey

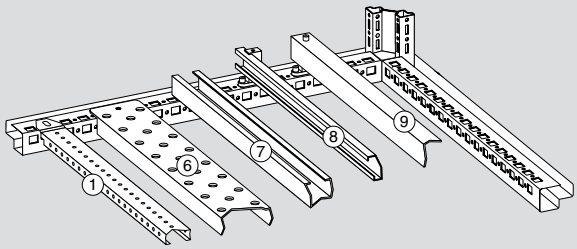
Side view



Top view







Expansion accessories — **Page**

① TS system bar 18 x 38 mm	975
② PS system bar 23 x 23 mm with holding bracket	976
③ PS system bar 23 x 23 mm with PS combination bracket	976
④ PS system chassis 23 x 73 mm with PS combination bracket	977
⑤ PS system chassis 23 x 73 mm with mounting flanges	977
⑥ Support rail	899
⑦ System support rail	899
⑧ C-rail 30/15 with spacer bracket	980
⑨ Cable collecting rail	898

Side panels for topmount module

To finish off the side of a topmount module or bayed suite.

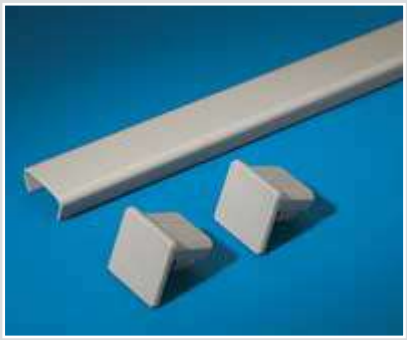
Material:
16 ga/1.5 mm sheet metal

Finish:
Painted textured RAL 7032 pebble grey/ RAL 7035 light grey

Configuration:
2 side panels,
8 retainers with continuous bonding.

Design	PU	Part No. TS
RAL 7032	2	**8801.770**
RAL 7035	2	**8801.775***

* Lead times upon request.



Cover for baying (top) of TS

A cover may be clipped across the gasket space between two enclosures, held in place with two end caps. This prevents dirt and liquid from collecting on the baying seal.

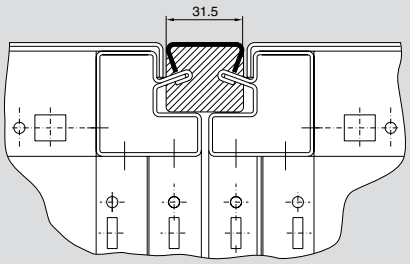
Material:
Cover section: sheet steel
End caps: plastic

Finish:
RAL 7032 pebble grey/
RAL 7035 light grey

For enclosure depth inches/mm	PU	**Part No. TS** RAL 7032	**Part No. TS** RAL 7035
16/400	1	**8800.440**	**8800.840**
20/500	1	**8800.450**	**8800.850**
24/600	1	**8800.460**	**8800.860**
32/800	1	**8800.480**	**8800.880**

Configuration:
1 cover
2 end caps

German Patent No. 197 37 667



Roof panel screws

Replace transportation eyebolts to fasten roof panel. For TS 8, the contact washers needed for potential equalization may be taken from the eyebolts included in the enclosure configuration.

Material:
Sheet steel, zinc, chromated.

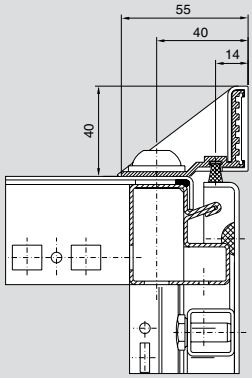
PU	**Part No. PS**
20	**4198.000**

Dust guard trim for TS/PS/ES

To protect against dust deposits on the top edge of the door and between the door and upper horizontal enclosure section. The dust guard trim can be used as space for text or company logos.

Configuration:
Dust guard trim including transparent protective film for text inserts (height 1.16″/29.5 mm).

Length inches/mm	**Part No. SZ**
24/ 600	**2424.000**
32/ 800	**2425.000**
39/1000	**2427.000**
47/1200	**2426.000**



Roof spacers

To raise the TS and PS roof for ventilation purposes, in three different heights.
Not suitable for crane transportation!

Height inches/mm	PU	Part No. SZ/DK
.4/10	4	**2422.000**
.8/20	4	**2423.000**
2/50	4	**7967.000**

Eyebolts for TS/PS/ES

For crane transportation of enclosures (typically already included in the configuration).
Thread: M12

PU	Part No. PS
4	**4568.000**

Eyebolts for AE/AK

For crane transportation of enclosures with reinforcement plate to be inserted underneath the enclosure top.
Thread: M12

Configuration:
Eyebolts, reinforcement plates.

PU	Part No. SZ
4	**2509.000**

Additional accessories:

Combination bracket

see page 913.

Wall bracket

see page 963.

Signal pillar

with connection components for roof mounting,
see pages 1000 – 1002.

Roof panel for cable entry for DK-TS

In exchange for the standard roof.
Equipped with a sliding panel in the rear. A rubber cable strip bonded to the sliding roof panel. Fixed roof allows cables and cable bundles to be secured.
The symmetrical design of the TS 8 frame means that side cable entry is also possible by rotating the roof panel.
A fan panel can be installed into the front of the enclosure for active ventilation. For this purpose, the roof panel must be raised with spacers by at least .8″/20 mm.

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

For enclosure Width inches/mm	For enclosure Depth inches/mm	Part No. DK
24/ 600	16/ 400	**7826.643***
32/ 800	16/ 400	**7826.843***
47/1200	16/ 400	**7826.243***
24/ 600	24/ 600	**7826.663**
24/ 600	32/ 800	**7826.683**
24/ 600	36/ 900	**7826.693**
24/ 600	39/1000	**7826.603**
32/ 800	24/ 600	**7826.863**
32/ 800	32/ 800	**7826.883**
32/ 800	36/ 900	**7826.893**
32/ 800	39/1000	**7826.803**

* Lead times upon request.

Optional accessories:

Fan panel,
see right hand side.

Spacers,
see page 957.

Roof panel for cable entry, vented for DK-TS

Exchanges for the standard roof.

Version 1:
2″/50 mm high roof panel, all-round ventilation slots, sliding panel for cable entry with rubber cable clamp strip. This allows cables and cable bundles to be screwed.

Material:
Sheet steel, painted

Color: RAL 7035 light grey

For enclosure inches/mm Width	For enclosure inches/mm Depth	Part No. DK
24/600	24/ 600	**7826.662**
24/600	32/ 800	**7826.682**
24/600	36/ 900	**7826.692**
32/800	24/ 600	**7826.862**
32/800	32/ 800	**7826.882**
32/800	36/ 900	**7826.892**
32/800	39/1000	**7826.802**

Version 2:
Prepunched perforations (hole diameter 3 mm) are all-around into the 2.95″/75 mm high roof panel. Combined with the vented glass and sheet steel door, the roof panel matches the door design.

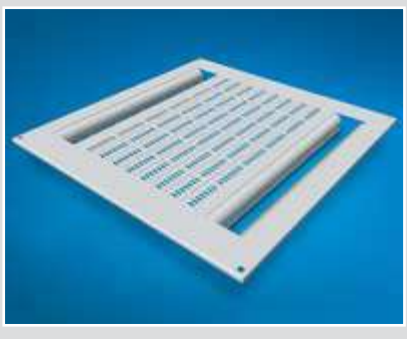
Material:
Sheet steel, painted

Color:
RAL 7035 light grey

For enclosure inches/mm Width	For enclosure inches/mm Depth	Part No. DK
32/800	24/ 600	**7826.866**
32/800	32/ 800	**7826.886**
32/800	36/ 900	**7826.896**
32/800	39/1000	**7826.806**

Optional accessories:

Fan panel (for both versions),
see right hand side.



Cable management roof panel for DK-TS

Exchanges for the standard roof panel.
Due to the rounded side cutouts, large quantities of cables may be routed into the rack while preserving the bending radii.
The roof has system holes for the attachment of cables with Velcro loops or cable ties.

Material: Sheet steel, painted

Color: RAL 7035 light grey

For enclosure inches/mm Width	For enclosure inches/mm Depth	Part No. DK
32/800	24/600	**7826.864**
32/800	32/800	**7826.884**
32/800	36/900	**7826.894**

Other models upon request.

Fan panel for DK-TS

The fan panel can be retrofitted from above into all TS 8 network enclosures. The panel is mounted in the front of the enclosure, while space is left free at the rear for cable entry. The enclosure is sealed to the rear with a rubber cable clamp strip on a metal bar. An additional clamp strip is included in the configuration for 2″/50 mm raised roofs.
Not suitable for transportation by crane!
The following combinations are possible:

- Solid roof panel raised with .8 or 2″/20 or 50 mm roof spacers.
- Roof panel for cable entry raised with .8 or 2″/20 or 50 mm roof spacers.
- Vented roof panel for cable entry.

Configuration without cable entry is only possible in the following enclosures when the large swing frame is used:
for W x D = 24 x 32″/600 x 800 mm (DK 7966.035)
for W x D = 32 x 32″/800 x 800 mm (DK 7986.035).

For enclosure inches/mm		No. of fans	Max. no. of fans	Part No. DK
Width	Depth			
24/600	24/ 600	2	4	**7966.035**
24/600	32/ 800 36/ 900	2	6	**7968.035**
32/800	24/ 600	2	6	**7986.035**
32/800	32/ 800 36/ 900 39/1000	2	6	**7988.035**

CE

The air displacement can be increased with the fan expansion kit DK 7980.000.

Technical description for one fan:
Rated operating voltage: 230 V
Power consumption: 19/18 W at 50/60 Hz
Air displacement (unimpeded air flow):
85/100 cfm; 140/165 m³/h, 50/60 Hz
Temperature range: 14 °F to 131 °F/
– 10 °C to + 55 °C

Technical description of thermostat:
Rated operating voltage: 250 V
Temperature range: 41 °F to 131 °F/
+ 5 °C to + 55 °C

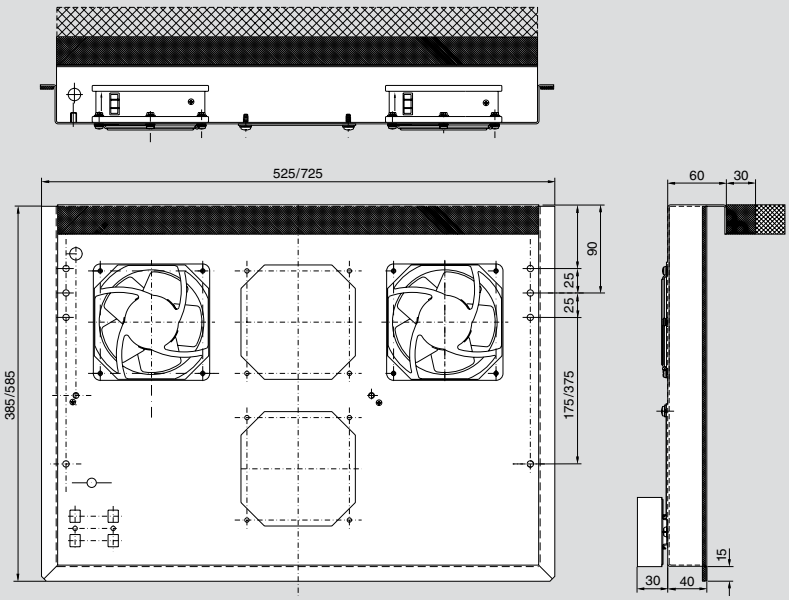
Color:
RAL 7035 light grey

Configuration/description:
2 fans, 2/4 cutouts for expansion to 4/6 fans, thermostat for securing to the fan panel or to the DIN 1″/25 mm system hole pattern of the enclosure. Thermostat and fan fully wired to power cable (8 ft/2.5 m).

Optional accessories:

Fan expansion kit,
see below.

Spacers,
see page 957.



Fan expansion kit

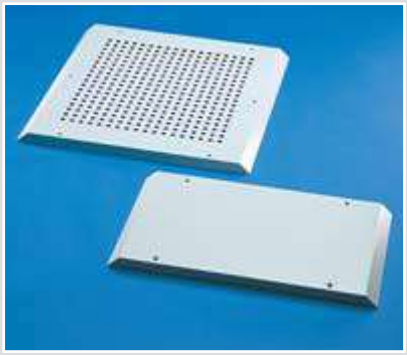
With one fan, including installation hardware and power cable (2 ft/0.61 m).

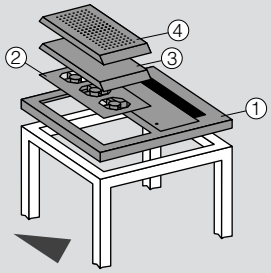
Technical description for DK 7980.000:
Rated operating voltage: 230 V
Power consumption: 19/18 W at 50/60 Hz
Air displacement (unimpeded air flow):
85/100 cfm; 140/165 m³/h, 50/60 Hz
Temperature range: 14 °F to 131 °F/
– 10 °C to + 55 °C

Technical description for DK 7980.100:
Rated operating voltage: 230 V
Power consumption: 14 W at 50 Hz
Air displacement (unimpeded air flow):
68 cfm/117 m³/h
Temperature range:
– 4 °F to 131 °F/– 20 °C to + 158 °C

Dimensions H x W x D inches/mm	PU	Part No. DK
4.69 x 4.69 x 1.50/ 119 x 119 x 38	1 set	**7980.000**
4.69 x 4.69 x .98/ 119 x 119 x 25	1 set	**7980.100**

CE





Fan roof, modular for DK-TS

The modular roof panel consists of individual components and can be adapted to match the ventilation requirements of TS 8 enclosures. Recommended for bayed TS 8 enclosures.
The components:
Roof panel with cutout ① for fan insert and cable entry at the rear via a sliding angle bracket with rubber cable clamp strip. Exchanges for the existing roof panel.
Roof panel to cover the cutout, option of solid ③ or vented ④. The topmount roof panel can be raised for increased air circulation using the spacers supplied.
Fan insert ② for active ventilation: a fully pre-wired fan tray including 8 ft/ 2.5 m power cable, with two fan motors and additional cutouts. The air displacement can be increased with a fan expansion kit.

Material:
Sheet steel, painted

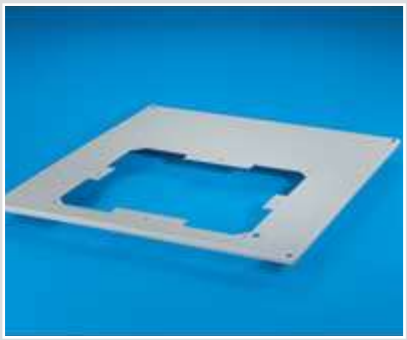
Color:
RAL 7035 light grey

Technical description for one fan:
Rated operating voltage: 230 V
Power consumption: 19/18 W at 50/60 Hz
Air displacement (unimpeded air flow): 85/100 cfm; 140/165 m^3/h at 50/60 Hz
Temperature range: 14 °F to + 131 °F/ – 10 °C to + 55 °C

For enclosure inches/mm		Roof panel ①	Cover panel		Fan insert		
Width	Depth		Solid ③	Vented ④	Fan pre-wired	Maximum number of fans	Fan insert ②
24/600	24/600	**7826.668**	**2102.180**	**2102.400**	2	2	**2102.320**
	32/800	**7826.688**	**2102.190**	**2102.410**	2	6	**2102.490**
	36/900	**7826.698**	**2102.190**	**2102.410**	2	6	**2102.490**
32/800	24/600	**7826.868**	**7885.100**	**7885.200**	2	3	**7885.000**
	32/800	**7826.888**	**7886.100**	**7886.200**	2	8	**7886.000**
	36/900	**7826.898**	**7886.100**	**7886.200**	2	8	**7886.000**
	40/1000	**7826.808**	**7886.100**	**7886.200**	2	8	**7886.000**

Optional accessories:
Fan expansion kit DK 7980.000, see page 959.

Thermostat, SK 3110.000, see page 571.



Roof panel for air conditioners DK-TS

With cutout for roofmount air conditioners SK 3273.515 and SK 3273.500, see page 473.
The existing roof panel of the TS 8 is exchanged for the roof panel with cutout. The air conditioner can be installed with screws and directly connected.

Material:
Sheet steel

Color:
RAL 7035 light grey

Roof panel with cutout

For TS 8 enclosure inches/mm		Part No. DK
Width	Depth	
24/600	24/ 600	**7826.667**
	32/ 800	**7826.687**
	36/ 900	**7826.697**
32/800	24/ 600	**7826.867**
	32/ 800	**7826.887**
	36/ 900	**7826.897**
	40/1000	**7826.807**

NOTES:

Pole-mounting kit

For reliable, convenient fastening to round or square poles.

For pole diameter/size:
Ø from 1.57″/40 up to 7.48″/190 mm
☐ from 1.97″/50 up to 5.91″/150 mm

Material:
Cross rails, clamping section:
sheet steel, zinc-plated
Clamping strap:
Type 304 stainless steel

	Part No. SZ
Pole mounting kit	**2584.000**

German Patent No. 36 10 152

Configuration:
2 cross rails, 23.62″/600 mm long,
4 clamping sections,
2 clamping straps,
4 clamping brackets,
4 screws and M8 nuts
for mounting on the enclosure.

Wallmounting brackets

For fastening KL, EB, BG enclosures, including installation hardware on the enclosure.

Material	Wall distance	PU	Part No. KL
Brass, nickel-plated	.31″/ 8 mm	4	**1580.000**
Sheet steel, zinc & chromated		4	**1590.000**

See drawing A for dimensions.

Wall-brackets

For all KL, EB, BG, AE and EL enclosures, as well as DK, FM, QR wallmount distributors (except stainless steel).
For quick, secure wallmounting using the rear holes in the enclosure.
1.57″/40 mm distance from the wall permits cable routing behind the enclosure to the gland panel.

Material:
Steel, chromated

Wall distance dimension A	PU	Part No. SZ
1.57″/40 mm	1	**2503.000**
.4″/10 mm	1	**2508.000**

See drawing B for dimensions.

Wall-brackets for KS

For wallmounting. Only possible from the outside of the enclosure.

Fits all versions,
includes installation hardware.

Color:
Similar to RAL 7032 pebble grey

PU	Part No. KS
4	**1483.000**

See drawing C for dimensions.

Material:
Fiberglass-reinforced polyamide

Wallmounting brackets, stainless steel

For fastening KL, EB, BG and AE enclosures.

Material:
Type 304 stainless steel

Wall distance	PU	Part No. KL
.31″/8 mm	4	**1594.000**

See drawing A for dimensions.

Wallmounting brackets, stainless steel

For fastening KL, EB, BG, AE and EL enclosures.

Material:
Type 304 stainless steel

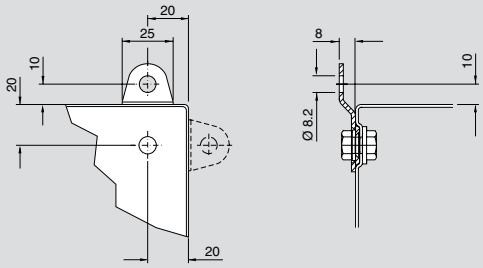
Wall distance	PU	Part No. SZ
dimension A .39″/10 mm	4	**2433.000**

See drawing B for dimensions.

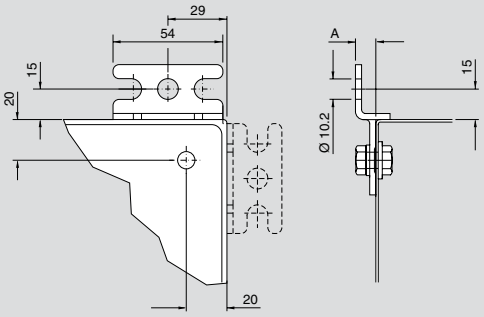
Stainless steel enclosures require additional holes at the rear wall for hygiene and protection category reasons.

Dimensions of wallmounting brackets

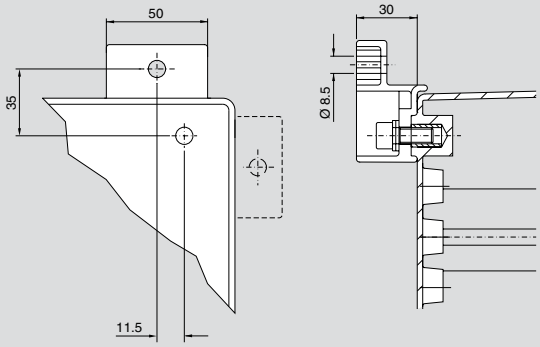
Drawing A



Drawing B



Drawing C



Note:
Distance of rear wall holes =
outside enclosure dimensions – 2″/50 mm.

Wallmounting brackets

For compact enclosures (additional holes required in the enclosure).
Simple mounting, flush with the wall.

Material	PU	Part No. SZ
Sheet steel, RAL 7032	1	**2505.200**
Type 304 stainless steel	1	**2583.000**

For dimensions, see drawing D, page 299.

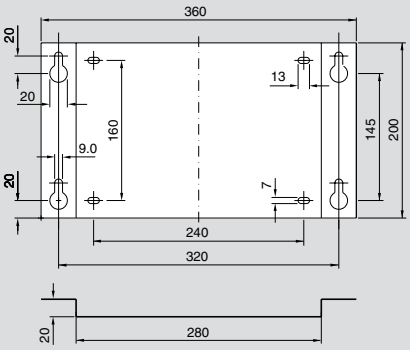
Wallmounting panel for enclosures

For fast, secure mounting of matching compact enclosures to a flat surface (Additional drilling required in the housing).

Material:
Sheet steel

Color:
RAL 7032 pebble grey

PU	Part No. SZ
4	**2506.200**



Wall securing brackets

For fastening the top of shallow enclosures TS, PS, ES to a wall when heavy components are mounted on the door.

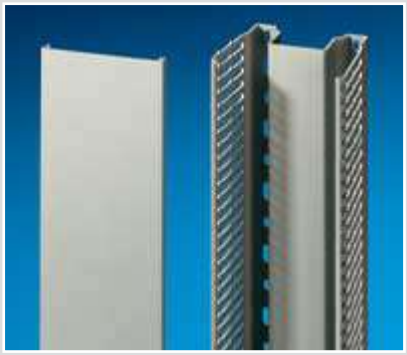
Material:
Sheet steel, zinc, chromated.

PU	Part No. PS
4	**4595.000**

Alternative option:

For TS 8 inside the enclosure (without mounting panel), baying bracket TS 8800.470,
see page 916.

Wire ducts



Wire ducts for TS

Two designs for direct installation on the vertical frame profile.

- **Width 2″/50 mm,** for installation on a vertical frame profile at the sidewall.
- **Width 4″/100 mm,** for installation on two bayed frame profiles at the baying point. Baying brackets and baying clamps which have already been installed can be covered with the cable routing panel.

If the mounting panel is installed in the rearmost position (see sketch below), horizontal, 3.15″/80 mm deep, DIN ducts are positioned flush. The break-offs of the members are designed for the combination with commercial standard ducts; an additional break-off at the mounting panel enables direct insertion into the cable routing panel.

The cable routing panel fasteners match the TS system hole pattern; no drilling as with DIN ducts, is required.

Height inches/ mm	Width inches/ mm	PU	Part No. TS
63/1600	2/ 50	8 set	**8800.570**
71/1800	2/ 50	8 set	**8800.520**
63/1600	4/100	4 set	**8800.540**
71/1800	4/100	4 set	**8800.510**

Technical description:
Depth: 3.15″/80 mm
Length:
- 63″/1600 mm (for enclosure heights of 71″/1800 mm)
- 71″/1800 mm (for enclosure heights of 79″/2000 mm)

may be shortened for other enclosure dimensions.
Member width: 5.5 mm
Slot width: 4.5 mm

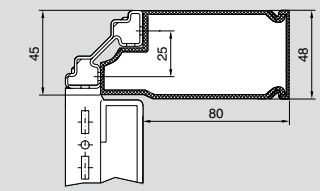
Material:
Hard-PVC, highly flame resistant, self-extinguishing, temperature resistant to + 140 °F/+ 60 °C

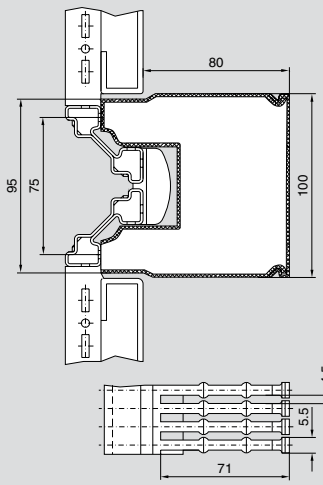
Color:
RAL 7030 stone grey

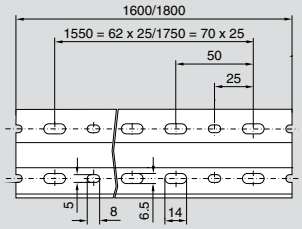
Configuration:
1 set = 1 cable routing panel with cover.

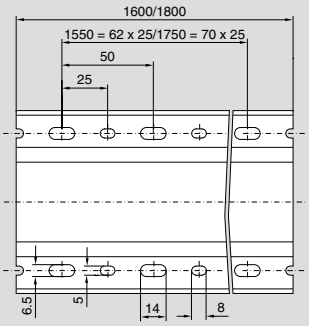
Optional accessories:

Special plastic rivet for attachment, see below.







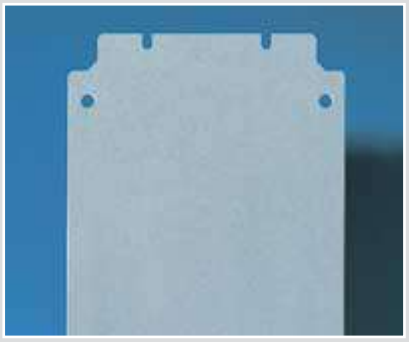


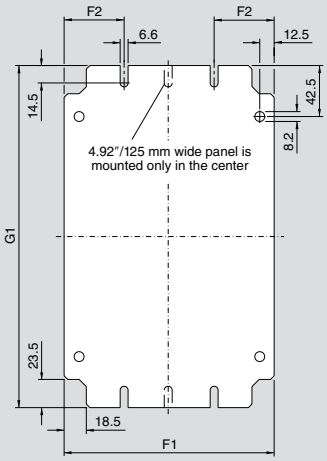
Plastic rivet

Simple assembly with standard blind riveting tool. For fastening the cable routing panels in the TS 8 system hole pattern.

PU	Part No. TS
1 pack	**8800.530**

1 pack = 100 pieces





Mounting panels for KL

For easy component installation. Assembly screws included in the accessory bag of the enclosure.

Material:
14 ga/2 mm sheet steel, zinc-coated.

Optional accessories:

Self-tapping screws SZ 2487.000, see page 969.

Alternative option:

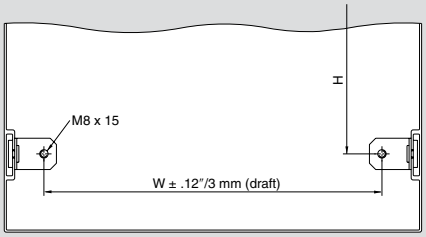
Support rails, see page 983.

For enclosure dimensions		For Part No.	Dimensions inches/mm			Part No. KL
inches	mm		G1	F1	F2	
6 x 6	150 x 150	KL 1500.210, KL 1514.210, KL 1521.010	5.31/135	4.92/125	–	**1560.700**
8 x 6	200 x 150	KL 1528.210, KL 1529.210	7.28/185		–	**1575.700**
12 x 6	300 x 150	KL 1501.210, KL 1515.210, KL 1522.010, KL 1530.210,	11.22/285		–	**1561.700**
16 x 6	400 x 150	KL 1589.210	15.16/385		–	**1576.700**
8 x 8	200 x 200	KL 1502.210, KL 1516.210, KL 1523.010	7.28/185		1.97/50	**1562.700**
12 x 8	300 x 200	KL 1503.210, KL 1517.210, KL 1524.010, KL 1531.210	11.22/285			**1563.700**
16 x 8	400 x 200	KL 1504.210, KL 1518.210, KL 1525.010, KL 1532.210,	15.16/385			**1564.700**
20 x 8	500 x 200	KL 1505.210, KL 1533.210	19.09/485			**1565.700**
24 x 8	600 x 200	KL 1506.210, KL 1519.210, KL 1534.210	23.03/585			**1566.700**
32 x 8	800 x 200	KL 1527.210, KL 1542.210	30.91/785			**1574.700**
12 x 12	300 x 300	KL 1507.210, KL 1526.010, KL 1535.210	11.22/285	10.83/275		**1567.700**
16 x 12	400 x 300	KL 1508.210, KL 1536.210	15.16/385			**1568.700**
20 x 12	500 x 300	KL 1509.210, KL 1537.210	19.09/485			**1569.700**
24 x 12	600 x 300	KL 1510.210, KL 1538.210	23.03/585			**1570.700**
16 x 16	400 x 400	KL 1511.210, KL 1539.210	15.16/385	14.76/375	2.46/62.5	**1571.700**
24 x 16	600 x 400	KL 1512.210, KL 1540.210	23.03/585			**1572.700**
32 x 16	800 x 400	KL 1513.210, KL 1541.210	30.91/785			**1573.700**

Depth adjustment bracket for KS mounting panel

Slides into molded C-rails in KS enclosures and is infinitely adjustable.
Also allows installation of rails instead of mounting panel.

For enclosures KS	PU	Part No. KS
1423.600, 1432.600, 1434.600, 1444.600, 1446.600, 1448.600, 1449.600, 1466.600, 1467.600	4	**1481.000**
1453.600, 1454.600, 1468.600, 1469.600, 1479.600, 1480.600, 1400.600	4	**1491.000**



Mounting dimensions for depth adjustable mounting panel or system rails.

H		W ± .12"/3 mm		KS enclosure
inches	mm	inches	mm	
5.91	150	4.88	124	**1423.600**
7.87	200	6.85	174	**1432.600**
9.84	250	8.82	224	**1434.600**
9.84	250	12.76	324	**1444.600, 1448.600**
13.78	350	15.59	396	**1453.600, 1454.600**
17.72	450	12.76	324	**1446.600, 1449.600**
17.72	450	20.63	524	**1466.600, 1467.600**
25.59	650	19.53	496	**1468.600, 1469.600**
33.46	850	27.40	696	**1480.600, 1479.600**
33.46	850	35.28	896	**1400.600**

Mounting panels

Mounting panel joining piece for TS/PS

For a continuous mounting surface in bayed suites where the mounting panel is installed in a forward position.

Material:
Sheet steel, zinc-plated.

Configuration:
1 mounting panel joining piece, installation hardware included.

For enclosure height inches/mm	Part No. PS
55/1400	**9968448**
63/1600	**4589.700**
71/1800	**4590.700**
79/2000	**4591.700**
87/2200	**4592.700**

Cross-bars for mounting panels for TS/PS/ES

Provides additional reinforcement and keeps vibration to a minimum. May be retrofitted on wide mounting panels for stabilization. This bar may also be used as an installation support for heavy components.

Material:
Sheet steel, zinc, chromated.

Configuration:
2 bars,
4 clamps,
4 set screws M10 x 16 mm.

Mounting panel width inches/mm	Part No. PS
47/1200	**4333.120**
63/1600	**4333.160**
71/1800	**4333.180**

Mounting panel attachments

For additional clamping and to reduce possible vibration of the mounting panel. Selection depends on the installation position, type of installation and enclosure.

Material:
Sheet steel, zinc, chromated.

Configuration:
10 mounting panel attachments, including installation hardware.

For TS

Installation position:
- At the rear, flush in the section or set forward
- At the left and right, at the center of the panel.

Advantage:
The mounting panel can be populated with a cable duct right up to the edge.

PU	Part No. TS
10	8800.090

! Additional parts needed:

TS system chassis with mounting flange 17 x 73 mm for the inner mounting level, see page 974 (for Figure 3).

Fig. 1

Fig. 2

Figure 1:
Mounting panel attached with screw in the rearmost installation position.

Figure 2:
Mounting panel firmly attached from the rear in the rearmost installation position.

Fig. 3

Figure 3:
Mounting panel attached in frontmost position with screw.

For TS

Installation position:
- At the rear, flush in the section
- At the left and right, in 1″/25 mm system hole pattern.

Push sideways over the panel and secure with screws. The mounting panel can also be drilled and attached to the rear C-fold.

PU	Part No. TS
10	8800.050

For TS/PS/ES

Installation position:
- Set forward
- All-round in 1″/25 mm system hole pattern in the width and height.

Slide in from below or above, or at the side between the mounting strip and panel and secure with screws.

PU	Part No. PS
10	4593.000

! Additional parts needed:

Support strip (with TS for inner level), see page 975 or
system chassis with mounting flange (with TS for inner level), see page 974 for illustration; or
system bars and system chassis without mounting flanges, see pages 975 – 977.

For ES/PS

Installation position:
- At the rear, flush in the section
- All-round on 1″/25 mm system hole pattern.

Twist in the clip behind the plate and secure with screws.

PU	Part No. PS
10	4576.000

Partial mounting panels

Partial mounting panels for TS

For
- Universal interior installation, also in conjunction with system chassis with mounting flanges and system bars.
- Additional mounting levels.

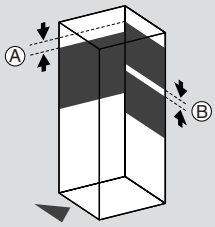
Material:
12 ga/2.5 mm sheet steel, zinc-plated.

Configuration:
1 partial mounting panel, including installation hardware.

Optional accessories:
TS system chassis 17 x 73 mm for the outside mounting level, see page 974.

Flush with the inner mounting level

Partial mounting panels are fastened directly onto the vertical frame members using the installation hardware supplied. In this mounting position (both width and depth), they form one level with the TS system chassis with mounting flanges 17 x 73 mm and TS system bars for the inner mounting level.



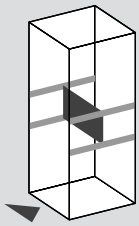
For installation around the corner, to avoid collision between assembly components, A = at least 2.95″/75 mm (adjustable in 1″/25 mm system hole pattern). Maximum use of space B = 1 mm (adjusts in 1″/25 mm hole pattern).

For installation in											PU	Part No. TS
Enclosure width inches/mm					Depth (side) inches/mm				Dimensions			
16/ 400	24/ 600	32/ 800	40/ 1000	48/ 1200	16/ 400	20/ 500	24/ 600	32/ 800	100 x mm/ inches			
●	●				●		●		5 x 3	20 x 12	1	**8614.640**
	●					●	●		5 x 4	20 x 16	1	**8614.650**
	●						●		5 x 5	20 x 20	1	**8614.660**
	●	●					●	●	5 x 7	20 x 28	1	**8614.680**
●		●			●			●	7 x 3	28 x 12	1	**8614.840**
		●				●		●	7 x 4	28 x 16	1	**8614.850**
		●						●	7 x 7	28 x 28	1	**8614.880**
●			●		●				9 x 3	36 x 12	1	**8614.040**
			●			●			9 x 4	36 x 16	1	**8614.050**
	●		●				●		9 x 5	36 x 20	1	**8614.060**
●				●	●				11 x 3	44 x 12	1	**8614.240**
				●		●			11 x 4	44 x 16	1	**8614.250**
	●			●			●		11 x 5	44 x 20	1	**8614.260**

They can easily be installed between two TS system chassis 17 x 73 mm.

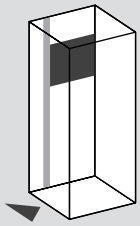
Forward installation position

This is easily and quickly achieved with four TS system chassis with mounting flanges 17 x 73 mm. For the outer fixing level, see page 974.



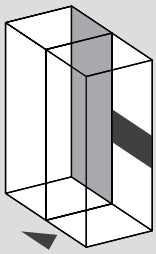
Partial installation

Partial utilization of the enclosure depth or width is possible. In our example, we have used a PS system chassis without mounting flange 23 x 73 mm, see page 977.



Flush installation

In bayed enclosures, the partial mounting panel is flush with the standard mounting panel in the rearmost position, thus enabling population without interference.



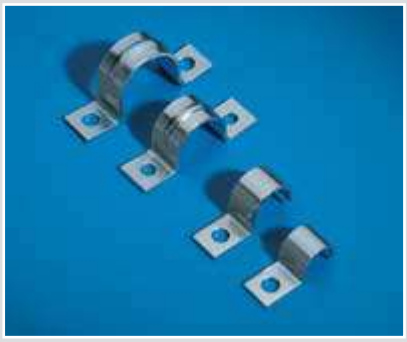
Partial mounting panels for PS/ES

Provide additional mounting surface.
Can be installed in both width or depth in 24″/600 mm and 32″/800 mm deep enclosures. Installation hardware included.

Material:
12 ga/2.5 mm sheet steel zinc-plated.

Supply includes:
2 partial mounting panels, including installation hardware.

For enclosure width		Height x Width		Part No. PS
inches	mm	inches	mm	
24	600	6.81 x 19.37	173 x 492	**4130.700**
24	600	14.69 x 19.37	373 x 492	**4131.700**
24	600	22.56 x 19.37	573 x 492	**4132.700**
31	800	6.81 x 27.24	173 x 692	**4135.700**
31	800	14.69 x 27.24	373 x 692	**4136.700**
31	800	22.56 x 27.24	573 x 692	**4137.700**
39	1000	6.81 x 35.12	173 x 892	**4329.700**
39	1000	14.69 x 35.12	373 x 892	**4330.700**
39	1000	22.56 x 35.12	573 x 892	**4331.700**
47	1200	6.81 x 42.99	173 x 1092	**4140.700**
47	1200	14.69 x 42.99	373 x 1092	**4141.700**
47	1200	22.56 x 42.99	573 x 1092	**4142.700**



EMC earth/grounding clamps

The clamps may be used to secure cables for operating equipment on the mounting panel for shielding purposes.

Material:
Sheet steel, zinc, chromated.

Size inches/mm	PU	Part No. SZ
.16/ 4	50	**2367.040**
.23/ 6	50	**2367.060**
.31/ 8	50	**2367.080**
.47/12	50	**2367.120**
.63/16	50	**2367.160**
.78/20	25	**2367.200***
.98/25	25	**2367.250***

* 2 fixing brackets.

Self-tapping screws

Mark, drill and tighten in a single operation.

For metal thickness: 0.8 mm – 3 mm/11 ga
Length: 16 mm
Usable length: 9.5 mm
Width across flats: 8 mm

PU	Part No. SZ
1 pack	**2487.000**

1 pack = 300 pieces

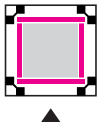
Overview of TS configuration systems

Width clearance

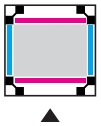
The following values apply to the clearance between the mounting levels, depending on the mounting option:

- Outer mounting level = enclosure width and depth minus 1.65″/42 mm
- Inner mounting level = enclosure width and depth minus 3.46″/88 mm.

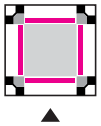
Outer level



Inner level

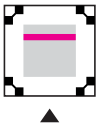


Outer and inner level



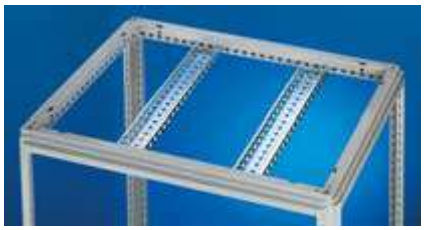
PS-compatible installation

Roof configuration



Installation:

- PS system chassis with mounting flanges
- PS system chassis
- PS system chassis in three installation options
- TS installation rails.

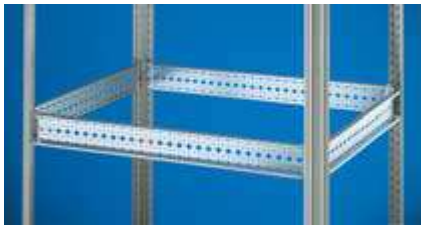


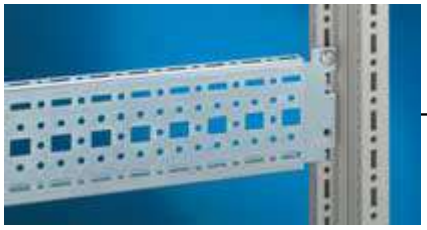
TS8 rails for the outer level

- TS system chassis
- TS installation rail
- TS system bar

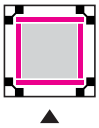
Benefits:

- Most available space
- Same height, direct mounting.





TS8 rails, PS rail for the inner level



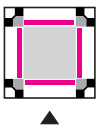
- TS system chassis
- TS installation rail
- PS system chassis with TS combination bracket

Benefits:

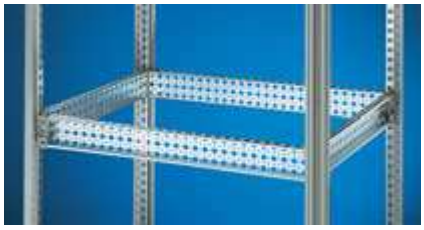
- Use of a second level
- All-round installation, with off-set installation heights.

With adaptor rail for PS compatibility

Same level, all-round installation with:

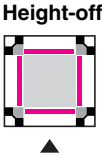


- PS system chassis without flanges with PS combination brackets
- PS system bar with angle bracket, mounting bracket or PS combination bracket.

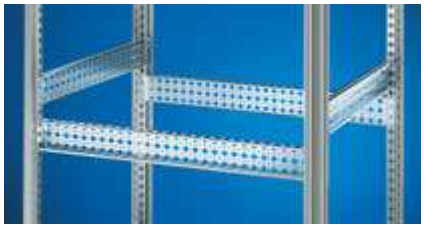


With adaptor rail for PS compatibility

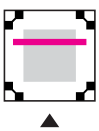
Height-offset in the width and depth with:



- PS system chassis with mounting flange
- PS system bar with mounting bracket or dual bracket
- TS installation rails.

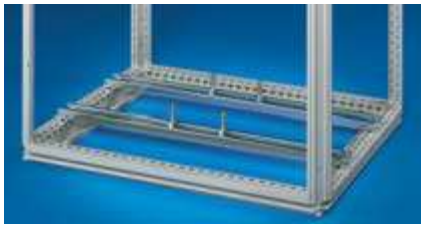


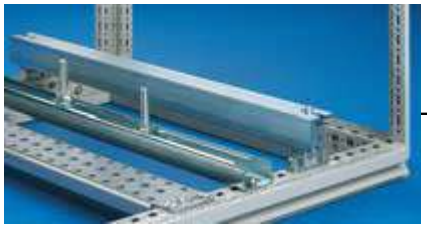
Floor configuration

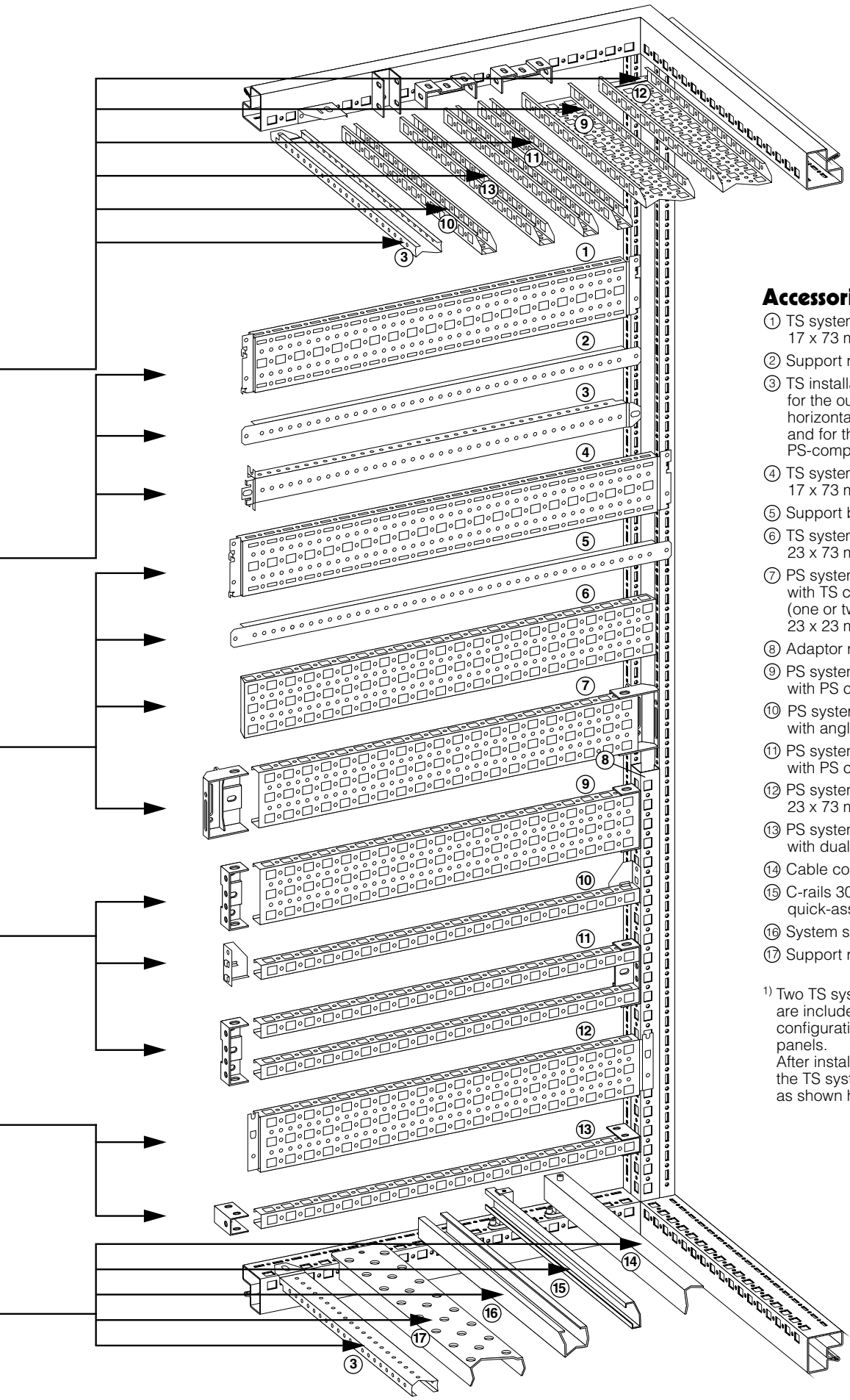


Installation with:

- Cable clamp rails
- C-rail with quick-assembly block or spacer bracket
- System support rails
- Support rails
- TS system chassis.







Roof configuration

System rails and system bars may be installed to the horizontal frame members in the width and depth of the enclosure.

Accessories:

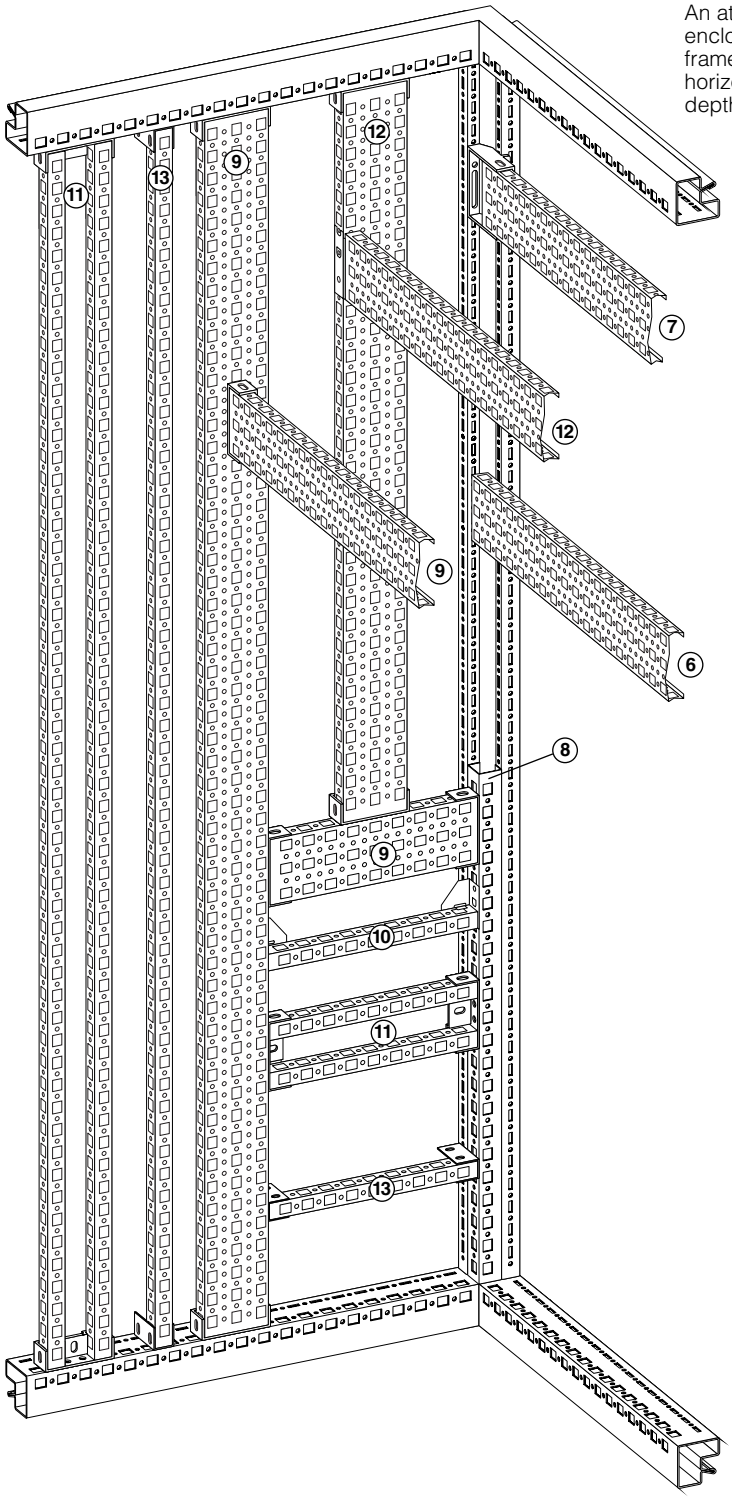
	Page
① TS system chassis, flanged, 17 x 73 mm for the outer level	974
② Support rail for the outer level	975
③ TS installation rails [1] 18 x 38 mm for the outer level, for the horizontal enclosure frame sections and for the adaptor rail for PS-compatibility ⑧	975
④ TS system chassis, flanged, 17 x 73 mm for the inner level	974
⑤ Support bar for the inner level	975
⑥ TS system chassis, flanged, 23 x 73 mm for the inner level	974
⑦ PS system chassis 23 x 73 mm with TS combination bracket (one or two system bars 23 x 23 mm) as an alternative	977
⑧ Adaptor rail for PS-compatibility	976
⑨ PS system chassis 23 x 73 mm with PS combination bracket	977
⑩ PS system bars 23 x 23 mm with angle bracket	976
⑪ PS system bars 23 x 23 mm with PS combination bracket	976
⑫ PS system chassis, without flange, 23 x 73 mm	977
⑬ PS system bars 23 x 23 mm with dual bracket	976
⑭ Cable collecting rail	898
⑮ C-rails 30/15 with quick-assembly block or spacer	980
⑯ System support rails	899
⑰ Support rail	899

[1] Two TS system chassis 18 x 38 mm are included as an installation aid in the configuration of enclosures with mounting panels.
After installing the mounting panel, the TS system chassis can be inserted, as shown here.

Base configuration

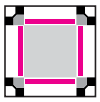
System chassis and installation rails may be mounted on the horizontal frame in both the width and depth.

. . . infinite flexibility



An attachment can be assembled at any given point in the TS 8 enclosure, not just with horizontal rails directly between the TS frame members (see previous page). By combining vertical and horizontal rails, any given installation level in the width, height and depth can be created.

■ Vertical mounting levels – PS-compatible

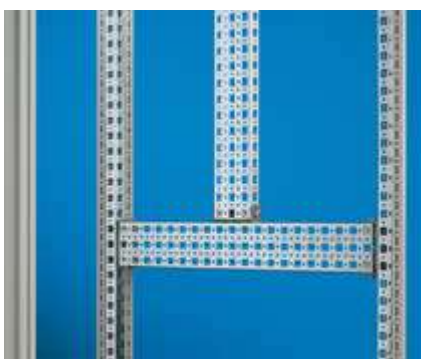


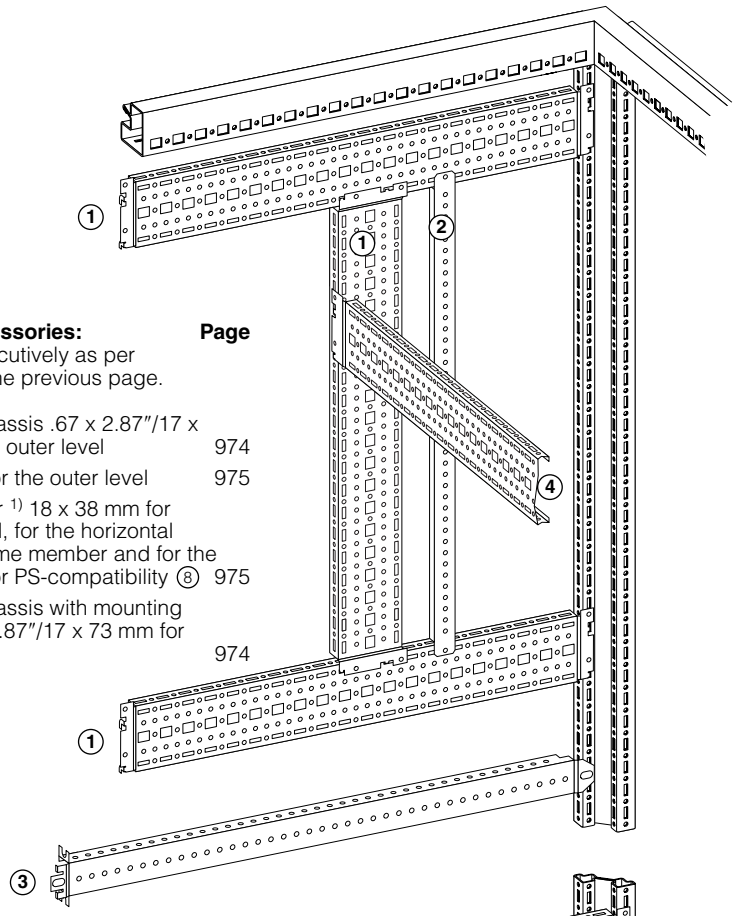
The basis for a second mounting level across the entire enclosure height is quickly created with two PS system chassis 23 x 73 mm ⑨. Installation between these two chassis can be done with PS system bars ⑩, ⑪ and ⑬, with PS system chassis ⑨ and PS system chassis with flanges ⑫. By using the adapter rails for PS-compatibility ⑧ installation across partial heights, depths or widths are easily achieved, enclosure dimensions permitting.

Installation accessories: numbered consecutively as per the diagram on the previous page.

	Page
⑥ TS system chassis, flanged 23 x 73 mm for the inner level	974
⑦ PS system chassis 23 x 73 mm with combination bracket TS (one or two system bars 23 x 23 mm may be used as an alternative)	977
⑧ Adaptor rail for PS-compatibility	976
⑨ PS system chassis 23 x 73 mm with PS combination bracket	977
⑩ PS system bars 23 x 23 mm with angle bracket	976
⑪ PS system bars 23 x 23 mm with PS combination bracket	976
⑫ PS system chassis, flanged 23 x 73 mm	977
⑬ PS system bars 23 x 23 mm with dual bracket	976

If PS system bars or PS system chassis are installed vertically to the roof or base frame, a PS rail is required as well for the horizontal sub-division.





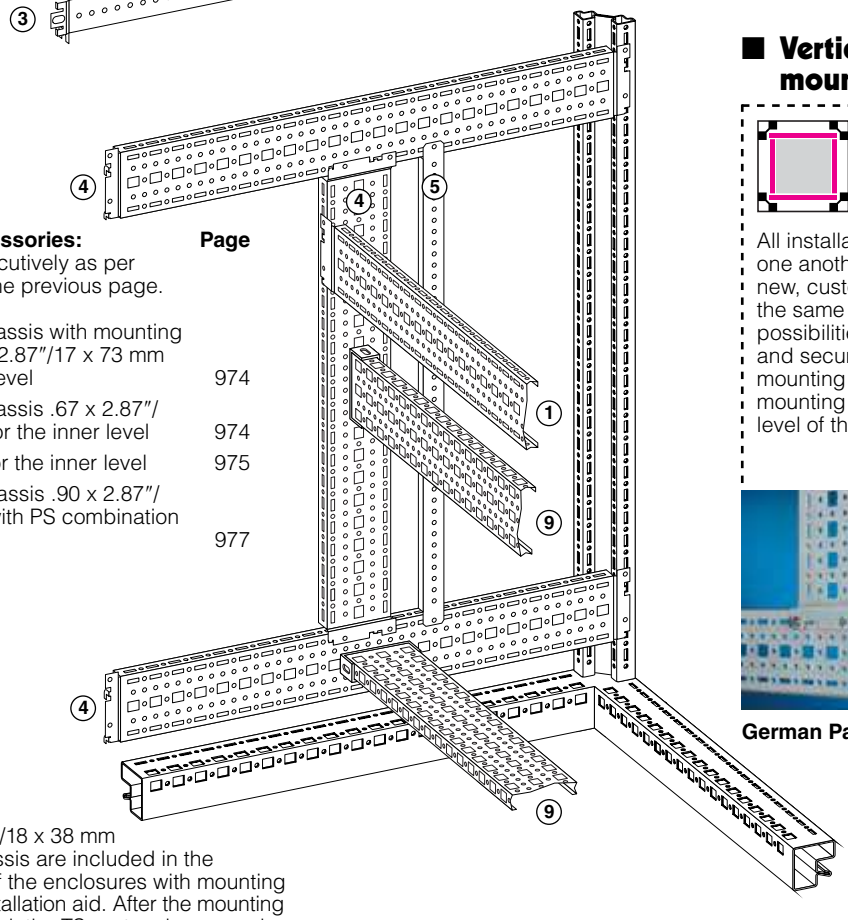
Installation accessories: **Page**
numbered consecutively as per the diagram on the previous page.

① TS system chassis .67 x 2.87″/17 x 73 mm for the outer level 974
② Support rail for the outer level 975
③ TS system bar [1] 18 x 38 mm for the outer level, for the horizontal enclosure frame member and for the adaptor rail for PS-compatibility ⑧ 975
④ TS system chassis with mounting flange .67 x 2.87″/17 x 73 mm for the inner level 974

■ Vertical outer mounting level

Optimum space utilization and fast assembly by mounting the TS system chassis with mounting flange directly onto the outer level of the TS 8 vertical frame. Simply lock into position.

German Patent No. 196 47 802



Installation accessories: **Page**
numbered consecutively as per the diagram on the previous page.

① TS system chassis with mounting flanges .67 x 2.87″/17 x 73 mm for the outer level 974
④ TS system chassis .67 x 2.87″/17 x 73 mm for the inner level 974
⑤ Support rail for the inner level 975
⑨ PS system chassis .90 x 2.87″/23 x 73 mm with PS combination bracket 977

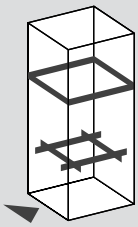
■ Vertical inner mounting level

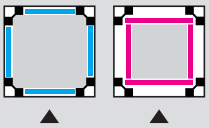
The availability of the inner mounting level of the TS 8 vertical frame, independent from the outer level, creates additional opportunities.
All installation systems may complement one another perfectly to create brand new, customer-specific solutions within the same enclosure. Finally, unlimited possibilities. Simply snap-into position and secure. Super-fast assembly by mounting the TS system chassis with mounting flange directly onto the inner level of the TS 8 vertical frame.

German Patent No. 196 47 802

[1] Two .70 x 1.50″/18 x 38 mm TS system chassis are included in the configuration of the enclosures with mounting panel as an installation aid. After the mounting panel is installed, the TS system bars may be used as illustrated here.

System rails





TS system chassis with mounting flange 17 x 73 mm

Very versatile with 5 rows of holes. For universal frame rack assembly or partial enclosure installations. Simply hang into the TS frame and secure.

Installation option between the vertical TS frame:
- All around on the outer mounting level.
- Variable height off-set on the inner mounting level.

May be installed in the enclosure width and depth, dimensions permitting.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
4 system chassis with mounting flanges, 16 sheet metal screws BZ 5.5 x 13 mm.

German Patent No. 196 47 802

For the outer mounting level*

For enclosure depth/ width inches/mm	PU	Part No. TS
16/ 400	4	**8612.140**
20/ 500	4	**8612.150**
24/ 600	4	**8612.160**
32/ 800	4	**8612.180**
40/1000	4	**8612.100**
48/1200	4	**8612.120**

* In conjunction with plug-type sidewalls, notched system chassis will be required, see page 905.

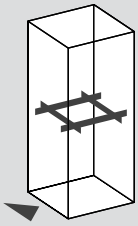
For the inner mounting level

For enclosure depth/ width inches/mm	PU	Part No. TS
16/ 400	4	**8612.040**
20/ 500	4	**8612.050**
24/ 600	4	**8612.060**
32/ 800	4	**8612.080**
36/ 900	4	**8612.090**
39/1000	4	**8612.000**
47/1200	4	**8612.020**

Optional accessories:

Fasteners,
see page 981.

Cable ties for quick assembly
SZ 2597.000,
see page 1010.



TS system chassis with mounting flange 23 x 73 mm

The alternative to the TS system chassis with mounting flange 17 x 73 mm above. With holes instead of slots at top and bottom for inserting captive clip nuts/threaded blocks.
Simply hang into the system holes of the TS vertical frame and secure.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
4 system chassis with mounting flanges, 16 sheet metal screws BZ 5.5 x 13 mm.

For the inner mounting level

For enclosure depth/ width inches/mm	PU	Part No. TS
20/500	4	**8612.550**
24/600	4	**8612.560**
32/800	4	**8612.580**

Optional accessories:

Fasteners,
see page 981.

Threaded blocks, captive or clip nuts
see page 982.

TS installation rails 18 x 38 mm

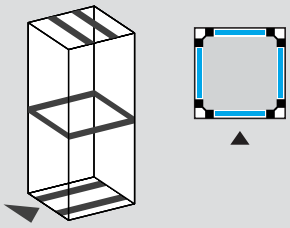
Installation options:
- Between the vertical TS enclosure sections on the outer fixing level.
- Between the horizontal TS enclosure sections top and bottom.
- May be installed in the enclosure width and depth, dimensions permitting.

Installation:
Simply locate and secure with a screw. The location system makes assembly and dismantling easier. It only needs to be secured on one side, but may be secured on both sides if required.

Note:
In enclosures with a mounting panel, 2 installation rails are already included in the standard configuration.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
4 installation rails,
8 sheet metal screws BZ 5.5 x 13 mm.



For enclosure width/ depth inches/mm	PU	Part No. TS
16/400	4	**8612.240**
20/500	4	**8612.250**
24/600	4	**8612.260**
32/800	4	**8612.280**

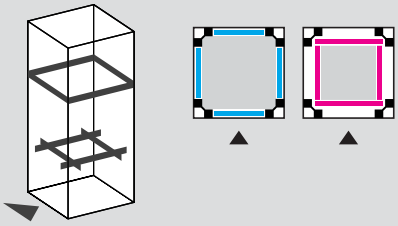
Optional accessories:

Fasteners,
see page 981.

Cable ties for quick assembly SZ 2597.000,
see page 1010.

Cable clamps,
see page 981.

US Patent No. 6 145 943
German Patent No. 197 37 673
European Patent No. 0 940 067
with validity for FR, GB, IT, SE



TS mounting bars

Installation options:
- Between the vertical TS enclosure sections, inner and outer mounting level.
- For PS and ES, can only be installed into the depth of the enclosure (mounting bar for the outer level).
- For the direct installation on the door stiffener frame.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
20 mounting bars,
40 sheet metal screws BZ 5.5 x 13 mm.

For the outer mounting level

For enclosure width/depth inches/mm	Length in inches/mm	PU	Part No. PS
16/400	13.38/340	20	**4694.000**
20/500	17.32/440	20	**4695.000**
24/600	21.25/540	20	**4696.000**
32/800	29.13/740	20	**4697.000**

Optional accessories:

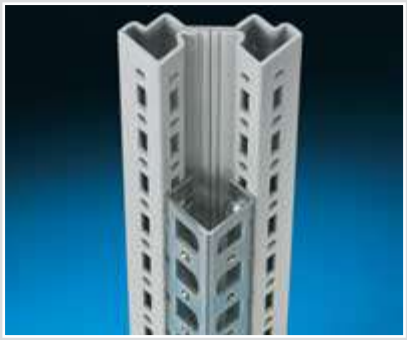
Fasteners,
see page 981.

Cable ties for quick assembly SZ 2597.000,
see page 1010.

For the inner mounting level and for direct installation to the door stiffener frame

For enclosure width/depth inches/mm	For door width inches/mm	Length in inches/mm	PU	Part No.	
–	16/ 400	11.42/290	20	**PS**	**4594.000**
16/400	20/ 500	15.35/390	20	**PS**	**4309.000**
20/500	24/ 600	19.29/490	20	**PS**	**4596.000**
24/600	–	23.23/590	20	**TS**	**8800.130**
–	32/ 800	27.17/690	20	**PS**	**4598.000**
32/800	36/ 900	31.10/790	20	**PS**	**4579.000**
–	40/1000	35.03/890	20	**PS**	**4599.000**

System rails



Adaptor rails for PS-compatibility

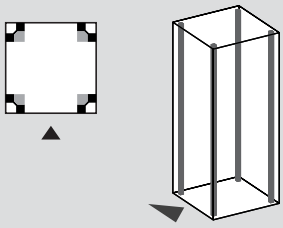
Installation in the vertical TS enclosure section (covering the entire enclosure height or partial sections) create compatibility with PS system accessories for interior installation:

- System bars 23 x 23 mm
- System chassis 23 x 73 mm
- Flanged system chassis 23 x 73 mm

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
4 adaptor rails,
40 sheet metal screws BZ 5.5 x 13 mm.

German Patent No. 19 647 781



Enclosure height inches/mm	PU	Part No. TS
71/1800	4	**8800.380**
79/2000	4	**8800.300**
87/2200	4	**8800.320**

Optional accessories:

Fasteners,
see page 981.

System rails for ES and AP

All rails, system chassis and installation components with PS Model Numbers can also be mounted in ES 5000 enclosures and AP universal consoles.

PS system bars .90″ x .90″ (23 x 23 mm)

Installation options:

- On the horizontal enclosure section
  – directly using angle brackets, dual brackets or PS combination brackets
- On the vertical enclosure section
  – directly using TS combination brackets
  – or the adapter rail for PS-compatibility together with angle brackets, dual brackets or PS combination brackets.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
12/6 PS system bars.

Length inches/mm	For HWD inches/ mm	PU	Part No. PS
11.61/ 295	16/ 400	12	**4169.000**
15.55/ 395	20/ 500	12	**4170.000**
19.49/ 495	24/ 600	12	**4171.000**
27.36/ 695	32/ 800	12	**4172.000**
35.24/ 895	39/1000	12	**4173.000**
43.11/1095	47/1200	6	**4174.000**
50.99/1295	55/1400	6	**4393.000**
66.73/1695	71/1800	6	**4176.000**
74.60/1895	79/2000	6	**4177.000**
82.48/2095	87/2200	6	**4178.000**

Additional parts needed:

U slide nuts,
see page 982.

Angle bracket, dual brackets or PS/TS combination brackets,
see page 979.

Adaptor rail for PS-compatibility,
see above.

Optional accessories:

Cable fastening, see page 1010.

Fasteners, see page 981.

Cable ties for quick assembly
SZ 2597.000, see page 1010.

PS system chassis .90″ x 2.87″ (23 x 73 mm)

Installation options:
- On the horizontal enclosure section
  – directly with the PS combination brackets
- On the vertical enclosure section
  – directly with the TS combination brackets
  – or the adaptor rail for PS-compatibility in conjunction with PS combination brackets or dual brackets.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
12/6 PS system bars

Length inches/mm	For HWD inches/ mm	PU	Part No. PS
11.61/ 295	16/ 400	4	**4374.000**
15.55/ 395	20/ 500	4	**4375.000**
19.49/ 495	24/ 600	4	**4376.000**
27.36/ 695	32/ 800	4	**4377.000**
35.24/ 895	39/1000	4	**4382.000**
43.11/1095	47/1200	4	**4378.000**
66.73/1695	71/1800	4	**4379.000**
74.60/1895	79/2000	4	**4380.000**
82.48/2095	87/2200	4	**4381.000**

! Additional parts needed:

U slide nuts,
see page 982.

PS/TS combination brackets,
see page 979.

Adaptor rails for PS-compatibility,
see left side.

+ Optional accessories:

Fasteners,
see page 981.

Cable ties for quick assembly
SZ 2597.000,
see page 1010.

PS system chassis with mounting flanges .90″ x 2.87″ (23 x 73 mm)

Installation options:
- Directly between the TS horizontal sections top and bottom.
- Between TS vertical sections with by using adaptor rails for PS-compatibility.

Versatility with 5 rows of holes for universal frame rack assemblies or partial assemblies. Simply hang into the system holes and secure.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
4 flanged system chassis,
8 sheet metal screws BZ 5.5 x 13 mm.

Installation into the enclosure width and depth* inches/mm	PU	Part No. PS
24/ 600	4	**4364.000**
32/ 800	4	**4365.000**
40/1000	4	**4373.000**
48/1200	4	**4367.000**

* For TS 8 only.

! Additional parts needed:

Adaptor rail for PS-compatibility
(for mounting to the vertical TS frame section),
see left side.

Installation into the enclosure depth PS, ES, AP universal console inches/mm	PU	Part No. PS
16/ 400	4	**4369.000**
20/ 500	4	**4370.000**
24/ 600	4	**4371.000**
32/ 800	4	**4372.000**
39/1000	4	**9967.655**

System rails

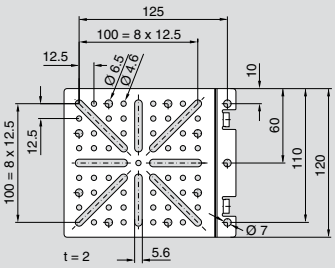
Small mounting plates

Sheet steel, zinc-plated, chromated.

Snap-in
the vertical TS enclosure section or TS flanged system chassis .67″ x 2.87″/ 17 x 73 mm on the inner or outer installation level.

Configuration:
4 mounting panels,
8 BZ 5.5 x 13 mm sheet metal screws.

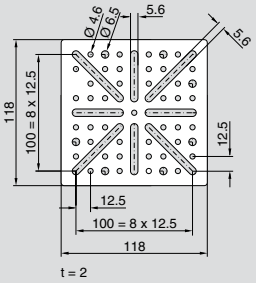
PU	Part No. TS
4	8612.400

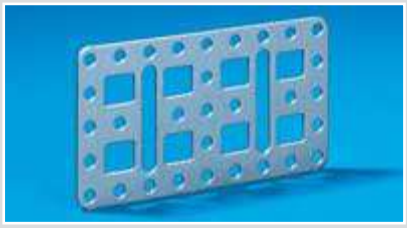


Screw-on, large
to any enclosure and installation accessory with a 1″/25 mm system hole pattern.

Configuration:
4 mounting panels,
8 BZ 5.5 x 13 mm sheet metal screws.

PU	Part No. TS
4	8612.410

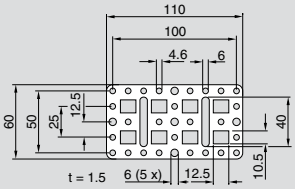


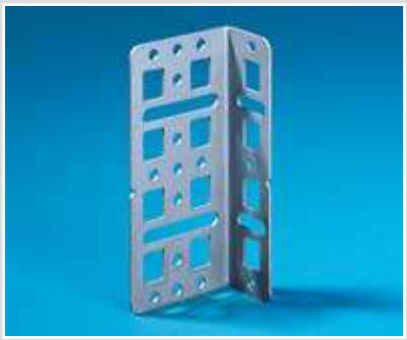


Screw-on, small

Configuration:
4 mounting panels,
12 self-tapping M5 x 10 mm screws.

PU	Part No. PS
4	4532.000





Mounting bracket

Screw-on to any enclosure or installation accessory with a 1″/25 mm system hole pattern.

Material:
Sheet steel, zinc-plated, chromated.

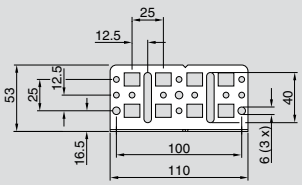
Configuration:
4 mounting brackets,
12 self-tapping M5 x 10 mm screws.

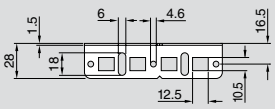
PU	Part No. PS
4	4597.000

Optional accessories:

Screws,
see page 981.

Cable ties for quick assembly
SZ 2597.000,
see page 1010.





Angle bracket

For fast installation of system bars .90″ x .90″/23 x 23 mm.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
1 set =
1 angle bracket, left,
1 angle bracket, right,
2 BZ 5.5 x 13 mm sheet metal screws.

PU	Part No. PS
12 sets	**4181.000**

Additional parts needed:

U slide nut (recommended: M6), see page 982.

Torx screws M6 x 12 mm, see page 981.

Dual bracket

For adjustable installation of 23 x 23 mm system bars.
May be installed flush with the inside mounting level or off-set to the outside.

Material:
Zinc die-cast

Configuration:
1 set =
1 dual bracket,
1 M6 x 12 mm screw,
1 M6 cage nut.

PU	Part No. PS
24 sets	**4182.000**

Additional parts needed:

U slide nut (recommended: M6), see page 982.

Torx-screws M6 x 12 mm, see page 981.

Combination bracket PS

For the installation of system chassis .90″ x 2.87″/23 x 73 mm or system bars .90″ x .90″/23 x 23 mm.

Installation options:
- Directly between the TS horizontal frame, top and bottom.
- Between vertical frame when adaptor rails for PS-compatibility are used.

Material:
Zinc die-cast

Configuration:
1 set =
1 combination bracket,
2 flat-head screws for counter sinking,
2 serrated washers.

PU	Part No. PS
24 sets	**4183.000**

Additional parts needed:

U slide nut (recommended: M6), see page 982.

Torx screws M6 x 12 mm, see page 981.

Adaptor rail for PS-compatibility (when mounted to the vertical frame), see page 976.

Combination brackets TS

For the installation of system chassis .90″ x 2.87″/23 x 73 mm or system bars .90″ x .90″/23 x 23 mm.

Installation options:
- Directly to TS vertical frame
  - installs in the standard 1″/25 mm system hole pattern
  - in approximately 2 mm increments (in conjunction with the assembly block) compatible with 19″ equipment, such as small swing frames.

Material:
Zinc die-cast

PU	Part No. TS
6 sets	**8800.330**

Configuration:
1 combination bracket,
1 assembly block,
3 BZ 5.5 x 13 mm sheet metal screws.

Additional parts needed:

U slide nut (recommended: M6), see page 982.

Torx screws M6 x 12 mm, see page 981.

System rails

C-rails 30/15 for TS/PS/ES

per EN 50 024

Installation options:
- Between TS vertical enclosure sections, when adaptor rails for PS-compatibility are used.
- To the TS horizontal enclosure sections.
- In the cable chamber width.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
6 C-rails

Enclosure width and depth inches/mm	Length inches/mm	PU	Part No. PS
20/ 500	17.91/ 455	6	**4943.000**
24/ 600	21.85/ 555	6	**4944.000**
32/ 800	29.72/ 755	6	**4945.000**
40/1000	37.60/ 955	6	**4946.000**
48/1200	45.47/1155	6	**4947.000**

Additional parts needed:
Spacer bracket or quick-assembly block, see page 984.

Optional accessories:
Cable clamps, see right page.

Alternative options:
Support rail TS 35/15, see page 983.

C-rails for TS

Due to the universally designed attachment piece, C-rails may be fastened to the inner or outer level of the TS 8 frame.

Material:
Sheet steel, chromated

Configuration:
4 C-rails,
4 brackets, left,
4 brackets, right,
16 sheet metal screws BZ 5.5 x 13 mm.

For enclosure width and depth inches/mm	Length inches/mm	PU	Part No. DK
16/ 400	11.73/298	4	**7828.040**
20/ 500	15.67/398	4	**7828.050**
24/ 600	19.61/498	4	**7828.060**
32/ 800	27.48/698	4	**7828.080**
36/ 900	31.42/798	4	**7828.090**
40/1000	35.35/898	4	**7828.100**

Optional accessories:
Cable clamps, see right page.

C-rails for TS/PS/ES

Installation options:
- Directly between the horizontal enclosure sections, top and bottom.
- Between the TS vertical frame sections by using the adaptor rail for PS-compatibility.
- Directly between PS/ES vertical frame sections.

May be installed in the enclosure width and depth, dimensions permitting.

Installation:
Fit the brackets onto the rail, snap into the system holes, screw-on and secure.

Material:
Sheet steel, zinc-plated, chromated.
Bracket: zinc die-cast

Configuration:
6 C-rails,
6 brackets, left,
6 brackets, right,
12 set screws,
12 sheet metal screws BZ 5.5 x 13 mm.

Enclosure width and depth inches/mm	Length inches/mm	PU	Part No. DK
16/ 400	11.42/ 290	6	**7091.000**
20/ 500	15.35/ 390	6	**7092.000**
24/ 600	19.29/ 490	6	**7095.000**
32/ 800	27.17/ 690	6	**7096.000**
40/1000	35.43/ 900	6	**7100.000**
48/1200	43.31/1100	6	**7102.000**

Additional parts needed:
Adaptor rail for PS-compatibility (when mounting on a vertical TS enclosure section), see page 976.

Optional accessories:
Cable clamps, see page 981.

US Patent No. 5 052 565
German Patent No. 39 30 161
GB Patent No. 2 236 374
French Patent No. 2 651 945
Italian Patent No. 0 124 3002

Cable clamps

For fastening cables to C-rails, with plastic insert.

Material:
Sheet steel, zinc-plated, chromated.

For cable diameter inches/mm		PU	Part No. DK
0.24 – 0.55	6 – 14	25	**7077.000**
0.47 – 0.71	12 – 18	25	**7078.000**
0.71 – 0.87	18 – 22	25	**7097.000**
0.87 – 1.02	22 – 26	25	**7097.220**
1.02 – 1.18	26 – 30	25	**7097.260**
1.18 – 1.34	30 – 34	25	**7097.300**
1.34 – 1.50	34 – 38	25	**7097.340**
1.50 – 1.65	38 – 42	25	**7098.000**
2.20 – 2.52	56 – 64	25	**7099.000**

Torx screws

M6 x 12 to fit:
- U slide nuts for system chassis with or without flange (PS 4179.000)
- Captive/clip nuts (PS 4164.000)
- Threaded blocks (PS 4162.000)

Torx drive for optimum transmission of torques, and extended tool life, and increased safety and reliability when tightening and loosening screw connections.

Torx sheet metal screws

For round holes 4.5 mm diameter in the enclosure sections, system bars and system chassis with or without mounting flanges.

Self-tapping screws

For round holes 4.5 mm diameter in the enclosure sections, system bars and system chassis with or without mounting flanges.

Drilling screws

Punching, drilling and screwing in a single operation using electric or pneumatic tools.

For metal thickness: 0.8 – 3 mm
Length: 6 mm
Usable length: 9.5 mm
Width across flats: 8 mm

Type of screw	Dimensions	PU	Part No. SZ
Torx screws	M6 x 12 mm	300	**2504.500**
Torx screws	BZ 5.5 x 13 mm	300	**2486.500**
Self-tapping screws:			
● Hex screws	M5 x 10 mm	500	**2504.000**
● Posidrive raised countersunk screws	M5 x 12 mm	500	**2488.000**
● Pan head screws, posidrive	M5 x 12 mm	500	**2489.000**
Self-tapping screws	–	300	**2487.000**

Bolts

For use with slide nuts and self-retaining cage nuts.

Bolt size	PU	Part No. SZ
M4 x 12	50	**9962.542**
M5 x 12	50	**9962.543**
M6 x 12	50	**9962.544**
M8 x 12	50	**9962.545**

System rails

U slide nuts for system bars

Suitable for fastening components to the system bar or system chassis with or without mounting flange.
For mounting system bars and system chassis without mounting flanges on angle brackets, dual brackets and combination brackets, we recommend U slide nuts for system bars with M6 thread (PS 4179.000).

Thread	PU	Part No. PS
M4	1 pack	**4119.000**
M5	1 pack	**4157.000**
M6	1 pack	**4179.000**
M8	1 pack	**4180.000**

1 pack = 20 pieces

Optional accessories:

Torx screws M6 x 12 mm,
(for PS 4179.000),
see page 981.

Captive/clip nuts/ threaded blocks

For rectangular system holes 10.5 x 12.5 mm in:
- Horizontal TS frame
- PS/ES/AP universal consoles
- System rails

Captive/clip/cage nut
The compression spring, designed as an insertion aid, ensures reliable mechanical and electrical connection in the system punchings.

Thread	PU	Part No. PS
M6	1 pack	**4164.000**
M8	1 pack	**4165.000**

1 pack = 50 pieces

Threaded blocks
with snap-off insertion aid in zinc die-cast.

Thread	PU	Part No. PS
M6	1 pack	**4162.000**
M8	1 pack	**4163.000**

1 pack = 50 pieces

German Patent No. 34 76 725
European Patent No. 0 146 072
with validity for DE, FR, GB, IT

Captive/clip/cage nut
The nuts are inserted from the outside, thereby enabling the use of installation points at the same height or width level around corners.
The spring cage also ensures reliable electrical connection in the system holes.

Thread	PU	Part No. TS
M6	1 pack	**8800.340**
M8	1 pack	**8800.350**

1 pack = 50 pieces

Support rail for TS/PS/ES TS 35/15

per EN 50 022

For mounting on the TS vertical section via an assembly block (see page 985) or adaptor rail (see page 976).

For enclosure width and depth inches/mm	Support rail length inches/mm	PU	Part No. PS
20/ 500	17.91/ 455	6	**4933.000**
24/ 600	21.85/ 555	6	**4934.000**
32/ 800	29.72/ 755	6	**4935.000**
40/1000	37.60/ 955	6	**4936.000**
48/1200	45.47/1155	6	**4937.000**

Support rail for KL/AE TS 35/7.5 and TS 35/15

per EN 50 022

Length specially designed for mounting on the profile strips of the terminal boxes.

For enclosure width inches/mm	Support rail length inches/mm	Model TS	PU	Part No. SZ
6/150	5.39/137	35/7.5	10	**2314.000**
8/200	7.36/187		10	**2315.000**
12/300	11.30/287		10	**2316.000**
16/400	15.23/387		10	**2317.000**
20/500	19.17/487	35/15	10	**2318.000**
24/600	23.11/587		10	**2319.000**

Support rail TS 35

per EN 50 022

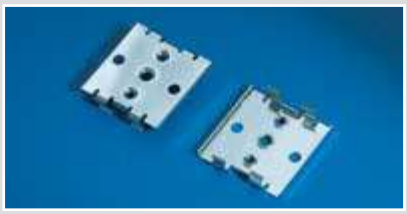
Design	Length ft/m	PU	Part No. SZ
TS 35/15	6.5/2	6	**2313.150**
TS 35/7.5	6.5/2	6	**2313.750**

Material:
Sheet steel, zinc-plated, chromated.

Optional accessories:

Assembly systems,
see below, or page 984.

Mounting clip,
see below.



Mounting clip for cross rail

For fast, secure attachment of:
- Cable channels
- Mounting panels
- Mounting rails

on cross rail TS 35/7.5 and TS 35/15 per EN 50 022.
Simply pre-assemble the mounting clip on the part to be installed, then snap into position on the cross rail.

PU	Part No. SZ
30	**2309.000**

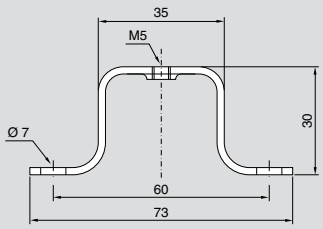
German Patent No. 195 44 083
European Patent No. 0 776 077
with validity for ES, FR, IT, SE

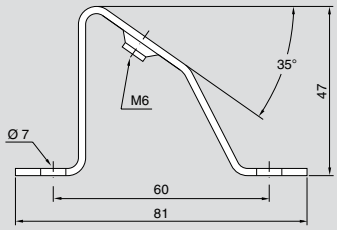
Rail mounting bracket

For individual rail mounting.

Material:
Sheet steel, zinc-plated, chromated.

Mounting bracket	PU	Part No. SZ
flat	20	**2365.000**
slanted	20	**2366.000**





System rails

Spacer bracket

For fastening C-rails, support rails or cable collecting rails (mounting angle). Pipes (Ø 20 mm) used for cable routing rails can be fastened on side of bracket.
Fastening points with M8 thread.

Material:
Zinc die-cast

PU	Part No. PS
6 sets	**4199.000**

Configuration:
1 set =
1 spacer bracket,
2 M8 x 16 mm screws,
2 spring lock washers,
2 M8 captive nuts,
2 serrated washers,
2 sheet metal screws.

Quick-assembly block

For a variety of installation options.

Material:
Zinc die-cast

Configuration:
12 quick-assembly blocks,
12 M6 threaded blocks,
24 M6 x 12 mm screws,
24 M6 square nuts.

PU	Part No. PS
12	**4133.000**

German Patent No. 42 33 205

Angle bracket

For assembling mounting rails and mounting surfaces at 45° angles.

Material:
Angle bracket: zinc die-cast
Insulating pieces: plastic

Configuration:
1 set =
1 angle bracket,
1 insulating piece,
1 insulating material,
2 assembly screws,
1 M6 threaded block.

PU	Part No. PS
12	**4134.000**

German Utility Model No. G 92 13 277

TS adaptor bracket

For mounting
- System lights (see pages 997/998)
- Standard DIN ducts (50 or 100 mm wide)

to the TS 8 vertical section.

For special TS 8 cable ducts, see page 964.

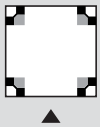
Material:
Sheet steel, zinc-plated, chromated.

Configuration:
6 adaptor brackets,
6 BZ 5.5 x 13 mm sheet metal screws.

PU	Part No. TS
6	**8800.360**

TS mounting block

Installation in the vertical TS profiles for mounting of PS-compatible individual components.



PU	Part No. TS
4	**8800.310**

Material:
Zinc-plated die-cast

Configuration:
4 mounting blocks,
8 BZ 5.5 x 13 mm sheet metal screws.

TS adaptor for wiring systems

Adaptor rail for the Lütze LSC wiring system.

Configuration:
6 adaptor rails,
24 spring lock washers,
24 BZ 5.5 x 13 mm screws.

For enclosure depth inches/mm	PU	Part No. TS
16/400	1 set	**8800.140**
20/500		**8800.150**
24/600		**8800.160**
32/800		**8800.180**

Installation kit for the Moeller MR 25 wiring system.

Configuration:
2 mounting brackets,
4 mounting rails,
includes installation hardware.

For enclosure depth inches/mm	PU	Part No. TS
16/400	1 set	**8800.240**
20/500		**8800.250**
24/600		**8800.260**

Adaptor bracket for Siemens SI8LW wiring system.

Configuration:
16 adaptor angle,
32 contact washers,
32 M8 captive nuts,
32 M8 x 16 mm hex screws.

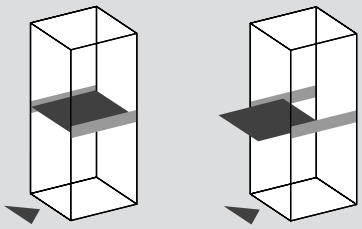
Adaptor bracket	PU	Part No. PS
Siemens	1 set	**4571.000**

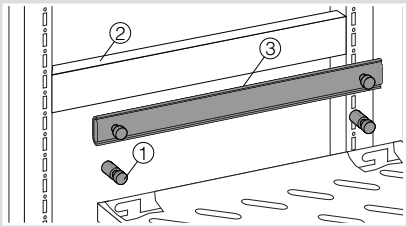
1 set = 16 pieces

Additional parts needed:

Adaptor rail for PS-compatibility when installing in TS,
see page 976.

For enclosure frame without 19″/482.6 mm mounting rails





Component shelves vented and solid

Two models:
Maximum load capacity 110 lbs/50 kg, maximum capacity 220 lbs/100 kg.

A mounting kit is usually needed for fixed and fully extendable installation ②, the kit depends on the enclosure depth and the type of component shelf selected.
Telescopic rails ③ will be required for the fully extendable installation version. Fastening bolts ① will be replaced by the rails.
For enclosures without 19″/482.6 mm rack provision.
Component shelf depth = enclosure depth – 4″/100 mm.

Color:
RAL 7035 light grey
RAL 7032 pebble grey*

Configuration:
Shelves including installation hardware.

Technical description:
Sheet steel 16 ga/14 ga; 1.5/2 mm, painted RAL 7035 light grey. Perforated to prevent heat accumulation. Fastening bolts ①, installs in the 1″/25 mm system hole pattern and installation holes for handle. Simply insert the component shelf into the support bolt and lock.
Load capacity: 110 lbs/50 kg / 220 lbs/100 kg.
The 220 lb/100 kg version has a height of 45 mm and a mounting rail instead of bolts.

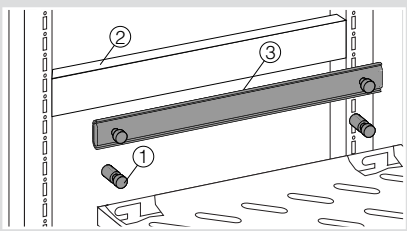
Note:
Not suitable for use in metric TS 8 network enclosures or ISP/ASP racks without 19″ rails.

Component shelves for the enclosure frame for fixed installation and full extension				
Maximum load capacity		110 lbs/50 kg	110 lbs/50 kg	110 lbs/100 kg
Version		vented	solid	vented
Enclosure width	Component W x D shelves	**Part No. DK**	**Part No. DK**	**Part No. DK**
24″/600 mm	471 x 400 mm	**7164.035**	**7264.035**	**7464.035**
	471 x 500 mm	**7165.035**	**7265.035**	**7465.035**
	471 x 600 mm	**7166.035**	**7266.035**	**7466.035**
	471 x 700 mm	**7166.735**	**–**	**7466.735**
32″/800 mm	671 x 400 mm	**7184.035**	**–**	**7484.035**
	671 x 500 mm	**7185.035**	**–**	**7485.035**
	671 x 600 mm	**7186.035**	**–**	**7486.035**
	671 x 700 mm	**7186.735**	**–**	**7486.735**

*** To order component shelves in RAL 7032 pebble grey, please use Part No. extension xxxx.000.**

! Additional parts needed:
Mounting kit for component shelves, see pages 987/988.

+ Optional accessories:
Telescopic slides, see below.



Telescopic rails for component shelves

Two models:
Maximum load capacity 110 lbs/50 kg, maximum load capacity 220 lbs/100 kg.
Fully extendable.
Fixed component shelves are easily converted to fully extendable installations.
Replace the fastening bolts ① or mounting rails by telescopic slides ③ and lock at mounting kit for component shelves ②.

Technical description:
For installation on a 1″/25 mm system hole pattern in the enclosure depth, lockable.
Load capacity per pair: 110 lbs/50 kg; 220 lbs/100 kg.

Material:
Sheet metal, zinc-plated, chromated.

For component shelf depth inches/mm	Part No. DK 110 lbs/ 50 kg	Part No. DK 220 lbs/ 100 kg
12/300	**7051.000**	**–**
16/400	**7061.000**	**7064.000**
20/500	**7081.000**	**7065.000**
24/600	**7161.000**	**7066.000**
28/700	**7161.700**	**7066.700**

PU = 1 pair

For enclosure frame without 19″/482.6 mm mounting rails

Component shelves, two-part, with telescopic pull-out for TS, FR, PS, ES

For fastening to the enclosure frame. The component shelves can be pulled out independently on telescopic slides. A mounting kit to fit the enclosure depth and the enclosure type is required for installation.

Load capacity:
55 lbs/25 kg surface load per shelf, static

Material:
Sheet steel

Color:
RAL 7032 pebble grey/RAL 7035 light grey

Configuration:
2 shelves with handles and telescopic slides.

For enclosure width inches/mm	Size of component shelf (W x D) inches/mm	Part No. DK RAL 7032	Part No. DK RAL 7035
24/600	8.66 x 20/220 x 500	**7183.200**	**7183.205**
32/800	12.60 x 20/320 x 500	**7183.210**	**7183.215**

Note:
Not suitable for use in metric TS 8 network enclosures or ISP/ASP racks.

Additional parts needed:
Mounting kit for component shelves, see below or page 988.

Mounting kit for component shelves in TS

Simply hang into the inner mounting level of the TS 8 profile and secure. One pack contains installation hardware for 2 component shelves.

Load capacity:
220 lbs/100 kg static load

Material:
Sheet steel, zinc-plated, chromated.

Installation in enclosure depth inches/mm	PU	Part No. TS
20/ 500	4	**8612.050**
24/ 600	4	**8612.060**
32/ 800	4	**8612.080**
36/ 900	4	**8612.090**
40/1000	4	**8612.000**

Configuration:
Two mounting brackets, including installation hardware.

Mounting kit for component shelves in QR

For installing between the front and rear frame within the 1″/25 mm system holes.

Load capacity:
110 lbs/50 kg, 220 lbs/100 kg static load

Material:
Sheet steel, zinc-plated, chromated.

Enclosure depth inches/mm	PU set	Part No. DK 110 lbs/50 kg	Part No. DK 220 lbs/100 kg
24/600	1	**7526.970**	–
32/800	1	**7526.975**	–
36/900	1	**7526.977**	**7526.976**

Configuration:
Two mounting brackets, including installation hardware.

Mounting kit for DK component shelves in PS, ES, PC, AP universal console

Simply slide into the cabinet frame and secure. One pack contains installation hardware for 2 component shelves.

Load capacity:
220 lbs/100 kg static load

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
System chassis with mounting flanges and installation hardware.

Installation in enclosure depth inches/mm	PU	Part No. PS/DK
20/500	4	**4370.000**
24/600	4	**4371.000**
32/800	4	**4372.000**

Maximum base depth = enclosure depth – 4″/100 mm.

For enclosure frame without 19″/482.6 mm mounting rails

Mounting kit for component shelves in FR

Two versions:
Maximum load capacity 110 lbs/50 kg, maximum load capacity 220 lbs/100 kg. The mounting kit is simply fitted in the depth between two flexRack mounting angles. For heavy loads, we recommend the use of a support rail. The mounting kit is only suitable for enclosures without 19″ rails or for partial installation with 19″ rails.

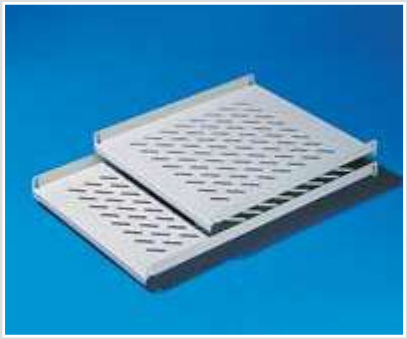
Material:
Sheet steel, zinc-plated, chromated.

Supply includes:
2 mounting rails,
installation hardware included.

For enclosure depth inches/mm	PU	Part No. FR	
		110 lbs/ 50 kg	220 lbs/ 100 kg
24/600	1 set	**7865.000**	**7952.600**
32/800	1 set	**7866.000**	**7952.800**
36/900	1 set	**7952.900**	**7952.900**

Optional accessory:
Mounting rails, see page 730.

Alternative option:
Mounting kit FR 2102.290 – .310, see page 992, in conjunction with component shelves, see page 991.



Component shelves for fixed installation in 24″/600 mm wide PC, PS, ES

Without additional mounting kit, for direct mounting on the enclosure frame. Simply hang into the 4 screws and secure.

Material:
Sheet steel

Finish:
Powder painted textured in RAL 7035 light grey.

Configuration:
Complete with installation hardware.

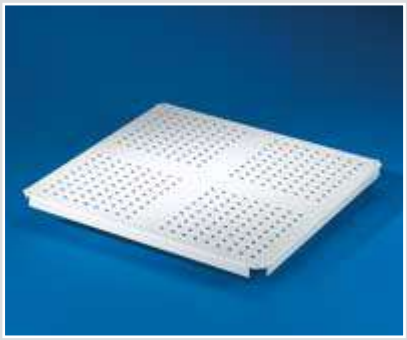
Note:
Not in conjunction with viewing doors.

For enclosure depth inches/mm		Support area width x depth inches/mm	Part No. PC
PC*	PS, ES		
26/650	24/600	20.07 x 21.85/ 510 x 555	**4619.660**
34/850	32/800	20.07 x 29.72/ 510 x 755	**4619.680**

* Based on PS and ES.

Optional accessory:
Socket strip 230 V, length 18.50″/470 mm, see page 1008.

Fastening bolts for vented component shelves DK 7115.000, see page 993.



Component shelves for fixed installation in TS

The quick version for fixed installation of component shelves. Hook the mounting pieces into the frame and lay-in the component shelf. Cannot be combined with telescopic slides.

Load capacity:
165 lbs/75 kg static load

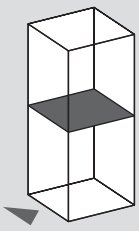
Material:
Sheet steel, painted

Color:
RAL 7035 light grey

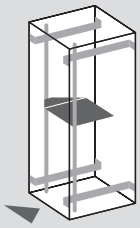
Configuration:
Component shelves, includes installation hardware.

Note:
Not suitable for installation in double door enclosures.

For enclosure		Part No. DK
Width inches/mm	Depth inches/mm	
24/600	24/ 600	**7828.660**
24/600	32/ 800	**7828.680**
24/600	36/ 900	**7828.690**
32/800	24/ 600	**7828.860**
32/800	32/ 800	**7828.880**
32/800	36/ 900	**7828.890**
32/800	40/1000	**7828.800**



For one set of 19″/482.6 mm mounting rails



Component shelf, 1 U, fixed installation, 19″/482.6 mm

The 4″/100 mm deep component shelf is the ideal support surface for small active components such as modems or mini-hubs on 19″/482.6 mm.

Load capacity:
22 lbs/10 kg static load

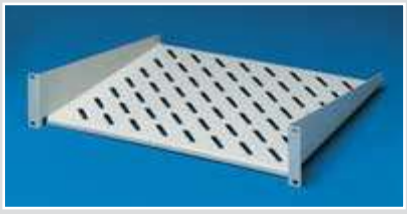
Material:
Sheet steel, painted

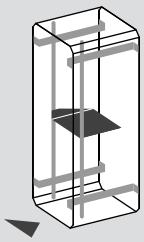
Color:
RAL 7035 light grey

Component shelf inches/mm	Part No. DK
5.51/140	**7119.140**

Additional parts needed:

Captive nuts, screws,
see page 1032.





Component shelf, 2 U, fixed installation, 19″/482.6 mm

If only one pair of 19″/482.6 mm mounting rails is available for mounting a component shelf, this version offers a particularly cost-effective solution. Retrofitting telescopic slides is not possible.

Load capacity:
55 lbs/25 kg static load

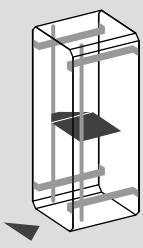
Material:
Sheet steel, painted

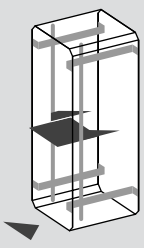
Color:
RAL 7035 light grey

Component shelf inches/mm	Part No. DK
10/250	**7119.250**
16/400	**7119.400**

Additional parts needed:

Captive nuts, screws,
see page 1032.





Component shelf, 2 U, for fixed installation or full extension, 19″/482.6 mm

Suitable for installation in all enclosures with only one pair of 19″/482.6 mm mounting angles and all swing frames via flange mounting, 19″/482.6 mm.

Load capacity:
55 lbs/25 kg surface load, static

Material:
Sheet steel, painted

Color:
RAL 7035 light grey/RAL 7032 pebble grey

Configuration:
1 component shelf,
2 installation brackets,
installation hardware.

Fixed installation or full extension*

Width x Depth inches/mm	Part No. DK	
	RAL 7035	RAL 7032
15.35 x 12/ 390 x 300	**7148.035**	**7148.000**

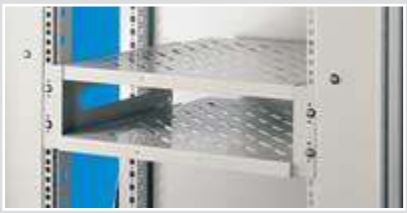
* Fully extendable telescopic slides DK 7051.000 ordered separately.

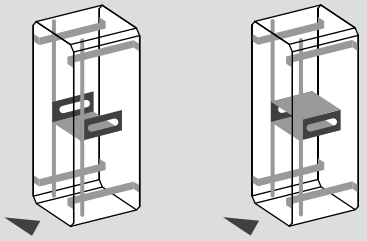
Optional accessory:

Telescopic slides,
see page 986.

Handle,
see page 993.

For one set of 19″/482.6 mm mounting rails





3 U side panels for 19″/ 482.6 mm component shelves fixed installation

For attaching component shelves to a single pair of 19″/482.6 mm mounting rails. The component shelves are screwed to the 3 U side panels.
Either one or two component shelves may be installed. Combination with telescopic slides is not possible.

Load capacity:
66 lbs/30 kg static load

Material:
Sheet steel, painted

Color:
RAL 7035 light grey/RAL 7032 pebble grey

Configuration:
2 side panels

Depth of side panels inches/ mm	For component shelf DK	Part No. DK	
		RAL 7035	RAL 7032
12/300	7143.035	**7146.035**	**7146.000**
16/400	7143.035	**7147.035**	**7147.000**
16/400	7144.035		
16/400	7145.035		

PU = 2 pieces

Optional accessories:
Component shelves, 19″/482.6 mm, see right page.

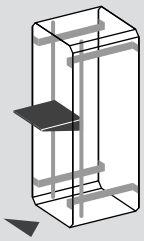
19″/482.6 mm writing board for installing to mounting rails

The writing board is fastened directly between the 19″/482.6 mm mounting rails without any additional assembly work.
The writing board has a height of 3 U and a support area of approximately 18 x 12″/ 450 x 295 mm. It can be used as a support for measuring or splicing equipment during maintenance and wiring work.

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

Writing board inches/mm	Part No. DK
17.71 x 11.64/ 450 x 295	**7183.100**



AE shelf with pull-out frame

The vented shelf is inserted into the pull-out frame of wallmount enclosure DK 7644.000 and may also be screwed-in for additional stability. In this way, an additional support surface can be created with very little effort. Additional captive nuts may be clipped into the system holes of the frame, even after the shelf has been inserted.

Material:
Sheet steel

Color:
RAL 7035 light grey

Width x Depth inches/mm	Part No. DK
17.56 x 7.68/ 446 x 195	**7644.400**

For two sets of 19″/482.6 mm mounting rails

Heavy-duty component shelves

For static installation between two 19″/482.6 mm mounting levels.
Not suitable for combination with telescopic slides.

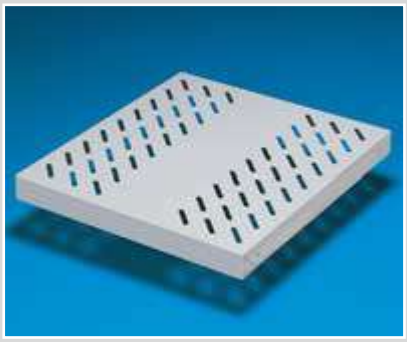
Load capacity:
165 lbs/75 kg static load

Configuration:
Component shelf including installation hardware.

For DK-TS
The component shelf is installed directly onto the mounting rails and should be selected depending on the design of the mounting rails.

Material:
Sheet steel, zinc-plated

Design of mounting rail	Distance between level inches/mm	Part No. DK
C-shaped	20/498	**7828.950**
C-shaped	24/598	**7828.960**
C-shaped	28/698	**7828.970**
L-shaped	20/498	**7828.951**
L-shaped	24/598	**7828.961**
L-shaped	28/698	**7828.971**



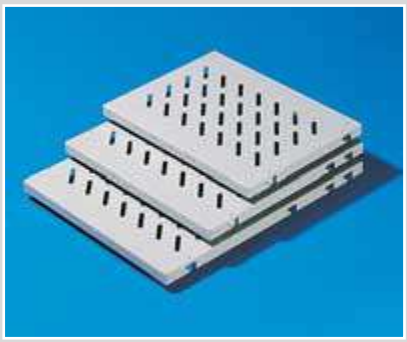
For QR
The component shelf may be permanently installed in all QR network enclosures with cranked mounting rails.

Material:
Sheet steel

Color:
RAL 7035 light grey

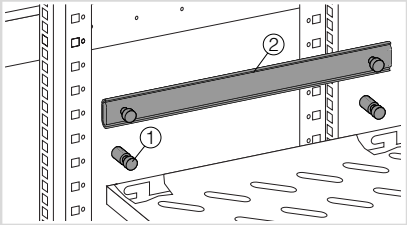
Width x Depth inches/mm	Part No. DK
17.83 x 19.29/ 453 x 490	**7145.535**

Distance between levels:
19.68″/498 mm



Component shelves

The component shelves may be used in TS 8 network enclosures with two pairs of 19″/482.6 mm mounting rails.
The component shelves are fastened to the sides on the 19″/482.6 mm mounting rails with spacers ① in U-increments. (Exception: In FR, a separate mounting kit is required). Depending on their depth, the component shelves have several attachment points so the distance between the 19″/482.6 mm mounting rails varies within limits. Each component shelf attached in this way can be upgraded to full extension using telescopic slides. To achieve this, the telescopic slides ② are screwed on instead of the spacers ①.



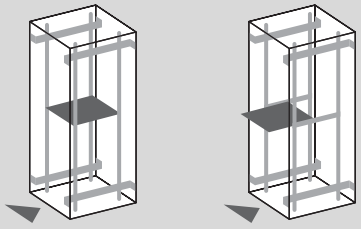
Note:
In conjunction with 3 U side panels, also suitable for installation on just one pair of 19″/482.6 mm mounting rails.

Load capacity:
110 lbs/50 kg static load

Material:
Sheet steel

Color:
RAL 7035 light grey/RAL 7032 pebble grey*

Configuration:
Component shelf, including installation hardware for fixed installation.



Width inches/ mm	Depth inches/ mm	Attachment distance inches	Part No. DK
16.10/ 409	12/300	7.87	**7143.035**
	16/400	9.84/13.78	**7144.035**
	20/500	9.84/13.78/15.75	**7145.035**
	24/600	13.78/15.75/19.67	**7145.635**
	28/700	15.75/21.65/23.62	**7145.735**

*** To order in RAL 7032, please add extension .000 to the Part No.**

Optional accessories:

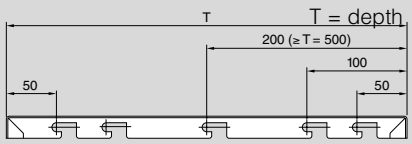
Telescopic rails,
see page 986.

3 U side panels for installation into a single 19″ mounting surface, see left page.

Additional parts needed:

If L-shaped mounting rails are used, adaptor DK 7827.300 is required,
see page 1031.

For installation in FR: mounting kit for component shelves, see page 992.



For two sets of 19″/482.6 mm mounting rails

Installation kit for 19″ component shelves in FR flexRack

For fixed installation or full extension.
For two types of applications:

19″/482.6 mm mounting surface, off-set
The installation kit installs between two 19″/482.6 mm mounting surfaces in the Rittal flexRack.

Material:
Sheet steel

Finish:
Zinc-plated, chromated

Configuration:
2 depth bars with installation hardware.

Enclosure depth inches/mm	Base depth inches/mm	Distance between levels	Part No. FR
24/600	12/300 – 16/400	15/381	**7952.060**
32/800	12/300 – 16/400	15/381	**7952.060**
32/800	12/300 – 24/600	23/581	**7952.080**
24/600 – 36/900	16/400 – 28/700	13/331 – 30/770[1)]	**7952.090**

Maximum depth of component shelves = enclosure depth – 8″/200 mm.
[1)] completely adjustable.

19″/482.6 mm mounting rails installed directly on the frame of a 24″/600 mm wide FR flexRack
The mounting kit is installed on the enclosure frame with one or two pairs of 19″ mounting rails.

Note:
Installation of the component and shelf does not require 19″ rails.

For enclosure depth inches/mm	Maximum base depth inches/mm	Part No. FR
24/600	16/400	**2102.290**
32/800	24/600	**2102.310**
36/900	28/700	**2102.300**

Optional accessories:
Telescopic slides,
see page 986.

Installation kit for component shelves in TS/PS/ES

For the installation between front and rear mounting rails, or 19″/482.6 mm adaptor pieces in 24″/600 mm wide enclosures.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
2 depth bars with installation hardware.

Enclosure depth inches/mm	PU	For TS enclosures	For PS/ES enclosures
		Part No. TS	**Part No. PS**
20/500	1 set	**8800.550**	**4543.000**
24/600	1 set	**8800.560**	**4544.000**
32/800	1 set	**8800.580**	**4554.000**

Maximum depth of component shelves = enclosure depth – 4″/100 mm

Additional parts needed:
19″ adapter mounting rails or
19″ adapter pieces,
see page 1026.

Component shelf 1 U, depth-adjustable

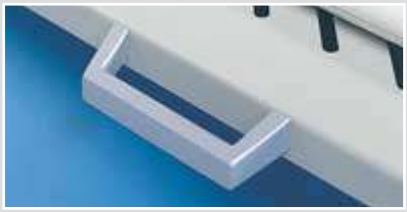
For enclosure independent mounting between the front and rear 19″/482.6 mm mounting rails. The component shelf is infinitely depth-adjustable from 19.21″/488 to 29.52″/750 mm. Combination with telescopic slides is not possible.

Load capacity:
55 lbs/25 kg static load

Distance between levels inches/mm	PU	Part No. VR
19.21/488 29.52/750	1	**3861.580**

Material:
Sheet steel, painted

Color:
RAL 7035 light grey



Handle for component shelves

Zinc die-cast, painted.
Includes installation hardware.
All component shelves are ready for installation.

PU	Part No. UV
2	**3636.010**

Hinged, quick-install cable support

For secure routing of connection cables from the component shelf to the clamping point. For component shelves with telescopic slides and printer racks. This way, all cables can remain in the enclosure when removing or replacing a device, and re-connected immediately when the space is re-populated.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
Hinged cable support includes installation hardware.

	Part No. DK
Quick-install hinged cable support	**7163.500**

Positioning studs for vented component shelves

For positioning keyboards, modems, multiplexers, etc.
The bolts are screwed into the slots of the component shelf support surface. They are infinitely adjustable and can be adapted to suit any device.

PU	Part No. DK
4	**7115.000**

Monitor shelf installation kit for PS/ES

For inclined installation of a component shelf as monitor shelf to ensure optimum visibility of monitor screen.

Configuration:
2 holders for inclined installation,
2 wire clamps for monitor base,
2 fastening bolts for positioning of the monitor base.

	Part No. SZ
Monitor shelf installation kit	**2306.000**

Combination for installation in:

Enclosure		Component shelves Part No. DK	Installation parts Part No. DK
Width inches/ mm	Depth inches/ mm		
24/600	20/500	7164.000	7795.000
24/600	24/600	7165.000	7796.000
24/600	32/800	7166.000*	7798.000
32/800	20/500	7184.000	7795.000
32/800	24/600	7185.000	7796.000
32/800	32/800	7186.000*	7798.000

* For component shelves in RAL 7035 light grey, please use extension .035, see page 986.

Printer carriages

German Patent No. 41 08 379
IR Reg. Design No. Dm/016 439 affecting BE, CH, DE, ES, FR, IT, LU, NL
French Patent No. 2 660 534
GB Patent No. 2 243 069

Printer carriages

For functional housing of a printer in the enclosure.
Load capacity: 55 lbs/25 kg

Material:
Sheet steel

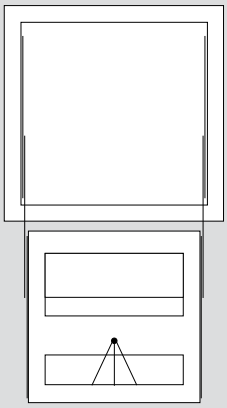
Color:
RAL 7035 light grey

Configuration:
Shelf for printer with telescopic slides, paper tray and paper guide, base for paper supply, cable support, hinged *(except 4635.500).

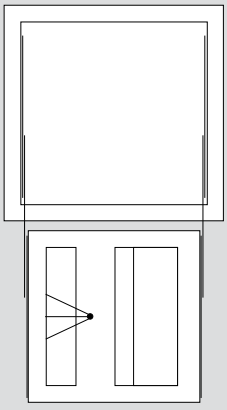
For TS/PS/ES/PC/AP universal consoles

Part No. PS	4635.500*	4635.000	4637.000	4577.000
Dimensions	471 x 471	471 x 471	471 x 671	671 x 471
For printer	DIN A4	DIN A4	DIN A4/A3	DIN A4/A3
For enclosure width x depth inches/mm	Possible installation positions			
24 x 20/600 x 500	A + B			
24 x 24/600 x 600	A + B	A + B		
24 x 32/600 x 800	A + B	A + B	B	
32 x 24/800 x 600				A[2)]
32 x 32/800 x 800				A[2)]
32 x 36/800 x 900				A[2)]
32 x 40/800 x 1000				A[2)]

Installation position A



Installation position B



! Additional parts needed:

For enclosure depth inches/mm	For installation in: TS, PC based on TS 2 system chassis with mounting flanges, see page 974	For installation in: ES, PS, PC based on ES/PS 2 system chassis without mounting flanges**, see page 977
20/ 500	TS 8612.050	PS 4375.000
24/ 600	TS 8612.060	PS 4376.000
32/ 800	TS 8612.080	PS 4377.000
36/ 900	TS 8612.090	–
40/1000	TS 8612.000	–

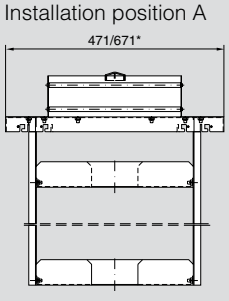
** Plus 4 support brackets PS 4183.000, see page 979,
8 M6 threaded blocks PS 4162.000, see page 982,
8 M6 screws SZ 2504.500, see page 981.

For FR

Part No. PS	4635.000	4637.000	4577.000
For printers	DIN A4	DIN A4/A3	DIN A4/A3
For enclosure width x depth inches/mm	Possible installation positions		
24 x 24/600 x 600	A[1)] + B[1)]		
24 x 32/600 x 800	A[2)] + B[2)]	B[2)]	
32 x 24/800 x 600			A[1)]
32 x 32/800 x 800			A[2)]

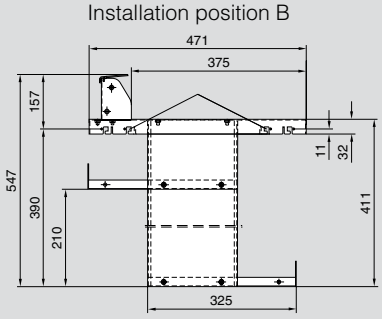
[1)] System chassis with mounting flanges FR 7865.000, see page 988.
[2)] System chassis with mounting flanges FR 7866.000, see page 988.

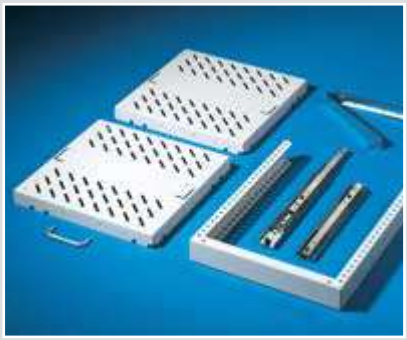
Installation position A



* For PS 4637.000 / PS 4577.000

Installation position B





PC workstation carriage

The ideal solution for accommodating two tower PCs adjacent to one another. The equipment is easily accessible, thanks to the telescopic slides with a load capacity of 165 lbs/75 kg. The shelves, which are height-adjustable on the 1″/25 mm hole pattern, enable individual configuration to specific applications.
On the shelf, there is plenty of space for an additional desktop PC or printer with single-sheet feed (laser, ink-jet or dot-matrix printer).
With the pre-integrated, hinged cable support, all the requirements are met for fast, perfect assembly.

Installation option in 24″/600 mm wide enclosures, 24″/600 mm and 32″/800 mm deep enclosures.

PU	Part No. PC
1	**4641.000**

Load capacity:
165 lbs/75 kg

Material:
Sheet steel

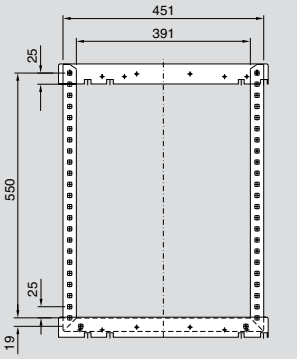
Color:
RAL 7035 light grey

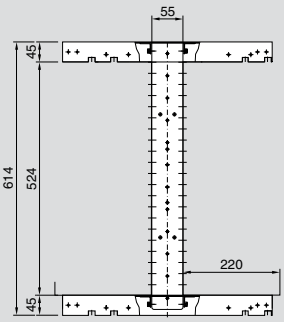
Configuration:
Mobile workstation consisting of
1 support frame,
2 shelves, top/bottom,
1 set of telescopic slides,
1 handle,
1 cable support, hinged,
installation hardware.

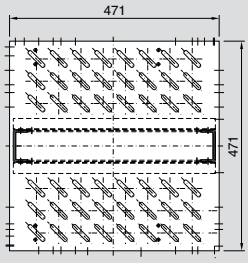
Additional parts needed:

For enclosure depth inches/mm	For installation in	
	TS, PC based on TS 2 system chassis with mounting flanges, see page 974	ES, PS, PC based on ES/PS, 2 system chassis without mounting flanges**, see page 977
24/600	TS 8612.060	PS 4376.000
32/800	TS 8612.080	PS 4377.000

** Plus 4 combination brackets PS 4183.000, see page 979,
8 M6 threaded blocks PS 4162.000, see page 982,
8 M6 screws SZ 2504.500, see page 981.







Optional accessories:
Installation bolts DK 7115.000, see page 993.

Shelf for PC workstation carriage

To accommodate additional equipment such as modems, power packs, etc. or simply as a paper tray.
The shelf may be mounted to the PC workstation with height adjustment on the 1″/25 mm system hole pattern.

Material:
Sheet steel

Color:
RAL 7035 light grey

PU	Part No. PC
1	**4642.000**

Configuration:
Shelf, installation hardware included.

Optional accessories:
Installation bolts DK 7115.000, see page 993.

General accessories

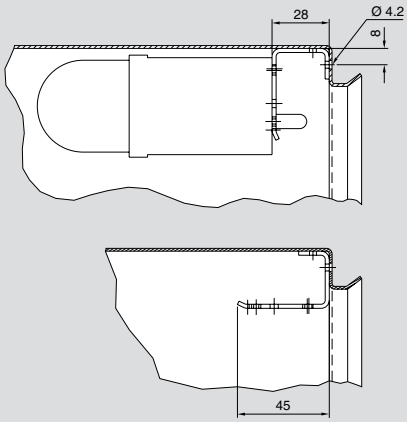
Universal mounting bracket

For the installation of
- Enclosure lights in
  – AE and AK compact enclosures
  – AP console systems
- Door operated switches with or without connection cables (SZ 2586.000 / PS 4315.300) in:
  – AE compact enclosures
  – AP console systems
- Cable conduit holders SZ 2593.000 and SZ 2591.000 in
  – AE compact enclosures
  – AP console systems
- Support rails for terminals

Assembly screws are concealed when the door is closed. Existing holes for system assembly blocks or hinges in AE may be used.
Including installation hardware for the accessories listed.

Material:
Sheet steel, zinc-plated, chromated.

PU	Part No. SZ
6	**2373.000**



System mounting block for AE

As an accessory for additional interior installation, mounting of cable ties, PS system chassis, T-rails and C-rails (e.g. for a second pair of mounting rails), installation hardware includes 20 special screws.

PU	Part No. SZ
1 pack	**2574.000**

1 pack = 20 pieces

US Patent No. 5 211 499
German Patent No. 38 12 939
European Patent No. 0 338 342
with validity for AT, BE, DE, FR, GB, IT, NL, SE

Threaded M6 insert nuts for KS

For securing installed equipment to the molded fixing nuts on the door and in the enclosure rear wall.
Screw length: 8 mm.

PU	Part No. KS
1 pack	**1482.000**

1 pack = 20 pieces

Rittal's enclosure system lights offer numerous options to cut installation costs and increase the useful benefits.

Cut assembly costs…

These are some of the benefits of the universal light:

1. **No need to install and wire a door-operated switch, because…**
   …the motion sensor activates the lamp as soon as the door is opened and switches it off automatically after approximately 3 minutes without movement, even if the door is open.
2. **No need to screw on the lamp shades, and no difficult wiring, because…**
   …it is easily connected with sockets and connectors.
3. **No need to keep extra stock of special bulbs, because…**
   …every lamp is standard for voltages from 110 V to 240 V.
4. **No unpleasant glare, because…**
   …the light beam can be adjusted to the precise point where it is needed.

Complete with mounting accessories
for direct mounting on the horizontal enclosure section.

Quick connect
with plug-in connection technology.

…and increased convenience!

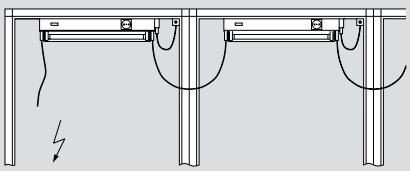
Outlet
for maintenance and service work.

Automatic on/off switching
via the motion sensor is convenient, helps save electricity, and eliminates the need for a door operated switch.

Slide switch
for additional manual on/off switching.

Through connections
for simple integration of additional electrical components.

Adjustable light beam
for glare-free illumination of the work area.



Standard lights

Technical specifications	Socket*	X "/mm	Y "/mm	Z "/mm	B "/mm	Part No. PS
14 W, 230 V, 50 Hz	Yes	17.80/452	1.97/50	4.61/117	10.83/275	**4138.140**
18 W, 230 V, 50 Hz	Yes	26.85/682	1.97/50	4.61/117	15.75/400	**4138.180**
30 W, 230 V, 50 Hz	Yes	38.85/987	1.97/50	4.61/117	23.62/600	**4138.300**

With fluorescent light bulb, base G13, length 375/604/908 mm.

Comfort lights

Technical specifications	Socket*	X "/mm	Y "/mm	Z "/mm	B "/mm	Part No. PS
14 W, 230 V, 50 Hz	Yes	17.80/452	1.97/50	4.61/117	10.83/275	**4139.140**
18 W, 230 V, 50 Hz	Yes	26.85/682	1.97/50	4.61/117	15.75/400	**4139.180**
30 W, 230 V, 50 Hz	Yes	38.85/987	1.97/50	4.61/117	23.62/600	**4139.300**

With fluorescent light bulb, base G13, length 375/604/908 mm.

Universal lights

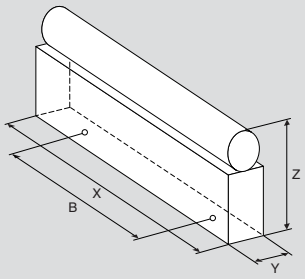
Technical specifications	Socket*	X "/mm	Y "/mm	Z "/mm	B "/mm	Part No. PS
26 W, 110 – 240 V, 50 – 60 Hz	Yes	13.58/345	2.17/55	3.74/95	11.81/300	**4155.100**
26 W, 110 – 240 V, 50 – 60 Hz	No	13.58/345	2.17/55	3.74/95	11.81/300	**4155.000**

With compact fluorescent light bulb, base G24q-3, length 174 mm.
* European SCHUKO style power receptacle.

System lights with incadescent tube (Linestra)

Technical specifications	Socket	X "/mm	Y "/mm	Z "/mm	B "/mm	Part No. PS
35 W, 230 V AC/DC	No	14.96/380	1.61/41	22.32/59	3.94/100	**4103.350***
60 W, 230 V AC/DC	No	22.83/580	1.61/41	22.32/59	11.81/300	**4103.600****

With incadescent tube,
* Base 35 S14s, length 300 mm
** Base 60 S14s, length 500 mm.



Additional parts needed:
Connection accessories,
see right page.

System lights

With installation hardware for mounting
- On the enclosure profile: for TS, horizontally (directly), or vertically in conjunction with an adaptor angle, see page 984.
- Directly onto system rails with 1"/25 mm system holes.
- In AE, AK and AP using universal bracket SZ 2373.000, see page 996.

Ratings:
IP 20 to EN 60 529/10.91

Light:
Universal white

Components	Standard light	Comfort light	Universal light	Linestra
Sockets and plugs for:				
– power supply	●	●	●	●
– through-connections	●	●	●	●
– facility for connecting a door-operated switch	●	●		●
Motion detector			●	
Interference dampening through:				
– radio interference suppression capacitor	●			
– semi-electronic pre-switch – with integral RC element		●		
– fully electronic pre-switch			●	
Additional manual switching with rocker or slide switch	●	●	●	●
Light bulb cover		●	●	
Light beam adjustment			●	
Individual voltage supply 110 – 240 V			●	

CE

Connection accessories

For time-saving, simple connection of the lights, the following components are available:

Connection cable for	Length inches/mm	PU	Part No. PS Orange	Part No. PS Yellow
Power supply (with socket, without plug)	118/3000	5	**4315.100**	**4315.110**
Power supply via connection component	24/ 600		**4315.400**	**4315.410**
	39/1000		**4315.200**	**4315.210**
Through-connection (with socket and plug)	157/4000	1	**4315.600**	**4315.610**

Door-operated switch With mounting accessories	Length inches/mm	PU	Part No. PS Orange	Part No. PS Yellow
With power cord	24/ 600	1	**4315.500**	**4315.510**
	39/1000		**4315.300**	**4315.310**
Without power cord	–		**4127.000**	

CE

For self-assembly	PU	Part No. SZ
Sockets for power supply and through-connection	5	**2507.100**
Connectors for connection component through-connection		**2507.200**
T-connectors with 2 sockets, 1 plug		**2507.300**
Connector for door operated switch cable		**2507.400**

Enclosure lights

Rittal's new fluorescent enclosure lights are designed for quick and easy installation. The external terminal block means no need to disassemble the light to make electrical connections. Available in 15 or 18 watt rating, they can be used with or without the Rittal 4127.000 door switch. Equipped with interference suppression capacitor or a RFI filter they also come with or without a lamp shade or 115 V U.S. style receptacle.

Technical specifications:
Rating: 120 V, 60 Hz
Color: RAL 7044
Light medium: cool white
Includes installation hardware
Connection terminals: L1, N. GND
On/off rocker switch

Part No.			
With interference suppression capacitor and no receptacle	With RFI filter, U.S. receptacle and lamp shade	Installation length A inches/mm	Technical data 120 V 60 Hz
9968108	**9968111**	18.3 /467	15 W
9968109	**9968112**	24.41/620	18 W

UL recognized for Canadian and U.S. requirements.

Connection component with circuit-breaker 10 A

Reduce installation costs even further: system lights are quickly and reliably installed with the connection cable, see above.
For independently configured cables, connector SZ 2507.200 must be used. Simply snap the connection component onto the T-rail in with the terminal clamps or other modules.

	PU	Part No. SZ
Connection component	1	**2507.500**

Optional accessories:

Cable ties for quick assembly, see page 1010.

Each component has its own contact, joined into a pillar with bayonet fasteners.

Simply line up the white marks, and stack the components on top of one another.

Twist slightly in a clockwise direction, and the components are firmly linked together.

Signal lights

Rittal has expanded its versatile accessory range with another useful component:

Perfect remote monitoring

- Problem-free remote monitoring of individual plant or machine controllers.
- Direct, prompt intervention in the event of malfunctions and emergencies.

Flexible configuration

- Simple assembly and connection using bayonet fasteners.
- Configuration of up to five components with the same voltage.
- The incandescent lamps are replaced in seconds – no need for tools.
- Components are available in a range of colors and voltages.

Include the signal pillar for one-stop shopping!

Connection components with cover

Choose from conduit mounting or wall/base installation units. Screw terminals are in the connection component. Contact hazard protection to VDE.

Material:
Enclosure: polyamide

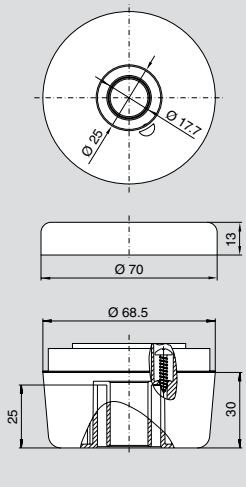
Color:
RAL 8022 brown black

Ratings:
NEMA 12/IP 54

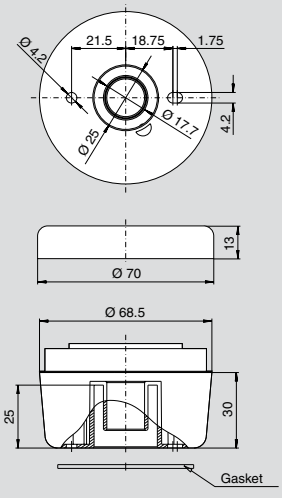
Connection component	Part No. SZ
For conduit mounting including cover	**2368.000**
For wall mounting including cover	**2368.010**

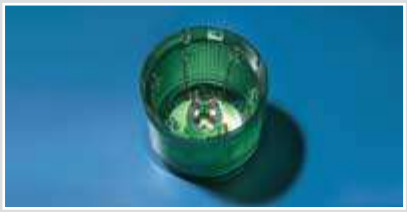
Configuration:
Connection component including gasket.

SZ 2368.000
Connection components for conduit mounting.



SZ 2368.010
Connection components for wall/base mounting.




Steady light component

Flashing light component

Strobe light component

LED steady light component

Optical components

With 360° signal emission, due to optimized prism technology.
Number of possible stages = 5 components with equal voltage.

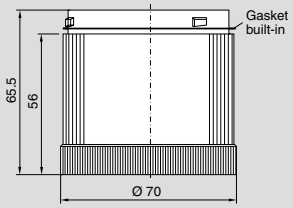
Material:
Enclosure: polyamide
Cap: transparent polycarbonate

Ratings:
NEMA 12/IP 54, provided a cover or audible components are mounted at the top.

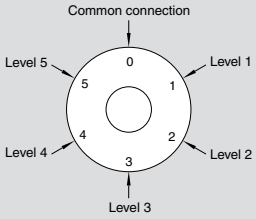
Configuration:
Optical component including gasket (light bulbs not supplied).

Optical components	Part No. SZ				
Color	**Red**	**Green**	**Yellow**	**Clear**	**Blue**
Continuous light components 12 – 240 V AC/DC	**2369.000**	**2369.010**	**2369.020**	**2369.030**	**2369.040**
Flashing light components 24 V AC/DC, 125 mA/225 mA	**2370.000**	**2370.010**	**2370.020**	**2370.030**	**2370.040**
Flashing light components 230 V AC/DC, 15 mA	**2370.050**	**2370.060**	**2370.070**	**2370.080**	**2370.090**
Strobe light components 24 V DC, 125 mA/225 mA	**2371.000**	**2371.010**	**2371.020**	**2371.030**	**2371.040**
Strobe light components 230 V AC, 15 mA	**2371.050**	**2371.060**	**2371.070**	**2371.080**	**2371.090**
LED steady light components 24 V AC/DC, 60 mA	**2372.000**	**2372.010**	**2372.020**	**2372.030**	**2372.040**

* Light bulb and LED not included in the configuration (Part No. see below).



Wiring diagram



Light bulbs for continuous light and flashing light components

Incandescent light	PU	Part No. SZ
24 V, 5 W	3	**2374.060**
230 V, 5 W	3	**2374.070**

With BA 15d base.
For new orders or as replacements.

LED lamp

LED lamp
The energy-saving alternative with a long service life.
The LEDs have a transmission angle of 2 x 180°.

LED lamp	PU	Part No. SZ				
Color		**Red**	**Green**	**Yellow**	**Clear**	**Blue**
24 V AC/DC	1	**2374.200**	**2374.210**	**2374.220**	**2374.230**	**2374.240**
230 V AC*	1	**2374.300**	**2374.310**	**2374.320**	**2374.330**	**2374.340**

* only for use in steady light components

Audible components

To indicate warnings or malfunctions. Either a continuous or a pulsating tone may be selected. The sound level is 85 dB/100 dB. Mounts only at the top end of the optical components or directly onto the connection component.

Material:
Enclosure: polyamide

Color:
RAL 8022 brown black

Buzzer components	Part No. SZ 24 V AC/DC	Part No. SZ 230 V AC
85 dB maximum 25 mA	**2376.000**	**2376.020**
100 dB maximum 25 mA	**2376.010**	**2376.030**

Configuration:
Audible component including gasket.

Photo 1

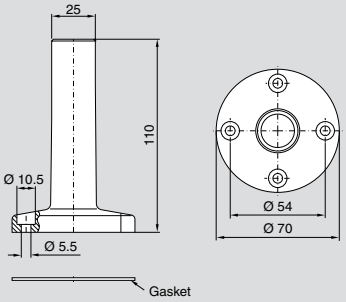
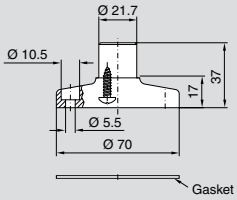
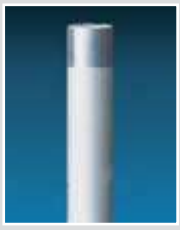


Photo 2

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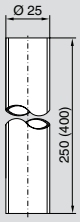
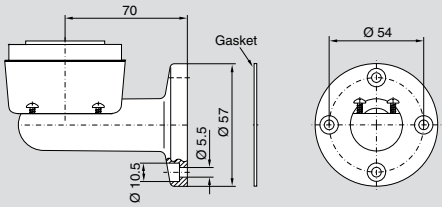


Photo 4



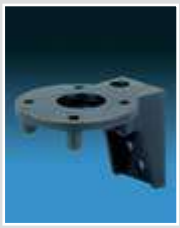
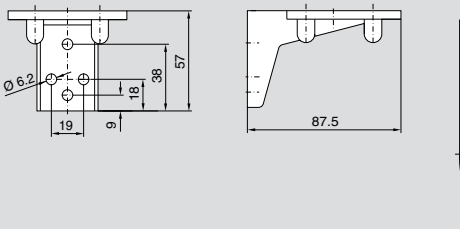


Photo 5



Mounting components

Matching mounting components finish off the new range of signal pillars from Rittal. You will find the correct connection accessories to suit every installation application.

Photo	Component	Color	Part No. SZ
1	Base with integral conduit, 1″/25 mm diameter, 4.33″/ 110 mm long	Black	**2374.000***
2	Individual base, plastic	Black	**2374.010***
3	Individual conduit, 9.84″/ 250 mm long	Alu-minum	**2374.020***
	Individual conduit, 15.75″/ 400 mm long	Alu-minum	**2374.030***
4	Bracket for connection component	Black	**2374.040****
5	Bracket for conduit mounting	Black	**2374.050**
With-out	For side cable outlet	Black	**2374.080****

Additional parts needed:

Connection component for
* conduit mounting, Part No. SZ 2368.000,
** wall/base mounting, Part No. SZ 2368.010,
see page 1000.

Mounting component support arm system

For mounting a signal pillar with pedestal on support arm system CP-L. To fit angle piece CP 6524.000 / .010 (see page 252) and angle coupling CP 6526.000 / .010 (see page 251).

Component	Color RAL	Part No. SZ
For support arm system CP-L	7030	**2375.000**
	7024	**2375.010**

Identification panel

For adding texts to a maximum of 5 optical components on point for fields which are not required (50 x 150 mm), including clamping section for base or tube with a diameter of 1″/25 mm.

Material:
Acrylic, transparent

Label panel	Part No. SZ
For 5 optical components	**2374.150**

Primer/paint

For touching up and repairs of powder-coated and wet-painted surfaces, air-drying.

Paint

Color	Part No. SZ		
RAL	Touch-up pen .4 oz/12 ml	Spray can 9 oz/150 ml	Tin 32 oz/1000 ml
5018 teal	**2436.518**	–	–
7022 umber grey	–	**2581.000**	–
7030 dark grey	**2436.730**	–	–
7032 pebble grey	**2436.732**	**2437.000**	**2438.000**
7033 mortar grey	**2436.733**	–	–
7035 light grey	**2436.735**	**2440.735**	**2438.735**
7044 silk grey	–	**2437.744**	–

Primer

7032 pebble grey	–	–	**2588.000**
7044 silk grey	–	–	**2588.744**

Handle set

For vertical and horizontal mounting on all surfaces.
Overall length: 18.90″/480 mm

Material:
Handle holder: zinc die-cast, RAL 7035 light grey
Handle tube: aluminum, natural anodized

Configuration:
4 handle holders,
2 handle tubes,
installation hardware included.

PU	Part No. PC
1 set	**4633.000**

Optional accessory:

Clipboard CP 6013.000, see below.

Ring board CP 6013.500, see below.

Mouse pad support, mouse holder, see page 1005.

Clipboard

Operating instructions or plans are always at eye level. Configured for mounting on the right-hand side; mounting on the left is also possible by unscrewing and moving the clip part.

Material:
Sheet steel, painted in RAL 7035 light grey
Clip part: aluminum, natural anodized

PU	Part No. CP
1	**6013.000**

Additional parts needed:

Handle set PC 4633.000, see above.

Special sizes available upon request.

Ring board

An alternative for attaching A4 paper or document packets in either portrait or landscape format. The board is folded on three sides and pre-punched for installation on the handle tube (length ≥ 8″/200 mm, Ø 25 mm). Option of left or right mounting.

Material:
Sheet steel, painted RAL 7035 light grey
Ring strip, 16 mm sheet steel, zinc-plated

PU	Part No. CP
1	**6013.500**

Additional parts needed:

Handle set PC 4633.000, see above.

Special sizes available upon request.

NEMA 6/IP 67 MOUSE, MOUSE PAD

Photo 1

Photo 2

NEMA 6/IP 67 mouse/ mouse pad

An ideal input device for all areas where heavy contamination is unavoidable, or where high standards of hygiene are crucial, for example in the food industry or medical technology.
Because placement sensing of the mouse is based on an inductive process, there is no need for a trackball and the housing is completely sealed at the top with a protective film. This achieves a high protection category of NEMA 6/IP 67.
The mouse operates in conjunction with the NEMA 6/IP 67 inductive mouse pad and is available for connection to either a COM or a PS/2 interface.

Material:
Mouse pad: plastic PBT
Mouse: plastic ABS

Color:
Mouse pad: similar to RAL 7035 light grey
Mouse: similar to RAL 7032 pebble grey

Technical specifications:

NEMA 6/IP 67 Mouse
Mouse connector: DIN 7-pole

Mouse pad COM interface
Mouse pad – PC connection:
9-pole D-SUB socket DIN
5-pole connector

Mouse pad PS/2 interface
Mouse pad – PC connection:
PS/2 connector

Temperature range:
32 °F to 131 °F/0 °C to + 55 °C
Power consumption: < 20 mA
Pad size (H x W x D):
8.07 x 9.84 x .59″/205 x 250 x 15 mm
Cable lengths: 6.5 ft/2000 mm
Runs under DOS, Windows 3.1/3.11, Windows 95/98, Windows NT

Additional accessories:
Connector grommet (SZ 2400.500), see below.

	H x W x D	PU	Part No. SM
Inductive mouse pad NEMA 6/IP 67 COM interface (photo 1)	8.07 x 9.84 x .59″/ 205 x 250 x 15 mm	1	**6444.000***
Inductive mouse pad NEMA 6/IP 67 PS/2 interface (photo 2)	8.07 x 9.84 x .59″/ 205 x 250 x 15 mm	1	**6444.500***
Mouse NEMA 6/IP 67 for COM and PS/2 interface	–	1	**6445.000**

*** German Patent No. 198 51 619**

Connector grommet

For simple cable entry with up to 3 cables with plugs. Simply insert the cables and secure. The high protection category of NEMA 12/IP 65 is retained.
This connector grommet is an ideal addition to the NEMA 6/IP 67 mouse.

Technical description:
- For fitting on any sufficiently large surface, e.g. front panels.
- To fit 3 cables up to a diameter of 6 mm.

PU	Part No. SZ
5	**2400.500**

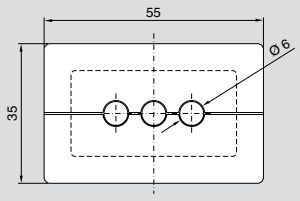
- For material thicknesses of 4 mm, in front panels, sheet steel panels.
- Strain relief of the pre-fabbed cables can be achieved with cable ties.

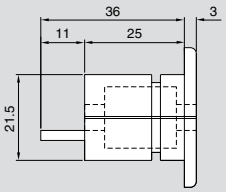
Material:
Plastic, RAL 9005 black

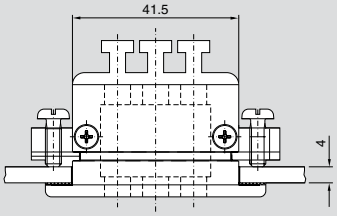
Configuration:
Two-part connector grommet, installation material included.

German Patent No. 199 08 657

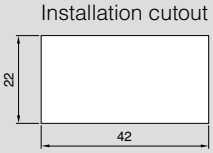
Rittal Service:
Cutouts can be done at our modification centers.







Installation cutout



1004

Mouse pad tray for desk consoles

To fit NEMA 6/IP 67 mouse pad SM 6444.000 and SM 6444.500 and for mounting on the PC enclosure with desk or the AP console system. The angle of the mouse pad tray is adjustable. Two mounting holes are necessary on the console for installation.

Material:
Sheet steel, chromated

Configuration:
Mouse pad support,
includes installation hardware.

For	Part No. SM
PC 4603.604 PC 4603.704 PC 4617.704 AP console systems	**2380.000**

Optional accessory:

Mouse holder,
see below.

Mouse pad tray for VIP 6000

To fit NEMA 6/IP 67 mouse pad SM 6444.000 and SM 6444.500 and for mounting on the side handle set of the VIP 6000 keyboard/operating housing. The angle of the mouse pad tray is adjustable. Two mounting holes are necessary on the handle holder for installation.

Material:
Sheet steel, chromated

Configuration:
Mouse pad support,
including installation hardware.

For	Part No. SM
VIP 6000 with side handle set	**2381.000**

Additional parts needed:

Vertical handle set for wide frame,
see page 210.

Optional accessory:

Mouse holder,
see below.

Mouse holder

Fits the mouse pad tray to ensure safe storage of a standard mouse or the NEMA 6/IP 67 mouse SM 6445.000.

Material:
Sheet steel, chromated

Configuration:
Mouse holder,
includes installation hardware.

	Part No. SM
Mouse holder	**2382.000**

Mouse pad, passive

Complete with self-adhesive felt cover, installation hardware included.
For PC enclosures based on PS and ES:

- With keyboard drawer which pulls out on the left or right (drawer).
- With folding keyboard which pulls out to the front (shelf).

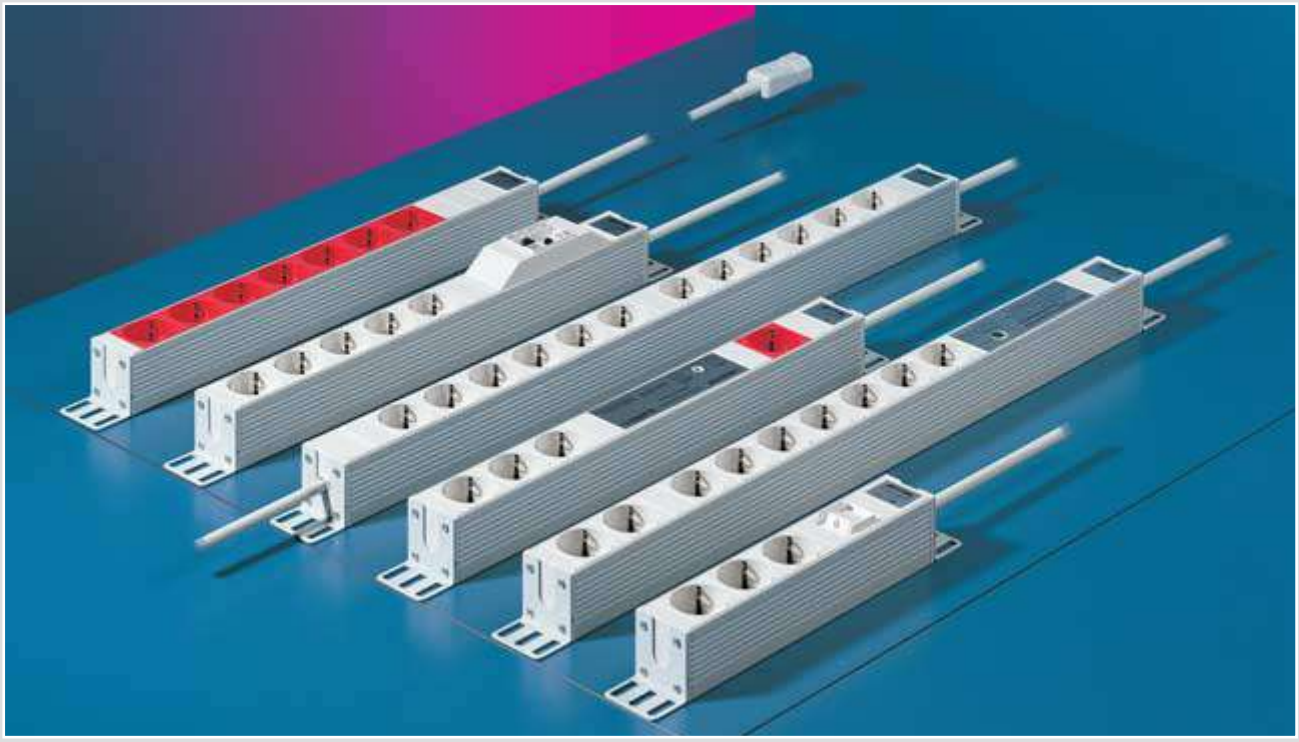
PC fold-down with keyboard shelf		Part No. PC
4600.210	4609.920	**4613.000**
4603.820	4617.920	
4603.920	4621.210	

German Patent No. 43 30 926

PC pull-out with keyboard drawer		Part No. PC
4600.913	4610.210	**4614.000**
4603.603	4610.503	
4603.704	4617.703	
4603.913	4617.913	
4609.703	4620.210	
	4650.000	

Power strips

Power strips in an aluminum casing are available in various lengths with various functional components. Special attention has been paid to practical, universal installation: a bracket which may be used in four different positions provides numerous installation options. For example, the 18.98″/482 mm long power strip may be mounted on 19″/482.6 mm mounting rails, on the enclosure frame, or in the rear of the wallmount distributor. The socket strip may be used on all enclosure sections with a 1″/25 mm system hole pattern without additional installation hardware. This makes selection much easier, as well as provides additional flexibility and reduces stock. Provisions have also been made for cable routing, and when fitting in a 19″/482.6 mm section, there is plenty of space to route the cable between the power strip and the mounting rails without bending. The arrangement of the sockets at a 45° angle allows unrestricted use of angular connectors.



The rotating bracket for installation in all enclosure systems without additional assembly accessories.

IEC 320 connector power strip in 3 variations.

Wallmount distributor DK-EL
In the wallmount area, between or on the mounting rails.

19″/482.6 mm mounting rails
Optimum use of 1 U height unit. With plenty of free space for cable routing without bending.

TS 8/PS/QuickRack
Installation to any enclosure frame with a 1″/25 mm system hole pattern in any position or direction due to the rotating bracket.

flexRack/TC Rack
On the enclosure frame with clip-on nuts. In the flexRack, on the horizontal frame section.

Variations:

Rocker switch
Illuminated, 2-pole switch. The safety bars prevent accidental contact.

Master/slave
2-pole electronic automatic switching unit. The operating point may be set from 8 W to 30 W. Equipment which switches to energy-saving or stand-by mode when switched on cannot be used as the master device. In the ON state, the master device must draw 8 W, and must not draw more than 35 W in the OFF state.

Over-voltage protection and interference suppression filter
The connected equipment is protected from main voltage peaks caused by switching operation at the energy provider. The EMC interference suppression filter provides protection from high-frequency interference voltage from both directions – the main and the connected equipment. The green ready light turns off in the event of disconnection or malfunction. Connected equipment is disconnected (thermal disconnect).
Requirement category D.
Surge current resistance per conductor: 2.5 kA at U_{oc} = 5 kV
Maximum surge current resistance: 8.0 kA
Rated arrester voltage: 260 V

Over-voltage protection and interference suppression filter, with RJ 11 connector for connection to the CMC
With the relay message contact, under-voltage and any failures caused by over-voltage can be reported via the CMC in the network.
Relay alarm output: RJ 11 jack
Relay load capacity: 50 V DC, 100 mA

Miniature circuit-breaker
Protects cables from short-circuit and overload. 2-pole switching (thermal/magnetic). Tripping characteristic B.

UPS strip
With red socket strip inserts. These indicate the items of equipment protected by a UPS.
Connection cable with IEC 320 connector.
Cable: H05VV-F3G1.0/Rated current: 10 A

2 circuits
Two circuits with two separate connection cables, 8 ft/2.5 m.

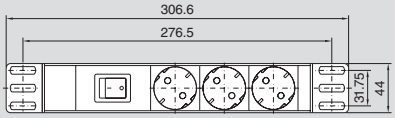
RC protection
For personal protection. With residual-current circuit-breaker $I_{\Delta n}$ 30 mA to DIN 49 440.

CBO protection
A combination of personal, overload and short-circuit protection. With residual-current circuit-breaker $I_{\Delta n}$ 30 mA to DIN 49 440 and overcurrent protection 16 A/250 V~.

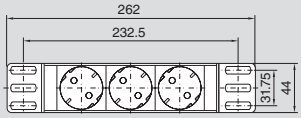
Version B/F
7 sockets to CEE 7-V UTE, with child-protection system.

IEC connector
With connection sockets to IEC 320.
With 605 ft/2 m connection cable or IEC equipment input in the plug panel.
Cable: H05VV-F3G1.0/Rated current:10 A.

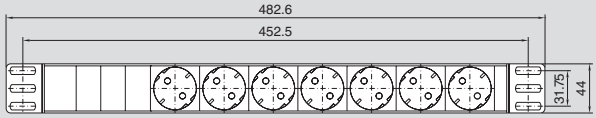
DK 7240.120



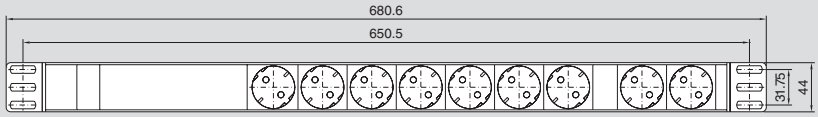
DK 7240.110



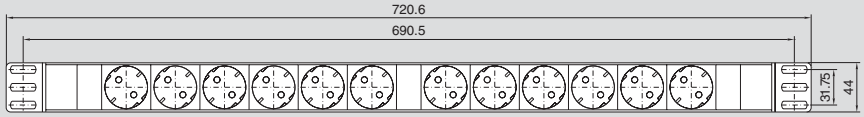
DK 7240.2xx / DK 7240.510



DK 7240.310 / DK 7240.330 / DK 7200.630



DK 7240.370



Technical description:
Rated voltage 250 V
Rated current 16 A

Power cable 6.5 ft/2 m long H05VV-F3G1.5.

Material:
Aluminum section, natural anodized, outlet inserts polycarbonate.

Configuration:
Power strip, two mounting brackets, installation hardware.

Dimensions:
Length: See order table
Height: 44 mm (1 U)
Depth: 44 mm/80 mm

Standards:
Outlets:
DIN 49 440/DIN VDE 0620/05.92
Outlets B/F:
UTE NFC 61-303, CEE 7/NV
Over-voltage protection:
E DIN VDE 0675 part 6-6/A1 and 6-6/A2
EMC interference suppression filter:
EN 1332000: 1994

Design	No. of outlets	Attachment			Length	Mounting dimension	Part No. DK
		Frame	Wallmount distributor, horizontal	19″/ 482.6 mm mount-ing rails	inches/mm	inches/mm*	
Without switch	3	●			10.31/262.0	9.15/232.5	**7240.110**
With switch	3	●	●		12.07/306.6	10.89/276.5	**7240.120**
Without switch	7	●	●	●	19 /482.6	17.81/452.5	**7240.210**
With switch	7	●	●	●	19 /482.6	17.81/452.5	**7240.220**
Over-voltage protection & interference supp. filter	5	●	●	●	19 /482.6	17.81/452.5	**7240.230**
Miniature circuit-breaker	5	●	●	●	19 /482.6	17.81/452.5	**7240.240**
Master/slave	1 + 3	●	●	●	19 /482.6	17.81/452.5	**7240.250**
UPS strip	7	●	●	●	19 /482.6	17.81/452.5	**7240.260**
RC protection	5	●	●	●	19 /482.6	17.81/452.5	**7240.280**
RCBO protection	5	●	●	●	19 /482.6	17.81/452.5	**7240.290**
For IEC connectors	12	●	●	●	19 /482.6	17.81/452.5	**7240.200**
For IEC connectors with IEC 320 input	9	●	●	●	19 /482.6	17.81/452.5	**7240.201**
For IEC connectors with overvoltage protection	6	●	●	●	19 /482.6	17.81/452.5	**7240.205**
Without switch	12	●			26.80/680.6	25.61/650.5	**7240.310**
Over-voltage protection & interference supp. filter	9	●			26.80/680.6	25.61/650.5	**7240.330**
Over-voltage protection & interference supp. filter, with RJ 11 connector for CMC connection	9	●			26.80/680.6	25.61/650.5	**7200.630**
With 2 circuits	6 + 6	●			28.37/720.6	25.61/690.5	**7240.370**
B/F sockets	7	●	●	●	19 /482.6	17.81/452.5	**7240.510**

* Variable attachment distance within a range of 1″/25 mm, the dimension given is hole center to hole center of the mounting bracket.

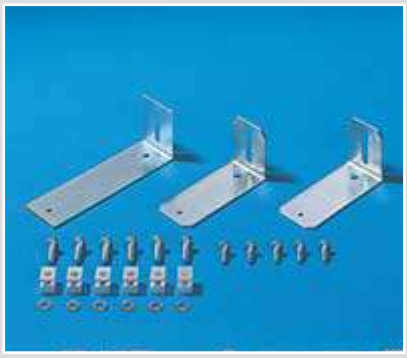
230 V power strips

Technical description:
Designed in accordance with DIN 49 440 and CEE F/III.
Rated voltage: 250 V AC,
maximum load: 16 A.

Material:
Hard PVC silver/black
Power cable, 6.5 ft/2 m long, without plug
H05VV-F3G1 (D, CH)
H05VV-F3G1.5 (GB, F/B)
Unrestricted use of angular connectors, by arranging the plug-in contacts lengthwise in a row.

GB, F/B, CH version			Part No. DK GB version	Part No. DK F/B version	Part No. DK CH version
No. of sockets	Length mm	With rocker switch			
6	470*		**7404.000**	**7504.000**	**7604.000**
8	553		**7406.510**	**7506.510**	**7606.510****
12	793		**7408.510**	**7508.510**	**7608.510**
16	1033		**7409.510****	**7509.510****	**7609.510****
18	1153		**7412.510****	**7512.510****	**7612.510****
5	470*	●	**7405.000**	**7505.000**	**7605.000**

* The power strips can be mounted horizontally at the rear of DK wallmount distributors based on EL/AE.
** Lead times upon request.



Installation kit for FR/QR

With this installation kit, all socket strips can be mounted in the side, front and rear of enclosure.

Material:
Sheet steel

Surface finish:
Zinc-plated, chromated

Configuration:
Installation kit, hardware included.

Installation kit	Part No. FR
for FR	**7952.000**
for QR	**7526.960**

Power strips

- Loading up to 16 A/maximum 250 V AC.
- Plastic housing, self-extinguishing to UL 94-V0.
- Power cable without plug, 6.5 ft/ 2 m long.
- Various international versions available.

Versions for	Number of outlets	Part No. VR
D 16 A/250 V	4	**3850.500**
GB 13 A/250 V	4	**3851.500**
F/B 16 A/250 V	4	**3852.500**
CH 10 A/250 V	4	**3853.500**
USA/CDN 15 A/125 V	6	**3854.500**

Power strips for IEC connectors available on request.

Installation kit for FR

To accommodate power strips.
Part No. VR 3850.500 – VR 3854.500.

Material:
16 ga/1.5 mm sheet steel

Finish:
E-coat primed,
textured enamel, RAL 7035 light grey.

Configuration:
4 roof mounting brackets, installation hardware.

PU	Part No. FR
4	**2102.360**

Cable junction box with multi-functional bracket

The bracket can be installed in all network enclosures in a system-compatible design. The cable junction box serves as a junction point for the power supply to all equipment (fans, lamps and socket strips). The bracket can be used as a junction box or transfer point and due to its integral holes can also accommodate the thermostat (SK 3110.000) or hygrostat (SK 3112.000).

Material of bracket:
Sheet steel

Color of bracket:
RAL 7035 light grey

Configuration:
1 mounting angle, 1 junction box, 19.5 ft/6 m power cable 3 x 1.5 mm^2 (flexible).

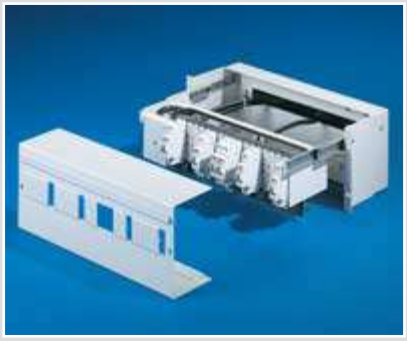
PU	Part No. DK
1 set	**7280.035**

19″/482.6 mm energy box

Technical description:
A depth-variable T-rail for installed equipment to DIN 43 880, sizes 1 to 3 (to accommodate built-in outlets, miniature circuit-breakers, etc.). Cable collecting at the rear, with one N and one GND rail on an insulated base/plinth. Plastic cover including extension cover (UL 94-V0), maximum accommodation of 22 pieces of installed equipment (width 18 mm). Maximum capacity = 22 HP (22 x 18 mm = 396 mm).
Can be fitted with miniature circuit-breakers upon request.

PU	U	Part No. DK RAL 7035
1	3	**7480.035**

German Patent No. 42 00 836



19″/482.6 mm energy box pull-out

This energy box is designed to accommodate both DC and AC components. The pull-out component front provides optimum access to the wiring chamber from above and below.

Configuration:
Connection clamps
for direct current:
2 clamps 35 mm^2,
9 clamps 16 mm^2 (per rail)

For alternating current:
1 clamp 16 mm^2 (PE or N),
20 clamps 4 mm^2 (per rail)

U	Part No. DK
3	**7480.300**

Lead times upon request.

Technical description:
Depth-adjustable tophat rail for snap-in attachment of installed equipment to DIN 43 880 in sizes 1 – 3 (to accommodate flush-type power outlets, miniature circuit-breakers etc., or entire installation assemblies such as the ABB «smissline» system). Cable clamping at the rear, two power distribution rails with connection clamps on an insulated plinth. Plastic cover including extension cover, to accommodate a maximum of 22 installed devices (Width 18 mm). Maximum accommodation = 22 HP (22 x 18 mm = 396 mm).

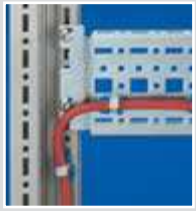
Cable ties for quick assembly

The super-fast solution for attaching cables to the enclosure frame or mounting system parts. Simply clip into the round system holes.

Note:
Metal cable tie,
see page 893.

Length inches/mm	PU	Part No. SZ
6/150	100	**2597.000**

1 pack = 100 pieces



Cable tie fastener

For all standard cable ties up to a tie width of .19″/4.8 mm. Simply insert into the round system holes and secure by hammering down the split rivet.

Material:
Polyamide 6.6

PU	Part No. CP
1 pack	**6059.000**

1 pack = 100 pieces

Velcro cable straps

With the Velcro fastener secured, cables are easily released, allowing individual cables to be added or removed. Ideal for sensitive data cables (fiberoptic/Cu), as it avoids compressing on the cable sheathing. In addition, the Velcro fastener may be screwed-on to the round system holes.

Color:
Black

Width inches/mm	Length inches/mm	Max. cable diameter inches/mm	PU	Part No. DK
.62/16	5.12/130	1.81/30	10	**7072.220**
.62/16	7.87/200	1.96/50	10	**7072.230**
.62/16	11.81/300	3.54/90	10	**7072.240**

Additional parts needed:
Screw SZ 2486.500 for screw-fastening to the round system holes,
see page 981.

Cable clips

For professional, secure fastening of cables and conduits.

For fastening:
- Simply push into the 23 x 23 mm PS system bars
  or
- Screws onto the round holes of the enclosures, as well as all system bars and system chassis.

With only two screws, several clips of even different sizes can be arranged in a row.

Material:
Polyamide

For cable Ø from – to	PU	Part No. PS
AWG 2 to 2 Ø 6 to 9 mm	50	**4319.090**
AWG 2 Ø to 3 Ø 9 to 12 mm	50	**4319.120**
AWG 3 Ø to 6 Ø 12 to 16 mm	50	**4319.160**
AWG 6 Ø to 500 MCM 16 to 20 mm	50	**4319.200**

1 pack = 50 pieces

Additional parts needed:
Posidrive raised countersunk screw M5 x 12 mm (SZ 2488.000) for screw-fastening in the round system holes,
see page 981.

EMC grounding preparation tool

The EMC grounding preparation tool enables EMC-compatible preparation of the contact point for braided/ground straps. Plastic-bound abrasive with guide pin for round system holes.
With locating point for drill, grinder, etc.

Material:
Wire brush in plastic holder

	Part No. SM
For frame connection	**2414.000**
For earth/grounding stud*	**2414.500**

* Not necessary for TS 8.

Configuration:
1 wire brush with guide pin or hole

Contact paint

Contact paint prevents the corrosion of conductive, unprotected contact points.

PU	Part No. SZ
1	**2415.000**

Contents: .5 oz/12 ml

Grounding straps

Choose from 6 ready-to-use grounding straps in various lengths and cross-sections. For M6 and M8 screws.

Wire size		PU	Part No. SZ	
AWG	mm^2		Length 6.69″/ 170 mm	Length 11.81″/ 300 mm
11	4	5	**2564.000**	**2567.000**
5	16	5	**2565.000**	**2568.000**
3	25	5	**2566.000**	**2569.000**

EMC braided grounding straps

Tin-plated copper, in various lengths and cross-sections with press-fitted contact rings. EMC braided grounding straps counteract the current displacement effect at high frequencies, while at the same time offering highly flexible connection opportunities.

Optional accessory:
Central grounding point,
see page 1012.

For	Cross section mm^2	Length inches/ mm	PU	Part No. SZ
M6	10	8/200	10	**2412.210**
M8	16	8/200	10	**2412.216**
M8	25	8/200	10	**2412.225**
M6	10	12/300	10	**2412.310**
M8	16	12/300	10	**2412.316**
M8	25	12/300	10	**2412.325**

Cross section: AWG 7/AWG 5/AWG 3 (10 mm^2/16 mm^2/25 mm^2)

Contact washers

These lock-tooth contact washers enable secure PE conductor connection. There is no need to manually strip paint in the connection area.

Size	PU	Part No. SZ
M5	100	**2343.000**
M6	100	**2334.000**
M8	100	**2335.000**

Grounding fasteners

For the attachment of grounding straps and ribbon grounding straps to:
- Horizontal enclosure sections
- PS rail systems

using captive nuts,
see below.

Size	PU	Part No. SZ
M6	10 set	**2570.000**
M8	10 set	**2559.000**

Captive nuts

For rectangular system holes (10.5 x 12.5 mm),
see page 982.

Other EMC accessories, see pages 308 – 311.

Central/grounding point

For connecting
- Grounding straps
- Grounding braids

to the vertical and horizontal frame section. The connection bracket is installed on the enclosure frame with 2 screws and is securely contacted. Ground connection is carried out via the threaded bolt M8 x 20 mm.

Material:
Sheet steel, zinc-plated, chromated.

PU	Part No. DK
1	**7829.200**

Configuration:
1 connection bracket,
2 BZ 5.5 x 13 mm sheet metal screws,
2 serrated washers,
1 M8 nut,
1 M8 contact washer,
1 washer.

GND busbar/grounding bars

27.36″/695 mm long GND busbar with pre-installed screws, including terminal clamps up to AWG 9/6 mm² (fine wire conductors), AWG 7/10 mm² (single wire or multi-wire conductors) and main terminal clamp up to 35 mm².

PU	Part No. SZ
1	**2364.000**

Optional accessory:

Cable retainer, flat
SZ 2365.000,
see page 983.

Cable retainer, slanted
SZ 2366.000,
see page 983.

Ground bus (zero potential rail)

For vertical installation in network enclosures. Easily installed to the 1″/25 mm DIN system hole pattern of enclosures or to the 19″/482.6 mm mounting rails. The supplied ground conductors facilitate star grounding of the cable collecting rail in the patch panels. The ground terminals are fully adjustable. Current carrying capacity of rail approximately 200 A.

Configuration:
Ground rail of E-Cu 57 per DIN 1759,
DIN 40 500, 15 x 5 mm,
16 conductor connection clamps
2.5 – 16 mm²,
15 ground cables 6 mm², L = 500 mm,
installation hardware included.

For PS, FR cabinet height	Length	PU	Part No. DK
32″/ 800 mm	23.62″/ 600 mm	1 set	**7541.000**
39″/ 1000 mm	31.50″/ 800 mm	1 set	**7542.000**
47″/ 1200 mm	39.37″/ 1000 mm	1 set	**7543.000**
55″/ 1400 mm	47.24″/ 1200 mm	1 set	**7544.000**
63″/ 1600 mm	55.12″/ 1400 mm	1 set	**7545.000**
71″/ 1800 mm	62.99″/ 1600 mm	1 set	**7546.000**
79″/ 2000 mm	70.87″/ 1800 mm	1 set	**7547.000**
87″/ 2200 mm	78.74″/ 2000 mm	1 set	**7548.000**

Expansion kit for grounding cables

For system specific expansion of the star grounding on the ground bus.

Configuration:
AWG 9/6 mm² ground cables, pre-assembled with ring terminals and wire end ferrules,
L = 500 mm, with ground terminals
2.5 – 16 mm², including installation hardware.

PU	Part No. DK
10	**7549.000**

Grounding rail, (potential equalization rail)

With two isolators, (20) M5 ground connections and 2 ground connections for 25 mm^2.
Current ampacity approximately 200 A.

Configuration:
Grounding rail of E-Cu 57 to DIN 1759, DIN 40 500, 15 x 5 mm,
20 grounding clips with M5 screws,
2 ground clamps AWG 3/25 mm^2,
2 isolators, including installation hardware.

Length	PU	Part No. DK
17.71″/450 mm	1 set	**7113.000**

Grounding kit

For starpoint grounding.
With the pre-assembled ground conductors, potential equalization is easily integrated into network enclosures.

Configuration:
AWG 9/6 mm^2 ground cables, installation hardware for ground cables;
a ground block is also supplied for the TC Rack and flexRack.

For	PU	Part No. DK
TC Rack	1 set	**7277.000**
flexRack	1 set	**7278.000**
QuickRack	1 set	**7526.980**

Grounding set, pre-assembled

For star point grounding. With the pre-assembled ground conductors on a potential equalization rail, potential equalization can easily be installed into network enclosures.

Configuration:
AWG 9/6 mm^2 ground cables on a potential equalization rail, 2 isolators, including installation hardware.

For TS enclosures up to (H x W x D) inches/mm	PU	Part No. DK
79 x 32 x 32 2000 x 800 x 800	1 set	**7829.100**
87 x 32 x 40 2200 x 800 x 1000	1 set	**7829.110**

Small swing frames

Swing frame, small, for 24″/600 mm and 32″/800 mm wide enclosures

To fit
- TS 8
- PS 4000*
- ES 5000*
- AP universal console

* For 32″/800 mm width, see Vario swing frame, page 1020.

Small swing frames are designed for installing 19″/482.6 mm components with partial installation.
Front installation, at the top or bottom of the enclosure frame, is achieved with the installation kit. The installation accessories required for other installations are described separately.
With 32″/800 mm wide enclosures, there is a choice of central or side offset location.

Technical description:
Torsionally stiff frame, welded from rectangular tube and triple folded support rail.

Material:
Sheet steel

Finish:
Zinc-plated

Configuration:
Small swing frame, cam lock with double-bit lock insert, hardware for attaching to the installation kit.

! Additional parts needed:

Installation kit,
see right hand page.

+ Optional accessory:

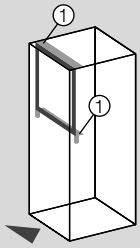
PS system chassis,
see page 977.

TS combination brackets,
see page 979.

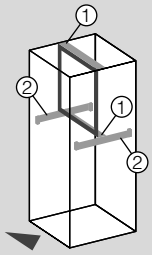
Lock inserts, Type C,
see page 942.

4 examples

Partial installation with 24″/600 mm and 32″/800 mm wide TS enclosures, each in the highest or lowest position.

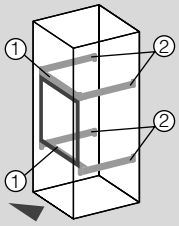


Front

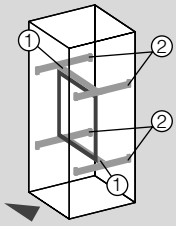


Set back

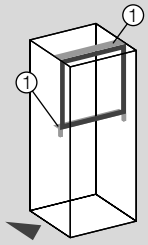
Partial installation, centered, in 24″/600 mm and 32″/800 mm wide TS enclosures.



Front



Set back



With an enclosure depth of 24″/600 mm or 32″/800 mm, side installation of a small swing frame is identical to installing in to the front.

Mounting accessories required, depending on the installation position:

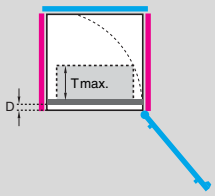
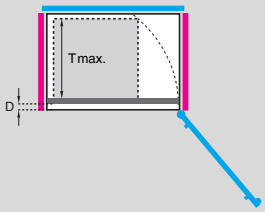
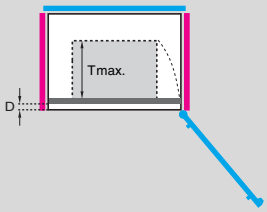
① Installation kit for 24″/600 mm – 32″/800 mm wide enclosures.

② PS system chassis without mounting flanges 23 x 73 mm to match the enclosure depth, in conjunction with 4 combination brackets TS 8800.330 (two are included with the installation kit).

Note:
- Height compensation between the 1″/25 mm system hole pattern in the enclosure and the height units of the swing frame is achieved by the TS combination brackets (two are included with the installation kit).

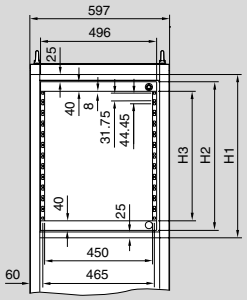
Small swing frame for 24″/600 mm and 32″/800 mm wide enclosures

Part No. SR	2377.030	2377.060	2377.090	2377.120	2377.150	2377.180
Height units	3 U	6 U	9 U	12 U	15 U	18 U
H1 mm	275	408	541	675	808	941
H2 mm	217	350	483	617	750	883
H3 mm	137	270	403	537	670	803

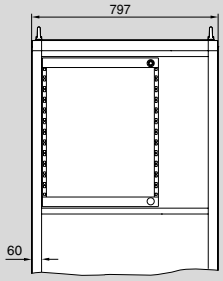
Installation depth T max. = mm for dimension D* of at least 1.77″/45 mm.			
Enclosure width inches/mm	24/600	32/800	32/800
			
Installation	Centered	Side	Centered
Enclosure depth inches/mm			
16/400	8/185	13/310	13/310
20/500	8/185	17/410	15/370
24/600	8/185	20/500	15/370
32/800	8/185	20/500	15/370

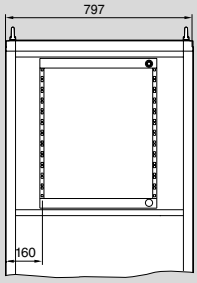
* D = Distance between the inner edge of the door and the front edge of the swing frame, may be enlarged on the 1″/25 mm pitch pattern.

For 24″/600 mm wide enclosures



For 32″/800 mm wide enclosures at the side or center





Mounting kit for small swing frames

In TS 8.

Material:
Cross member: sheet steel, chromated
TS support bracket: zinc die-cast

Configuration:
2 cross members, installation hardware included.

Enclosure width inches/mm	Part No. SR
24/600	**2377.860**
32/800	**2377.880**

Optional accessory:

Depending on the installation position, (see left-hand page):
combination bracket TS 8800.330, see page 979 and
PS system chassis without mounting flange to match the enclosure depth, see page 977.

Mounting kit for swing frame, small

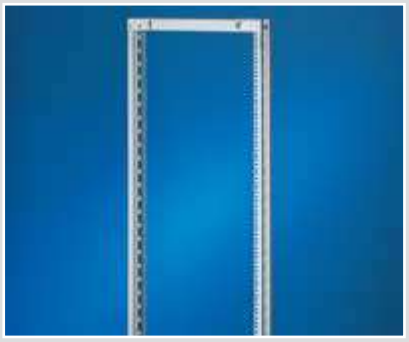
In PS, ES, AP universal consoles with a width of 24″/600 mm.

PU	Part No. SR
1 set	**2377.460**

Optional accessory:

Depending on the installation position:
combination brackets PS 4183.000, see page 979 and
PS system chassis without mounting flange to match the enclosure depth, see page 977.

Large swing frames without trim panel



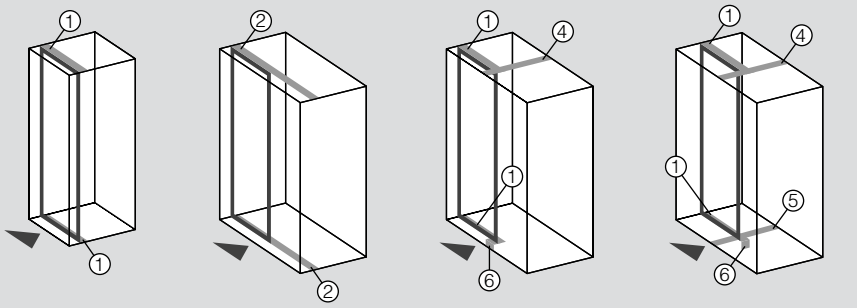
Large swing frames without trim panel

For TS, PS, ES, AK, AP universal consoles
Large swing frames are designed for installing 19″/482.6 mm components while utilizing the entire enclosure height. This installation option is achieved by using the installation kit.
The installation accessories required for other installation variations are described separately.

Material: Sheet steel, zinc-plated

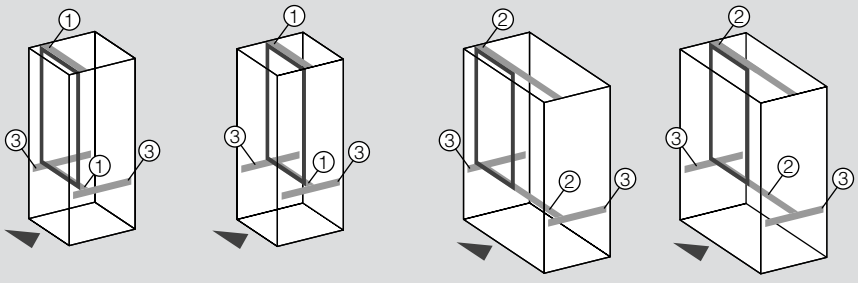
12 examples for TS

Partial installation, top



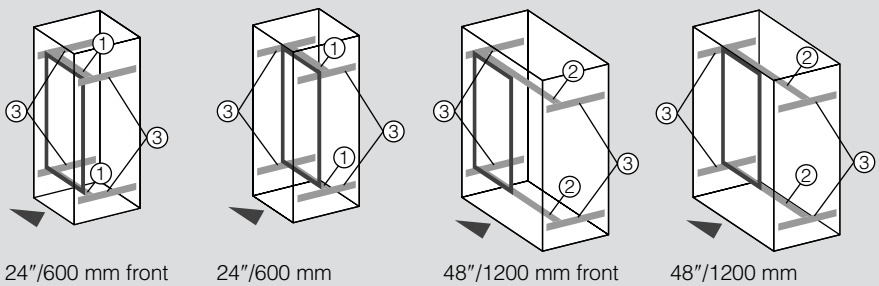
24″/600 mm front | 48″/1200 mm front | 48″/1200 mm front with width divider | 48″/1200 mm set back with depth divider

Partial installation, top



24″/600 mm front | 24″/600 mm set back | 48″/1200 mm front | 48″/1200 mm set back

Partial installation, centered



24″/600 mm front | 24″/600 mm set back | 48″/1200 mm front | 48″/1200 mm set back

Technical description:
Torsionally stiff frame, welded from rectangular pipe and 6-times folded support member.

Configuration:
Large swing frame, two cam locks with double-bit lock inserts, hardware for attaching to the installation kit.

Additional parts needed:
Installation kit, see right page.

Optional accessory:
Depending on the installation situation:
TS system chassis with mounting flange 23 x 73 mm,
TS system chassis 18 x 38 mm,
see pages 974/975.

PS system chassis with mounting flange, see page 977.

Width divider panel, see page 897.

Lock inserts, Type D, see page 942.

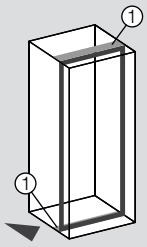
Necessary installation hardware according to installation location:

① Installation kit for 24″/600 mm wide enclosures.
② Installation kit for 48″/1200 mm wide enclosures.
③ TS system chassis 23 x 73 mm for the inner mounting level in the respective enclosure depth.
For installation in PS/ES = PS system chassis.
④ PS system chassis without mounting flange in the respective enclosure depth in conjunction with PS combination bracket.
⑤ TS system chassis 18 x 38 mm in the appropriate enclosure depth*.
⑥ Width divider (left hand or right hand angle)*.

* Not possible for PS/ES/AK.

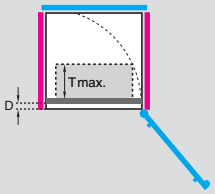
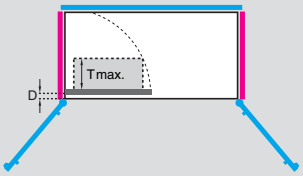
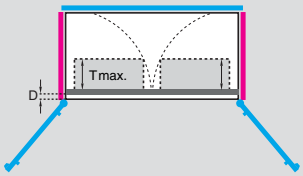
Note:
- Height compensation between the 1″/25 mm system hole pattern in the enclosure and the height units of the swing frame is achieved by the upper installation kit.
- Partial installation at the bottom matches partial installation at the top.
- With AK, full installation is only possible at the front.

TS 8:
With an enclosure depth of 24″/600 mm, side installation of a large swing frame is identical to installing parallel to the front.



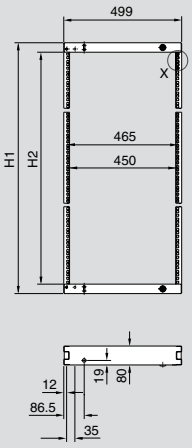
Large swing frames without trim panel

Part No. SR	2322.700	2331.700	2336.700	2340.700	2345.700
Height units	22 U	31 U	36 U	40 U	45 U
For enclos. height in./mm (or higher)	48/1200	63/1600	71/1800	79/2000	87/2200
H1 mm	1061.5	1461.5	1684.5	1861.5	2084.0
H2 mm	981.5	1381.5	1604.0	1781.5	2004.0

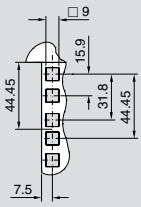
Installation depth T max. = mm with a dimension D* of at least 1.93″/49 mm			
Enclosure depth inches/mm	24/600	48/1200	48/1200
			
Installation	Centered	Left or right	Left or right
Enclosure depth inches/mm 16/400 20/500 24/600 32/800	8/185	12/295 16/395 19/495 27/695	12/295 16/365 16/365 16/365

* D = Distance between the inner edge of the door and front edge of the swing frame, may be installed deeper on a 1″/25 mm system hole pattern.

If the enclosure height is not fully utilized by the swing frame, additional mounting accessories are required – (see left-hand page).



Cutout X



German Patent No. 38 13 004
Swedish Patent No. 505 069
Dutch Patent No. 193 708
(Patents do not apply to SR 1985.200 / SR 1986.200)

Installation kits for large swing frames

With the installation kit for 32″/800 mm wide enclosures, the swing frame can also be installed in 32″/800 mm wide enclosures, offset at the sides.

Material:
Sheet steel

Finish:
Painted, see table

Configuration:
Installation kit for one swing frame including material for assembly to the enclosure.

Optional accessory:
Swing frame stay,
see page 1022.

For enclosure width inches/mm	For enclosure TS	For enclosure PS, ES, AP universal console	For enclosure AK	RAL	Part No. SR With 130° hinge	Part No. SR With 180° hinge
24/600	●	●		7044	**1994.800**	–
			●	7032	**1985.200**	–
32/800	●	●		7032	**1995.200**	**1997.200**
	●	●		7035	**1995.235**	**1997.235**
			●	7032	**1986.200**	
47/1200	●			7044	**1996.500**	–
		●			**1996.800**	–

Large swing frames with trim panel

Large swing frames with trim panel

for TS, PS, ES, AK

Large swing frames are designed for installing 19″/482.6 mm components while utilizing the entire enclosure height. This installation type is achieved by using the installation kit for 32″/800 mm wide enclosures.
The installation accessories required for other installation variations are described separately.

Technical description:
Torsionally stiff frame, welded from rectangular tube and 6-fold support rails. The side trim panels are screwed to the frame. The right-hand trim panel has a handle strip at the side and is equipped with a lock rod system.

Material:
Sheet steel

Finish:
Frame, zinc-plated
Trim panels painted in RAL 7032 pebble grey/RAL 7035 light grey

Configuration:
Large swing frame, lock rod system with double-bit lock insert, hardware for mounting to the installation kit.

Additional parts needed:

Installation kit,
see right hand side.

Optional accessory:

TS system chassis 23 x 73 mm,
see page 974.

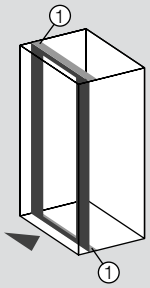
PS system chassis,
see page 977.

Lock inserts, Type A,
see page 942.

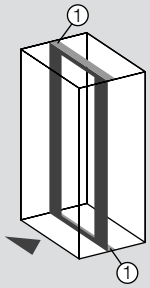
Lock inserts Ergoform-S,
see page 939.

6 examples for TS

Full installation

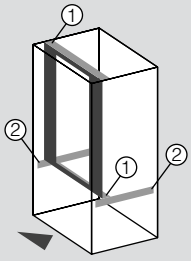


32″/800 mm front

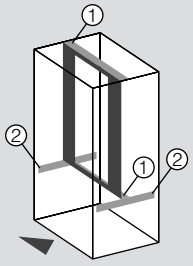


32″/800 mm
set back

Partial installation, top

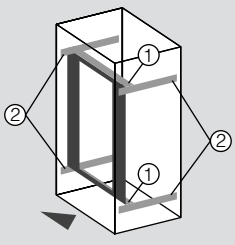


32″/800 mm front

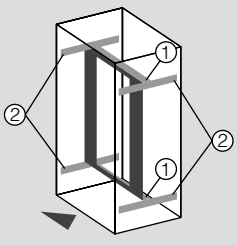


32″/800 mm
set back

Partial installation, centered



32″/800 mm front



32″/800 mm
set back

Mounting accessories required depending on the installation position:

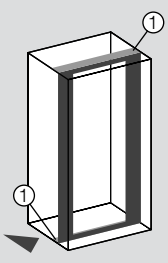
① Installation kit for 32″/800 mm wide enclosures.

② TS system chassis with flanges 23 x 73 mm for the inner level to match the enclosure depth.
For installation in PS/ES = PS system chassis with mounting flange.

Notes:

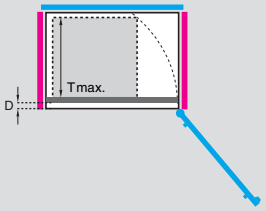
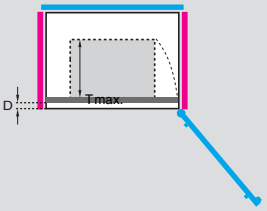
- Height compensation between the 1″/25 mm system hole pattern of the enclosure and the height units of the swing frame is achieved by the upper installation kit.
- Partial installation at the bottom matches partial installation at the top.
- With AK, full installation is only possible at the front.

TS 8:
With an enclosure depth of 32″/800 mm, side installation of a large swing frame is identical to installing the frame parallel to the front.



Large swing frames with trim panel

Part No. SR, RAL 7032	2323.200	2324.200	2332.200	2333.200	2337.200	2338.200	2341.200	2342.200	2346.200	2347.200
Part No. SR, RAL 7035	**2323.235**	**2324.235**	**2332.235**	**2333.235**	**2337.235**	**2338.235**	**2341.235**	**2342.235**	**2346.235**	**2347.235**
Installation	Side	Center	Side	Center	Side	Center	Side	Center	Side	Center
Height units	22 U		31 U		36 U		40 U		45 U	
For enclosure height inches/mm (or higher)	48/1200		63/1600		71/1800		79/2000		87/2200	
H1 mm	1061.5		1461.5		1684.5		1861.5		2084.0	
H2 mm	981.5		1381.5		1604.0		1781.5		2004.0	

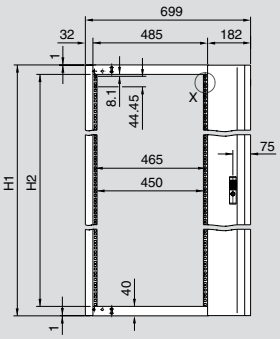
Installation depth T max. = mm for a dimension D* of 1.93″/49 mm with the 130° hinge, 3.75″/95 mm with the 180° hinge.			
Enclosure with 32″/800 mm			
Installation	Side		Centered
Hinge	130°	180°	180°
Enclose depth inches/mm 16/400 20/500 24/600 32/800	 12/295 16/395 19/470 19/470	 10/252 14/352 17/428 17/428	 10/252 14/345 14/345 14/345

* D = Distance from inner edge of door to front edge of swing frame, may be installed deeper on a hole pattern of 1″/25 mm.

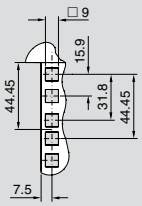
If the enclosure height is not fully utilized by the swing frame, additional mounting accessories are required – see left-hand page.

For double-door enclosures, the next smallest swing frame must be installed because of the lock.

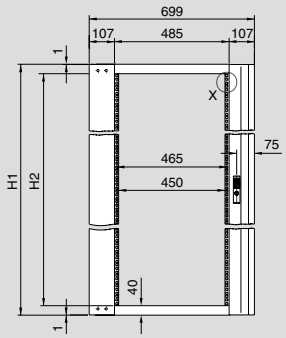
Installation components, side



Cutout X



Installation components, center



Installation kit for large swing frames

Material:
Sheet steel

Configuration:
Painted, see table

Configuration:
Installation kit for one swing frame, installation hardware included.

Optional accessory:
Swing frame stay, see page 1022.

German Patent No. 38 13 004
Swedish Patent No. 505 069
Dutch Patent No. 193 708
(Patents do not apply to SR 1986.200/ SR 1978.200)

For enclosure width inches/mm	For enclosures TS	PS, ES	AK	RAL	Part No. SR With 130° hinge	Part No. SR With 180° hinge
32/800	●	●		7032	**1995.200**	**1997.200**
	●	●		7035	**1995.235**	**1997.235**
			●	7032	**1986.200**	**1986.200 + 1978.200**

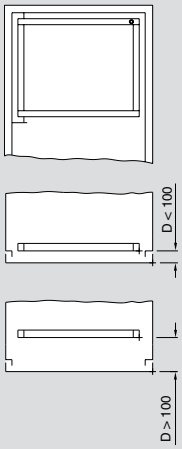
Vario swing frames

Vario swing frames for PS/ES, AP universal consoles 32″/800 mm width

For the installation of 19″/482.6 mm rackmount components.

Color:
RAL 7032 pebble grey or
RAL 7035 light grey

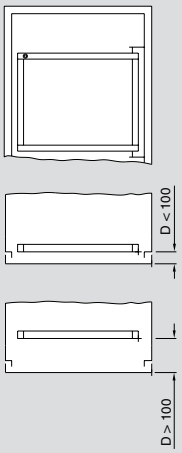
Technical description:
Sturdy, rigid steel box frame with triple-folded mounting flange. For centered installation, extension panels are welded on both sides of 32″/800 mm wide swing frames.
Installation hardware included.



Installation accessories as required by application
Swing frame in uppermost position

	System chassis for encl. depth	System bar for encl. width
PS 4000	–	–
ES 5000	1 each	–

PS 4000	1 piece	1 piece
ES 5000	1 piece	1 piece



Installation accessories as required by application
(Swing frame placed lower in enclosure)

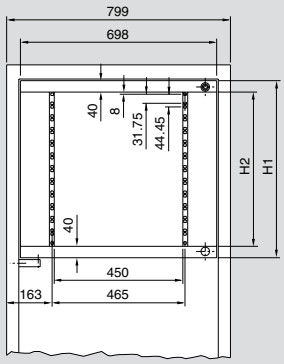
	System chassis for encl. depth
PS 4000	1 piece
ES 5000	3 piece

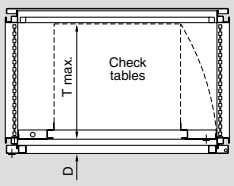
PS 4000	3 piece
ES 5000	3 piece

For 32″/800 mm wide enclosures

Part No. SR	**2004.200**	**2007.200**	**2008.200**	**2010.200**	**2011.200**
Available rack space	6 U	9 U	12 U	15 U	18 U
H1 mm	350	483	616.5	750	883
H2 mm	270	403	536.5	670	803
Max. inst. depth D 400 mm	305 mm (275 mm)				
For encl. depth ≥ 500 mm	405 mm (365 mm)				
Dimension D in mm	41.5 – 59.5 – 77.5 – 116.5 – 134.5 – 141.5 – 159.5				

Order swing frame primered in RAL 7035 light grey with extension .235.
Lead times upon request.





Lock inserts

Standard double bit lock inserts can be exchanged for any Type D 47 mm insert, see page 942.

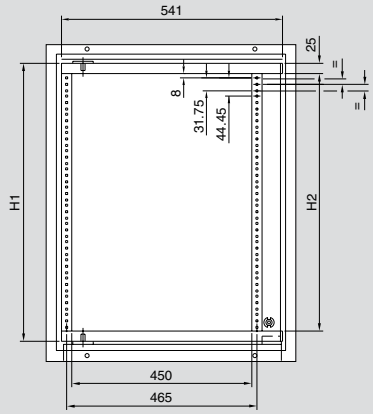
System chassis for enclosure depth

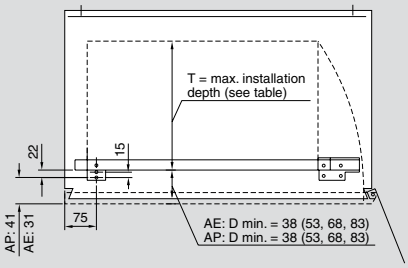
Length	PU	**Part No. PS**
16/400	4	**4369.000**
20/500	4	**4370.000**
24/600	4	**4371.000**
32/800	4	**4372.000**

System bar for enclosure width

Length inches/mm	PU	**Part No. PS**
24/600	12	**4171.000**
32/800	12	**4172.000**

System bars can best be attached with 2 x PS 4182.000 dual brackets (page 979) and 2 x PS 4179.000 slide nuts/bolts (see page 982).





Compact swing frames for AE/AP

For installing 19″ rackmount components.

Color:
RAL 7032 pebble grey

Technical description:
Sturdy, rigid steel box section frame with triple-folded mounting flange.
Installation hardware included.

For AE

For AE compact enclosure			**Part No. SR**	**2026.200**	**2027.200**	**2034.200**
Enclosure		Max. installation depth inches/mm	Available rack space	6 U	11 U	14 U
			For enclosure height	15/380	24/600	30/760
Width inches/ mm	Depth inches/ mm		H1 (inches/mm)	13/320	21/542	27/676
			H2 (inches/mm)	11/270	19/492	25/626
24/600	8.3/210	5.71/145	Painted, solid door painted, glass door stainless steel	1039.600 1039.650 1009.600	1060.600 1060.650 1010.600	1076.600 1076.650 1012.600
24/600	14 /350	10.43/265	Painted, solid door Painted, glass door	1339.600 1339.650	1360.600 1360.650	1376.600 1376.650
30/760	8.3/210	5.71/145	Painted, solid door	–	–	1077.600
30/760	12 /300	9.25/235	Painted, solid door stainless steel	– –	– –	1073.600 1014.600

For AP

Part No. SR	**2027.200**
Available rack space	11 U
H1 (inches/mm)	21/542
H2 (inches/mm)	19/492

For AP console pedestals	Maximum installation depth
2600.600 2610.600 2620.600 2640.600 2630.600 2650.600	13″/315 mm

For one-piece AP console	inches/mm
2668.600	13/315
2672.600	13/315
2684.600	12/295*
2686.600	12/295*

* With installation of two swing frames.

Lock inserts

Standard double-bit lock inserts can be exchanged for any Type C 41 mm insert, see page 942.

Accessories

Swing frame stop

Locks swing frames in open position.

Assembly for:
Swing frames, large
- SR 1979.200, at the top of the enclosure
- SR 1980.200, at the bottom of the enclosure (with safety catch at 160°)

Swing frame, small
- SR 1979.200, may be mounted at the top or at the bottom of the installation kit.

For swing frame	PU	Part No. SR
With standard hinge	5	**1979.200**
With 180° hinge	1	**1980.200**

Support rails for Vario swing frames

To support heavy 19″/482.6 mm rackmount electronic components in the swing frame.

Material:
Sheet steel, zinc-plated.

	PU	Part No. SR
For rackmount component with max. installation depth T max. < 7.98″/190 mm	10	**1962.200**
For rackmount component with max. installation depth T max. > 7.98″/190 mm	10	**1963.200**

Cable management swing frames

Three different cable collecting systems are available to provide orderly cable management on 19″ swing frames:
C-rails that can be installed between all 19″ mounting surfaces.
Cable collecting rails to which cables are fastened with cable ties, and that can be installed between all 19″ mounting surfaces.
Cable collecting bars for swing frames that are installed behind the frame so that cables can be routed 10″/250 mm behind the 19″ mounting surface.

Material:
Sheet steel, zinc-plated, chromated.

Description	PU	Part No. DK
C-rails	6	**7016.100**
Cable collecting rail	6	**7016.110**
Cable collecting bars	6	**7016.120**

19″/482.6 mm pull-out frames

For installing a pull-out 19″/482.6 mm rack in front of enclosure. For 24″/600 mm and 32″/800 mm wide, 32″/800 mm deep enclosures.
Load capacity: 110 lbs/50 kg.

Color:
RAL 7035 light grey

Configuration:
Pull-out frame, including telescopic slides and installation hardware.

For U	Height inches/mm	Part No. DK
12	25/ 637	**7124.035**
18	36/ 903	**7125.035**
21	41/1037	**7126.035**

Additional parts needed:
Installation kit to match the enclosure type, see below.

German Patent No. 39 07 471
French Patent No. 2 646 050
GB Patent No. 2 229 317
Italian Patent No. 01 240 428
Swedish Patent No. 505 083

Installation kits for pull-out frames...

...for TS 8

Enclosure width 24″/600 mm

Material:
Sheet steel, zinc-plated, chromated.

24″/600 mm width installation kit for depths inches/mm	PU	Part No. TS
32/ 800	1 set	**8612.080**
36/ 900	1 set	**8612.090**
40/1000	1 set	**8612.000**

Enclosure width 32″/800 mm

Material:
Sheet steel, zinc-plated, chromated.

32″/800 mm width installation kit for depths inches/mm	PU	Part No. DK
32/ 800	1 set	**7827.800**
36/ 900	1 set	**7827.900**
40/1000	1 set	**7827.000**

...for FR

Enclosure width 24″/600 mm

Material:
Sheet steel

Color:
RAL 7035 light grey

24″/600 mm width installation kit for depths inches/mm	PU	Part No. FR
32/800	1 set	**7952.800**
36/900	1 set	**7952.900**

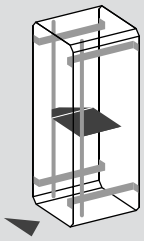
Enclosure width 32″/800 mm

Material:
Sheet steel, zinc-plated, chromated.

32″/800 mm width installation kit for depth inches/mm	PU	Part No. FR
32/800	1 set	**7875.288**

Lead times upon request.

For swing frames/pull-out frames



Component shelf 2 U, fixed installation, 19″/482.6 mm

If only one pair of 19″/482.6 mm mounting rails is available for mounting a component shelf, this variation offers a particularly cost-effective solution. Retrofitting of telescopic slides is not possible.

Load capacity:
55 lbs/25 kg static load

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

Component shelf depth inches/mm	Part No. DK
10/250	**7119.250**
16/400	**7119.400**

! Additional parts needed:

Captive nuts, screws,
see page 1032.

Component shelf, 2 U, for fixed installation or fully extended, 19″/482.6 mm

With 19″/482.6 mm mounting flanges, suitable for installing in all swing frames (hinged installation depth required: 12″/300 mm).

Load capacity:
55 lbs/25 kg static load

Material:
Sheet steel, painted

Color:
RAL 7035 light grey/
RAL 7032 pebble grey

Fixed or fully extended installation*

W x D inches/mm	Part No. DK	
	RAL 7035	RAL 7032
15.35 x 12/ 390 x 300	**7148.035**	**7148.000**

* Please order DK 7051.000 for fully extended telescopic slides.

Configuration:
1 component shelf, 2 mounting brackets, installation hardware.

+ Optional accessory:

Telescopic slides,
see page 986.

Handle, see page 993.

Side panels, 3 U, for mounting 19″/482.6 mm component shelves

For front installation with 19″/482.6 mm mounting flanges.
The component shelves are screwed to the 3 U side panels.
Either one or two component shelves may be installed. Combination with telescopic slides is not possible.

Load capacity:
66 lbs/30 kg static load

Material:
Sheet steel, painted

Color:
RAL 7035 light grey/
RAL 7032 pebble grey

Configuration:
2 side panels

Depth of side panels inches/mm	For component shelves DK	Part No. DK	
		RAL 7035	RAL 7032
12/300	7143.035	**7146.035**	**7146.000**
16/400	7143.035	**7147.035**	**7147.000**
16/400	7144.035		
16/400	7145.035		

PU = 2 pieces

+ Optional accessory:

Component shelves, 19″/482.6 mm,
see page 1026.

NOTES:

19″ mounting rails adaptor

For the installation of subracks and other 19″/482.6 mm installed equipment.
Mounting rails are easily retrofitted for partial assemblies.

Finish:
Conductive, corrosion-proof coating.

Configuration:
4 mounting rails, 19″/482.6 mm, installation parts included.

Accessories:
Captive nuts, filler panels, assembly screws,
see page 1032.

For enclosure height inches/mm	For enclosure system TS 8 [1]		For enclosure system PS/ES			
	U	Extruded aluminum profile	U	Extruded aluminum profile	Sheet steel, painted, RAL 7032	Sheet steel, zinc-plated, chromated
63/1600	33	**TS 8613.060**	33	**PS 4389.000**	**PS 4357.200**	**PS 4357.700**
71/1800	38	**TS 8613.080**	37	**PS 4390.000**	–	–
79/2000	42	**TS 8613.000**	42	**PS 4391.000**	**PS 4358.200**	**PS 4358.700**
87/2200	47	**TS 8613.020**	46	**PS 4392.000**	–	–
For PC enclosure [2]	–	–	17	**PS 4632.000**	–	–

PU = 4

[1] For the rear of electronic enclosures, see page 1028.
[2] Based on PS/ES behind bottom door.

19″/482.6 mm adaptor piece

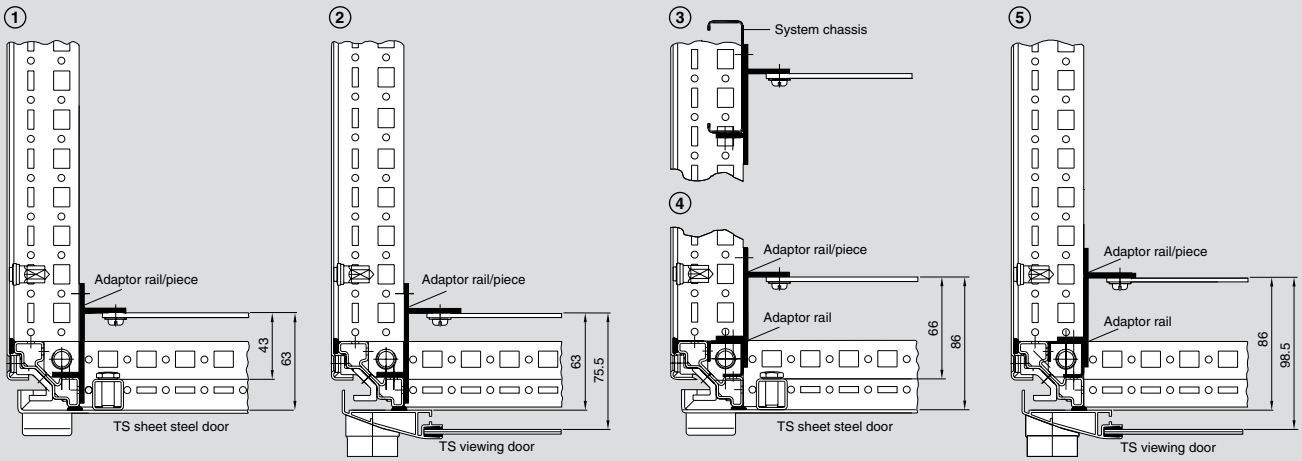
The 1 U sub-section of mounting angles.
For the installation of individual subracks and other installed equipment.

Configuration:
19″ adaptor pieces,
installation hardware included.

For	U	PU	Part No.
TS 8	1	4	**TS 8613.010**
PS/ES	1	8	**PS 4547.000**

Accessories:
Captive nuts, assembly screws,
see page 1032.

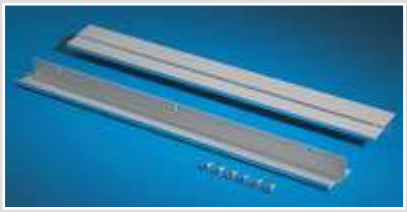
5 examples for TS:

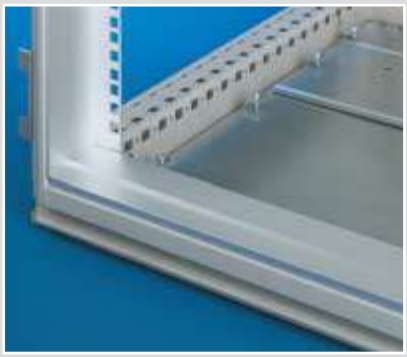


Drawing ① and ②:
Adaptor mounting rail or adaptor piece installed in the foremost position, directly on the vertical frame.
When installing slide rails with two-sided mounting option (see page 1027), the same mounting rails or adaptor pieces must also be mounted on the vertical enclosure section at the rear.

Drawing ③:
Mounting on two vertically installed PS system chassis permits fully flexible use of the enclosure depth.

Drawing ④ and ⑤:
Greater distance from the door is achieved by mounting on adaptor rails for PS-compatibility.
The slide rails with one-sided mounting can be installed in this position.





19″/482.6 mm blanking trim, horizontal

To fill between the full height 19″/482.6 mm equipment installations and the available installation height.

Material:
Extruded aluminum section

Finish:
Conductive, corrosion-proof coating.

Configuration:
2 filler panels for 19″/482.6 mm.
Installation hardware included.

For enclosure height inches/mm	PU	For enclosure system TS 8	PS/ES
		Part No. TS	**Part No. PS**
63/1600; 79/2000	2	**8613.040**	**4359.000**
71/1800; 87/2200	2	**8613.030**	**4360.000**

Support rails for PS/ES

For one-sided attachment to the 19″/482.6 mm mounting rails.
Installation hardware included.

Material:
Sheet steel, zinc-plated, chromated.

Length inches/mm	PU	**Part No. PS**
7.28/185	10	**4530.000**
10.63/270	10	**4531.000**

Additional parts needed:
Mounting rails, 19″/482.6 mm, see left page.

Support rails for PS/ES

For two-sided attachment between the 19″/482.6 mm front and rear mounting rails or 19″/482.6 mm adaptor pieces.

Material:
Sheet steel, zinc-plated, chromated.

For enclosure depth inches/mm	PU	For enclosure system TS 8	PS/ES
		Part No. TS	**Part No. PS**
20/500	10	**8613.150**	**4545.000**
24/600	10	**8613.160**	**4546.000**
32/800	10	**8613.180**	**4549.000**

Additional parts needed:
Adaptor mounting rail, 19″/482.6 mm, or adaptor piece, 19″/482.6 mm, see left side.

For TS 8 electronic enclosures

Figure A ▼

Figure B ▼

Cover trim profiles

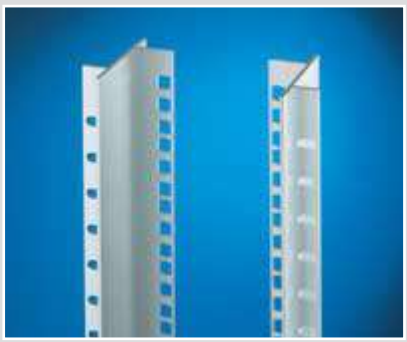
For TS 8 electronic enclosures.
Exchanges for the standard lateral trim panels (Fig. A) installed on the vertical hinged front frame. The cover profiles conceal the subrack or blanking panel installation screws (Fig. B).

Material:
Extruded aluminum section

Finish:
Powder painted RAL 7035 light grey

For enclosure height inches/mm	PU	Part No. TS
63/1600	2	**8613.200**
79/2000	2	**8613.210**

Note:
The vertical hinged front frame is also available with lock rods and comfort handle. With the cover trim panels installed, the subracks are also protected against unauthorized removal.



19″ adaptor profile

For rear installation in TS 8 electronic enclosures.
For installing subracks at the front and back, and for attaching the slide rails TS 8613.150, TS 8613.160 and TS 8613.180 (see page 1027).
Installation on the inner mounting level. The outer mounting level can still be used for cable routing on depth-mounted TS flanged system chassis.

Material:
Extruded aluminum section

Finish:
Conductive, corrosion-resistant coating.

Configuration:
2 adaptor mounting rails,
10 sheet metal screws.

For enclosure height inches/mm	U	PU	Part No. TS
63/1600	33	2	**8613.360**
71/2000	42	2	**8613.300**

Note:
Design similar to 19″/482.6 mm adaptor mounting rails, (see page 1026) but asymmetrical height, suitable for TS 8 electronic enclosures.

Alternative option:
19″/482.6 mm adaptor piece,
see page 1026.

19″ mounting rails for DK-TS

In two versions:

C-shaped
The integral U markings in the front facilitate systematic installation on the 19″/482.6 mm mounting level.

L-shaped
The L-shaped mounting rails accommodate the installation kits of server systems. In order to attach slide rails or component shelves from the accessory program, you will need adaptor DK 7827.300. The integral U markings in the front facilitate systematic installation on the 19″/482.6 mm mounting level.

Full installation, rack height inches/mm	U	Part No. DK	
		C-shaped	L-shaped
–	11	–	**7827.061**
–	15	**7827.080**	**7827.081**
–	20	**7827.100**	**7827.101**
47/1200	24	**7827.120**	**7827.121**
–	29	**7827.140**	**7827.141**
–	33	**7827.160**	**7827.161**
71/1800	38	**7827.180**	**7827.181**
79/2000	42	**7827.200**	**7827.201**
87/2200	47	**7827.220**	**7827.221**

PU = 2 pieces

Technical description:
14 ga/2 mm sheet steel with integral 19″/482.6 mm holes, as well as round and square holes along the sides.
Chromated for conductive connection of the 19″/482.6 mm installed equipment.

Configuration:
Mounting rails, including installation hardware.

Accessories:

L-shaped version:
adaptor DK 7827.300,
see page 1031.

Mounting rails, metric, 465/515 mm for DK-TS

The L-shaped mounting rails accommodate metric assemblies and components. Different installation kits are required to fit the metric mounting rails depending on the mounting dimensions.

Mounting dimension 465 mm, enclosure width 24″/600 mm and 32″/800 mm
Metric mounting rails are attached to the installation kit in accordance with the enclosure width (see page 1030).

Mounting dimension 515 mm, enclosure width 32″/800 mm
The metric mounting rails are attached to the supplied depth rails.

Technical description:
14 ga/2 mm sheet steel, with integral metric holes and round and square holes along the sides.
Chromated for conductive connection of the installed equipment.

Installation dimension 465 mm	PU	Part No. DK
74 SU (full installation 79″/2000 mm)	2	**7827.205**
83 SU (full installation 87″/2200 mm)	2	**7827.225**

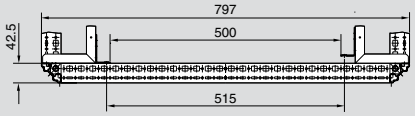
Configuration:
2 metric mounting rails, including installation hardware.

Mounting dimensions 515 mm for enclosures H x W x D inches/mm	PU	Part No. DK
79 x 32 x 32 2000 x 800 x 800	1 set	**7827.202**

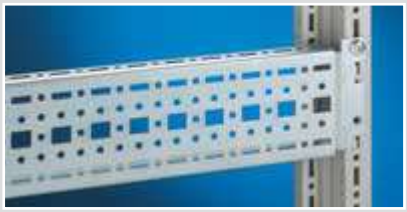
Configuration:
4 metric mounting rails,
4 depth rails,
including installation hardware.

Alternative option:

Metric network enclosures,
see pages 706/707.



For TS 8 network enclosures



Installation kit for mounting rails for DK-TS

In two versions:

Enclosure width 24″/600 mm ①
The installation kit consists of 4 flanged 23 x 73 mm TS system chassis to accommodate mounting rails. One pack is sufficient to construct one or two 19″/482.6 mm mounting levels. We recommend adding extra flanged system chassis in the center for exceptionally heavy equipment assemblies.

Enclosure width 32″/800 mm ②
The mounting rails are fixed to depth rails. One depth rail pack is sufficient for the construction of one or two 19″/482.6 mm mounting levels. We recommend adding extra depth rails in the center for exceptionally heavy equipment assemblies. The cutout in the front facilitates cable routing when the enclosure is fully installed.

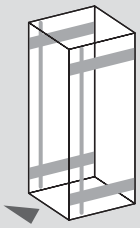
For enclosure Width inches/ mm	Depth inches/ mm	PU	Part No. TS/DK
24/600	24/ 600	4	**8612.060**
	32/ 800	4	**8612.080**
	36/ 900	4	**8612.090**
32/800	24/ 600	4	**7827.600**
	32/ 800	4	**7827.800**
	36/ 900	4	**7827.900**
	39/1000	4	**7827.000**

Material:
Sheet steel, zinc-plated, chromated.

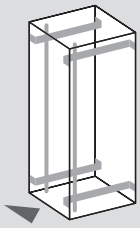
Configuration:
4 flanged system chassis,
or depth bars, depending on the application. Installation hardware included.

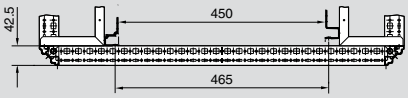
Alternative option:
For enclosure width 32″/800 mm:
corner bracket, see below.

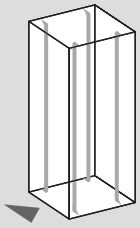
24″/600 mm ①



32″/800 mm ②







Corner bracket for DK-TS

Enclosure width 32″/800 mm
For optimizing available space for cable routing. The corner brackets are fixed to the enclosure frame in the enclosure depth. The mounting rails fasten to the top and bottom of the bracket.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
Corner bracket including installation hardware.

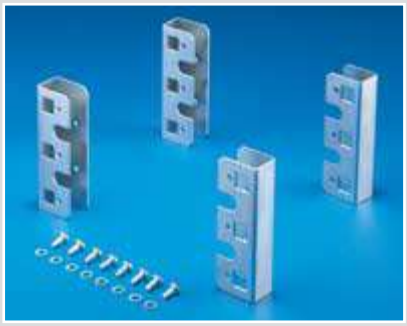
PU	Part No. DK
4	**7827.400**

Depth bars for 23″ and 24″ mounting rails

The 23″ and 24″ installation distances in 32″/800 mm wide TS network enclosures are achieved by using depth rails. This provides a mounting surface for either C-shaped or L-shaped mounting rails.

Configuration:
4 depth rails, including installation hardware.

For enclosure Width inches/ mm	Depth inches/ mm	Part No. DK Version 23″	24″
32/800	32/ 800	**7827.823**	**7827.824**
32/800	36/ 900	**7827.923**	**7827.924**
32/800	39/1000	**7827.023**	**7827.024**



19″/482.6 mm adaptor for L-shaped mounting rails

An adaptor is required for mounting component shelves and slide rails. This reduces the clearance width of the mounting level behind the mounting angles.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
4 adaptors, includes installation hardware.

PU	Part No. DK
4	**7827.300**

19″ center support mounting rail

for 32″/800 mm wide DK-TS enclosures. The center support helps prevent bending of the mounting rails in case of uneven weight distribution. It attaches directly to the 19″/482.6 mm mounting rails and the flanged system chassis, installed in the depth of the enclosure (inner mounting level).

Material:
Sheet steel, chromated

PU	Part No. DK
2	**7284.135**

Configuration:
Center support, installation hardware.

19″/482.6 mm adaptor

19″ rackmount assemblies can be installed to metric (535 mm) mounting rails with this adaptor.

Material:
Aluminum extrusion

Configuration:
2 adaptors, includes installation hardware.

SU	U	PU	Part No. DK
6	3	1 set	**7246.030**
11	6	1 set	**7246.060**

3 U/5 SU adaptor kit for 32″/800 mm wide TS enclosures

For installing individual 19″/482.6 mm or metric components in 32″/800 mm wide DK-TS network enclosures, or as an additional mounting surface at the rear of the enclosure. The mounting level in the adaptor angle can be adjusted by 4″/100 mm in the depth, leaving sufficient space for baying where patch panels or splicing boxes are used.

Material:
Sheet steel, painted RAL 7035 light grey or chromated.

Height	Installation position	Part No. DK painted RAL 7035	Part No. DK chromated
3 U	19″ center	**7246.100**	**7246.150***
3 U	19″ side	**7246.200***	**7246.250***
5 SU	Metric, centered	**7246.300***	**7246.350***

* Lead times upon request.

Additional parts needed:

Adaptor rail,
see page 976 or
assembly block,
see page 985.

Assembly screws M5 x 16 mm/M6 x 16 mm

For 19″/482.6 mm electronic rackmount assemblies and blanking plates; includes plastic washers.

Design	PU	Part No. EL
Phillips-head screw M5	100	**2099.500**
Cheese head screw M6	100	**2093.200**
Phillips-head screw M6	100	**2089.000**

Torx screw M5 x 16 mm/M6 x 16 mm

For optimum transmission of torque, an extended tool life, and increased safety and reliability when tightening and loosening screw connections.

Configuration:
Screws with Torx screw head including plastic washers.

	Bit size	PU	Part No. DK
M5	Torx 25	1 pack	**7094.500**
M6	Torx 30	1 pack	**7094.600**

1 pack = 100 pieces

Captive nuts M5/M6

For securing 19″/482.6 mm electronic equipment and blanking plates to the 19″/482.6 mm mounting rails.

For use with metal thicknesses from 0.8 to 2.0 mm. The captive nuts for metal thicknesses from 1.2 – 1.5 mm should be used with tight tolerances. Available **with** or **without** contact of the installed equipment to the 19″/482.6 mm section/enclosure.

M5 captive nut

Design	PU	For metal thicknesses mm	Part No. EL
With contact	50	0.8 – 2.0	**2094.500**
Without contact	50	0.8 – 2.0	**2092.500**

M6 captive nut

Design	PU	For metal thicknesses mm	Part No. EL
With contact	50	0.8 – 2.0	**2094.200**
Without contact	50	0.8 – 2.0	**2092.200**
With contact	50	1.2 – 1.5	**2094.300**
Without contact	50	1.2 – 1.5	**2092.300**

Spring nuts with M6 x 10 mm screws for T-slot mounting rail

The spring nuts ensure flexible, secure mounting of 19″/482.6 mm or metric equipment on the T-slot mounting rails.

PU	Part No. DK
1 pack	**7000.990**

1 pack = 50 pieces

Configuration:
50 spring nuts,
50 M6 x 10 mm screws,
50 plastic washers.

Slide rail, vented for DK-TS/QR

To support heavy 19″/482.6 mm network components. The slide rails are simply located into the C-shaped mounting rails and secured with screws. Due to the side ventilation option, hot spots with active equipment are avoided. For installation in network enclosures with two 19″/482.6 mm mounting levels.

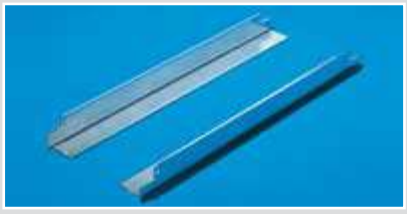
Material:
Sheet steel, zinc-plated, chromated.

Configuration:
Slide rail including installation hardware.

Length inches/mm		19″ distance between levels (mm)		PU	Part No. DK
6	152*	–	–	2	**7063.000**
10	261	12	298	2	**7063.300**
14	361	16	398	2	**7063.400**
18	461	20	498	2	**7063.500**
22	561	24	598	2	**7063.600**
26	661	27	698	2	**7063.700**

* Only fasten to the front or rear mounting rails.

Additional parts needed:
Adaptor DK 7827.300 for attaching to the L-shaped TS mounting rails,
see page 1031.



Heavy-duty slide rails

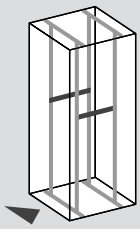
To support extremely heavy installed equipment in DK-TS network enclosures with two mounting levels.
The slide rails will withstand loads of up to 176 lbs/80 kg. We recommend using with additional depth bars or, in the case of 32″/800 mm wide enclosures, the mounting rail center support.

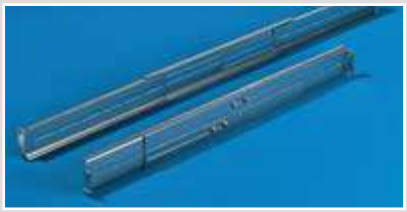
Material:
Sheet steel, zinc-plated, chromated.

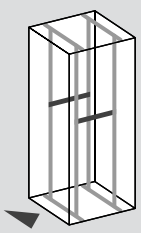
Configuration:
2 slide rails and installation hardware.

Additional parts needed:
Adaptor DK 7827.300 for attaching to the L-shaped TS mounting rails,
see page 1031.

Length inches/mm		19″ mounting level distance inches/mm		PU	Part No. DK
10	261	12	298	2	**7492.300**
14	361	16	398	2	**7492.400**
18	461	20	498	2	**7492.500**







19″/482.6 mm server rails, mounting rails infinitely adjustable

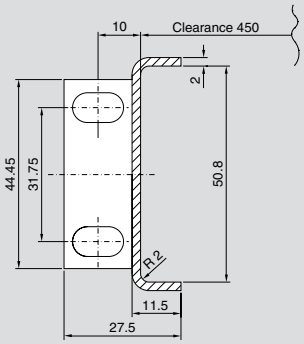
The server rails can be mounted in all network enclosures with two pairs of 19″/482.6 mm rails. It allows servers or active network components to slide into the enclosures, which can be fixed to the server rail via telescopic rails. The length of the server rails is fully adjustable from 21.65″/550 to 33.46″/850 mm.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
2 server rails, infinitely adjustable, with installation hardware.

German Patent No. 197 10 023

19″ distance between levels inches/mm		PU	Part No. DK
22 – 33	550 – 850	2	**7063.850**



Drawer/utility shelf for 19″/ 482.6 mm

With base
For keyboards, operating manuals, etc. The perforated panel in the base improves air circulation inside the enclosure. Load capacity 110 lbs/50 kg. The 1 U drawer can be rotated by 180° lengthwise and used as a utility table.

Material:
Drawer: aluminum
Telescopic rails: sheet steel, zinc-plated, chromated

U	Part No. PS
1	**4541.000**
3	**4542.000**

Configuration:
1 drawer/utility shelf,
1 pair telescopic slides,
installation hardware included.

German Patent No. 37 10 557

Additional parts needed:
Drawer installation kit, according to the enclosure system,
see below or opposite page.

Keyboard drawer/shelf for 19″/482.6 mm

Frame open bottom
for keyboards up to 17.32″/440 mm wide.

Material:
Drawer: aluminum
Telescopic rails: sheet steel, zinc-plated, chromated

Configuration:
1 drawer, 1 set of telescopic rails.
Installation hardware included.

Drawer	U	Part No. PS
Aluminum trim panel	2	**4548.000**
RAL 7035 light grey trim panel	2	**4548.035**

Additional parts needed:
Drawer installation kit according to the enclosure system chosen,
see below or opposite page.

Drawer installation kit for TS/PS/ES

For the installation between 19″/482.6 mm front and rear mounting angles, or 19″/482.6 mm adaptor kit.

Material:
Sheet steel, zinc-plated, chromated.

Supply includes:
2 depth bars with installation hardware.

For enclosure depth inches/ mm	PU	For enclosure system TS 8	For enclosure system PS/ES
		Part No. TS	**Part No. PS**
20/500	1 set	**8800.550**	**4543.000**
24/600	1 set	**8800.560**	**4544.000**
32/800	1 set	**8800.580**	**4554.000**

Additional parts needed:
Adaptor profile, 19″/482.6 mm, or adaptor kit, 19″/482.6 mm,
see page 1026.

Drawer installation kit for DK-TS/QR

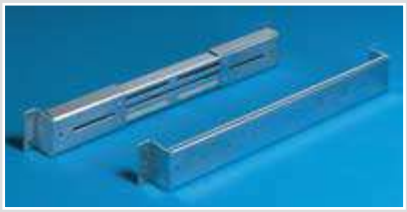
Depending on the distance between the two 19″/482.6 mm mounting surfaces, the assembly kit is fixed into the depth between the C-shaped mounting rails in 32″/800 mm wide network enclosures.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
2 depth bars with installation hardware.

Length inches/mm		Mounting level distance inches/mm		PU	Part No. DK
10	255	12	298	1 set	**7229.200**
14	355	16	398	1 set	**7229.300**
18	455	20	498	1 set	**7229.400**

Additional parts needed:
Adaptor DK 7827.300 in conjunction with the L-shaped TS mounting rails,
see page 1031.



Drawer installation kit for for FR

For mounting of drawers PS 4541.000, PS 4542.000, PS 4548.000 / .035.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
1 installation kit, included installation hardware.

For enclosure height inches/mm	PU set	Part No. FR Enclosure width inches/mm	
		24/600	32/800
24/600 00	1	**2102.290**	**7952.060**[1)]
32/800 00	1	**2102.310**	**7952.080**[1)]
36/900 00	1	**2102.300**	**–**
24/600 to 36/900	1	**7952.090**[1)]	**7952.090**[1)]

[1)] Front and rear mounting rails are required for assembly.

19″/482.6 mm drawer, 2 U, 3 U, for all enclosures with one pair of 19″/482.6 mm mounting rails

For installation to the front of 19″/482.6 mm mounting rails. With cover and telescopic slides to accommodate configuration lists, operating manuals or small parts.

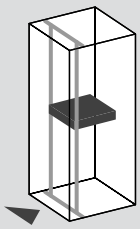
Material:
Sheet steel

Color:
RAL 7032 pebble grey/
RAL 7035 light grey

Configuration:
Fully assembled, including installation hardware.

Height	Clearance openings inches/mm		Part No. DK	
	Width mm	Depth mm	RAL 7032	RAL 7035
2 U	411	419	**7282.000**	**7282.035**
3 U	411	419	**7283.000**	**7283.035**

Installation depth: 16.81"/427 mm.



19″/482.6 mm keyboard drawer for a 2 U mounting level

For keyboards up to 16.93″/430 mm width and 9.84″/250 mm depth with front panel folded down.

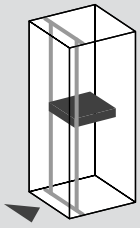
Material:
Sheet steel with aluminum front.

Configuration:
Lockable drawer with handles, hinged front, pull-out mouse pad, mouse storage, practical cable entry and strain relief.

Height	Part No. DK	
	RAL 7035	RAL 7032
2 U	**7281.035**	**7281.000**

Installation depth: 15.35″/390 mm

Color:
RAL 7035 light grey/
RAL 7032 pebble grey



19″/482.6 mm blanking panel

Can be used as empty-field cover or for custom installations.

Material:
Sheet steel

Color:
RAL 7035 light grey/
RAL 7032 pebble grey

U	Installation height	Part No. DK	
		RAL 7035	RAL 7032
1	44 mm	**7151.035**	**7151.000**
1.5	66 mm	**7157.035**	**7157.000**
2	88 mm	**7152.035**	**7152.000**
3	132.5 mm	**7153.035**	**7153.000**
6	266 mm	**7156.035**	**7156.000**

PU = 2 pieces

19″ blanking panel

Material:
Aluminum, natural anodized.

U	1	2	3	4	6	7	9	12
PU	3	3	3	3	3	3	3	3
Part No. EL	**1931.200**	**1932.200**	**1933.200**	**1934.200**	**1936.200**	**1935.200**	**1939.200**	**1937.200**

Fold-down hinged blanking panel

Material:
9 ga/3 mm aluminum, natural anodized
Hinge: zinc die-cast

Width	U	Part No. EL
19"/482.6	3	**1944.000**
19"/482.6	6	**1945.000**

Configuration:
Blanking panel, installation hardware included.

Fold-out hinged blanking panel

9 ga/3 mm aluminum, natural anodized
Hinge: zinc die-cast

Width	U	Part No. EL
19″/482.6 mm	3	**1940.000**
19″/482.6 mm	6	**1941.000**

Configuration:
Blanking panel, installation hardware included.

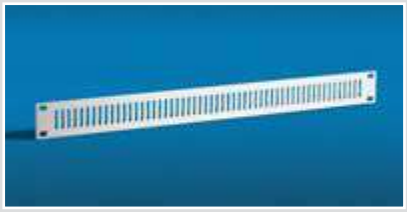
Hinge for blanking panels

For retrofit hinging of blanking panels, installation hardware included.

Material:
Zinc die-cast

PU	Part No. EL
2	**1950.000**

German Patent No. 40 04 264
GB Patent No. 2 243 025



Vented front panels

For ventilation of 19″ enclosures and housings open in the front.

Material:
Aluminum, natural anodized.

Width inches/mm	U	PU	Part No. EL
19″/482.6	1	3	**2231.000**
19″/482.6	2	3	**2232.000**
19″/482.6	3	3	**2233.000**

9 U panel for monitors

For mounting between 19″/482.6 mm mounting rails. Safety glass pre-installed, for monitors with screens of up to 17″/ 431.8 mm.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Part No. DK
9	**7300.135**

Lead times upon request.

1 U patch panel with digital thermometer and thermostat

Standard patch panel equipment with a digital thermometer and thermostat. Supplied with integral cable clamping facilities for connection cables and an identification strip holder.

Technical description:
- The display can be used in a temperature range from 32 °F to 158 °F/ ± 0 °C to + 70 °C.
- Rated operating voltage 230 V AC; special voltages available upon request.
- A switch contact is available as a floating change-over contact (max. 250 V, 8 A).
- Control setting range: 50 °F to 140 °F/ + 10 °C to + 60 °C.

Patch panel with digital thermometer and thermostat	Part No. DK
RAL 7035 light grey	**7109.035**
RAL 7032 pebble grey	**7109.000**

CE

Color:
RAL 7035 light grey/
RAL 7032 pebble grey

Configuration:
Patch panel, digital thermometer and thermostat, identification strip.

19″/482.6 mm, 1 U panel, solid storage compartment

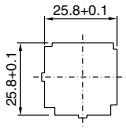
The panel with storage compartment is used to store fiber optic coupling covers or mounting material, and is easily installed between the 19″/482.6 mm mounting rails. Depth: 4″/100 mm

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Part No. DK
1	**7300.335**

19″/482.6 mm for copper wiring



For IBM connector No. 8310574

One panel – two wiring options:
- Vertical routing of cable at connector
- Horizontal routing from center, to DK 7218.035 or DK 7219.035 cable guide rings on right or left, see page 1056.

Advantages:
- Universal, orderly cable routing
- Connectors in lower rows remain uncovered.

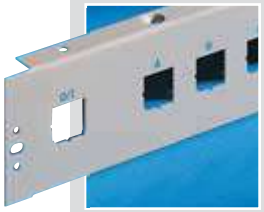
Material:
Sheet steel

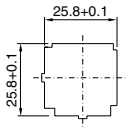
Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
2	8	**7062.035**
3	16	**7082.035**
5	32	**7162.035**
9	64	**7182.035***

* Lead times upon request.
Other versions available upon request.

Configuration:
1 patch panel includes 2 grounding brackets, zinc-plated, chromated, 2 U with 1 grounding screw each, 3 U and above with 2 grounding screws each. Spring terminals, zinc-plated, for contacting the cable shields according to the number of connector cutouts. The grounding bracket can be moved on a 1″/25 mm system hole pattern in relation to the panel, if depth limitations so require.





For configuration of ADS ring distribution

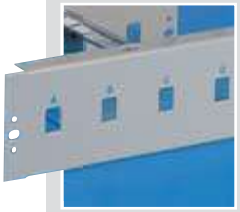
Patch panel with
8 plus 1 connector cutouts.
With accommodation for rail spacing bracket DK 7110.000, see page 1052.

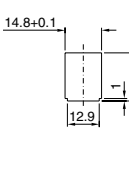
Material:
Sheet steel

Color:
RAL 7035 light grey

U	Part No. DK
2	**7181.035**

Lead times upon request.
Other versions upon request.





For RJ 11/12 and 45, 4, 6, and 8-pole data connectors

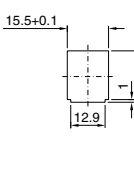
Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
1 patch panel including grounding bracket and installation hardware such as IBM data connector, see above.

U	Number of installation positions	Part No. DK
2	8	**7196.035**
3	16	**7197.035**
5	32	**7198.035**
9	64	**7199.035**

Lead times upon request.
Other versions upon request.



48 RJ 11 – 45 modular jacks

For cable collecting rails DK 7610.000 or DK 7611.000, see page 1052.

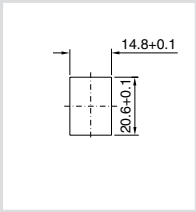
Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of installation positions	Part No. DK
2	48	**7194.535**

Other versions upon request.

19″/482.6 mm patch panels for copper wiring



32 RJ 11 – 45 modular jacks, DEC version

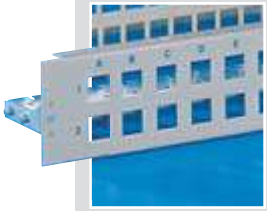
For rail spacing brackets DK 7110.000, see page 1052.

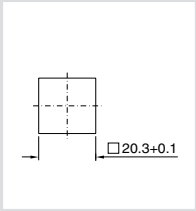
Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of installation positions	Part No. DK
2	32	**7195.035**

Lead times upon request.
Other versions available on request.





For screened RJ 45 modular jacks

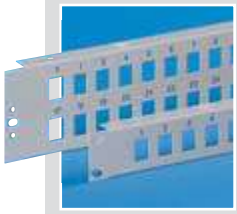
Screened RJ 45 jacks **with insulating frame,** including strain relief and spring brackets for contacting the cable screen.

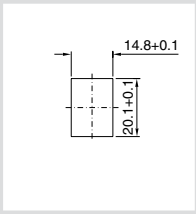
Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of installation positions	Part No. DK
2	24	**7392.035**
3	48	**7393.035***

* Lead times upon request.
Other versions available on request.
An insulating frame should be ordered for each RJ 45 modular jack.





For shielded RJ 45 modular jacks

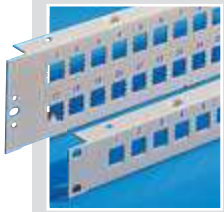
Shielded RJ 45 jacks. Cutouts and rear of patch panels are electrically conductive to contact the installed jacks with the patch panel and the zinc-plated, chromated 19″/482.6 mm mounting rails.
For cable collecting rails DK 7610.000 or DK 7611.000, see page 1052.

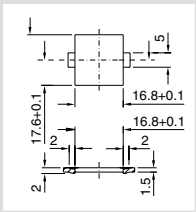
Material:
Sheet steel, zinc-plated, chromated.

Design:
Front painted in RAL 7035 light grey, rear zinc-plated, chromated.

U	Number of installation position	Part No. DK
1	16	**7394.035**
2	32	**7395.035**
3	48	**7300.435***

* Lead times upon request.
Other versions available on request.





For AT & T RJ 45

16/32 RJ 45 fitted jacks and cable collecting rails DK 7610.000 or DK 7611.000, see page 1052.

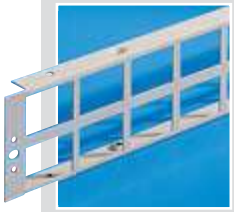
Material:
Sheet steel

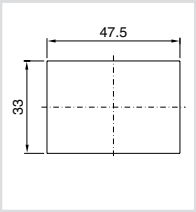
Color:
RAL 7035 light grey

U	Number of installation position	Part No. DK
1	16	**7397.535**
2	32	**7398.535***

* Lead times upon request.
Other versions available on request.

19″/482.6 mm patch panels for copper transmission cables





For ACO system

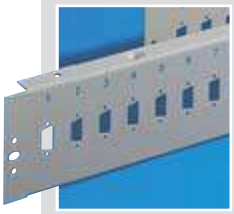
Accepts 16 unshielded ACO mounting kits. For rail spacing brackets DK 7110.000, see page 1052.

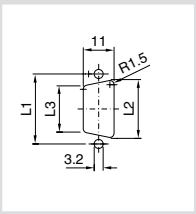
Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
2	16	**7193.035**

Other versions available on request.





For V 24 interfaces

For installation of **16 sub-D (trapezoid) jacks and connectors.**
For cable collecting rails DK 7610.000 or DK 7611.000, see page 1052.

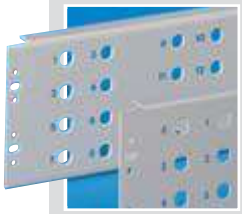
L1 (mm)	L2 (mm)	L3 (mm)	
25	21	16.5	9-pin
33.3	29.2	24.7	15-pin
47	43	38.5	25-pin

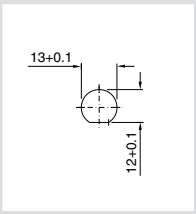
Material:
Sheet steel

Color:
RAL 7035 light grey

U	For number of poles	Number of connector cutouts	Part No. DK
2	9	16	**7087.535**
2	15	16	**7086.535**
2	25	16	**7089.535**

Other versions available on request.





BNC jacks – Type E

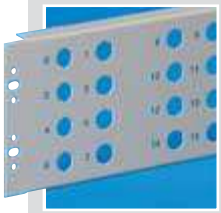
DK 7069.535 for cable collecting rails DK 7610.000 or DK 7611.000, see page 1052.

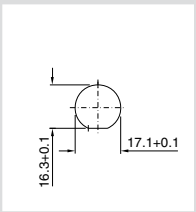
Material:
See table

Color:
RAL 7035 light grey

U	Material	Number of connector cutouts	Part No. DK
3	Sheet steel	32	**7069.535**
3	Polystyrene 4 mm	32	**7070.035***

* Lead times upon request.
Other versions available on request.





BNC connectors – Type F

Also accepts DK 7610.000 or DK 7611.000 cable collecting strips, see page 1052.

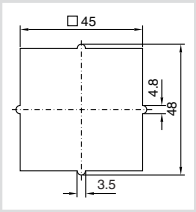
Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
3	32	**7071.535**

Lead times upon request.
Other versions available on request.

19″/482.6 mm patch panels for copper transmission cables



For isolated installation of equipment with .77″/45 mm Ø

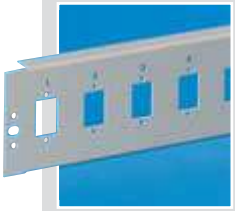
With accommodation for rail spacing brackets DK 7110.000, see page 1052. Rectangular cutouts also accepts equipment with data connectors.

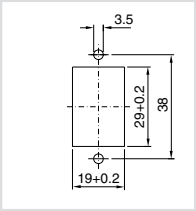
Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
2	6	**7189.035**
3	11	**7190.035***

* Lead times upon request.
Other versions available on request.





For ADo 4/8 sockets

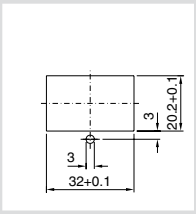
For rail spacing brackets DK 7110.000, see page 1052.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
2	10	**7191.035**

Other versions available on request.



For TAE 4/6 sockets

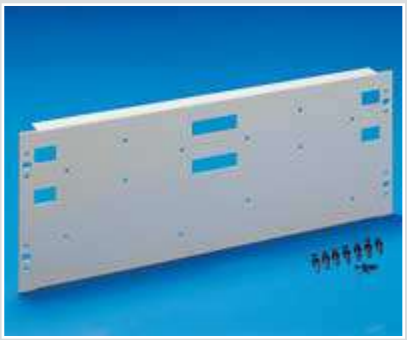
For rail spacing brackets DK 7110.000, see page 1052.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
2	8	**7192.035**

Other versions available upon request.



For AT & T 110 connector system

For fastening 2 wiring blocks per 100 twin cords and with accommodation for 2 cable retainers (backboards). Rear cable collecting rails DK 7610.000 or DK 7611.000 can be mounted on the back side, see page 1052.

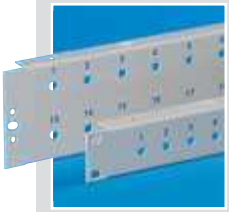
Material:
Sheet steel

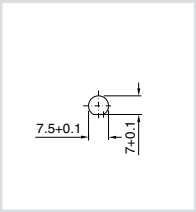
Color:
RAL 7035 light grey

Configuration:
Patch panel with installation accessories for the wiring blocks and cable retainers.

U	Twin cord (DA)	Part No. DK
4	200	**7049.035**

19″/482.6 mm patch panels for fiber optics





For F-SMA 7.5 mm/.3″ fiber optic connectors

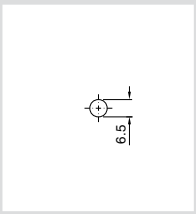
Also accepts DK 7610.000 or DK 7611.000 cable collecting strips, see page 1052.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
1	16	**7430.035***
2	24	**7130.535***
2	32	**7630.035***

* Lead times upon request.
Other versions on request.



For F-SMA 6.5 mm/.25″ fiber optic connectors

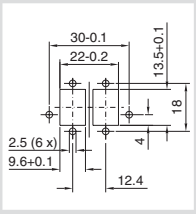
Also accepts DK 7610.000 or DK 7611.000 cable collecting strips, see page 1052.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
1	16	**7432.035***
2	24	**7132.535***
2	32	**7632.035***

* Lead times upon request.
Other versions upon request.



For E-2000, E-2000 Duplex or SC fiber optic connectors

Also accepts DK 7610.000 or DK 7611.000 cable collecting strips, see page 1052.

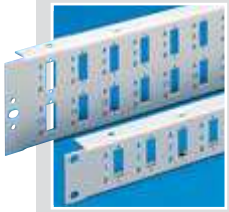
Material:
Sheet steel

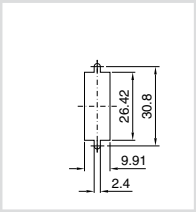
Color:
RAL 7035 light grey

Other versions upon request.

U	Number of connector cutouts single/duplex	Part No. DK
1	16/ 8	**7433.035**
1	20/10	**7133.535***
1[1)]	24/12	**7133.124**
2	24/12	**7633.035***
2	32/16	**7636.035***
2	40/20	**7136.535***
2[1)]	48/24	**7133.248**

[1)] No cable collecting strip installation.





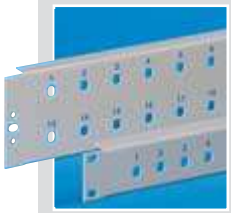
For SC-Duplex fiber optic connectors

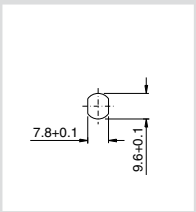
Also accepts DK 7610.000 or DK 7611.000 cable collecting strips, see page 1052.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
1	12	**7154.035**
2	24	**7155.035**





For ST fiber optic connectors

Also accepts DK 7610.000 or DK 7611.000 cable collecting strips, see page 1052.

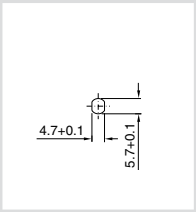
Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
1	16	**7437.035**
2	24	**7137.535**
2	32	**7637.035***

* Lead times upon request.
Other versions upon request.

19″/482.6 mm patch panels for fiber optics



For DIN 47 256 fiber optic connectors

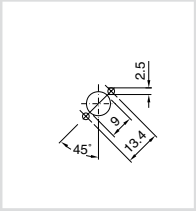
Also accepts DK 7610.000 or DK 7611.000 cable collecting strips, see page 1052.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
1	16	**7438.035***
2	24	**7138.535***
2	32	**7638.035***

* Lead times upon request.
Other versions upon request.



For FC-PC fiber optic connectors

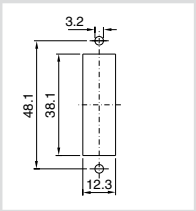
Also accepts DK 7610.000 or DK 7611.000 cable collecting strips, see page 1052.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
1	16	**7439.035***
2	24	**7139.535***
2	32	**7639.035***

* Lead times upon request.
Other versions upon request.



For FDDI fiber optic connectors

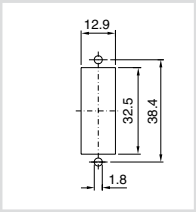
Also accepts DK 7610.000 or DK 7611.000 cable collecting strips, see page 1052.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
2	12	**7141.535**

Other versions upon request.



For ST-Duplex fiber optic connectors

Also accepts DK 7610.000 or DK 7611.000 cable collecting strips, see page 1052.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Number of connector cutouts	Part No. DK
2	12	**7142.535**

Other versions upon request.

Identification strips for patch panels

For identification of connector positions; pressure sensitive adhesive.

Length: 8.3″/210 mm, width: .4″/10 mm.

PU	Part No. DK
32	**7167.000**

Modular patch panels

19″ panel frame – 3 U/84 HP

Facilitates installation of various partial front panels and allows the design of separate fields with any combination of connectors and jacks. The usable width is 84 HP.
A DK 7351.000 grounding bracket can be mounted in rear, see below.

	Part No. DK
Panel frame	**7330.035**

Material:
Aluminum

Color:
RAL 7035 light grey

Configuration:
2 19″/482.6 mm flanges, 2 mounting rails including 2 tapped strips.

Partial front panels

Make it possible to install a mix of different type connectors and couplings onto a DK 7330.000 panel frame or a DK 7329.000 panel frame housing. Includes installation hardware.

Variations:
8 models for copper wiring
8 models for fiber optics
5 blank panels

Material:
Sheet steel

Color:
RAL 7035 light grey

For connector/ coupling	No. of inst. cut-outs	HP	P. of	Part No. DK
F-SMA 6.5 mm	4	4	2	**7331.035***
F-SMA 7.5 mm	4	4	2	**7332.035***
ST	4	4	2	**7334.035**
FC-PC	4	6	2	**7335.035***
SC, E-2000	6	6	2	**7336.105***
E-2000 Duplex	3	6	2	**7336.105***
SC-Duplex	2	4	2	**7336.115***
FDDI	2	4	2	**7336.125***
BNC-E	4	6	2	**7339.035**
BNC-F	4	6	2	**7340.035***
D-Sub 9-pin	3	4	2	**7342.035**
D-Sub 15-pin	2	4	2	**7343.035**
D-Sub 25-pin	1	4	2	**7344.035**
TAE 4/6	2	12	2	**7348.035**
RJ 11 – 45	4	8	2	**7349.035**
IBM	2	8	2	**7350.035**
Blank panel	–	4	2	**7355.035***
Blank panel	–	6	2	**7356.035**
Blank panel	–	8	2	**7357.035**
Blank panel	–	24	1	**7359.035**
Blank panel	–	42	1	**7360.035**

Other versions upon request.
See pages 1038 – 1043.

[1] Cutouts as in DK 7196.035, see page 1038.

* Lead times upon request.

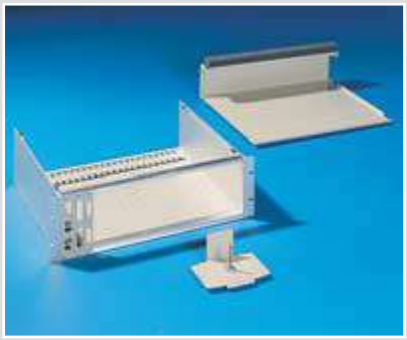
Grounding bracket for 19″ panel frame

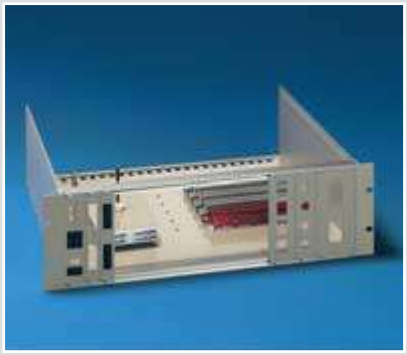
Has 8 grounding clips to attach cable shielding and is mounted onto the rear of a DK 7330.035 panel frame.

Material:
Sheet steel, zinc-plated, chromated.

PU	Part No. DK
2	**7351.000**

Lead times upon request.





19″ panel frame housing – 3 U/84 HP

Accepts partial front panels and allows the design of separate fields with any combination of connectors and jacks within a 84 HP field. Small power supplies, 20-pair DIN strips, or splice cassettes can be mounted on the bottom panel. The standard splice cassette holder (included) can be mounted on the right, left, or in the center. The rear housing panel features a rubber cable entry gasket and incoming cables can be fastened with cable ties to a cable rail. The panel frame housing can be fastened to any 19″ mounting surface.

Dimensions: Width: 84 HP
Height: 3 U
Depth: 370 mm

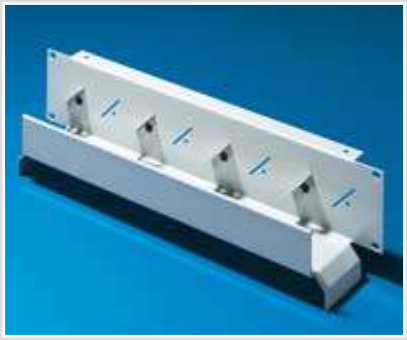
Material:
Sheet steel, aluminum

Color:
RAL 7035 light grey

Configuration:
1 housing with 19″ flanges and
– foam rubber cable entry gasket on rear,
1 splice cassette holder for 6 cassettes.

	Part No. DK
Panel frame housing	**7329.035**

Lead times upon request.



Modular fiber optic patch panel, 2 U

Eight fields for the individual population with different fiber optic couplings. Arranged in 45° angle in the patch panel. A total of 4 different panels may be plugged in with a quick connector.

Material:
Sheet steel

Color:
RAL 7035 light grey

Modular patch panel	Part No. DK
2 U	**7328.035**

Patch fields for modular fiber optic panels

Any commercial fiber optic coupling type may be combined in the modular patch panel DK 7328.035.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
4 modular patch fields,
includes installation hardware.

Patch field for coupling	PU	Part No. DK
ST	4	**7328.100**
DIN	4	**7328.110**
SC, E-2000	4	**7328.120**
SC-Duplex	4	**7328.130**

For fiber optics

1 U fiber optic splice box – 1 U, 19″ rackmount depth adjustable

Accommodates two splice cassettes and can be installed in any 19″ rack or network cabinet with 19″ rails.

- It can function as a termination and/or distribution box.
- Adjustable cassette mounting permits rotation-free installation of all popular splice cassettes.
- The rear of the box is open for cable entry with a foam gasket to protect against dust.
- Fibers can be attached with cable ties or cable clamps.
- The splice box is infinitely depth adjustable to 3.94″/100 mm on the 19″ mounting angles; it can also be completely removed from the 19″ mounting angles.
- Two strain relief clamps and cable guide clips for the fiber optic cables provide the best system oriented solution for all fiber optic cabling requirements.

	Max. number of cassettes	Part No. DK
1 U	2	**7241.005**
2 U	4	**7242.005**

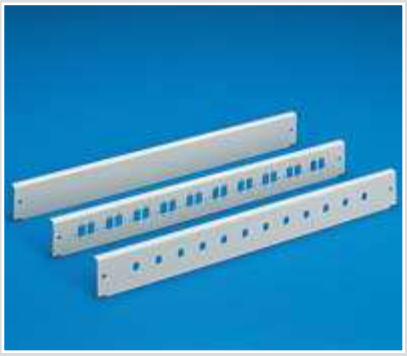
Patch panel and cassettes not included.
Other versions on request.

Installation depth 11.89″/302 mm.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
Splice box, cable routing clips, security lock, cassette cover and installation hardware for patch panel.



Patch panels for 1 U fiber optic depth adjustable splice box

There is a choice of 9 panels with appropriate cutouts for the installation of various fiber optic connections, together with 2 blanking panels for individual population or as a cover. The patch panels are fastened to the splice box with quick lock fasteners.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
1 patch panel

For connection	Number of connection cutouts	Part No. DK 1 U	Number of connection cutouts	Part No. DK 2 U
ST	12	**7241.015**	24	**7242.015**
	16	**7241.065**		
E-2000, E-2000 Duplex** or SC	20	**7241.025**	40	**7242.025***
FDDI	6	**7241.035**	12	**7242.035***
SC-Duplex	12	**7241.045**	24	**7242.045***
Blanking panel	–	**7241.055***	–	**7242.055***

Other versions available on request.
* Lead times upon request.
** Only half of the installation locations are available for E-2000 duplex.

Fiber optic splice box, 1 U, for 19″ rackmount, with telescopic slides and lock

Accommodates two splice cassettes and can be installed in any 19″ rack or network cabinet.

- It can function as a termination and/or distribution box.
- Telescopic slides provide optimum accessibility to the splice and distribution compartments.
- Adjustable cassette mounting permits rotation-free installation of all popular splice cassettes.
- A safety lock in front prevents unauthorized access.
- The rear of the box is open for cable entry with a foam gasket to protect against dust.
- Fibers can be attached with cable ties or cable clamps.
- Two strain relief clamps plus cable guide clips for fiber storage offer the best, system-oriented solution for all fiber optic cabling requirements.

	Max. number of splice cassettes	Part No. DK
1 U	2	**7170.535**
2 U	4	**7470.535**
3 U	6	**7570.535**[1)]

Patch panel and cassettes not included.
Other versions on request.

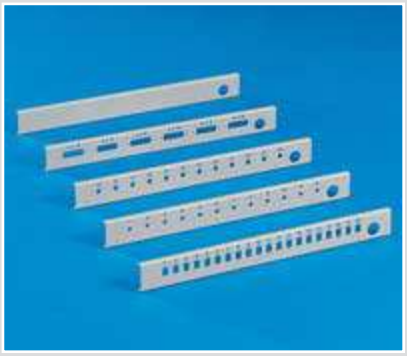
Installation depth: 11.89″/363 mm

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
Splice box, cable routing clips, security lock, cassette cover and installation hardware for patch panel.

[1)] German Patent No. 44 13 136



Patch panels 3 U splice box

There is a choice of 29 panels with appropriate cutouts for the installation of various fiber optic connections, together with 3 blanking panels for individual population or as a cover.

Material:
Sheet steel

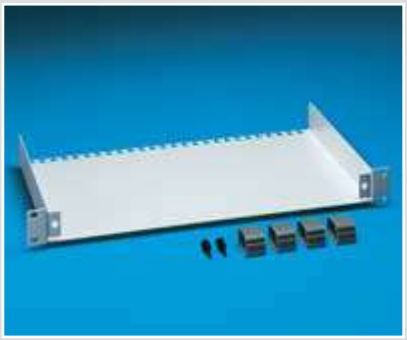
Color:
RAL 7035 light grey

Configuration:
1 patch panel

For connection	No. of connection cutouts	Part No. DK 1 U	No. of connection cutouts	Part No. DK 2 U	No. of connection cutouts	Part No. DK 3 U
F-SMA 6.5 mm	12	**7171.535***	24	**7471.535***	48	**7571.535***
F-SMA 7.5 mm	12	**7172.535***	24	**7472.535***	48	**7572.535***
DIN 47 256	12	**7173.535**	24	**7473.535**	48	**7573.535**
ST	12	**7174.535**	24	**7474.535**	48	**7574.535**
	16	**7174.135**				
FC-PC	12	**7175.535***	24	**7475.535***	48	**7575.535***
ST-Duplex	6	**7176.535***	12	**7476.535***	24	**7576.535***
FDDI	6	**7177.535**	12	**7477.535**	24	**7577.535***
E-2000, E-2000 Duplex** or SC	20	**7178.535**	24	**7478.535**	48	**7578.535**
			40	**7491.535**		
SC-Duplex	12	**7169.535**	24	**7469.535**	36	**7569.535**
Blanking panel	–	**7179.535**	–	**7479.535**	–	**7579.535***

Other versions available on request.
* Lead times upon request.
** Only half of the installation locations are available for E-2000 duplex.

For fiber optics



Fiber optic break-out box, 1 U

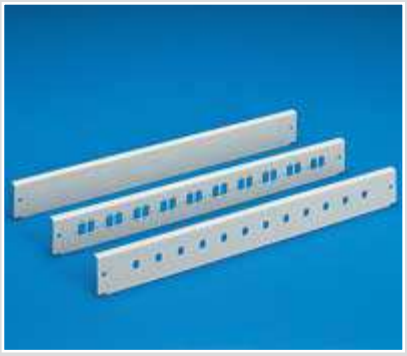
For splice-free wiring of fiber optic break-out cables.
Cable bundles may be clamped on the hammer heads at the rear. 4 self-adhesive cable clips are supplied loose for cable routing and for storing excess lengths inside the box.
Various patch panels may be inserted into the front using quick-release fasteners.
See below for Part No.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
Break-out box, cable routing clips, including installation hardware for patch panels.

Fiber optic breakout box	**Part No. DK**
1 U, 10″/250 mm deep	**7241.500**



Patch panels for fiber optic break-out box 1 U

There is a choice of five panels with appropriate cutouts for the installation of the fiber optic connections, together with a blanking panel for individual population or as a cover.

Material:
Sheet steel

Color:
RAL 7035 light grey

For coupling	No. of connec-tion cutouts	**Part No. DK**
ST	12	**7241.015**
ST	16	**7241.065**
E-2000, E-2000 Duplex** or SC	20	**7241.025**
FDDI	6	**7241.035**
SC-Duplex	12	**7241.045**
Blanking panel	–	**7241.055***

Other versions available on request.
* Lead times upon request.
** 10 connection cutouts are available for E-2000 duplex.

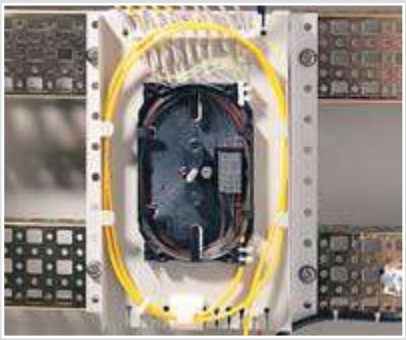
Blanking cover for fiber optic cutouts

To cover unused cutouts in patch panels.

Material:
Nylon

Color:
RAL 9005 black

	PU	**Part No. DK**
SC, E-2000	20	**7300.230**
E-2000 Duplex	20	**7300.230**
SC-Duplex	20	**7300.240**
ST	20	**7300.250**



Fiber optic splicing distribution enclosure

Unlike the splice box, the splice distribution box may be installed inside or outside of network distribution enclosures.
The splice distributor is designed to accommodate fiber optic splicing cassettes. These are mounted individually between mounting brackets which can be stacked on top of one another as needed. Strain relief for the cables and individual fibers is provided by cable ties. The basic unit can accommodate a total of 2 PU = 4 extension units DK 7381.035.

Dimensions:
H x W x D:
10 x 7.5 x 3.5″/250 x 190 x 90 mm

Threaded bolts:
2.95″/75 mm

	Part No. DK
Fiber optic splice distributors	**7380.035**

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
Base, including one pair of mounting brackets, lid and installation hardware.

German Patent No. 40 08 840

Fiber optic splice distribution box extension unit

Additional pairs of mounting brackets, each of which can accommodate one splicing cassette and the fiber stock, are used to extend the splice distributor.

Material:
Sheet steel

Color:
RAL 7035 light grey

PU	Part No. DK
2	**7381.035**

Splicing cassette holder

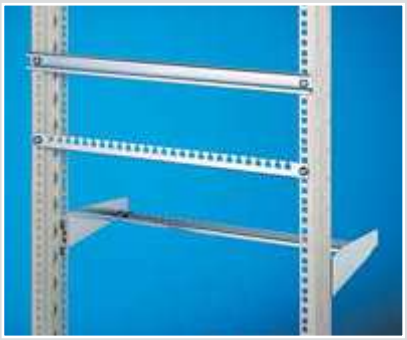
To accommodate different sized splicing cassettes with varying cassette accommodation. Up to 8 splicing cassettes may be installed in one holder. The splicing cassette holder may be secured to any mounting surface, and is particularly suitable for retrofitting in small fiber optic distribution boxes without patch panels.
One extra holder may be installed in the DK 7452.000 → max.: 16 splicing cassettes.
Two extra holders may be installed in the DK 7453.000 → max.: 32 splicing cassettes.

Material:
Sheet steel

Color:
RAL 7035 light grey

Configuration:
1 holder with threaded bolts,
1 variable angle bracket,
1 cassette cover,
1 knurled nut and installation hardware.

Height		Part No. DK
Total height	Threaded bolts	
3.66″/93 mm	3.37″/85 mm	**7450.035**



Cable management on 19″ mounting surfaces

Five different cable collecting rails are available to provide orderly cable management in 19″ systems:

C-rails that can be installed between all 19″ mounting surfaces.

C-rails	Depth inches/mm	Part No. DK
19″ mounting surface	–	**7016.100**

Cable collecting rails to which cables are fastened with cable ties, and that can be installed between all 19″ mounting surfaces.

Cable collecting rails	Depth inches/mm	Part No. DK
19″ mounting surface	–	**7016.110**

Cable collecting bars for swing frames and Data Rack that are installed behind the frame so that cables can be routed 10″/250 mm behind the 19″ mounting surface.

Cable collecting bars for DK-PS and DK-VR system rails to which cables are fastened with cable ties, and that have hooks on side that hang in 19″ rails.

Cable collecting bars for DK-FR and TC Rack system rails to which cables are fastened with cable ties, and that can be installed between all 19″ mounting surfaces.

Cable collecting bar	Depth inches/mm	Part No. DK/FR
Data Rack and large swing frames	10/250	**7016.120**
DK-PS and DK-VR system rails	4/100	**7016.130**
DK-FR and TC-Rack system rails	4/100	**7875.400**

PU = 6 pieces

Material:
Sheet steel, zinc-plated, chromated.

Cable collecting rails for DK-TS

The cables fasten to the cable collecting rail with cable ties or Velcro fasteners. The cable collecting rails hook into the enclosure section and may be secured with a screw.

Material:
Sheet steel, zinc-plated, chromated.

Configuration:
4 cable collecting rails including installation hardware.

For the outer mounting level

For enclosure		Part No. DK
Width inches/mm	Depth inches/mm	
24/ 600	24/ 600	**7828.061**
32/ 800	32/ 800	**7828.081**
36/ 900	36/ 900	**7828.091**
39/1000	39/1000	**7828.101**

For the inner mounting level

For enclosure		Part No. DK
Width inches/mm	Depth inches/mm	
24/ 600	24/ 600	**7828.062**
32/ 800	32/ 800	**7828.082**
36/ 900	36/ 900	**7828.092**
39/1000	39/1000	**7828.102**

Cable routing duct for Data Rack DK-PS and DK-FR

For side cable routing. The cable management duct is fastened to the side of the Data Rack or to the 19″/482.6 mm mounting rails in an 32″/800 mm wide FR network enclosure. The removable trim panel, which fastens onto the front and is secured with quick-lock fasteners, provides convenient access to the cable distribution area.

Material:
Sheet steel, painted

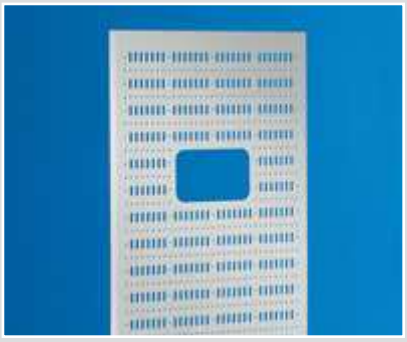
Color:
RAL 7035 light grey

For Data Rack	For PS/FR enclosure height inches/mm	Part No. DK
31 U	63/1600	**7410.310***
36 U	71/1800	**7410.360***
40 U	79/2000	**7410.400**
45 U	87/2200	**7410.450**

* Lead times upon request.

Width: 3.74″/95 mm
Depth: 3.70″/94 mm

German Patent No. 197 08 715
Italian Patent No. 129 89 37
GB Patent No. 2 324 203



Cable management wall for TS

The ideal, universal routing aid for network enclosures where large quantities of cables and lines are managed. System holes are provided for the installation of cable shunting rings, Velcro fasteners and cable ties from the range of accessories. With bayed enclosures, the wall may also be used as a partition with cable management facilities. By attaching to the inner level, cables may be fastened both inside and out, and also in conjunction with a sidewall. The wall is fastened to the inner mounting level of TS 8 enclosures using the installation hardware supplied. The cable management wall may be secured to the outer mounting level on system chassis with mounting flanges.

Material:
Sheet steel, painted

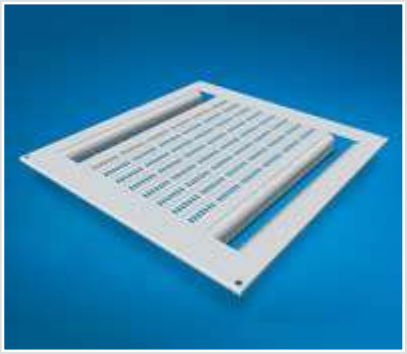
Color:
RAL 7035 light grey

Configuration:
Cable management wall, installation hardware included.

For enclosure Height inches/mm	For enclosure Width/depth inches/mm	Part No. DK
79/2000	24/600	**7824.560**
79/2000	32/800	**7824.580**
79/2000	36/900	**7824.590**

Additional versions upon request.

Optional accessories:
Cable ties, Velcro fasteners,
see page 1010.



Cable management roof panel for TS

In exchange for the standard roof. Thanks to the rounded side cutouts, large quantities of cables may be routed into the rack while preserving the bending radii. The roof has system holes for the attachment of cables with Velcro fasteners or cable ties.

Material:
Sheet steel, painted

Color:
RAL 7035 light grey

For enclosure Width inches/mm	For enclosure Depth inches/mm	Part No. DK
32/800	24/600	**7826.864**
32/800	32/800	**7826.884**
32/800	36/900	**7826.894**

Other versions available on request.

Optional accessories:
Cable ties, Velcro fasteners,
see page 1010.

Cable collecting strip

Is mounted directly to patch panel with bolts to provide strain relief for wiring to and from patch panels.
Available with and without spring clamps for fastening and grounding of the cable shield.

Material:
14 ga/2 mm sheet steel, chromated.

Configuration:
1 cable collecting strip, installation hardware.

Design	Part No. DK
Without cable shield grounding	**7610.000**
With spring clamps for cable shield grounding	**7611.000**

Mounting bracket for cable collecting rails

For easy installation of PS 4170.000 system bars with 2 PS 4179.000 slide nuts as cable collecting rails for cable routing directly behind the panel.

Material:
Sheet steel, zinc-plated, chromated.

	PU	Part No. DK
Mounting bracket for cable collecting rail	12	**7110.000**

	PU	Part No. PS
System bars	12	**4170.000**
M6 slide nuts	20	**4179.000**

19″ routing panel – 1 U

With 5 cable guides to route patch cables horizontally.

Material of panel:
Sheet steel

Material of bar:
Polyamide, 2.76 x 1.73″/70 x 44 mm

Color:
RAL 7035 light grey

U	Part No. DK
1	**7159.035**

Material of panel:
Sheet steel

Material of bar:
Polycarbonate, 3.74 x 1.97″/95 x 50 mm

Color:
RAL 7035 light grey

U	Part No. DK
1	**7255.035**

Material of panel:
Sheet steel

Material of bar:
Steel, zinc-plated, chromated, 4″ x 1.57″/ 100 mm x 40 mm

Color:
RAL 7035 light grey

U	Part No. DK
1	**7257.035**

①

②

③

④

Cable guides for fiber optic cable

Made of two types of plastic: hard on the outside for secure mounting and to ensure stability, and soft on the inside to provide a safe bed and strain relief for fiber optic cables. Grooves on the inside accept fibers and jumper cables with different diameters while a rubber strap holds the cables in place. Its special design ensures strain relief and bending radius.

Technical data:
For fiber Ø up to .18″/4.5 mm.
Length: 4.72″/120 mm

Color:
Outside: RAL 7035 light grey
Interior: RAL 9005 black

Configuration:
2 cable guides,
2 rubber straps,
interconnecting kit,
installation hardware.

PU	Part No. DK
2	**7116.500**

Installation:
The mounting brackets (included) can be installed anywhere, and fiber optic cables can be directed toward a patch panel in any direction from any mounting location:
① on the side of the patch panel
② on the front of the patch panel
③ on the side, next to the patch panel
④ on the back of the patch panel

Alternative option:

Fiber optic routing panel, 1 U
with 4 cable guides for fiber optic,
see below.

German Patent No. 196 48 489
German Patent No. 196 48 490

1 U routing panel, 19″/482.6 mm for fiber optic

The 4 integral cable routing guides make the routing of a maximum of 48 fibers possible.

Material for panel:
Sheet steel

Material for bar:
Check the description of the individual bars.

Color:
Panel: RAL 7035 light grey
Cable collecting rail: RAL 7035 light grey
Interior: RAL 9005 black

U	Part No. DK
1	**7256.035**

Alternative option:

Single fiber optic cable collecting bars,
see above.

19″ routing panel – 2 U cable management panel

The cable routing chamber has cutouts from above, into which the patch cables can be inserted. The cable management panel is equipped with a flap and quick-lock fasteners at the front, for optimum access to the cables. From the rear, the cables can be inserted via a cutout with brush inserts. For cable collecting bars DK 7610.000 or DK 7611.000, see page 1052.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Depth inches/mm	Part No. DK
2	3.35/85	**7158.035**

19″ cable entry panel

Has edge protector and brush insert to protect against dust. Accepts DK 7610.000 or DK 7611.000 cable collecting strips, see page1052.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Dimensions of cable entry opening (H x W) inches/mm	Part No. DK
1	.79 x 15.35 20 x 390	**7140.535**
2	1.57 x 15.35 40 x 390	**7150.535**

Other versions upon request.

19″ cable trough – 3 U

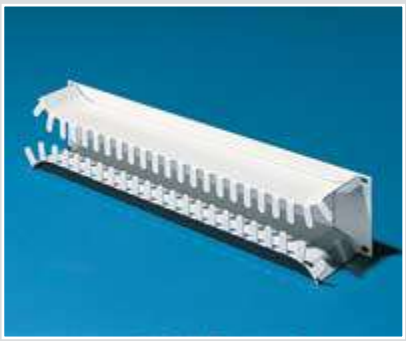
For cable collection.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Depth inches/mm	Part No. DK
1	3.37/ 85	**7149.135**
3	3.94/100	**7149.035**

Other versions upon request.



Cable management panel – 2 U

To accommodate fiber optic and copper cables. Fibers from the patch panel are placed into the tray via openings and may be distributed at the sides. Rounded openings protect the cable sheathing.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Part No. DK
2	**7269.135**

Cable tray – 2 U

For side routing and distribution of fiber optic and copper cables. In this way, cables inserted into the roof area may be routed at the side of the mounting rails in the upper section of the rack.
Depth 3.35″/85 mm.

Material:
Sheet steel

Color:
RAL 7035 light grey

U	Part No. DK
2	**7269.235**

Copper and fiber optic cable management panel

The panel is attached between the C-shaped 19″/482.6 mm mounting rails in the network enclosure based on DK-TS or QuickRack. The fibers are routed via the panel; bending radii are maintained. The hammer heads provide strain relief for individual cables.

U	Part No. DK
2	**7269.335**

Other versions available upon request.

Material:
Sheet steel

Color:
RAL 7035 light grey

PG strain relief connectors for fiber optic wires

The standard PG 7 and PG 13.5 sizes have a slit liner for easy cable routing.
Especially suitable for routing break-out cables because the fiber optic wires don't have to be bent.

Material:
PG connector:
brass, galvano-nickel plated
Liner: soft PVC

Fiber optic strain relief connector	PU	Part No. DK
PG 7	12	**7455.010**
PG 13.5	12	**7455.030**

Surplus cable holder

For fastening at the rear or side of the enclosure in 24″/600 mm or 32″/800 mm deep network enclosures. The surplus cable holder can be attached to all depth bars or to system chassis and rails with a 1″/25 mm system hole pattern – mounting dimension 6″/150 mm. Units may also be fastened to each other.

Material:
Sheet steel

Color:
RAL 7035 light grey

Dimensions H x W x D inches/mm	Part No. DK
5.94 x 11.02 x 2.95/ 151 x 280 x 75	**7220.500**

Plastic cable guide rings

Enhance flexible cable management.
Infinitely adjustable installation on
– 19″ rails and swing frames in network cabinets,
– system rails in cross connect enclosures,
– patch panels,
– Rittal Data Racks,
– as well as all components with the PS (1″/25 mm) system hole pattern.

A. Polyamide cable guide rings:
Have a long slot for infinitely adjustable mounting. Included locking bracket allows 0° and 90° installation. DK 7218.035 cable guide ring also fits 1 U patch panels.

Color:
RAL 7035 light grey

B. Polycarbonate cable guide rings:
Can be turned to any angle; at 45° they can also be used on 1 U panels.

Color:
RAL 7035 light grey

Type	Dimensions inches/mm	PU	Part No. DK
A	2.76 x 1.73 70 x 44	10	**7218.035**
	4.13 x 2.76 105 x 70	10	**7219.035**
B	3.74 x 1.97 95 x 50	10	**7228.035**

For DK 7218.035 and DK 7219.035 holds **German Patent No. 44 13 124**

Alternative option:
Routing panel, 1 U,
see page 1052.

Metal cable guide rings

For flexible and systematic cable routing on:
– cross connect rails,
– in cross connect cabinets, or
– on the side of 19″ rails.

Material:
Steel, zinc-plated, chromated.

Configuration:
Metal cable guide ring,
mounting bracket,
installation hardware.

Dimensions inches/mm	PU	Part No. DK
4.72 x 3.54 120 x 90	10	**7111.900**
4.72 x 2.36 120 x 60	10	**7111.000**
3.15 x 1.57 80 x 40	10	**7112.000**

German Patent No. 38 13 002

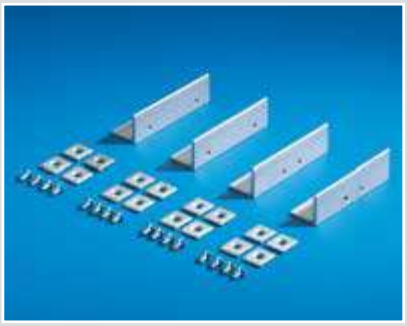
Cable loop

To accommodate large bundles of cables. Cable loop for side mounting on 19″/482.6 mm mounting rails in 32″/800 mm wide network enclosures. The ring is attached asymmetrically, with $^1/_3$ in front and $^2/_3$ behind the 19″/482.6 mm front mounting rail. This way even large bundles of cables can be effectively managed.

Material:
Round steel, zinc-plated, chromated.

Configuration:
4 cable loops with installation hardware.

Dimensions inches/mm	Part No. DK
11.81 x 3.54/ 300 x 90	**7220.600**



Kit for frame separation

Every TS 8 frame can easily be converted into a modular rack suitable for dismantling. The frame sections in the roof and base frame are separately either in the width or depth. Four connectors are inserted into the frame and secured. The external total dimensions of the frame remain unchanged.

Configuration:
4 connector components including installation hardware.

Note:
The IP water protection of the enclosure is lost when the frame is separated.

PU	Part No. DK
1 set	**7829.400**

19″/482.6 mm energy box

Technical description:
A depth-variable T-rail for installed equipment to DIN 43 880, sizes 1 to 3 (to accommodate built-in sockets, circuit-breakers, etc.) Cable collecting at the rear, with one N and one GND rail on an insulated base. Plastic cover including blank extension cover (UL 94-V0), maximum accommodation of 22 items of installed equipment (width 18 mm). Maximum capacity = 22 HP (22 x 18 mm = 396 mm).
Can be delivered with circuit-breakers pre-installed upon request.

PU	U	Part No. DK RAL 7035
1	3	**7480.035**

German Patent No. 42 00 836

19″/482.6 mm energy box pull-out

This energy box is designed to accommodate both DC and AC components. The pull-out component front provides optimum access to the wiring chamber from above and below.

Connection clamps
For direct current:
2 clamps 35 mm^2,
9 clamps 16 mm^2 (per rail)

For alternating current:
1 clamp 16 mm^2 (PE or N),
20 clamps 4 mm^2 (per rail)

U	Part No. DK
3	**7480.300**

Lead times upon request.

Technical description:
Depth-adjustable T-rail for snap-in attachment of installed equipment to DIN 43 880 in sizes 1 – 3 to accommodate flush-type socket outlets, circuit-breakers, etc. or entire installation assemblies such as the ABB “smissline” system. Cable clamping at the rear, two power distribution rails with connection clamps on an insulated base. Plastic cover including blank space extension cover, to accommodate a maximum of 22 installed devices (Width 18 mm). Maximum accommodation = 22 HP (22 x 18 mm = 396 mm).

Mounting aid

For simple handling when installing network components or subracks. May be fitted to any 19″/482.6 mm level using quick-lock screws. Mounting equipment can be securely inserted and fixed to the 19″/482.6 mm mounting rails. Mounting aids can still be easily removed. It is advisable to start component mounting from the top.

Material:
Sheet steel, zinc-plated, chromated.

Height	PU	Part No. DK
1 U	2	**7094.900**

German Patent No. 199 17 290

Edge protector

For covering the sharp edges of cutouts. Provides protection from injuries and prevents damage to cables. The edge protector is suitable for material thicknesses from approximately 1.0 – 2.0 mm.

Material:
Plastic PVC

Color:
RAL 9005 black

Configuration:
PU = 32.8 ft/10 m,
cut to length as needed.

PU	Part No. DK
32.80 ft/10 m	**7072.100**

Brush inserts

For installation on enclosure panels, gland panels and walls. Cutouts for cable routing at any given position in sidewalls, rear walls, doors, roofs and gland panels may be finished off attractively by simply attaching the brush insert.

Bristle length: 30 mm
Plastic sheathing: 18 mm
Snap-on surface: 10 mm
Maximum cutout size: 38 mm

PU	Part No. DK
6.56″/2 m	**7072.200**

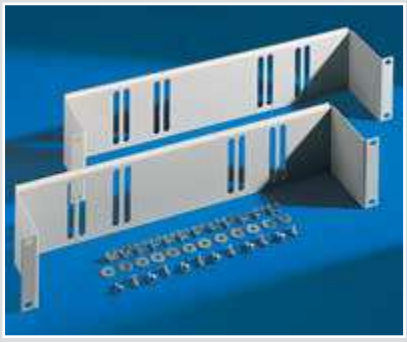
19″ carrier – 3 U, for LSA-Plus rails, max. 150 pair

Accepts maximum 15 LSA-Plus rails of 10 pairs each. 3 x 5 LSA-Plus rails can be mounted horizontally in the .88″/22.5 mm grid spacing. The carrier can be integrated into all 19″ mounting surfaces. Front mounting position is 3.94″/100 mm behind the 19″ flanges. Integrated cable guides provide for orderly cable management and distribution.

Material:
Stainless steel

Configuration:
Carrier,
cable guides.

U	Part No. DK
3	**7050.100**



LSA installation kit

For LSA cable troughs/punch-down blocks on 19″ rails.
Overall depth: 3.88″/98.5 mm
Height: 3.50″/2 U

Color:
RAL 7035 light grey

U	PU	Part No. DK
2	2	**7050.035**

Optional accessories:

FM universal mounting bracket,
see page 789.

■ Rittal RiQuest

Building off the success of our award-winning RiSource CD-ROM and the growing use of the Internet, Rittal has introduced a unique new concept for product design and selection.

The new Rittal RiQuest offers users a sophisticated and intuitive tool that is easily usable from a CD-ROM, the Internet, or a combination of both.

Users can now use RiQuest to select Rittal products, download CAD drawings, find accessory products and create bills of materials.

Powerful features:

- Ability to work in a variety of ways:
  - Local processing… using only the RiQuest CD-ROM
  - On-line access… via the RiQuest Website
  - Web and CD-ROM in combination… working off the Web, with graphics loaded off the CD-ROM for increased speed, or off the CD-ROM while accessing the Web for updated information or communication-based functions.
- Smart new Rittal assistants "walk" users through the enclosure, accessory or component-based product configuration
- Integrated Web links provide access to current Rittal news, on-line training, and enhanced company communications
- Expanded and more refined "links" logic between enclosure products and accessories
- Rich, full-color HTML documents including photos, technical specifications, drawings and more
- A library of product assembly instructions
- Communication links with application engineering, service and technical support teams
- Increased speed and reliability thanks to smaller program size
- Pre-designed interfaces for electronic commerce and on-line ordering
- Complete library of CAD drawings for viewing and downloading
- Regularly updated to include recent innovations

Log-on today at www.riquest.com to learn more.

■ TS 8 Configurator

For ease and flexibility of ordering freestanding enclosures or enclosure suites based on the revolutionary TS 8 system, check out the TS 8 configurator CD-ROM.
Selection of the appropriate components, and thus the whole planning and configuration of TS 8 enclosures, becomes simple with the TS 8 CD-ROM.

Advantages to the user:
- The TS 8 Top Enclosure System, including all accessories, on a single CD
- Archiving of complete enclosure suites
- Suitable accessories are suggested
- Separate directory with CAD drawings in DXF and DWG formats
- Integrated printable order list

Requirements:
- Windows 95/98/NT
- Pentium 90 or better
- 16 MB RAM and 256 colors

Please call for your free copy!

■ QuickRack

With the QuickRack CD-ROM you are able, within just a few minutes, to put together your own individual configuration from over 5,000 solutions available.
The software walks you through the process of selecting and configuring your enclosure, and then presents the available accessory components appropriate to your selection.

At the same time, you are provided with a structured description and graphical representation of the selected items ready for use in your own quotations, complete with order and print templates.
The detailed information and illustrations of the technical features of the QuickRack product series round off this comprehensive service package.

Requirements:
- Windows 95/98/NT
- Pentium 90 or better
- 16 MB RAM and 256 colors at a resolution of 800 x 600

Please call for your free copy!

■ CMC Manager

CMC, the Computer Multi Control monitoring system for network enclosures.
The CMC Manager is a network management software specially tailored to the CMC system. It can be obtained as freeware from our Intranet.

Requirements:
- Windows 95/98/NT
- Pentium 166 or better
- Network card with TCP/IP

Your free copy is available for download under “Service” at www.rittal.de or via FTP from ftp://ftp.rittal.de/public/CMC.

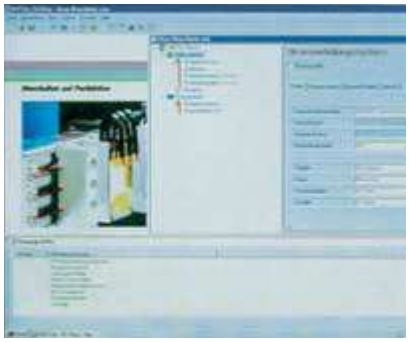
■ CMC Web Manager

The CMC Web Manager may be installed on a selected server in the network. From this server, users in the network are then able to retrieve, inquire or edit all relevant CMC data via the Intranet or Internet using software tools (such as Internet Explorer 5 or Netscape Communicator).

Requirements:
- Windows NT/2000
- Network connection with TCP/IP Internet Explorer 5 or Netscape Communicator, etc.

Web manager	**Part No. DK**
CD-ROM	**7200.991**

■ SV Plan



Rittal's SV Plan is an innovative tool for simple, time-saving project planning of Rittal SV busbar systems.
The network-compatible, multi-lingual software package includes the following functions:

- Simple, menu-assisted dialogues for system and product selection with planning tools.
- Planning certainty, thanks to logical allocation of standard commercially available power circuit-breakers to Rittal component adaptors.
- Detailed system and product information in the form of tender texts, product information, assembly instructions, CAD drawings, etc.
- Integration of Rittal Power Plan.
- Integration of a CAD interface based on EPLAN View.
- Project documentation with calculations, parts lists and CAD system assembly drawings.
- Interfaces to all standard Windows applications such as WinWord.
- Compatible with EPLAN 5 and EPLAN 21.

Requirements:

- Windows 95/98 or NT
  RAM: 32 MB
  Hard disk capacity: at least 125 MB

Configuration:

- CD-ROM
- Catalog on CD-ROM

Language	**Part No. SV**
German/English	**3020.100**

■ Power Plan

Rittal's Power Plan permits the calculation and documentation of busbar system assemblies with reference to the valid international test provisions.
Moreover, the network-compatible, multi-lingual software package includes extensive databases for D/NH fuse inserts to VDE 0636 and standard commercially available power circuit-breakers (freely editable).
The following calculations can be performed with Rittal Power Plan:

- Testing the short-circuit resistance of the entire system assembly to IEC 60 865-1/DIN VDE 0103.
- Testing the rated current load limit of the busbar system to DIN 43 671.
- Testing the heat loss of the entire system assembly, for D/NH fuse inserts to VDE 0636.
- Testing all data inputs for plausibility with corresponding, clear error messages.
- Calculations/documentation in accordance with IEC 60 439-1/ EN 60 439 and DIN VDE 0660 part 500.

Requirements:

- Windows 95/98 or NT
  RAM: 8 MB
  Hard disk capacity: 20 MB

Language	**Part No. SV**
German/English	**3020.000**

■ SV Buyer's Guide

Rittal SV PANEL BUS Buyer's Guide

This buyer's guide covers all applications of busbar systems in low-voltage installations. It refers to specific Rittal products and includes appropriate provisions, regulations and standards, including selected excerpts. For the expert, it also contains suggestions for new approaches in project planning and applications.

PU	**Part No. SV**
1	**9032.999**

■ Therm/RiDiag

Rittal Therm is a calculation program for the planning of enclosure climate control.

All electrical and electronic components are subject to a certain power loss, which takes the form of heat dissipated to the surroundings. Today's designs are packing more and more components into less and less space, with the result that the wasted heat generated can easily increase to levels which are damaging for the electronic components and can significantly shorten their service life.
The Therm software takes care of all the complex calculations of your climate control needs. A simple-to-use interface guides you immediately to the appropriate and correctly sized climate control components. All calculations are based closely on the specifications of IEC/TR3 60 890 AMD1 02.95 and on the DIN 3168 standard for enclosure air conditioners.
Rittal Therm is in 11 languages.

RiDiag permits diagnosis of the operating performance of microcontroller air conditioners.
Through a connected PC, it is possible to retrieve error messages saved in the microcontroller, as well as data on temperatures and the degree of utilization of the air conditioners. The software also integrates temperature measurements at four air conditioner sensors and a graphical representation of the temperature curve over time.

Requirements:
- Windows 3.1, 95/98/2000 or NT

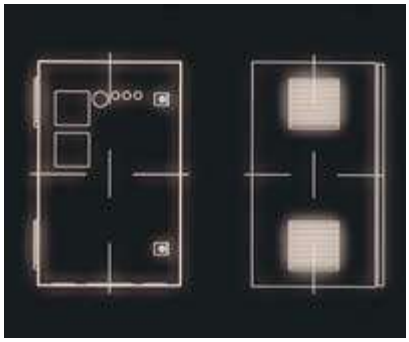
Language	Part No. SK
German/English	**3121.000**

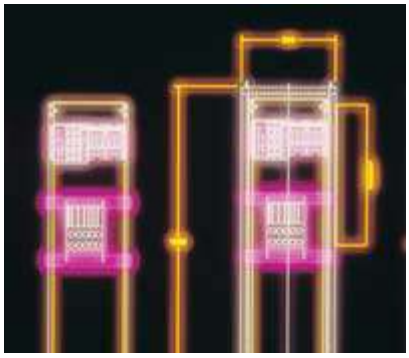
Therm 4.0 can be downloaded free of charge under "Services" at www.rittal-corp.com.

! Additional parts needed:

The cable with Part No. SK 3159.000 is required for the connection between PC and air conditioner.

■ RiGeo





From the drawing to the CNC machine
Rittal's RiGeo CD-ROM is a comprehensive drawing library containing geometry data on virtually all Rittal products in various views and data formats.
The files on the CD-ROM are divided into directories based on individual product groups, to simplify searching and facilitate direct access.
Installation on the hard disk is not necessary, since the data can be read directly from the CD-ROM into your CAD system.

In short:
- No unnecessary storage on the hard drive which uses up memory.
- Simple positioning of accessory components.
- The correct format to suit every application.
- Portrayal to scale, suitable for CNC machining.

Requirements:
- AutoCAD release 12 or LT for DOS or Windows or CAD with DXF interface.

Language	Part No. SZ
German/English	**2406.100**

The exchange of information is an absolute necessity of human life.
Therefore, one-on-one contact and discussion is placed at the focus of all communication at Rittal.
This enables us to recognize the different requirements of our customers and in turn develop innovative solutions.

For optimum efficiency in factory automation.

Every new customer requirement is taken up as a fresh challenge at Rittal. The comprehensive product range, matching system accessories, and a broad spectrum of customer services guarantee successful implementation of your specific requirements.

1. Installing accessories

First, select your enclosure and matching system accessories from our range of standard products. We then take care of assembling these standard components. This saves you both time and money, and you receive the individually configured enclosure you require.

2. Modification of standard components

Check out our modification and customization services. We find the solution to every installation and take into account all specific needs, whether this means extra cutouts or special paint finishes.
These modifications can also be carried out at one of our local Rittal Mod Centers. The specialists here ensure professional implementation of your exact wishes.

1066

For optimum efficiency in factory automation.

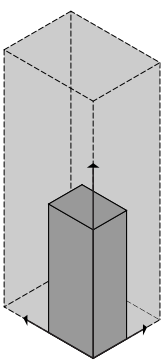
3. Dimension changes

Being able to fall back on Rittal standard designs simplifies size variations enormously.

4. Project-specific manufacturing

Rittal – your partner for individual planning, manufacturing, assembly, and delivery of customer-specific product solutions.
Every solution is based on standardized products that reflect our series know-how.

Rittal offers solutions both for today and for the future.



A wide range of different heights, widths and depths is possible for many enclosure and housing platforms.

Rittal's extensive IT product and service expertise is a coordinated, integrated system, ranging from consultation, planning, prototype construction, individual production and assembly, as well as distribution, all tailored to customer requirements.

A full spectrum of services provides the basis for individual, complete packages.

The modular design of Rittal systems allows us to combine standard products and individual components quickly and cost-effectively, thus ensuring the optimum solution for each individual customer.

Complete customer-specific solutions – uncompromising performance
Rittal's claim of having the right solution to suit every application segment has become something of a corporate philosophy. The unbelievable diversity of the standard product range provides a wealth of solutions, whatever your requirements.

Rittal IT solutions – simply complete.

Surface protection

Rittal's seven-stage pre-treatment process offers the highest possible corrosion protection and includes:

- Cleaning and preparation
- Electrophoretic dip-coat priming (E-coat)
- Textured powder paint top finish

The standard finish resists:

- Mineral oil
- Grease
- Machining liquids
- Solvents (short-time, for cleaning)
- Weak acids and alkalis

This has been tested and verified by independent testing organizations.

Continuous monitoring ensures consistent quality.

Painting over primer coat and finish coat

After thorough cleaning and light sanding, standard finishes can be painted over with:

- Standard house paints
- Compound enamels (acrylic lacquers)
- Baking enamel
- Nitro-enamel
- Automotive repair paint
- Powder paint
- Water based paints

When in doubt, test for compatibility. Follow directions of the paint manufacturer.

Special finishes:

Tropical finish: provides the highest corrosion protection in warmer and more humid climates; can also be used for outdoor use.
Chemical protection: provides the best available paint protection against organic and inorganic substances.

Outdoor use of enclosures

A number of ambient conditions must be taken into account when an enclosure must satisfactorily perform outdoors.
These include:

- Ultraviolet radiation, corrosive and polluted air, rain, snow, frost, and wind.

Influence of weather on the outside of an enclosure
Exposed enclosure surfaces must be protected through UV and corrosion resistant finishes. Standard Rittal enclosures can be used outdoors in temperate climates. We recommend that a rain canopy be used to increase protection of the gaskets against permanent humidity and UV radiation.

Condensation in an enclosure
Condensation build-up can be prevented through appropriate measures such as venting or heating.

Ratings
Enclosures that are used outdoors must withstand extreme variations in atmospheric conditions.

Continuous rain, snow, freezing temperatures, high wind velocity, and temperature swings put extreme demands on the outside of an enclosure. In our opinion, a NEMA 3 (IP X3) rating is not enough to protect electrical installations on a continuous basis.

We draw your attention to the fact that the European EN 60 529 and IEC 529 standards allow the use of a suffix W after a rating. Enclosures with such a rating can be used under conditions agreed to between the user and the manufacturer which may include other protective measures (such as a rain canopy).

Rittal standard surface treatment process (Standard Rittal colors include RAL 7032 pebble grey and RAL 7035 light grey).

Process	Technical characteristics	Technical data	
Degreasing, phosphating, rinsing	Neutralizes electric resistance, provides temporary corrosion protection, and better adhesion of paint.		
Drying			
Anodic dip-coat priming	Uniform coating on all surfaces, edges, and recesses provides superior corrosion protection.	Thickness of primer coat	.8 – 1.2 mil
		ASTM D 523 gloss	40 + 10 @ 60°
		ASTM 3363 hardness	HB min.
		ASTM 3359 adhesion	100%
	The primer coat does not contain heavy metals, chromate, or silicones and can be painted over.		
Baking			
Textured powder-painting	The special merits of powder-painting are high durability, good corrosion protection, good resistance to chemicals, temperature, and outdoor environments, and can be easily cleaned.	Thickness of exterior coat	3 – 5 mil
		ASTM D 523 gloss	50 +/– 5 @ 60°
		ASTM 3363 hardness	HB min.
		ASTM 3359 adhesion	100%
	The prime coat does not contain heavy metals, chromate, or silicones and can be painted over.		
Baking		Total exterior paint thickness	3.8 – 6.2 mil

1070

EN 60 529/IEC 529 IP environmental ratings

IP ratings are defined by two numerals.

Example:

Identification letters — IP

First characteristic numeral — 4

Second characteristic numeral — 4

First characteristic numeral: rating for protection against contact and solid objects			Second characteristic numeral: rating for protection against water		
1st character No.	Protection		2nd character No.	Protection	
	Definition	Description		Definition	Description
0	No protection	No protection	0	No protection	No protection
1	Protected against solid foreign objects with a diameter of 50 mm or larger	The object probe – a sphere of 50 mm diameter – shall not fully penetrate	1	Protected against vertically falling water drops	Vertically falling drops of water shall have no harmful effect
2	Protected against solid foreign objects with a diameter of 12.5 mm or larger	The object probe – a sphere of 12.5 mm diameter – shall not fully penetrate	2	Protected against vertically falling water drops when enclosure is tilted up to 15°	Vertically falling drops of water shall have no harmful effect when the enclosure is tilted up to 15° to either side of its vertical axis
3	Protected against solid foreign objects with a diameter of 2.5 mm or larger	The object probe – a sphere of 2.5 mm diameter – shall not penetrate at all	3	Protected against water sprays	Water sprayed at a 60° angle from either side of the enclosure's vertical axis, shall have no harmful effect
4	Protected against solid foreign objects with a diameter of 1 mm or larger	The object probe – a sphere of 1 mm diameter – shall not penetrate at all	4	Protected against splashed water	Water splashed against the enclosure from any direction shall have no harmful effect
5	Dust-protected	Ingress of dust is not totally prevented, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the apparatus or to impair safety	5	Protected against low pressure jets of water	Water, hosed at low pressure, from all directions at the enclosure shall have no harmful effect
6	Dust-tight	No ingress of dust	6	Protected against powerful jets of water	Water, hosed at high pressure from all directions shall have no harmful effect
			7	Protected against the effects of temporary immersion in water	Water shall not enter in such quantity as to cause harmful effects when the enclosure is temporarily immersed in water under standardized pressure and time conditions
			8	Protected against the effects of long submersion in water	Water may not enter in such quantity as to cause harmful effects when the enclosure is continuously submersed in water under conditions which shall be agreed to by manufacturer and user. These conditions must be more severe than those above for numeral 7

Comparison chart*	
NEMA rating	IEC classification
1	IP 10
2	IP 11
3	IP 54
3R	IP 14
3S	IP 54
4 & 4X	IP 56
5	IP 52
6 & 6P	IP 67
12 & 12 K	IP 52
13	IP 54

* Comparison based on tests per IEC 60529.
Equivalent conversions only!
Can not be used to convert from one system to the other.

Rittal makes use of the technological experience of our facilities across the globe.

The core factor in Rittal's success: innovations tailored consistently to the demands of the market, not only within the product range, but also with regard to manufacturing technologies and customer service.

Specialized know-how is bundled and implemented into the latest production methods employed at each of our locations.
Thousands of products leave our factories every day, each ready to inspire new enthusiasm among our customers worldwide with their quality and perfection.

Herborn – the **Rittal world headquarters** – is the collecting point for innovative ideas from the markets around the world. This critical analysis of the demands placed by each individual customer is the basis for a global partnership.
Herborn is also the production center for compact enclosures – Rittal's classic best seller that is ideal for virtually any application.

1072

Rittal Bad Köstritz employs extensive steel processing know-how to produce its broad range of accessories for enclosure installation. Customer-specific solutions are also manufactured here.

Rittal Wissenbach is specialized in the manufacturing of housings and enclosures in stainless steel.
The essential criteria to be met are **corrosion protection and hygiene** – especially for the chemical and food processing industries.

The **Rittal logistics center in Haiger** is ideally situated for both road and rail transport.
CS outdoor enclosures are developed and manufactured here, for applications in telecommunications.

Rittal was founded at this site in Rittershausen in 1961. This also serves as the birthplace of standardized, series manufactured, off-the-shelf housings for industrial switchgear. A world premiere!

In the meantime, we have since made the transition from simple housing and enclosure solutions to sophisticated complete systems. The enclosure, the mechanical and electrical component installations, climate control and computer-assisted monitoring are now elements of an integrated product family.

Rittershausen – Rittal's birthplace and the production center for all large enclosure systems.
The new TS 8 Top Enclosure System, the system platform for a broad, future-oriented range of applications, is based on a brand-new manufacturing method for its revolutionary profile.

1074

Rittal Burbach concentrates on the production of large enclosures (individual enclosures and console systems) and accessory components.
Teamwork characterizes the assembly of individually configured operator housings.

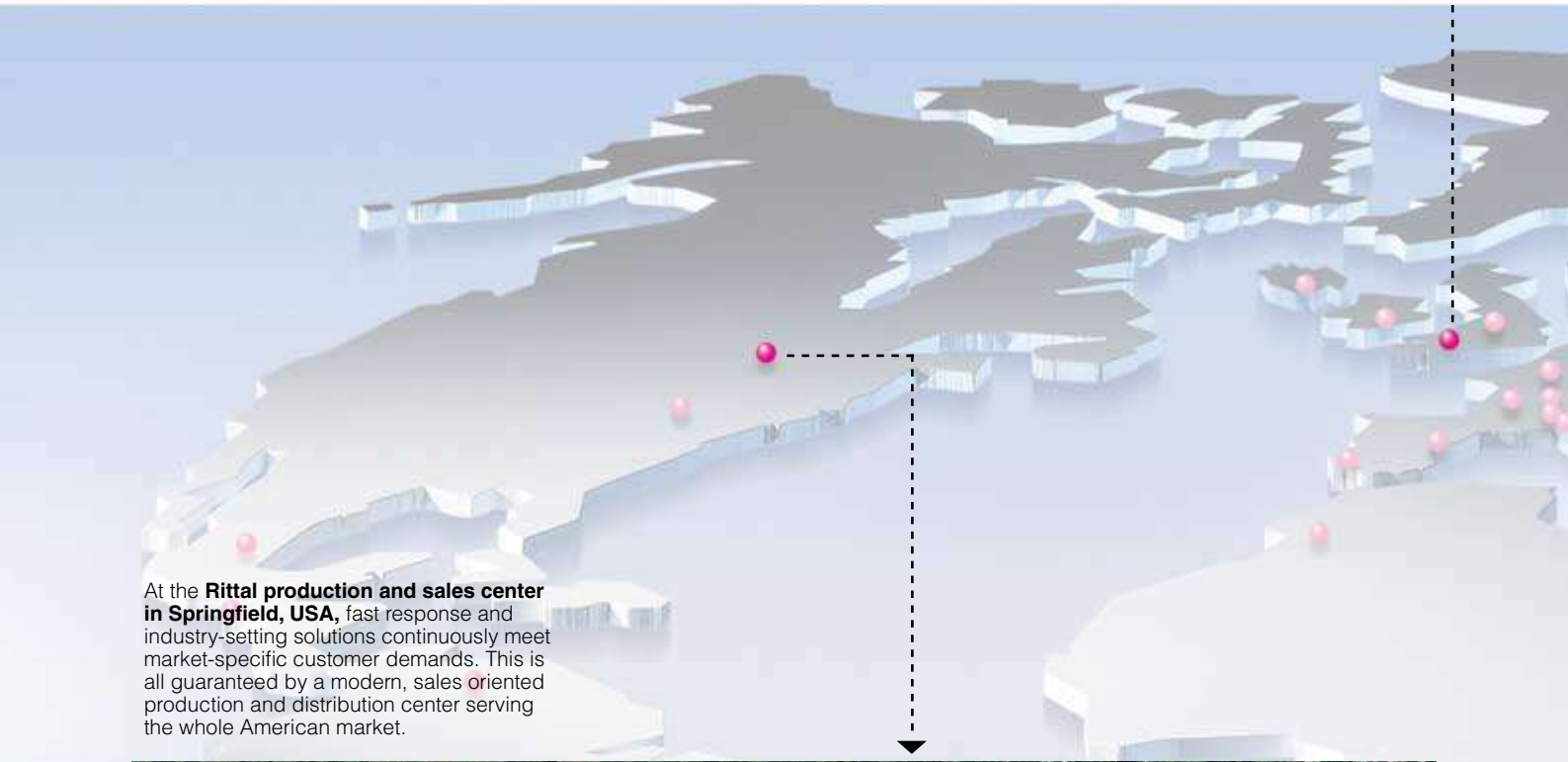
Climate control is a decisive factor for the reliability of modern factory automation systems. In order to be able to meet the growing demands, the new **Rittal climate control production center in Rennerod** was designed to satisfy the very latest criteria. The objective: climate control components manufactured in large series, incorporating energy-saving technologies to further enhance their economical and environment-friendly operation.

1075

Worldwide customer proximity
The powerful international network of a global player is linked with market-specific and personal involvement.

This is especially important as the subtle differences in individual markets call for fast reactions and competitively-priced individual solutions.

Proximity to these markets and to the customers is thus a top Rittal priority at all of its worldwide facilities.



At the **Rittal production and sales center in Springfield, USA,** fast response and industry-setting solutions continuously meet market-specific customer demands. This is all guaranteed by a modern, sales oriented production and distribution center serving the whole American market.

1076

Rittal products for modern electronics packaging set off on their journeys all over the world from **Rittal Plymouth, England**.

Standardized enclosures and housings are series manufactured for the important Asian market at the **Rittal production center in Doddaballapur, India**. With its dedicated sales organization, Rittal is here again able to offer its world-renowned customer service, advice and technical competence direct from a local office.

The successfully established sales network for the Chinese market has been served admirably by **Rittal Shanghai, China** since November 2000. Alongside industrial housings and enclosures, important focus is also placed on products for the IT market.

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