

Rittal – The System.

Faster – better – worldwide.

► Innovations 2013



nextlevel
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The whole is more than the sum of its parts.

The same is true of “Rittal – The System.”. With this in mind, we have bundled our innovative enclosure, power distribution, climate control and IT infrastructure products together into a single system platform. Complemented by our extensive range of software tools and global service, we create unique added value for all industrial applications: Production plant, test equipment, facility management and data centres. In accordance with our simple principle, “Faster – better – worldwide”, we are able to combine innovative products and efficient service to optimum effect.

Faster – with our “Rittal – The System.” range of modular solutions, which guarantees fast planning, assembly, conversion and commissioning with its system compatibility.

Better – by being quick to translate market trends into products. In this way, our innovative strength helps you to secure competitive advantages.

Worldwide – thanks to global networking across 150 locations. Rittal has over 60 subsidiaries, more than 250 service partners and over 1,000 service engineers worldwide. For more than 50 years, we have been on hand to offer advice, assistance and product solutions.

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Step one in the value-added chain

- The alliance between Eplan, Rittal and Kiesling is the only one of its kind in the world.
- Take value-added to the next level, and re-automate your processes.
- With Eplan, you can put your trust in Europe's leading solutions.

EPLAN – efficient engineering.

- EPLAN Engineering Center
- EPLAN Electric P8
- EPLAN PPE
- EPLAN Data Portal
- EPLAN Fluid
- EPLAN Pro Panel
- EPLAN Harness proD



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Step two in the value-added chain

The Eplan engineering platform offers optimum links to system solutions from Rittal. Benefit from this unique system and reduce the complexity of your workflows.



Rittal – The System.

- Enclosure systems
- Ri4Power power distribution to IEC 61 439
- TopTherm climate control, TÜV-tested
- RiMatrix S – The mass-produced data centre



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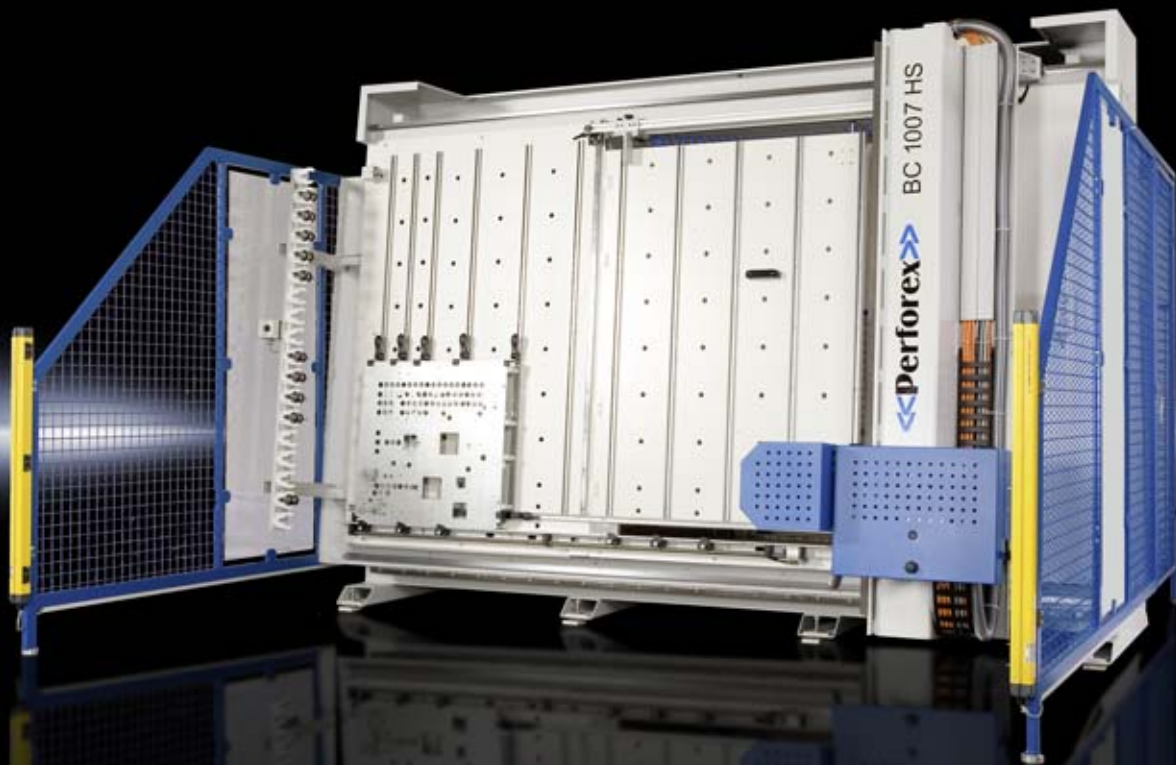
Step three in the value-added chain

Step three focuses on you and your control engineering processes.

With Kiesling as international specialists, we automate your success.



- **Kiesling Perforex** – Machining of enclosure solutions
- **Kiesling Averex** – Mounting plate wiring



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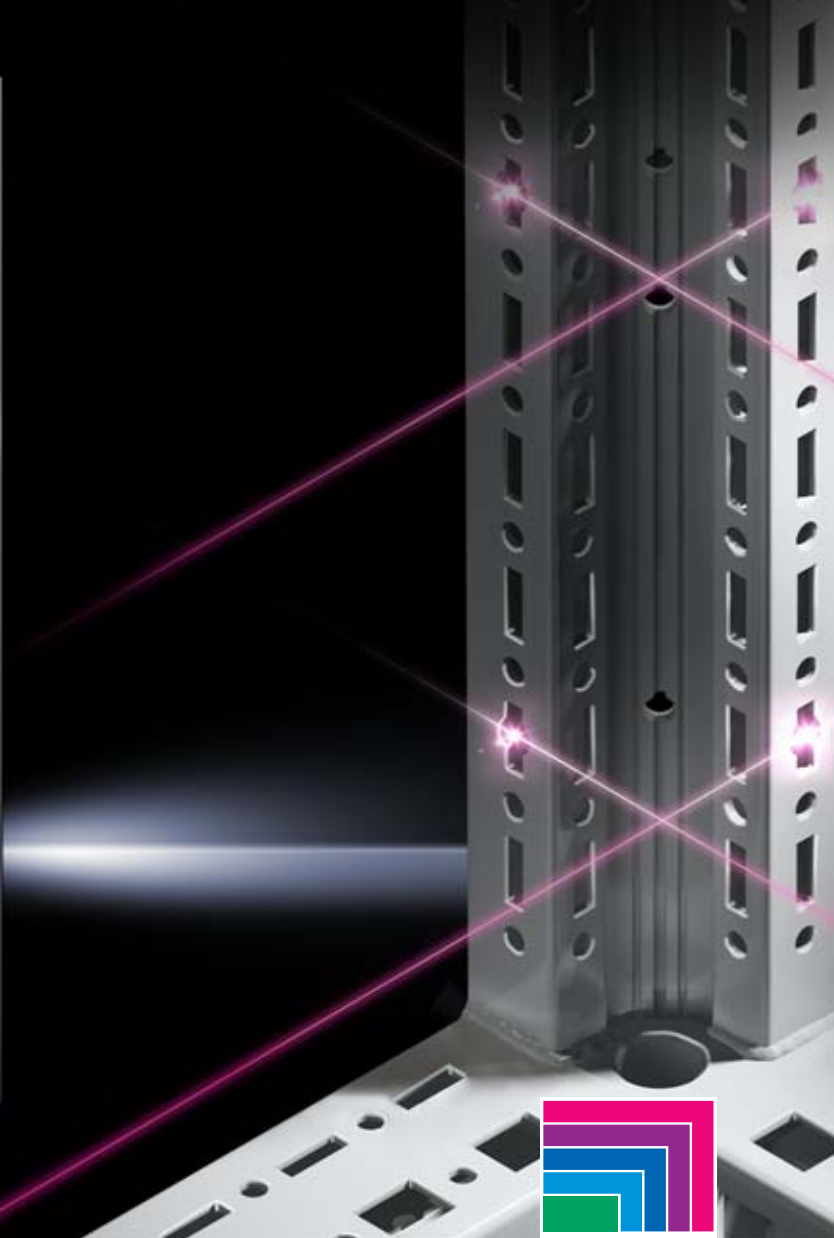
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For innovations with customer benefits

- The world's first TÜV Nord certification for guaranteed performance and maximum efficiency with cooling units
- Switchgear planning in conformity with the new IEC 61 439 standard, thanks to Rittal Power Engineering
- High standards of ergonomics and optimum assembly efficiency with operating housing and PC enclosure systems
- Simple one-man assembly and effortless positioning of the rail systems with TS 8

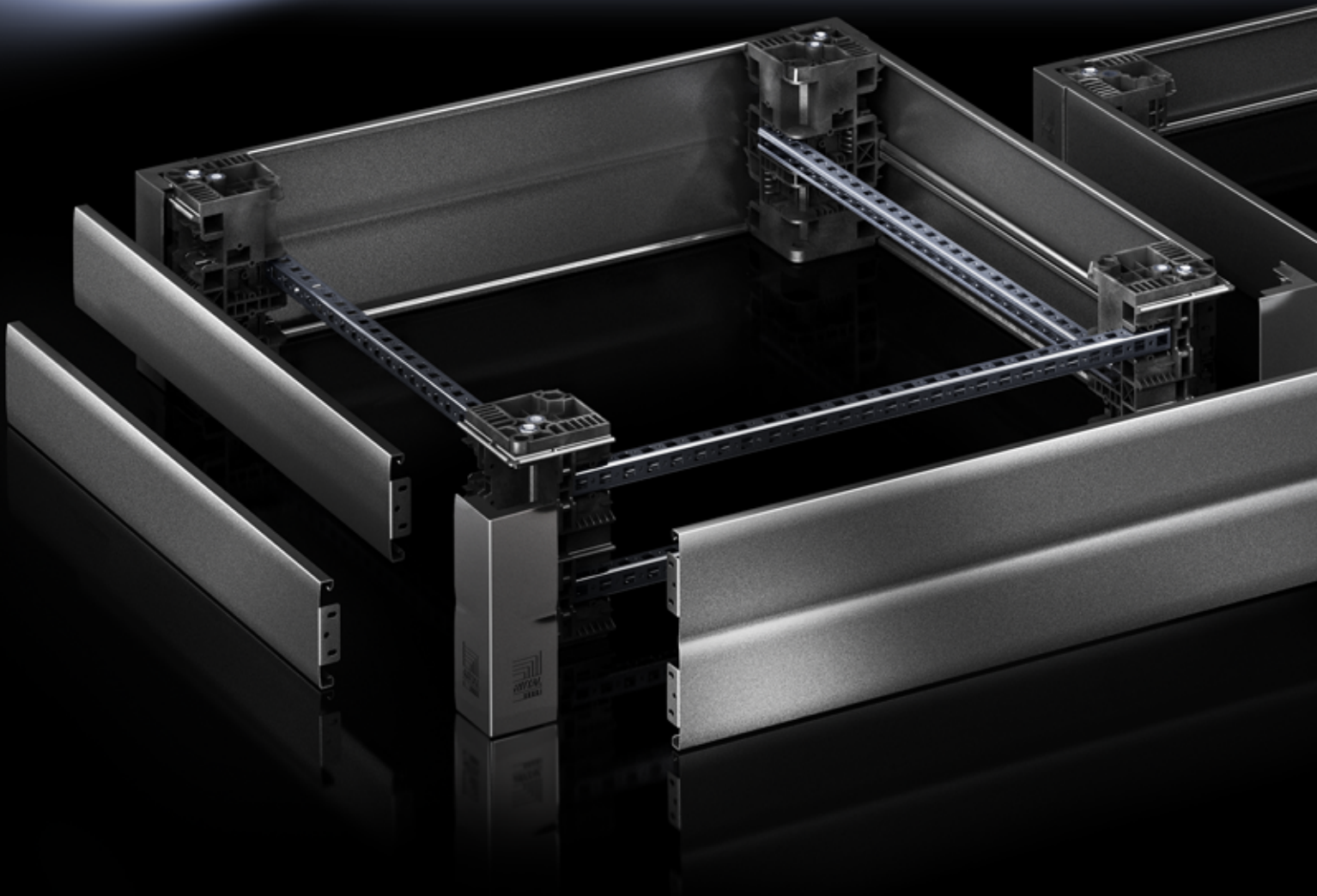


IT INFRASTRUCTURE

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The Rittal Flex-Block base/plinth system



Save time

- Fast assembly by simply clipping together the base/plinth components
- Easily bayed with tool-free baying clip
- The enclosure is easily transported, both in its empty and configured state, by removing the base/plinth trim panel



Easy to assemble

- Tool-free assembly of all base/plinth components
- Tool-free mounting of accessories, e.g. baying, mounting of levelling feet and castors
- Symmetrical in enclosure widths and depths
- With the 200 mm high Flex-Block, combinations of 100 and 200 mm high trim panels may be used



Large mounting area

- Space-saving cable routing in the base/plinth means more space for enclosure configuration
- Configuration with punched rail – clip into position from outside or inside
- Flexible configuration: Punched rail with 25 mm pitch pattern of holes



System accessories

Flex-Block base/plinth system

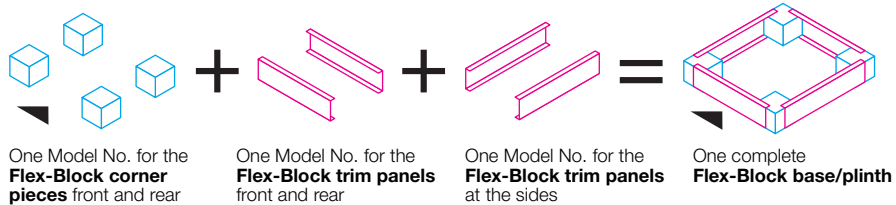


The Rittal base/plinth system

Flex-Block

Freely combinable base/plinth system for virtually any application. Because the corner pieces and trim panels are packaged separately, it is possible to respond individually to any application.

The enclosure load rests on the corner pieces, so that the trim panels can be attached or removed at any time by using clips. The base/plinth trim panels are symmetrical and are readily exchanged in the width and depth. This creates unprecedented flexibility and great savings potential with base/plinth configuration.



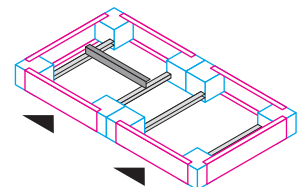
Base/plinth, height 100 mm							
Base/plinth, height 200 mm with 200 mm trim panel							
Base/plinth, height 200 mm. Combination 100 mm and 200 mm trim panel							

Functional and cost benefits

Order includes	Functional benefits	Savings potential for 100 mm high Flex-Block compared with complete base/plinth Flex-Block
3 packs of Flex-Block corner pieces	The enclosures rest securely on the corner pieces. Transport option using forklift or pallet truck with free-standing enclosures is supported.	12 trim panels
3 packs of Flex-Block corner pieces 4 packs of Flex-Block trim panels	Completely closed suite of base/plinths, no trim panels between the enclosure panels. This means more space for assembly and cable entry.	4 trim panels
3 packs of Flex-Block corner pieces 2 packs of Flex-Block trim panels	Trim panels are only needed in the area on view; there are no trim panels between the enclosure panels. This means more space for assembly and cable entry.	8 trim panels

Other options:

- Cable clamp may be configured individually in every enclosure panel using system accessories.
- With 200 mm Flex-Block corner pieces, either 100 mm high or 200 mm high trim panels may be used.



System accessories

Flex-Block base/plinth system

Flex-Block corner pieces

for TS, TS IT, SE, PC

High-strength plastic corner pieces for individual tool-free assembly with Flex-Block trim panels and accessories.

Material:

- Corner pieces: Fibreglass-reinforced plastic
- Cover caps: ABS

Colour:

- RAL 9005

Supply includes:

- 1 set =
- 4 corner pieces
- 4 cover caps
- Assembly parts for mounting on the enclosure

Corner pieces height mm	Model No.
100	8100.000
200	8200.000



Accessories:

- Flex-Block trim panels, see page 13.
- Punched rail 23 x 23 mm, see Innovations 2012, page 55
- Baying clip (TS 8000.100), see Innovations 2012, page 55
- Adaptor sleeve (TS 8000.500), see Innovations 2012, page 55
- Base assembly plate (SO 2817.000), see Catalogue 33, page 546.



Flex-Block trim panels

for Flex-Block corner pieces

For tool-free assembly. With symmetrical enclosure dimensions, trim panels are identical in the width and depth.

Material:

- Trim panels: Sheet steel

Colour:

- RAL 9005

Supply includes:

- 1 set = 2 trim panels

100 mm high, sealed

For enclosure width and depth in mm	Model No.
300	8100.300
400	8100.400
500	8100.500
600	8100.600
800	8100.800
1000	8100.010
1200	8100.120
1600	8100.160
1800	8100.180

200 mm high, sealed

For enclosure width and depth in mm	Model No.
300	8200.300
400	8200.400
500	8200.500
600	8200.600
800	8200.800
1000	8200.010
1200	8200.120

100 mm high, vented

For enclosure width and depth in mm	Model No.
600	8100.602
800	8100.802



Accessories:

- Filter mats for vented Flex-Block trim panels (TS 7583.500), see Innovations 2012, page 55.



New: Operating housing with handle strips



Uniform system in design and function

Modern design, adapted to support arm system CP 60/120/180

Convenience in perfection

- Integral interior installation bracket with TS system punchings, to match TS system accessories
- Fast, reliable, simple servicing access from the front or rear
- Lock with integral door runners for easy locking

Built-in added value

- Support arm connection for one-man assembly
- Support arm connection \varnothing 130 mm, preformed off-centre in the reinforcement plate, easily drilled out

Ergonomic design

- Design strip including handle function
- Aluminium front panel, easily dismantled for machining



Operating housing with handle strips



Stand systems Page 20 **Support arm systems** see Innovations 2012 brochure

Material:

- Enclosure and door: Sheet steel
- Handle strips and front panel: Aluminium
- Cover caps: Plastic

Surface finish:

- Enclosure and door: Dipcoat primed, powder-coated on the outside, textured paint
- Handle strips and front panel: Natural anodised

Colour:

- Enclosure and door: RAL 7035
- Handle strips and front panel: Natural anodised
- Cover caps: similar to RAL 7024

Protection category:

- IP 55 to IEC 60 529

Supply includes:

- Enclosure with cut-out and reinforcement for support arm connection \varnothing 130 mm
- Front with maximum cut-out, covered with easily machinable 3 mm aluminium front panel
- Side handle strips and cover caps
- Cam lock with double-bit insert

Note:

- The support arm connection and door hinge may be swapped over by rotating the enclosure

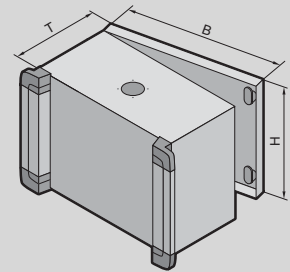
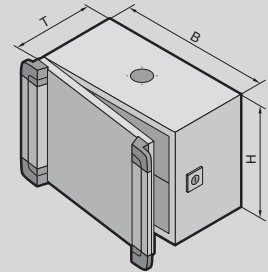
Approvals:

- CSA

Technical details:

Available on the Internet.

Available from August 2013



Width (B) mm	Packs of	300	300	380	380
Height (H) mm		200	300	300	380
Depth (T) mm		155	210	210	210
Servicing access	from the front	-	■	■	■
	from the rear	■	-	-	-
Model No.	1	6320.000	6315.100	6315.200	6315.300
Weight (kg)		4.5	7.0	7.5	9.8

Accessories					
TS punched section with mounting flange, 17 x 73 mm	4	-	8612.130	8612.130	8612.030
TS punched rail 18 x 38 mm	4	-	-	-	-
TS support strips	20	-	-	-	4594.000
Mounting bracket	4	4597.000	4597.000	4597.000	4597.000
Mounting bracket for interior installation	4	6205.100	6205.100	6205.100	6205.100
Alternative lock systems	With 3 mm double-bit lock insert, may be exchanged for 41 mm lock inserts, version C for enclosure servicing access from the front, version A for enclosure servicing access from the rear, see Cat. 33, page 609, lock cylinder, plastic handles and T handles, version C for enclosure servicing access from the front, version B for enclosure servicing access from the rear, see Cat. 33, page 608.				

Operating housing with handle strips

Width (B) mm	Packs of	380	500	500	600	600
Height (H) mm		380	500	500	380	600
Depth (T) mm		210	210	210	210	210
Servicing access	from the front	–	■	–	–	–
	from the rear	■	–	■	■	■
Model No.	1	6320.300	6315.400	6320.400	6320.500	6320.600
Weight (kg)		9.8	16.8	16.8	15.4	22.8
Accessories						
TS punched section with mounting flange, 17 x 73 mm	4	8612.030	8612.150	8612.150	8612.030	8612.160
TS punched rail 18 x 38 mm	4	–	8612.250	8612.250	–	8612.260
TS support strips	20	4594.000	4695.000	4695.000	4594.000	4696.000
Mounting bracket	4	4597.000	4597.000	4597.000	4597.000	4597.000
Mounting bracket for interior installation	4	6205.100	6205.100	6205.100	6205.100	6205.100
Mini-comfort handle	1	2537.000 2537.010	–	2537.000 2537.010	2537.000 2537.010	2537.000 2537.010
Alternative lock systems	With 3 mm double-bit lock insert, may be exchanged for 41 mm lock inserts, version C for enclosure servicing access from the front, version A for enclosure servicing access from the rear, see Cat. 33, page 609, lock cylinder, plastic handles and T handles, version C for enclosure servicing access from the front, version B for enclosure servicing access from the rear, see Cat. 33, page 608.					



New: Stand systems for support arm system CP 60/120



Strong pillars for your application

Our extensive range of newly designed solutions meets every conceivable requirement.

Pedestal base plate

- For support arm system CP 60 direct; for CP 120 by simply drilling out
- Optionally with base mount or twin castors as accessories
- Connection for cable conduits NW 50

Pedestal, mobile

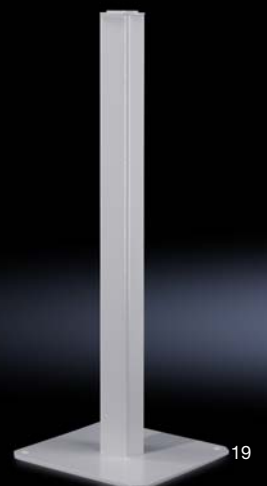
- For support arm system CP 60 direct; for CP 120 by simply drilling out
- For use in changing locations
- Integral cable clamping bracket for strain relief

Pedestal, complete

- Prepared for couplings/attachments for support arm system CP 60
- Panel mouldings are easily opened and closed for laying cables
- Integral cable conduit adaptor for connecting cable conduits NW 50

Pedestal, open

- Prepared for couplings/attachments for support arm system CP 60
- Open cable duct for retrospective cable insertion
- Integral cable clamping bracket for strain relief



Stand systems



Operating housings Page 16

- Pedestal, modular, consisting of
- Pedestal base plate/cross member
 - Support section
 - Enclosure connection

Colour:
– RAL 7035

Available from August 2013

Photo shows a configuration example with equipment not included in the scope of supply.

Pedestal, modular

Weight load kg	18	35 ¹⁾	35 ¹⁾
1 Pedestal base plate	Model No.		
Pedestal base plate/cross member	6106.100	6106.200	6106.400
Dimensions W x H x D mm	400 x 108 x 400	490 x 100 x 600	600 x 205 x 550
2 Support section	Model No.		
Closed, length 1000 mm	6206.100	6206.100 ¹⁾	6206.100 ¹⁾
3 Enclosure connection	Model No.		
Enclosure reinforcement, rigid	6106.110	–	–
Attachment CP 60, for support arm connection Ø 130 mm	–	6206.320	6206.320
Attachment CP 60, for support arm connection □ 120 x 65 mm	–	6206.360	6206.360
Coupling CP 60, for support arm connection Ø 130 mm	–	6206.300	–
Coupling CP 60, for support arm connection □ 120 x 65 mm	–	6206.340	–
Accessories			
Twin castors	–	6148.000	■
Levelling feet	–	4612.000	–
Base mount	–	1590.000	–

■ Included with the supply.

¹⁾ Alternatively: Support arm section CP 120 may be used by simply drilling. Weight capacity 50 kg.



Operating housings Page 16

Pedestal for command panel with support section CP 60

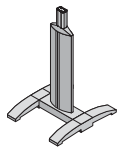
- Weight capacity 25 kg
- Reliable protection of cable management

Colour:
– RAL 7035

Available from August 2013

Photo shows a configuration example with equipment not included in the scope of supply.

Pedestal, complete

	
Weight capacity kg	25
Model No.	6106.300
Dimensions W x H x D mm	600 x 1093 x 660
Scope of supply	
Cross member	■
Support section	■
Vertical aluminium panel moulding, may be opened	■
Accessories	
Twin castors	6148.000, 7495.000
Levelling feet	4612.000
Base mount	6147.000
Trim panel for pedestal	6144.100
Attachment CP 60, for support arm connection Ø 130 mm	6206.320
Attachment CP 60, for support arm connection □ 120 x 65 mm	6206.360
Coupling CP 60, for support arm connection Ø 130 mm	6206.300
Coupling CP 60, for support arm connection □ 120 x 65 mm	6206.340

- Included with the supply.

Stand systems



Operating housings Page 16

The welded alternative to the pedestal, complete

- Open pedestal for retrospective cable entry with pre-assembled connectors

Material:

- Steel

Surface finish:

- Spray-finished

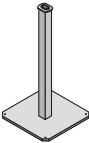
Colour:

- RAL 7035

Available from August 2013

Photo shows a configuration example with equipment not included in the scope of supply.

Pedestal, open

	
Weight load kg	40
Model No.	6106.500
Scope of supply	
Base plate cross-section W x H x D mm	400 x 10 x 400
Pedestal tube cross-section W x D mm	86 x 73
Pedestal tube wall thickness mm	3
Overall height mm	1093
Accessories	
Attachment CP 60, for support arm connection Ø 130 mm	6206.320
Attachment CP 60, for support arm connection □ 120 x 65 mm	6206.360
Coupling CP 60, for support arm connection Ø 130 mm	6206.300
Coupling CP 60, for support arm connection □ 120 x 65 mm	6206.340

Support arm system CP 40/60

Connection console VESA 75/100

For rear connection of

- Slimline operating housings
- Commercially available TFTs
- Industrial PCs

with VESA 75/100 connection

Connection to Rittal support arm systems

- CP 40
- CP 60
- CP 120 via adaptor from support arm connection Ø 130 mm to □ 120 x 65 mm

Benefits:

- Fast, simple one-man assembly using machined keyholes
- More space for installation and servicing
- Cables may be routed to devices outside and inside the console
- Removable cover for simple cable routing and access to interior device connections
- Integral cable clamping facilities
- Cover with captive screws

Material:

- Cast aluminium

Colour:

- Connection console: RAL 7035
- Cover: RAL 7024

Supply includes:

- Seals and assembly parts
- Cable ties for cable clamping

Weight kg	Model No.
1.1	6206.480

Available from August 2013



Also required:

- Attachment CP 60 for support arm connection □ 120 x 65 mm CP 6206.360
- Coupling CP 60 for support arm connection □ 120 x 65 mm CP 6206.340
- Tilting adaptor 10° for support arm connection □ 120 x 65 mm CP 6206.440
- Coupling CP 40 for support arm connection □ 120 x 65 mm CP 6501.130
- Tilting adaptor +/-45° for support arm connection □ 120 x 65 mm CP 6206.460
- Adaptor from support arm connection Ø 130 mm to □ 120 x 65 mm CP 6212.500



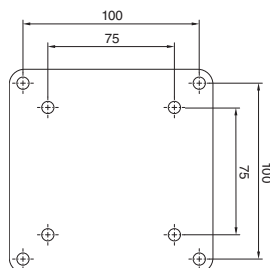
Optionally available:

- Installation of an internal mounting plate e.g. for the attachment of connectors (whilst retaining a high protection category).
- 3-part layout optionally allows suspended devices to be quickly exchanged.

Technical details:

Available on the Internet.

VESA connection hole pattern



Angle adaptor 90°

For support arm combination CP 60 to CP 40

Application:

- Connection component from CP 60 horizontal to CP 40 vertical
- For external mounting of small, slimline operating housings with CP 40 components, if the greater load capacity of CP 60 is needed for large jib lengths or if an intermediate hinge is required for the application

Benefits:

- With integral adjustment facility
- Removable cover for simple cable entry

Material:

- Angle adaptor 90°: Cast aluminium
- Cover: Plastic

Colour:

- Angle adaptor 90°: RAL 7035
- Cover: RAL 7024

Supply includes:

- Seals
- Adjusting screws
- Self-tapping screws and clamping screws for support section attachment

Weight kg	Model No.
1.0	6206.640

Available from August 2013



Accessories:

- Mounting component for signal pillars (CP 6206.900), for external mounting on the cover, see Innovations 2012, page 45.



Optionally available:

- Height adjustment can easily be provided on request

Technical details:

Available on the Internet.



SE 8 free-standing enclosure system with standardised cut-outs


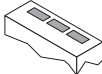
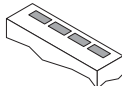
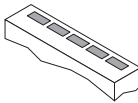
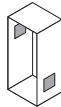
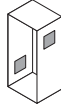


SE 8 free-standing enclosure system

With standardised cut-outs

The SE 8 is now available in sheet steel and stainless steel, also with pre-defined cut-outs for standard applications.

- Gland plates, see Cat. 33, page 623
- Fan-and-filter units, see Cat. 33, page 396, 397, 398.

Cut-out	Position		Code number			
	Enclosure width mm	Qty.	Section	Number		
Gland plates	All widths	none	A	0		
	600/800			1		
	1000			1		
	1200			1		
	1600/1800			1		
Fan-and-filter units	Position		B	Number		
	none				0	
	top left bottom right	Mounting cut-out 224 x 224 mm for fan-and-filter units W x H 255 x 255 mm				1
		Mounting cut-out 292 x 292 mm for fan-and-filter units W x H 323 x 323 mm				2
	top right bottom left	Mounting cut-out 224 x 224 mm for fan-and-filter units W x H 255 x 255 mm				3
		Mounting cut-out 292 x 292 mm for fan-and-filter units W x H 323 x 323 mm				4

SE 8 free-standing enclosure system

Width mm	Height mm	Depth mm	Doors	Model No.	
				Sheet steel	Stainless steel
600	1600	400	1	-	5850.500
600	1800	400	1	5830.500	-
600	1800	500	1	-	5851.500
800	1800	400	1	5831.500	-
800	1800	500	1	-	5852.500
800	2000	400	1	5832.500	-
800	2000	500	1	5833.500	-
800	2000	600	1	5834.500	5853.500
1000	1800	400	1	-	5854.500
1000	1800	400	2	5840.500	-
1200	1800	400	2	5841.500	-
1200	2000	400	2	5843.500	-
1200	2000	500	2	5844.500	5855.500
1200	2000	600	2	5845.500	-
1600	1800	400	2	5842.500	-
1800	2000	500	2	5846.500	-

Order example:

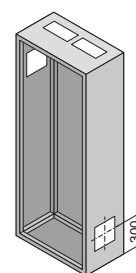
SE 8 (5831.500) with roof cut-out for gland plates and cut-out for fan-and-filter units (W x H 255 x 255 mm) in the sides (top left/bottom right).

Enclosure Model No.:

5831.500

Design code number:

A1B1



New: PC enclosure based on SE 8



Function

- Gap-free design provides greater protection from dust and moisture
- No collision between the interior installations and the enclosure panel holders in the vicinity of the side panels
- Rear door allows easy access for servicing
- Also available in stainless steel, see Cat. 33, page 193

Operating concept

- Innovative keyboard drawer concept
 - Handle strip folds down to serve as a handrest during data input
 - Integral mousepad extension piece, pulls out to the left or right
 - Stowage tray for mouse behind the keyboard
- Keyboards up to 70 mm height may be used
- Alternative operating concept via fold-out tray or desk section

Security

- High level of access protection thanks to one-piece side panels and roof, plus interior glazed door lock and lockable keyboard drawer
- Glazed door with supporting frame and single-pane safety glass
- Cable support hinged on the keyboard pullout, for secure cable routing



PC enclosure systems



Material:

- Enclosure, door, mounting compartment, supports: Sheet steel
- Handles, decorative trim panels: Plastic
- Door trim panels: Aluminium

Protection category:

- IP 55 to IEC 60 529, complies with NEMA 12.

Approvals:

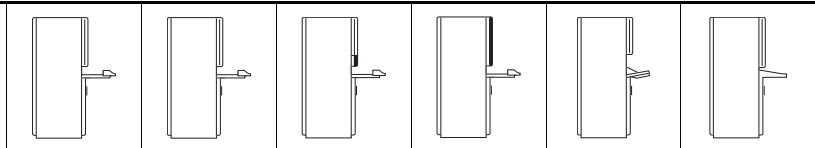
- UL/CUL

Technical details:

Available on the Internet.

Supply includes:

- Enclosure, door, rear door and enclosure-specific supply scope (see table)



Enclosure-specific supply scope

	Packs of	■	■	■	■	–	–
Keyboard drawer		■	■	■	■	–	–
Folding keyboard		–	–	–	–	■	–
Desk section		–	–	–	–	–	■
Glazed door, top		■	■	■	–	■	■
Mounting compartment, small		–	–	■	–	–	–
Mounting compartment, large		–	–	–	■	–	–
Component shelf		■	■	■	–	■	■
Width mm		600	600	600	600	600	600
Height mm		1600	1600	1600	1600	1600	1600
Depth mm		636	836	636	636	636	636
Model No.	1	5366.000	5368.000	5366.300	5366.400	5366.100	5366.200
Max. keyboard dimensions mm	Width	480	480	480	480	475	540
	Height	70	70	70	70	60	50
	Depth	260	260	260	260	200	250

Accessories

Base/plinth, static	1	8800.920	–	8800.920	8800.920	8800.920	8800.920
Base/plinth components front and rear	Height 100 mm	1 set	8601.600	8601.600	8601.600	8601.600	8601.600
	Height 200 mm	1 set	8602.600	8602.600	8602.600	8602.600	8602.600
Base/plinth trim panel, front	Height 200 mm	1	8360.920	8360.920	8360.920	8360.920	8360.920
Base/plinth trim panels, side	Height 100 mm	1 set	8601.060	8601.080	8601.060	8601.060	8601.060
	Height 200 mm	1 set	8602.060	8602.080	8602.060	8602.060	8602.060
Partial mounting plate	Height 775 mm	1	8614.675	8614.675	8614.675	8614.675	8614.675
Component shelf, pull-out	1	6902.960	6902.980	6902.960	6902.960	6902.960	6902.960
Drawer tray	1	6902.700	6902.700	6902.700	6902.700	6902.700	6902.700
Paper removal flap	1	6903.200	6903.200	6903.200	6903.200	6903.200	6903.200
Socket strips				see Cat. 33, page 695			
Alternative lock systems				see Cat. 33, page 600			

Operating housing for desktop TFT up to 24"



Stand systems Page 20 **Support arm systems** see Innovations 2012 brochure

For the installation of commercially available desktop TFTs with a screen diagonal of up to 24" in the formats 16:9/16:10.

Design:

- Viewing window with single-pane safety glass
- TFT holder with VESA 75/100 locator, depth-adjustable
- Support arm connection Ø 130 mm, top or bottom by rotating the enclosure
- Servicing access from the rear

Material:

- Enclosure and door: Sheet steel
- Handle strips: Aluminium
- Cover caps: Plastic
- Viewing window: 3 mm single-pane safety glass
- TFT holder: Sheet steel

Surface finish:

- Enclosure and door: Dipcoat primed, powder-coated on the outside, textured paint
- Handle strips: Natural anodised

Colour:

- Enclosure and door: RAL 7035
- Handle strips: Natural anodised
- Cover caps: similar to RAL 7024

Protection category:

- IP 55 to IEC 60 529

Supply includes:

- Enclosure with cut-out and reinforcement for support arm connection Ø 130 mm
- Viewing window
- Holder for desktop TFT with VESA 75/100 locator
- Side handle strips and cover caps
- Rear door with r/h hinge
- Cam lock with double-bit insert

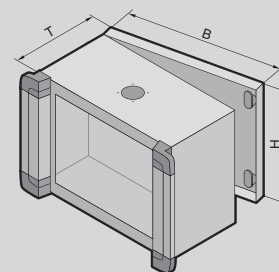
Note:

- The support arm connection and door hinge may be swapped over by rotating the enclosure

Approvals:

- CSA

Available from August 2013



Width (B) mm	Packs of	650
Height (H) mm		450
Depth (T) mm		155
Model No.	1	6321.000
Weight (kg)		27.5

Accessories		
Alternative lock systems	With 3 mm double-bit lock insert, may be exchanged for 27 mm lock inserts, version A, see Cat. 33, page 609, lock cylinder, plastic handles and T handles, version B, see Cat. 33, page 608.	

System accessories

Roof



Roof plate IP 4X

for TS

For enclosures without roof plate and in exchange for the standard roof in other TS enclosures.

In order to achieve a protection category of IP 41, a standard roof plate IP 54 should be fitted above the IP 4X roof plate using four spacers (7967.000, 1 pack).

Material:

- Sheet steel, 1.5 mm

Surface finish:

- Textured paint

Colour:

- RAL 7035

Supply includes:

- Assembly parts

Width mm	Depth mm	Packs of	Model No.
400	600	1	9671.364
600	600	1	9671.366
800	600	1	9671.368
400	800	1	9671.384
600	800	1	9671.386
800	800	1	9671.388



Eyebolts

for TS, SE, PC

For crane transportation of enclosures, where not already included in the supply.

Thread: M12

Material:

- Stainless steel 1.4301 (AISI 304)

Packs of	Model No.
4	4568.500



Universal light

with integral motion detector

The new generation of the tried-and-tested universal light.

Benefits:

- Insulated plastic enclosure, protection class I
- Novel 18 W compact fluorescent tube with the same light output as previous tubes with 26 W
- The universal light is easily fastened to the enclosure

Material:

- Plastic

Supply includes:

- Mounting clips

! Also required:

- Connection accessories, see Cat. 33, page 684.

Technical specifications	Socket	Width mm	Height mm	Depth mm	Model No.	Approvals
18 W, 110 – 240 V, 50 – 60 Hz	Earthing pin	343	95	55	4155.110	VDE
	–	343	95	55	4155.010	VDE
	–	343	95	55	4155.510	UL

System accessories

Rail systems

Rails for interior installation

for AE

For mounting in the enclosure, no machining required. Suitable for all-round mounting on the sides, base and roof areas.

Variable with 2 rows of system punchings, creates additional mounting space e.g. for:

- TS punched section with mounting flange
- Enclosure lights
- Door-operated switch
- Door stay
- Cable conduit holder

Benefits:

- Only one screw for attaching the rail inside the enclosure
- Larger mounting space than with the current rail, thanks to separate adaptor for door-operated switches (included with the supply)
- Compatibility with TS 8 system accessories
- Enclosure protection category is retained (no machining required)
- Automatic potential equalisation
- May be retrospectively installed even with the mounting plate in situ. Suitable for installation via gland plates

Material:

- Sheet steel

Surface finish:

- Zinc-plated

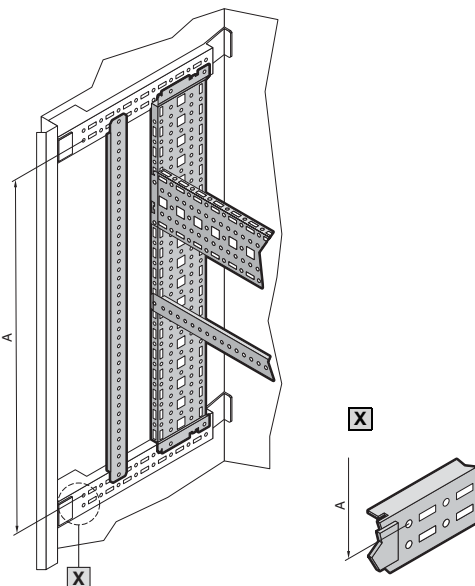
Note:

Other mounting options:

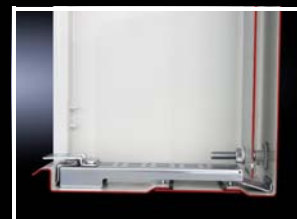
- Mounting plates, locatable, TS 8612.400, see Cat. 33, page 657.
- Mounting plates, screw-fastened, large, TS 8612.410, see Cat. 33, page 657.
- Mounting plates, screw-fastened, small, PS 4532.000, see Cat. 33, page 658.
- Mounting brackets, PS 4597.000, see Catalogue 33, page 658.

For enclosure depth mm	Packs of	Model No.
210	4	2383.210
250	4	2383.250
300	4	2383.300
350	4	2383.350

Configuration examples:



A = Bar centre distance



TS punched section with mounting flange, 17 x 73 mm

Now also suitable for mounting on the TS, SE, PC tubular door frame.

Material:

- Sheet steel

Surface finish:

- Zinc-plated

Supply includes:

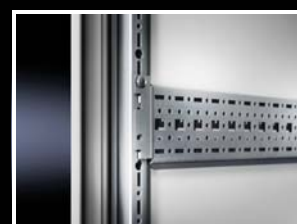
- Assembly screws



Accessories:

- Screws, see Cat. 33, page 666.
- Cable ties for quick assembly SZ 2597.000, see Cat. 33, page 720.

For door width mm	For enclosure width/depth (for inner mounting level) mm	Length mm	Packs of	Model No.
400	300	290	4	8612.030
500	400	390	4	8612.040
600	500	490	4	8612.050
-	600	590	4	8612.060
800	-	690	4	8612.070
900	800	790	4	8612.080
1000	-	890	4	8612.090
-	1000	990	4	8612.000
-	1200	1190	4	8612.020



Rittal – The System.

Faster – better – worldwide.

Planning

- Eplan – Engineering tools
- Power engineering with calculation of heat loss
- Therm – Climate control design

+

Enclosures

- Tested strength requirements (IEC 61 439)
- Tested IP protection category
- Documented PE conductor function

+

Busbars

- Short-circuit resistance
- Current carrying capacity
- Insulating properties
- Clearance and creepage distances

+

All documented in conjunction with the enclosure



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

Tested system engineering

Climate control

- Cooling units
- Cooling with ambient air
- Liquid cooling

+

Switchgear

- Rittal fuse technology
- Protective gear, switchgear and control devices from all reputable manufacturers



**Simple generation
= of design verification
to IEC 61 439**

IT INFRASTRUCTURE

SOFTWARE & SERVICES



RiLine NH fuse elements



Material:

- Fibreglass-reinforced polyamide
- Fire protection corresponding to UL 94-V0
- Contact tracks: Electrolytic copper, silver-plated

Colour:

- Chassis: RAL 7035
- Cover: RAL 7001

Basis of test:

- IEC/EN 60 947-3
- EN 60 269-2 (fuse inserts)

Technical details:

Available on the Internet.

NH fuse-switch disconnectors size 000 (3-pole) with electronic fuse monitoring

Rated operating current	Packs of	100 A
Rated operating voltage		690 V~
Cable outlet		Bottom
Type of connection		Box terminal
Connection of round conductors mm ²		2.5 – 50
Width mm		53
Height mm		213
For bar systems with centre-to-centre spacing mm		60
For bar thickness mm		5/10
Model No.	1	3431.035
Accessories		
Micro-switch	5	3071.000

Ri4Power/ISV distribution enclosures

Accessories

Wiring system

for Ri4Power with internal compartmentalisation

The wiring system facilitates vertical and horizontal cable routing in conjunction with internal Form 2-4 separation.

For vertical cable routing, pre-punched cut-outs are provided in the mounting brackets for compartment dividers, which can easily be knocked out and used to install a vertical wiring channel.

Horizontal cable routing occurs behind the front trim panels. This entails fitting a wiring trim panel which is suitable for accommodating a wiring channel while at the same time concealing the busbar system.

Wiring trim panel

Inner front cover of the main busbar system with the option of mounting a wiring channel size W x D 40 x 20 mm. For use in Ri4Power switchgear with 300 mm high front trim panels.

Material:

- Sheet steel, zinc-plated

Supply includes:

- Assembly parts

For enclosure width mm	Packs of	Model No.
400/600	1 set	9674.550
800/1000/1200	1 set	9674.560



Mounting angles

for TS, SE

For vertical sub-division of the support frame in the TS/SE enclosure.

Material:

- Sheet steel

Note:

- 1 HU \triangleq 150 mm

Height unit (HU)		Packs of	Model No.
5	750 mm	2	9666.705
6	900 mm	2	9666.706
7	1050 mm	2	9666.707
11	1650 mm	2	9666.711



Installation kit

for TS, SE

- For mounting installation modules in TS/SE enclosures
- Also suitable for use in stainless steel enclosures

Material:

- Sheet steel

Supply includes:

- Mounting aid support
- Contact hazard protection
- Support for contact hazard protection
- Basic supports for frame holders
- Assembly parts

Note:

- 1 WU \triangleq 250 mm
- 1 HU \triangleq 150 mm

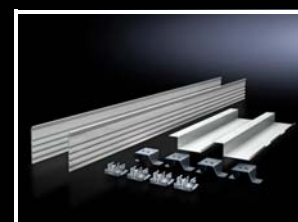
For enclosure type	Packs of	Model No.
Design: Sheet steel, spray-finished Model No.		8684.500 8685.500 8686.500 5830.500
Design: Stainless steel 1.4301 Model No.		8457.600 5851.500
Enclosure width (mm)		600
Enclosure height (mm)		1800
Enclosure depth (mm)		400/500/600
Width unit (WU)		2
Height unit (HU)		11
Model No.	1	9666.930

Also required

Mounting angle 1650 mm, 11 HU	2	9666.711
-------------------------------	---	----------

Accessories

Cross rail 500 mm, 2 WU	2	9666.722
Mounting angle 300 mm, 2 HU	2	9666.702
Mounting angle 450 mm, 3 HU	2	9666.703
Mounting angle 600 mm, 4 HU	2	9666.704
Mounting angle 750 mm, 5 HU	2	9666.705
Mounting angle 900 mm, 6 HU	2	9666.706
Mounting angle 1050 mm, 7 HU	2	9666.707
Depth stay for enclosure depth 400/500/600 mm	2	9666.730
Equipment support connectors	4	9666.740



Connection components for Maxi-PLS/Flat-PLS

For open air circuit-breakers and busbar connections

For connecting open air circuit-breakers (ACB) to Maxi-PLS/Flat-PLS busbar systems in TS 8 enclosures. Alternatively, for connecting main and distribution busbar systems and for connecting horizontal and vertical main busbar systems. Please include the design code of the specification below in the order text for your connector kit. We recommend the **Rittal Power Engineering software from Version 6.1, Model No. SV 3020.500** for easier configuration of the connection kits and connection brackets, see Catalogue 33, page 523.

Material:

- E-Cu

Note:

- Please quote the complete design code on all enquiries and orders.
- For configuration with the Rittal Power Engineering software, 2 check numbers are additionally output with a hyphen.

Available from October 2013



Also required:

- M10/M12 screw connections, see Catalogue 33, page 337.
- Maxi-PLS terminal studs, see Cat. 33, page 329.
- Flat-PLS screw connections, see Cat. 33, page 335.
- Copper spacer rolls, see Cat. 33, page 353

Design code

Model No.		Enclosure			Busbar system, bottom		Air circuit-breaker						Busbar system, top		Compartment height of air circuit-breaker	Distribution busbars, type and number of poles	Distribution busbar system, in front of or behind mounting plate	Busbar configuration	Code length	
		a	b	c	d	e	f	g	h	i	j	k	l	m						n
9676.910	Connector kit for ACB, top																			14
9676.912	Connector kit for ACB, bottom																			14
9676.200	Connection bracket above ACB																			14
9676.210	Connection bracket below ACB																			14
9675.100	T-connector kit																			9
9675.840	Bracket connector kit																			8
9674.480	Fuse-switch disconnecter section connection bracket																			8

Leave grey sections blank.

Enclosure

										Selection							
										Width mm							
										a	2 200	4 400	6 600	8 800	0 1000		
										Height mm							
b	0 2000	2 2200															
Depth mm																	
c	6 600	8 800															

Connection components for Maxi-PLS/Flat-PLS

For open air circuit-breakers and busbar connections

Busbar system, bottom

Busbar type					Selection	
<p>2 bars 3 bars 4 bars</p> <p>Cu PLS</p> <p>No system available</p>	Maxi-PLS	1600	3-pole	A	<input type="checkbox"/>	
			4-pole	B		
		2000	3-pole	C		
			4-pole	D		
		3200	3-pole	E		
			4-pole	F		
	Flat-PLS	60	3-pole	I		
			4-pole	J		
		100	3-pole	M		
			4-pole	N		
		RiLine 60 (only for T-connector kit)	Cu 30 x 5/10 mm	3-pole		Q
				4-pole		R
PLS 1600	3-pole		S			
	4-pole		T			
No system available					X	

Busbar system configuration			Selection
<p>No system available</p>	in the base section		6
	in the lower rear section		7
	as cable connection system		8
	directly underneath the air circuit-breaker		9
No system available			0

Air circuit-breaker

	f Brand	ABB	A	<input type="checkbox"/>
		Eaton/Moeller	E	
		GE	G	
		Mitsubishi	J	
		Schneider Electric	M	
		Siemens/Moeller	S	
		Terasaki	T	
	Various	V		
	g Size	1/none	1	<input type="checkbox"/>
		2	2	
		3	3	
		4	4	
h Rated current	630 A	A	<input type="checkbox"/>	
	800 A	B		
	1000 A	C		
	1250 A	D		
	1600 A	E		
	2000 A	F		
	2500 A	G		
	3200 A	H		
	4000 A ²⁾	I		
	5000 A ²⁾	J		
i No. of poles/ version	Static	3-pole	3	<input type="checkbox"/>
		4-pole	4	
		3-pole with non-switched N	5	
		3-pole with non-switched N	7	
	Rack-mounted	3-pole	6	
		4-pole	8	
		3-pole with non-switched N	7	
		3-pole with non-switched N	7	
J Position	Behind the door HT	H	<input type="checkbox"/>	
	In front of the door (in door cut-out) VT	V		
k Compartment height directly underneath the circuit-breaker	0 mm	0	<input type="checkbox"/>	
	150 mm	1		
	200 mm	2		
	250 mm	3		
	300 mm	4		
	400 mm	5		
	600 mm ¹⁾	6		
	800 mm	7		
	1000 mm	8		
n Compartment height of air circuit-breaker	600 mm ¹⁾	6	<input type="checkbox"/>	
	800 mm	7		
	1000 mm	8		

²⁾ Not available for all brands.

¹⁾ Standard height in version 1.
With version 1, a **6** should be selected.

Connection components for Maxi-PLS/Flat-PLS

For open air circuit-breakers and busbar connections

Busbar system, top

Busbar type				Selection			
<p>2 bars 3 bars 4 bars</p> <p>Cu PLS</p>	Maxi-PLS	1600	3-pole A 4-pole B	<input type="checkbox"/>			
		2000	3-pole C 4-pole D				
			3200		3-pole E 4-pole F		
		Flat-PLS	60		3-pole I 4-pole J		
					100	3-pole M 4-pole N	
			Cu 30 x 5/10 mm			3-pole Q 4-pole R	
					PLS 1600	3-pole S 4-pole T	
		No system available				X	

Busbar system configuration				Selection	
	in the roof section		1	<input type="checkbox"/>	
	in the top rear section		2		
	as cable connection system 600 mm		3		
	as cable connection system 800 mm		8		
	as cable connection system 1000 mm		9		
	directly above the air circuit-breaker		4		
in rear centre section, version 1		5	<input type="checkbox"/>		
No system available 0					
o Distribution busbar system	Distribution busbar system, type and number of poles	RiLine 60		Cu 30 x 5/10 mm	3-pole Q
		RiLine 60		Cu 30 x 5/10 mm	4-pole R
		RiLine 60		PLS 1600	3-pole S
		RiLine 60		PLS 1600	4-pole T
		Distribution busbar fuse-switch disconnecter section		3-pole E	
		Distribution busbar fuse-switch disconnecter section		4-pole F	
<p>in front of mounting plate behind mounting plate</p>	Distribution busbar system, in front of or behind mounting plate	In front of mounting plate (indoor)		1	
		Behind mounting plate		2	

Bar configuration, busbar dimensions up to				Selection
<p>H - V HR - V</p> <p>H = Horizontal V = Vertical HR = Horizontal in the rear section, behind one another</p>	Maxi-PLS 1600/2000		H - V A	<input type="checkbox"/>
	Maxi-PLS 1600/2000		HR - V B	
	Maxi-PLS 3200		H - V C	
	Maxi-PLS 3200		HR - V D	
	up to 2 x 40 x 10		H - V E	
	up to 2 x 60 x 10		H - V F	
	up to 4 x 60 x 10		H - V G	
	up to 4 x 40 x 10		H - V H	
	up to 2 x 100 x 10		H - V I	
	up to 4 x 80 x 10		H - V J	
	up to 4 x 100 x 10		H - V K	
	up to 2 x 60 x 10		HR - V L	
	up to 4 x 60 x 10		HR - V M	
	up to 2 x 100 x 10		HR - V N	
	up to 4 x 100 x 10		HR - V O	

Connection components for Maxi-PLS/Flat-PLS

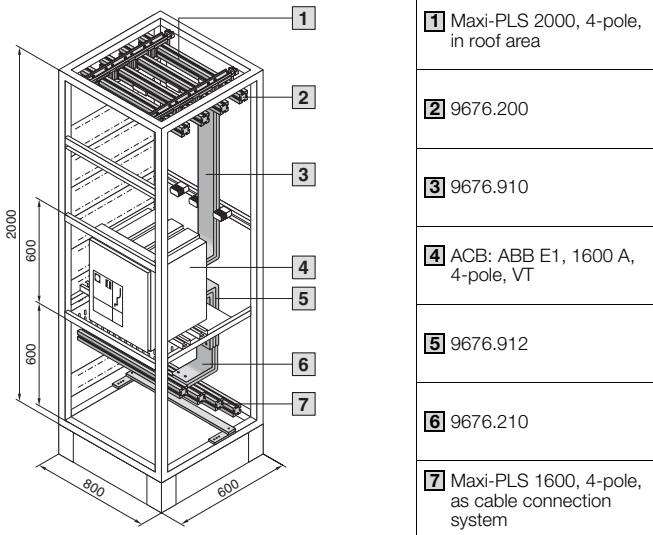
For open air circuit-breakers and busbar connections

Sample design code

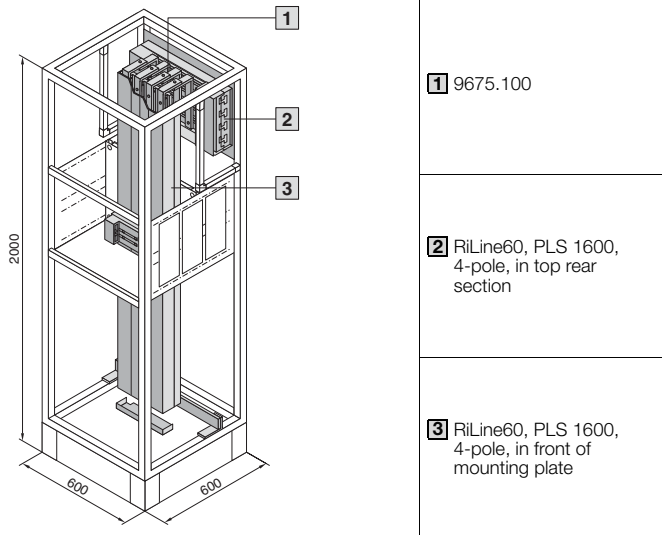
Model No.		Enclosure			Busbar system, bottom		Air circuit-breaker						Busbar system, top		Compartment height of air circuit-breaker	Distribution busbars, type and number of poles	Distribution busbar system, in front of or behind mounting plate	Busbar configuration	Code length	
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q		
9676.910	Connector kit for ACB, top	8	0	6	B	8	A	1	E	4	V	6	D	1	6					14
9676.912	Connector kit for ACB, bottom	8	0	6	B	8	A	1	E	4	V	6	D	1	6					14
9676.200	Connection bracket above ACB	8	0	6	B	8	A	1	E	4	V	6	D	1	6					14
9676.210	Connection bracket below ACB	8	0	6	B	8	A	1	E	4	V	6	D	1	6					14
9675.100	T-connector kit	6	0	6	X	0										T	1			9
9675.840	Bracket connector kit, backwards	2	0	6	B	9										X	0		A	8
9674.480	Fuse-switch disconnecter section connection bracket	1	0	6	X	0										J	1	F		8

Leave grey sections blank.

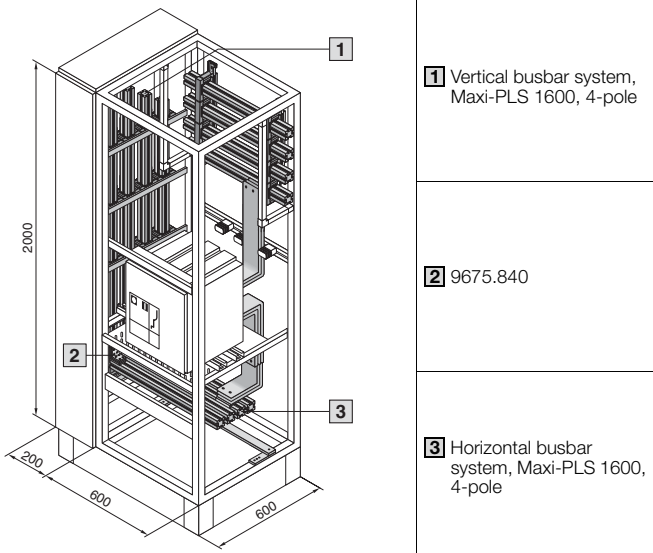
Example of 9676.910, 9676.912, 9676.200, 9676.210
Design code: 806B8A1E4V6D16



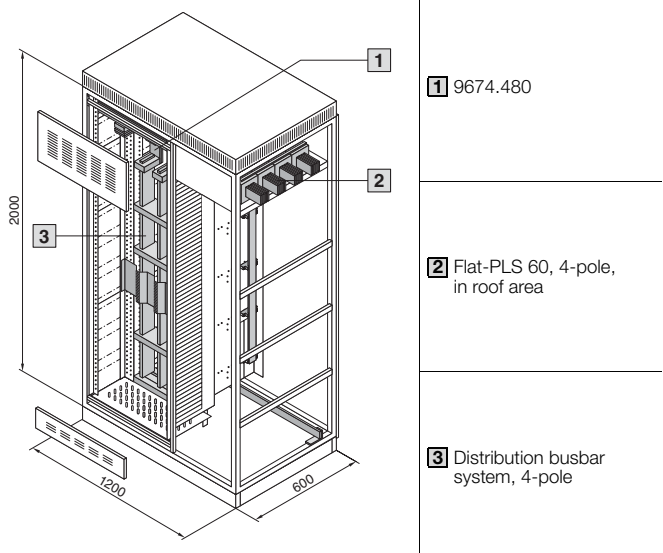
Example of 9675.100
Design code: 606X0T2T1



Example of 9675.840
Design code: 206B9X0A



Example of 9674.480
Design code: 106X0J1F



Rittal – The System.

Faster – better – worldwide.



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

Rittal TopTherm cooling units – Guaranteed output

TÜV-tested output to EN 14511:2012-01

Rittal is the only supplier in the world to deliver its entire range of enclosure cooling units tested to the latest (DIN) EN standard.

All TopTherm cooling units in the output range from 300 to 4,000 W are tested to the latest EN 14511:2012-01 standard by the independent test institute TÜV NORD, and are authorised to carry the relevant test mark for the entire series.¹⁾

- Proven additional performance of up to 10%
- Increased EER (energy efficiency ratio)

¹⁾ Except cooling units with Atex authorisation for Zone 22 and NEMA 4X.



Basis of test: EN 14511:2012-01

This European standard sets out the conditions for testing the output of air conditioning units, liquid cooling packages and heat pumps that use air, water or brine as a thermal transfer medium, with electrical compressors for space heating and/or cooling. It also specifies the conditions for testing multi-split heat recovery systems.

IT INFRASTRUCTURE

SOFTWARE & SERVICES



TopTherm chillers



Benefit from optimised thermodynamics and a standardised modular design, plus option packages for faster availability. As always, you can configure your individual chiller to your own specific requirements.

Benefits of the new generation at a glance:

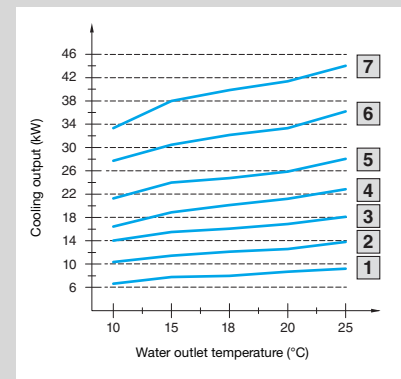
- Optimised thermodynamics, thanks to a new arrangement of the condenser fan on the roof
- Flexibility, thanks to individually definable option packages
- Faster availability, because the basic platform is available off the shelf

Option packages to meet your individual requirements:

- Hot gas bypass control in the cooling circuit
- More powerful pump(s)
- Water level switch
- Flow monitor
- Stainless steel enclosures
- Water-cooled condenser
- Upstream pipework, free from non-ferrous metals
- Ambient temperature control
- Automatic bypass (internal or external)
- Harting connector
- Outdoor siting
- Special spray finish
- Metal filter mat
- 24 V DC control voltage

Performance diagram at T_u 32 °C and T_w 18 °C

- 1 3335.790/3335.830
- 2 3335.840
- 3 3335.850
- 4 3335.860
- 5 3335.870
- 6 3335.880
- 7 3335.890



Model No.	3335.790	3335.830	3335.840	3335.850	3335.860	3335.870	3335.880	3335.890
Rated operating voltage V, Hz	400, 3~, 50/460, 3~, 60	400, 3~, 50/460, 3~, 60	400, 3~, 50/460, 3~, 60	400, 3~, 50/460, 3~, 60	400, 3~, 50/460, 3~, 60	400, 3~, 50/460, 3~, 60	400, 3~, 50/460, 3~, 60	400, 3~, 50/460, 3~, 60
Width mm	805	805	805	805	1205	1205	1605	2405
Height mm	1700	2100	2140	2140	2140	2140	2140	2140
Depth mm	605	605	605	605	605	605	605	605
Cooling output kW at $T_w = 10$ °C/ $T_u = 32$ °C $T_w = 18$ °C/ $T_u = 32$ °C	6.5/7.5 8/8.6	6.5/7.5 8/8.6	10.3/11.3 12/13.1	13.8/15.2 16/17.6	16.6/18.7 20/21.8	20.8/23.8 25/27.6	27.6/30.4 32/35.2	32.5/37.5 40/44
Power consumption kW	4.37/5.21		6.6/7.76	7.3/9.2	9.2/12	11.4/13.9	14.95/17.6	17.91/23.1
Rated current A	8.23/7.71		10.03/11.41	12.73/13.3	20.12/17.34	22.82/23.84	26.25/26.72	38.43/32.66
Refrigerant	R 410 A	R 410 A	R 410 A	R 410 A	R 410 A	R 410 A	R 410 A	R 410 A
Temperature hysteresis K	± 2		± 2	± 2	± 2	± 2	± 2	± 2
Temperature range °C	Ambient T_u	+10 ... +43	+10 ... +43	+10 ... +43	+10 ... +43	+10 ... +43	+10 ... +43	+10 ... +43
	Medium T_w	+10 ... +25	+10 ... +25	+10 ... +25	+10 ... +25	+10 ... +25	+10 ... +25	+10 ... +25
Pump capacity l/min.	50 Hz	30	30	35	35	45	50	55
	60 Hz	45	45	55	65	75	85	130
External static pressure bar	2.5		2.5	2.5	2.5	2.5	2.5	2.5
Tank capacity l	75		75	75	75	150	150	150
Water connections	1"		1"	1"	1"	1"	1 1/4"	1 1/4"
Weight kg	238		248	282	282	360	374	511
Temperature control	Microcontroller control (factory setting +18 °C, differential value control also possible)							
Protection category (electrics)	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54

Climate control accessories

Toroidal transformer

for air/water heat exchangers, 230 V version

Technical specifications:

- Output 110 VA
- Primary connection 3500 mm long
- Secondary connection 1500 mm long
- Dimensions W x H x D: 105 x 123 x 55 mm
- For mounting on a 35 mm support rail
- EN 50 022
- Voltage tolerance $\pm 10\%$

Supply includes:

- Toroidal transformer
- Assembly parts for top-hat rail mounting

For air/water heat exchanger	Primary connection	Secondary connection	Model No.
SK 3363.X0X SK 3364.X0X SK 3214.100 SK 3215.100	115 V, 50/60 Hz	230 V, 50/60 Hz	3201.970
SK 3363.X0X SK 3364.X0X SK 3212.230 SK 3214.100 SK 3215.100	400 V, 2~, 50/60 Hz	230 V, 50/60 Hz	3201.960



Spare filter mats

for TopTherm fan-and-filter units

Made of chopped-fibre mat with a progressive structure.

Temperature-resistant to +100 °C, self-extinguishing category F1 to DIN 53 438.

Dust-laden air side: Open structure.

Clean-air side: Closed structure.

Reliable filtering of virtually all types of dust from a particle size of 10 µm.

Note:

- In order to ensure the protection category, warranty protection and air throughput, please only use original Rittal filter media.

Now new:

50 filter mats per pack in a practical large dispenser

For fan-and-filter units	Material	Filter class to DIN EN 779	Packs of	Model No.
SK 3237. . . .	Chemical fibres	G2	50	3321.705
SK 3238. . . .		G2	50	3322.705
SK 3239. . . .		G3	50	3171.105
SK 3240. . . ./SK 3241. . . .		G3	50	3172.105
SK 3243. . . ./SK 3244. . . ./SK 3245. . . .		G3	50	3173.105



Electric condensate evaporator

For external mounting on enclosures. For use with all enclosure cooling units and air/water heat exchangers (wall-mounted).

Suitable for international use thanks to multi-voltage support.

Evaporation performance:

- at 230 V: 3.5 l/d
- at 115 V: 3.0 l/d

Colour:

- RAL 7035

Supply includes:

- Electric condensate evaporator, ready to connect

Width mm	Rated operating voltage	Model No.
280	115 – 230 V, 50/60 Hz	3301.500
400	115 – 230 V, 50/60 Hz	3301.505



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We set standards – RiMatrix S.

Rittal opens up brand new perspectives for the IT world.

- Standardised, mass-produced data centre modules
- Only one item number
- Fully functional including server and network racks, climate control, power distribution and back-up, monitoring and DCIM (Data Center Infrastructure Management)
- Available for immediate delivery

The revolutionary alternative to individual data centre construction:
RiMatrix S



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Advice and decision-making

RiMatrix S is based on ingenious data centre modules with defined interfaces for power, cooling and monitoring, dimensions and functions. This considerably reduces the amount of planning work required:

- Simple selection of the required modules
- Fast integration into an existing supply infrastructure
- Complete ROI calculation including planning expenditure, investments, operating costs, personnel and servicing
- Defined parameters for scalability, availability, efficiency and performance
- Data centre automation through monitoring and controlling

For you, this translates into a host of benefits in terms of investments, operating costs, future-proofness and scalability.



Advice

Decision

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Delivery and commissioning

All data centre modules are pre-manufactured, available ex works, and designed for rapid configuration of a customised solution:

- Short delivery times
- Very fast commissioning
- Complete documentation of the data centre module at the time of handover
- Simplified final certification of the ready-to-use data centre at the customer's premises



Delivery

Commissioning

IT INFRASTRUCTURE

SOFTWARE & SERVICES





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Better.

RiMatrix S provides peace of mind, thanks to:

- Reduced complexity
- Tested, quality-verified components
- Defined, monitored production processes
- Documented system test of the entire data centre module

For you as the user, this translates into:

- Low investment costs
- PUE (Power Usage Effectiveness) up to 1.15
- Tested characteristic curves and data sheets
- Precertification of the data centre modules by TÜV Rheinland

in Kooperation mit



TÜVRheinland[®]
Genau. Richtig.

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Worldwide.

The RiMatrix S modules are disengaged from the physical cover and defined infrastructure interfaces, which makes them extremely flexible.

For you as the user, this translates into:

- Simple integration into new or existing rooms with hot or cold aisle containment
- Installation in system-tested security rooms ...
- ... or as a flexible container solution
- Standardised modules for simplified worldwide delivery
- Commissioning by our 1,000 international service engineers



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Make IT easy.

All RiMatrix S modules may be scaled to almost any output between 60 and 450 kW. Only the container solution is limited to scaling with the Single 6/Single 9 modules, due to the spatial conditions inside the containers.



Examples:

- Simple assembly of chessboard-like structures
- Parallel or serial arrangement
- Shared cold aisle and/or hot aisle
- Simple connection to supply infrastructures

IT INFRASTRUCTURE

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RiMatrix S at a glance



	Buildings				
	<p>Integration of the RiMatrix S modules into an existing property.</p> <p>In order to achieve optimum air routing, precise-fit aisle containment is included with the supply.</p>		<p>Aisle containment is a combination of door and roof components which allow consistent separation of the hot and cold air.</p> <ul style="list-style-type: none"> - Enhanced energy efficiency - Superior output density, thanks to guaranteed cold air supply - Water- and dust-proof up to IP 20 - Double door optionally with door monitoring or electronic lock 		
	Single 6 basic cover	Double 6 basic cover	Single 9 basic cover	Double 9 basic cover	
Model No.	7998.106	7998.107	7998.406	7998.407	
Fire protection	-				
Burglar resistance	-				
Acrid gas-tightness	-				
Water and dust-tightness	IP 20				
Battery ventilation	■	■	-	-	
Fire alarm system	■				
Room extinguisher system	Optional, extinguisher nozzle only in the area to be extinguished				
Humidification and dehumidification system	Optional				
External dimensions					
Width mm	2828	4854	2828	4854	
Height mm	2750	2750	2750	2750	
Depth mm	7080	7080	7080	7080	
Rack configuration					
Server rack (600 x 2000 x 1200 mm)	6	12	8	16	
Combined network/server rack (800 x 2000 x 1200 mm)	1	2	1	2	
Uninterruptible power supply	1 x PMC 120 60 kW + 20 kW	2 x PMC 120 2 x (60 kW + 20 kW)	-	-	

RiMatrix S at a glance



Security rooms				Containers		
LER Extend		Construction of the LER room systems		IT system container		
<ul style="list-style-type: none"> – Fire resistance EI 90 to EN 1363, system-tested – Dust- and watertight to IP 56 to IEC 60 529 – Protection from unauthorised access – Resistance class II – EMC basic protection – Flue gas-tightness based on EN 1634-3 – Shock test with 3,000 Nm energy after 30 minutes flame impingement over standard temperature curve 		<ul style="list-style-type: none"> – Element core made of thermally effective insulation substance – Robust, encapsulated sheet steel cassette panels – Innovative connection technology using patented profile technology – Use of temperature- and humidity-resistant seals – Use of fire protection valves – Dismantling and reassembly is possible at any time 		<p>Robust sheet steel container specifically designed for IT applications. The reinforced frame structure allows optimum weight distribution. Housed interior wall structure with thermal insulating materials.</p> <ul style="list-style-type: none"> – Vandal-resistant inner zone to resistance class II – Fire resistance EI 30 to EN 1363 – EMC basic protection – Dust- and watertight to IP 54 to IEC 60 529 		
Single 6 security room LER	Double 6 security room LER	Single 9 security room LER	Double 9 security room LER	Single 6 container	Single 9 container	
7998.306	7998.307	7998.606	7998.607	7998.206	7998.506	
EI 90 to EN 1363/F90 to DIN 4102				EI 30 to EN 1363		
WK II				WK II		
Optional				–	■	
IP 56		IP 56		IP 54	IP 54	
■		–		■	–	
Optional, extinguisher nozzle only in the area to be extinguished				Optional, extinguisher nozzle only in the area to be extinguished		
–				Optional		
2950	4974	2950	4974	3000	3000	
2800	2800	2800	2800	3000	3000	
7500	7500	7500	7500	7250	7250	
6	12	8	16	6	8	
1	2	1	2	1	1	
1 x PMC 120 60 kW + 20 kW	2 x PMC 120 2 x (60 kW + 20 kW)	none	none	1 x PMC 120 60 kW + 20 kW	none	

Buildings



The RiMatrix S solution, including the basic cover, is commissioned at your premises and tested in accordance with our guidelines. The supply includes complete technical documentation of all components and works, together with the relevant user manuals.

We can optionally supply the relevant chapters of an operating and emergency manual.

Our services include:

- Advice and ROI calculation
- Delivery and integration into the customer infrastructure
- Commissioning and handover
- Documentation, training and instruction
- Hotline and service/service agreements
- Optional packages: Efficiency package, redundant infeed, extinguisher system ...

		Single 6 basic cover	Double 6 basic cover	Single 9 basic cover	Double 9 basic cover
External dimensions mm	Width	2828	4854	2828	4854
	Height	2750	2750	2750	2750
	Depth	7080	7080	7080	7080
Internal dimensions mm	Width	2750	4774	2750	4774
	Height	2700	2700	2700	2700
	Depth	7000	7000	7000	7000
Model No.		7998.106	7998.107	7998.406	7998.407
Physical security					
Fire protection		-			
Burglar resistance		-			
Acrid gas-tightness		-			
Water and dust-tightness		IP 20			
Battery ventilation		■	■	-	-
Fire alarm system		■			
Room extinguisher system		Optional, extinguisher nozzle only in the area to be extinguished			
Infrastructure					
Server rack (600 x 2000 x 1200 mm)		6	12	8	16
Combined network/server rack (800 x 2000 x 1200 mm)		1	2	1	2
Uninterruptible power supply		1 x PMC 120 60 kW + 20 kW	2 x PMC 120 2 x (60 kW + 20 kW)	-	-
Redundancy		1 x 20 kW	2 x 20 kW	-	-
Low-voltage main distributor		1	2	1	2
PDU Basic		14	28	18	36
Climate control (ZUCS)		(5 + 1) + 1	14	8 + 1	18
Redundancy		n+1			



The security rooms offer high-quality, system-tested solutions. This means that system-tested products are tested as a complete structure, taking into account the interactions between all components.

During testing, allowance is made for built-in modules such as doors, cable shielding systems and ventilation units. Benefit from multifunctional risk coverage (fire, water, burglary etc.) and compliance with the latest EN and DIN standards.

Our services include:

- Advice and ROI calculation
- Delivery and integration into the customer infrastructure
- Commissioning and handover
- Documentation, training and instruction
- Hotline and service/service agreements
- Optional packages: Efficiency package, redundant infeed, extinguisher system ...

		Single 6 security room LER	Double 6 security room LER	Single 9 security room LER	Double 9 security room LER
External dimensions mm	Width	2950	4974	2950	4974
	Height	2800	2800	2800	2800
	Depth	7500	7500	7500	7500
Internal dimensions mm	Width	2750	4774	2750	4774
	Height	2700	2700	2700	2700
	Depth	7300	7300	7300	7300
Model No.		7998.306	7998.307	7998.606	7998.607
Physical security					
Fire protection		EI 90 to EN 1363/F90 to DIN 4102			
Burglar resistance		WK II			
Acrid gas-tightness		Optional			
Water and dust-tightness		IP 54		IP 56	
Battery ventilation		■		-	
Fire alarm system		■			
Room extinguisher system		Optional, extinguisher nozzle only in the area to be extinguished			
Infrastructure					
Server rack (600 x 2000 x 1200 mm)		6	12	8	16
Combined network/server rack (800 x 2000 x 1200 mm)		1	2	1	2
Uninterruptible power supply		1 x PMC 120 60 kW + 20 kW	2 x PMC 120 2 x (60 kW + 20 kW)	-	-
Redundancy		1 x 20 kW	2 x 20 kW	-	-
Low-voltage main distributor		1	2	1	2
PDU Basic		14	28	18	36
Climate control (ZUCS)		(5 + 1) + 1	14	8 + 1	18
Redundancy		n+1			

Containers



The RiMatrix S solution is assembled in the container, then commissioned and tested in accordance with our guidelines. The supply includes complete technical documentation of all components and works, together with the relevant user manuals.

We can optionally supply the relevant chapters of an operating and emergency manual.

Our services include:

- Advice and ROI calculation
- Delivery and integration into the customer infrastructure
- Commissioning and handover
- Documentation, training and instruction
- Hotline and service/service agreements
- Optional packages: Efficiency package, redundant infeed, extinguisher system ...

		Single 6 container	Single 9 container
External dimensions mm	Width	3000	3000
	Height	3000	3000
	Depth	7250	7250
Internal dimensions mm	Width	2750	2750
	Height	2700	2700
	Depth	7000	7000
Model No.		7998.206	7998.506
Physical security			
Fire protection		–	–
Burglar resistance		–	–
Acrid gas-tightness		–	■
Water and dust-tightness		IP 54	IP 56
Battery ventilation		■	–
Fire alarm system			■
Room extinguisher system		Optional, extinguisher nozzle only in the area to be extinguished	
Infrastructure			
Server rack (600 x 2000 x 1200 mm)		6	8
Combined network/server rack (800 x 2000 x 1200 mm)		1	1
Uninterruptible power supply		1 x PMC 120 60 kW + 20 kW	–
Redundancy		1 x 20 kW	–
Low-voltage main distributor		1	2
PDU Basic		14	18
Climate control (ZUCS)		(5 + 1) + 1	8 + 1
Redundancy			n+1

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**The first mass-produced data centre.
Simply plug in and it's ready to use.**

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Security safe as a compact data centre.

In addition to the physical cover in the form of an IT security safe, the configuration components listed below complement the Rittal safe and transform it into a fully fitted compact data centre.

- Robust, flexible racks especially for server and network technology
- Efficient climate control solutions in a range of designs and outputs
- IT specific power distribution
- Networkable monitoring and security solutions with the CMC III system
- Early fire detection and automatic rack extinguishing



Level E modular safe



Applications:

- A high level of protection against potential physical threats for IT
- Targeted configuration components transform the safe into a complete, compact data centre

Benefits:

- As well as facilitating installation in poorly accessible sites, the modular design also makes it possible to retrospectively enclose existing IT structures.
- Extensibility, dismantling and re-assembly mean targeted, future-safe investments.
- System-tested security and a high level of protection

Protection standards:

- Fire protection – fire resistance class F 90 to DIN 4102 Part 2
- Compliance with limit values $\Delta T < 50$ K, relative humidity 85% for 30 minutes
- Burglar resistance WK II, III and IV, tool attack analogous to DIN V ENV 1630/1999-04/ WK II
- Protection category IP 56 to IEC 60 529
- Smoke protection based on DIN 18 095-2: 1991-03

The tests were performed as system tests and confirmed with test certificates.

Material:

- Sheet steel, coated

Colour:

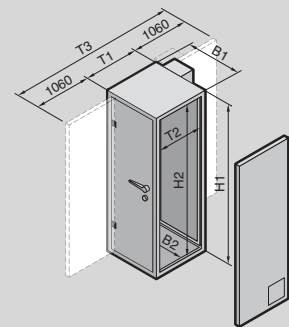
- Enclosure and service door: RAL 7035
- Operator door: RAL 9005

Supply includes:

- Security safe with operator door and service door
- Cable entry in both side elements
- Both doors with key lock

Optional:

- Choice of door hinges
- Bifold doors
- Different cable entry systems
- Cable entry additionally in the top or base unit
- Different lock variants
- Supporting structure



Technical details:
Available on the Internet.

U		42	47	42	47
External dimensions mm	Width (B1)	1100	1115	1115	1115
	Height (H1)	2210	2405	2205	2405
	Depth (T1)	1200	1353	1553	1553
Internal dimensions mm	Width (B1)	920	900	900	900
	Height (H1)	2030	2200	2000	2200
	Depth (T1)	1000	1060	1260	1260
Model No. (Safe is configured on a project-specific basis)		7999.009	7999.009	7999.009	7999.009
Empty weight excluding cooling unit and excluding rack approx. kg		660	700	730	800
Accessories					
TS IT Rack with air baffle plates	W 600 x H 2000 x D 1000	7995.045	–	–	–
	W 600 x H 2200 x D 1000	–	7995.046	–	–
	W 800 x H 2000 x D 1000	7995.047	–	–	–
	W 800 x H 2200 x D 1000	–	7995.048	–	–
Fire alarm and extinguisher system DET-AC/EFD Plus		see Catalogue 33, page 510			
CMC monitoring system		see Catalogue 33, from page 768			
PSM – Power System Module busbar		see Catalogue 33, from page 382			
PDU – Power Distribution Unit		see Innovations 2012, from page 91			
Split cooling solutions		see IT-News 2013, from page 63			
LCP – Liquid Cooling Package, rack depth 1000 mm		see IT-News 2013, from page 43			

Standard protection from:



Fire



Extinguishing water



Corrosive gases



Vandalism



Unauthorised access

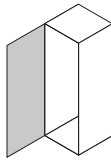
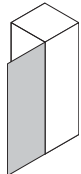
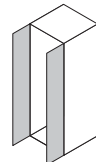


Dust

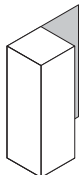
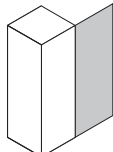
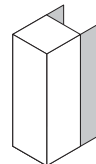


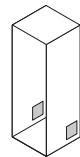
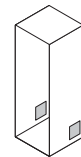
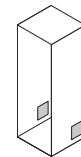
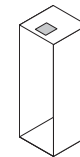
Theft/burglary

Options for level E modular safe

Operator door	L/h DIN door hinge	R/h DIN door hinge	Bifold door
			
	■	□	□



Service door	L/h DIN door hinge	R/h DIN door hinge	Bifold door
			
	■	□	□

Cable entry	Soft duct ¹⁾ in both side elements	Hard duct ²⁾ in both side elements	Cable box ³⁾ in both side elements	Hard duct ²⁾ in top element	Hard duct ²⁾ in base element
					
	■	□	□	□	□

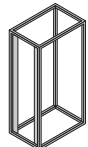
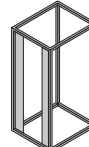


- ¹⁾ Size of soft duct: approx. 267 x 165 mm
For fire protection reasons, the duct may be configured up to a max. of 60% with cable up to a diameter of 15 mm and conduits up to a diameter of 18 mm.
- ²⁾ Size of hard duct: 2 panels each 120 x 120 mm
- ³⁾ Size of cable box: Cables up to a diameter of 15 mm and hoses up to a diameter of 44 mm may be routed through the cable box. No conduits may be routed through the cable box.

Locks	Key lock with 2 keys	Electronic combination locks ¹⁾	Electronic combination lock for activation via an access control system supplied by the customer
		■	□



¹⁾ First code, second code and double code allocation possible. Key-based opening for inspection purposes supported.

TS IT rack with air baffle plates								
	600				800			
Width mm	600				800			
Height mm	2000	2200	2000	2200	2000	2200	2000	2200
Depth mm	1000	1000	1200	1200	1000	1000	1200	1200
Model No.	7995.045	7995.046	On request		7995.047	7995.048	On request	
	□	□	□	□	□	□	□	□

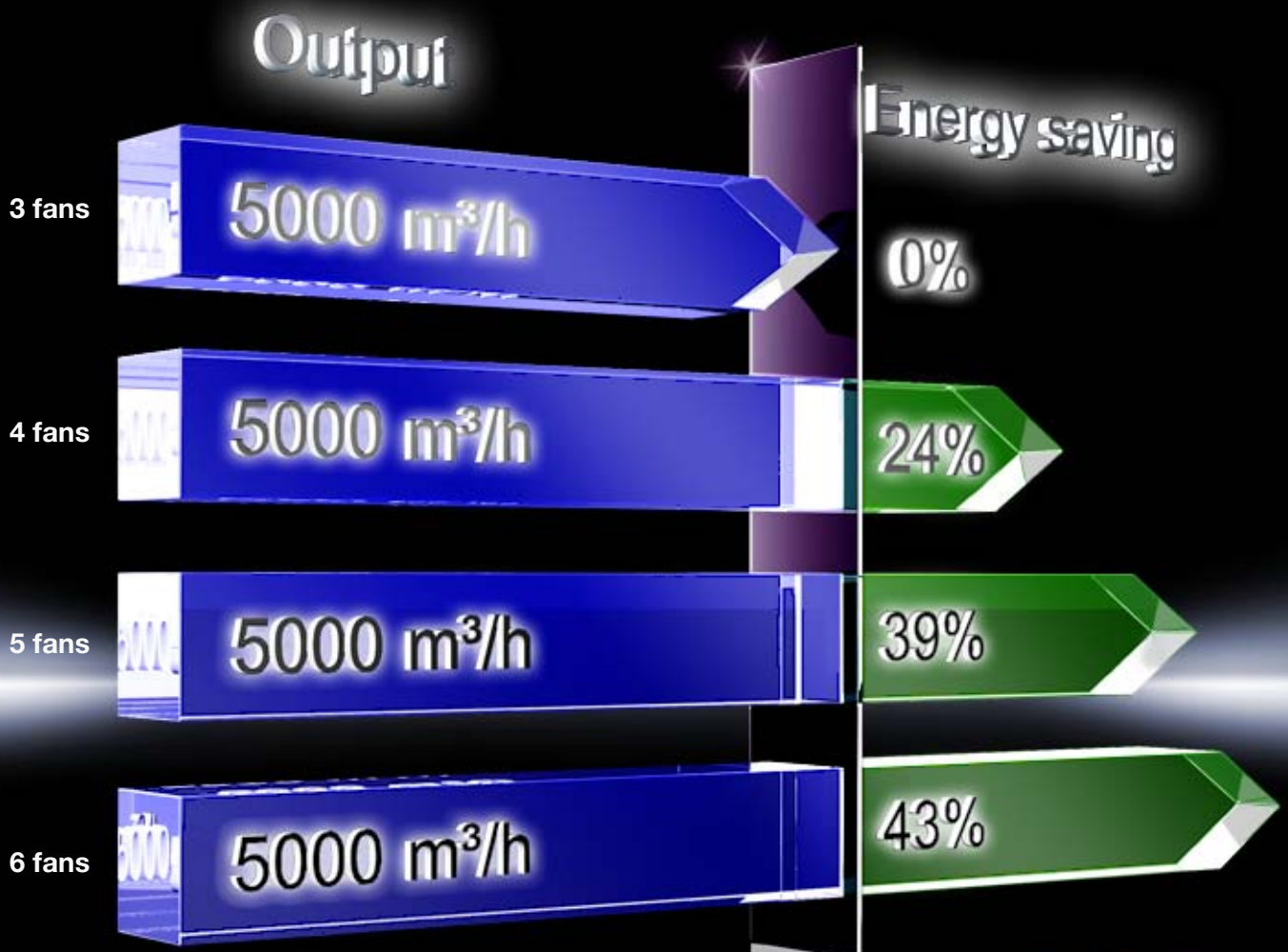


Supporting structure	Steel supporting structure to compensate for the raised floor height when siting the modular safe on the bare floor. The height of the supporting structure is selectable between 100 mm and 1000 mm.	Steel supporting structure to compensate for the raised floor height when siting the modular safe on the bare floor. The supporting structure has a fire-proof covering. The height of the supporting structure is selectable between 100 mm and 1000 mm.
		□

■ Included with the supply □ Optional

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Better.



Easily achieve 50% energy savings!
Thanks to intelligent control and flexible configuration with additional fans, energy savings of up to 50% are easily achieved with the new LCP generation, at the same volumetric flow and constant cooling output.

- Identical volumetric flow with 3 – 6 fans
- Reduced noise levels with lower speeds
- Short amortisation period

LCP – Liquid Cooling Package DX



Accessories Page 67

Benefits:

- Maximum energy efficiency thanks to EC fan technology and IT based control
- Minimal pressure loss at the air end, which in turn minimises the power consumption of the fans
- Control of the server inlet temperature
- Thanks to the speed-regulated compressor, the cooling output is ideally adapted to actual requirements
- With redundant temperature sensor integrated at the air end as standard

- Absorbed thermal energy is emitted to the ambient air at the external condenser location, without heating up the installation room
- Ideal for IT cooling in small and medium-sized locations
- Humidifier, reheater or condensate pump available on request
- Higher cooling outputs available on request
- Specific maintenance of the LCP DX thanks to separation of cooling and server rack

Functions of the LCP Rack DX:

The LCP draws in the air at the sides at the rear of the server enclosures, cools it using high-performance compact impellers, and blows the cooled air back into the front part of the server rack at the sides.

Functions of the LCP Inline DX:

The LCP is designed for siting within a bayed enclosure suite. Hot air is drawn in from the room or hot aisle at the rear of the device, cooled by the high-capacity compact impellers, and blown back into the room or cold aisle after cooling.

LCP Rack/Inline DX

Installation in bayed enclosure suite		Flush/Rack DX		Flush/Inline DX	
Cooling medium		R410a	R410a	R410a	R410a
Model No.		3311.410	3311.420	3311.430	3311.440
Rated operating voltage V, Hz		380 V AC, 3~, 50 480 V AC, 3~, 60	380 V AC, 3~, 50 480 V AC, 3~, 60	380 V AC, 3~, 50 480 V AC, 3~, 60	380 V AC, 3~, 50 480 V AC, 3~, 60
Dimensions mm	W x H x D	300 x 2000 x 1000	300 x 2000 x 1200	300 x 2000 x 1000	300 x 2000 x 1200
Number of fans		4	4	4	4
Air throughput of fans		4800 m ³ /h	4800 m ³ /h	4800 m ³ /h	4800 m ³ /h
Cooling output		12 kW	12 kW	12 kW	12 kW
Duty cycle %		100	100	100	100
Type of connection (electrical)		Connection clamp	Connection clamp	Connection clamp	Connection clamp
Fans may be exchanged with the system operational		■	■	■	■
EC fan		■	■	■	■
Colour		RAL 7035 Special colours available on request		RAL 7035 Special colours available on request	
Temperature control		Linear fan control Inverter-regulated compressor		Linear fan control Inverter-regulated compressor	
Accessories					
Condenser unit		3311.360		3311.360	
SNMP card		3311.320		3311.320	

- Included with the supply.

Accessories for LCP DX

Condenser unit

The condenser unit is needed to operate the coolant-based LCPs, and comprises the external condenser and fan. The pipework between the LCP DX and the condenser is not included with the supply.

Coolant:

– R410a

For LCP DX	Packs of	Model No.
3311.410 3311.420 3311.430 3311.440	1	3311.360



SNMP card

SNMP card as an accessory for connecting LCP Rack/Inline DX units to the network.

For LCP DX	Packs of	Model No.
3311.410 3311.420 3311.430 3311.440	1	3311.320



Chiller for IT cooling



Application:

Especially for cooling IT applications, such as LCP or air/water heat exchangers. Safety-relevant features such as redundant speed-controlled pumps, compressors or buffer stores are the distinguishing features of these atmospherically sealed systems.

Technical design:

- Compact design with control components in the front and air intake via both side panels, air outlet upwards
- Pressure-sealed system
- Digital thermostat for temperature control with setpoint and actual value display
- Monitoring interface with Rittal CMC III supported
- Flow monitor

Protection category:

- IP 54

Supply includes:

- Chiller wired ready for connection
- Multi-lingual documentation
- Functional diagram and wiring plans

Options:

- Free cooling may be integrated from 24 kW (please observe the instructions)
- Buffer store for separate siting
- Emergency cooling with mains water infeed
- Integral bypass
- Special voltages

Note:

- Technical deviations in terms of cooling output, dimensions or weight are possible for unit types with free cooling

Photo shows a configuration example with equipment not included in the scope of supply.

Cooling output 15 to 124 kW

Model No.	3232.701	3232.711	3232.721	3232.731	3232.741	3232.751	3232.761	3232.771	3232.781	3232.791
Rated operating voltage V, Hz	400, 3~, 50									
Dimensions mm	W	810	810	810	1000	1100	1100	1100	1100	1100
	H	1542	1542	1542	1780	1606	1606	1606	1606	1875
	D	1800	1800	1800	2300	3240	3240	3240	3240	3240
Cooling output¹⁾	15 kW	24 kW	36 kW	48 kW	67 kW	77 kW	88 kW	99 kW	117 kW	124 kW
Power consumption ¹⁾	6.9 kW	9.7 kW	14.6 kW	21 kW	21 kW	24 kW	26 kW	29 kW	36 kW	41 kW
Rated current max.	23.0 A	25.0 A	37.0 A	46.5 A	52.2 A	59.2 A	64.2 A	69.2 A	84.1 A	89.1 A
Refrigerant	R407C				R410A					
P _{max.} Cooling circuit	28 bar				45 bar					
Temperature range	Environment	-20 °C ... +43 °C								
	Liquid media	+5 °C ... +15 °C								
Pump capacity (optional)	60 l/min.		120 l/min.		240 l/min.			470 l/min.		
Pump pressure (optional)	2.5 bar									
Number of cooling circuits	1				2					
Tank with 10 mm condensate insulation (optional)	Steel									
Tank capacity (optional)	48 l			100 l		200 l			300 l	
Water connections	1½"				2½"					
Operating weight	400 kg	415 kg	505 kg	710 kg	896 kg	896 kg	906 kg	912 kg	1119 kg	1123 kg
Colour	RAL 7035				RAL 9002					
Air throughput of fans	m ³ /h	10880		14000	18000	22000		27000	34100	
Temperature control	Electronic control with digital display (factory setting +15 °C)									

¹⁾ The performance data varies according to the option package chosen, and can be taken from the IT chiller configurator (see Internet). Extended delivery times. We reserve the right to make technical modifications.

Chiller for IT cooling

Cooling output 155 to 481 kW

Model No.	3232.801	3232.811	3232.821	3232.891	3232.831	3232.841	3232.851	3232.861	3232.871	3232.881	
Rated operating voltage V, Hz	400, 3~, 50										
Dimensions mm	W	1100	1100	1100	1500	2200	2200	2200	2200	2200	
	H	1875	1875	1875	1975	2450	2450	2450	2450	2450	
	D	3240	3240	4240	4350	3400	3400	3400	4250	4250	
Cooling output¹⁾	155 kW	172 kW	196 kW	235 kW	261 kW	291 kW	326 kW	387 kW	430 kW	481 kW	
Power consumption ¹⁾	47 kW	52 kW	60 kW	70 kW	80 kW	93 kW	106 kW	121 kW	141 kW	159 kW	
Rated current max.	108 A	120 A	127 A	149 A	181 A	203 A	225 A	293 A	307 A	336 A	
Refrigerant	R410A										
P _{max.} Cooling circuit	45 bar										
Temperature range	Environment	-20 °C ... +43 °C									
	Liquid media	+5 °C ... +15 °C									
Pump capacity (optional)	500 l/min.			500 l/min.		810 l/min.		1200 l/min.			
Pump pressure (optional)	2.5 bar										
Number of cooling circuits	2										
Tank with 10 mm condensate insulation (optional)	Steel										
Tank capacity (optional)	300 l			700 l							
Water connections	2½"				3"				4"		
Operating weight	1308 kg	1321 kg	1489 kg	1933 kg	2546 kg	2693 kg	2843 kg	3148 kg	3354 kg	3576 kg	
Colour	RAL 9002										
Air throughput of fans	m ³ /h	32600		50000	49000	72800	71500	70200	106200	104100	102000
Temperature control		Electronic control with digital display (factory setting +15 °C)									

¹⁾ The performance data varies according to the option package chosen, and should be taken from the IT chiller configurator (see Internet). Extended delivery times. We reserve the right to make technical modifications.



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