

Rittal – The System.

Faster – better – everywhere.

► **Fact Book.** It's time to make a change for the better.



Change for the Better.

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES



FRIEDHELM LOH GROUP

▶ Let Us Help You Make A Change for the Better.



You are an innovator. Your mind runs with "What if?"

You know the status quo can always be improved. "We tried something similar 10 years ago" is not a dead end, but a challenge to do things better.

You explore new ideas, stretch your creativity and question the way things have always been done.





At Rittal, we celebrate the spirit of the engineer.

With a forward thinking supplier like Rittal, you know you've found a partner. A supplier known worldwide for equipment that incorporates cutting edge technology, designed for efficiency, and solves problems other engineers hadn't even considered yet. A company that lives the Industry 4.0 world and puts it into practice in every step of the process.

*On every page of the Fact Book, you'll see the commitment we share with you for constant innovation. Join us, as together we make
A Change for the Better.*

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Blue e+ Cooling Unit Series

Blue e+ Delivers Energy Savings Up to 75%

The Blue e+ uses an innovative process that relies upon two parallel cooling circuits working together, adjusting to the desired temperature of the enclosure. The integral heat pipe passively dissipates heat while active cooling is achieved via the compressor's cooling circuit with variable speed-controlled components. This unique inverter technology provides cooling output that is on target at the time it is needed. By combining variable speed cooling components Blue e+ delivers significant energy savings and a longer service for the enclosure components.



The e+ Principle

- **Efficiency** – Energy savings of 75% with speed-regulated components and heat pipe technology
- **Versatility** – Multi-voltage capability adapts to international requirements
- **Longevity** – Automatic shut-off and variable speed of components greatly increases service life
- **User-friendliness** – Intuitive operation due to touch display and intelligent interfaces

Blue e+ enclosure air conditioners can save up to 75% in enclosure cooling costs and energy.

Featuring hybrid, climate control with patented heat pipe technology, the unit offers a range of powerful new features that provide longer component life, flexibility and ease of use.



Join the revolution in hybrid technology. Never compromise on savings, efficiency and longevity.

Download the ChillZone® App















Available on the App Store

ANDROID APP ON Google play





The Facts: Engineered better to perform better than the competition

| | |  |  |  |  |  |  |  |  |
|---|--------------------------|---|---|---|---|--|---|---|---|
| | | Rittal Blue e+ | Hoffman | Pfanenberg | Kooltronic | ICEcube | Thermal Edge | Saginaw | Rittal Blue e |
|  | Cooling Capacity | 1,000–20,000 BTU | 800–19,000 BTU | 1,000–19,000 BTU | 1,000–26,000 BTU | 1,000–27,000 BTU | 1,000–20,000 BTU | 1,800–5,100 BTU | 1,000–14,000 BTU |
|  | Energy Efficient | Average EER for Blue e+ is ~ 2.5 | On Average ~ 30% less efficient than Blue e+ | On Average ~ 30% less efficient than Rittal Blue e+ | Not enough information to determine | Not enough information to determine | Not enough information to determine | Not enough information to determine | Average EER for Blue e is ~ 2.0 |
|  | Mounting | Wall-mounted, 3 Types of wall-mounting, 1 cutout wall-mount | Wall- and roof-mounted 2 types of wall-mounting | 2 Types of installation, Twist&Fit | External Mounting | External Mounting | External Mounting | External Mounting | Wall- and roof-mounted, 3 Types of wall-mounting |
|  | Approvals | UL Listed, GS, CSA, CE | UL/cUL Listed, UR/cUR, CE, GOST | cUL, GOST, CE | UL/cUL Listed | cUL | cUL | UL Recognized, CE | cUR, UL rec., GS, CSA, CE |
|  | System | Complete portfolio in cooling, enclosures, IT and PD | Offers enclosures and climate products, IT and PD | Cooling solutions, Lights, Sensors | Only offers climate products | Only offers climate products | Only offers climate products | Offers enclosures and limited climate products | Complete portfolio in cooling, enclosures, IT and PD |
|  | Technical Support | RiCAD, RiDIAG, ePlan, Blue e+ App, website, email and phone support | Website, phone support | Own software tools, macros for ePlan | Website support | Website, phone support | Website has a tech support portal | Website support | RiCAD, RiDIAG, ePlan, website, email and phone support |

Easy Assembly

- One version for external mounting, partial internal mounting and full internal mounting
- One mounting cut-out for external mounting, partial internal mounting and full internal mounting in multiple output categories
- Maintenance-friendly, toolless filter mat replacement





Choose the Best: Blue e+ wall-mounted air conditioners

Benefits:

- 75% energy saved due to speed-regulated components and heat pipe technology
- Suitable for international use due to a unique multi-voltage capability
- Longer service life of the components inside the enclosure and the cooling unit due to component-friendly cooling
- Intuitive operation due to touch display and intelligent interfaces

Temperature control:

- e+ controller (factory setting +35°C)

Material:

- Sheet steel

Color:

- RAL 7035

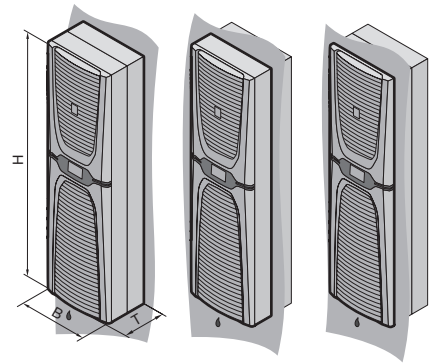
Protection category IP to

IEC 60 529:

- Internal circuit IP 55

Supply includes:

- Assembly parts



Power Category 6830 – 19808 BTU (2000W – 6000W)

| Model No. | Packs of | 3186.930 | 3187.930 | 3188.940 | 3189.940 |
|---|----------|---|---|--------------------------------|--------------------------------|
| Total cooling output 50 Hz L35 L35 toDIN EN 14511 BTU (kW) | | 6830 (2) | 8879 (2.6) | 1434 (4.2) | 19808 (5.8) |
| Total cooling output 50/60 Hz L35 L35 BTU (kW) | | 6830 / 6830 (2 / 2) | 8879 / 8879 (2.6 / 2.6) | 1434 / 1434 (4.2 / 4.2) | 19808 / 19808 (5.8 / 5.8) |
| Total cooling output 50/60 Hz L35 L50 BTU (kW) | | 4405 / 4405 (1.29 / 1.29) | 6215 / 6215 (1.82 / 1.82) | 10313 / 10313 (3.02 / 3.02) | 14344 / 14344 (4.2 / 4.2) |
| Rated operating voltage V, ~, Hz | | 110- 240, 1~, 50/60 380 - 480, 3~, 50/60 | 110- 240, 1~, 50/60 380 - 480, 3~, 50/60 | 380 - 480, 3~, 50/60 | 380 - 480, 3~, 50/60 |
| Width (B) inches (mm) | | 18 (450) | 18 (450) | 18 (450) | 18 (450) |
| Height (H) inches (mm) | | 63 (1600) | 63 (1600) | 63 (1600) | 63 (1600) |
| Depth (T) inches (mm) | | 12 (294) | 12 (294) | 15 (393) | 15 (393) |
| Rated output kW | | 0.73 | 1.05 | 1.3 | 2.2 |
| Power consumption Pel 50/60 Hz L35 L35 kW | | 0.57 / 0.57 | 0.99 / 0.99 | 1.21 / 1.21 | 2.2 / 2.2 |
| Power consumption Pel 50/60 Hz L35 L50 kW | | 0.6 / 0.6 | 0.94 / 0.94 | 1.28 / 1.28 | 2.2 / 2.2 |
| Operating temperature range | | -20°C...+60°C | -20°C...+60°C | -20°C...+60°C | -20°C...+60°C |
| Setting range | | +20°C...+50°C | +20°C...+50°C | +20°C...+50°C | +20°C...+50°C |
| Storage temperature range | | -40°C...+70°C | -40°C...+70°C | -40°C...+70°C | -40°C...+70°C |
| Energy efficiency ratio (EER) 50 Hz L35 L35 to DIN EN 14511 | | 3.5 | 2.63 | 3.46 | 2.64 |
| Refrigerant g | | R134a, 1150 | R134a, 1150 | R134a, 1750 | R134a, 1750 |
| Permissible operating pressure (p. max.) bar | | 24 | 24 | 24 | 24 |
| Air throughput of fans (unimpeded air flow), Internal circuit/external circuit m³/h | | 1250 / 1250 | 1250 / 1250 | 2300 / 2300 | 2300 / 2300 |
| Weight lbs (kg) | | 121 (55.2) | 121 (55.2) | 159 (72.4) | 159 (72.4) |
| Note on Model No. | | - | - | Full installation not possible | Full installation not possible |

Accessories

| | | | | | |
|----------------------|----------|----------|----------|----------|----------|
| Filter mats | 3 pc(s). | 3285.900 | 3285.900 | 3285.900 | 3285.900 |
| Metal filters | 1 pc(s). | 3285.910 | 3285.910 | 3285.910 | 3285.910 |
| Temperature sensor | 1 pc(s). | 3124.400 | 3124.400 | 3124.400 | 3124.400 |
| Door-operated switch | 1 pc(s). | 4127.010 | 4127.010 | 4127.010 | 4127.010 |

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TS 8 316 Stainless Steel Enclosures

TS 8 Modular Enclosures Invented Here. Perfected Here. Poorly Copied Over There.

This UL Type 4X modular enclosure system provides unsurpassed flexibility, scalability, strength, and durability. Stainless steel 316 construction makes this TS 8 impervious to corrosive atmospheres. Stainless Steel 316 offers excellent resistance to high temperature, common chlorides (such as salt present in seawater), as well as chemicals like sulfuric acid.

Whether housing drives, flow monitoring systems or critical electrical components, this TS 8 maintains a clean, consistent environment in the most extreme conditions found in industries like oil and gas, mining, pulp and paper, food and beverage, and life sciences. The 316 Stainless Steel TS 8 features and benefits include:

- 30 percent more available mounting space than traditional unibody enclosures
- Four-point latching system and a continuous foamed-in-place gasket creates a water- and dust-proof seal
- All exposed hardware (handle, hinges, latches, eye-bolts, etc.) is made of 316 stainless steel
- Padlock-able handle that delivers easy access and security
- A large assortment of internal accessories that allow for three dimensional mounting on all internal surfaces
- Internally removable floor panel that simplifies conduit and wiring installation
- Depth adjustable and removable zinc-plated carbon steel mounting panel
- Spring-loaded, quick-release hinges that enable fast and easy door removal and replacement
- Strength of modular construction delivers a load capacity of 3,150 pounds to handle more equipment within the enclosure

TS 8 Line Proven More Than 10 Million Times Over

The TS 8 316 stainless steel enclosure is a welcomed addition to the highly innovative and remarkably flexible TS 8 line of enclosures. Its modular construction allows for easy assembly, buying, equipment installations, removals and reconfigurations.









- Greater Efficiency
- Unlimited Flexibility
- Increased Safety
- Better Quality
- Greater Productivity

The **IDEAL** modular
freestanding solution
for harsh environments

The Facts:

Engineered better to perform better than the competition



| |  |  |  |  |  |  |
|--------------------------------------|---|---|---|---|--|---|
| | Rittal 316 Stainless Steel TS 8 Enclosure, 2000H0800W0800D (P/N 9977466) | Saginaw Enviroline® Free Standing Single Door, (P/N SCE72EL3636SS6FS) | Pentair Hoffman® Free-Stand, Type 4X (P/N A72H3124SS6FS) | Pentair Hoffman® Free-Stand, Single Access with 3 Point Latches Type 4X (P/N A723024SSFSN4) | Hammond Manufacturing® Type 4X Freestanding Enclosure (P/N1418N4S16Y24) | Cooper B-Line® Ground-Mount Enclosure Type 4X Single-Door, Free-Standing Enclosure (P/N 7237244XSS6FS) |
| Material | Stainless Steel 316 | Stainless Steel 316 | Stainless Steel 316 | Stainless Steel 304 | Stainless Steel 316 | Stainless Steel 316 |
| Latching System | 4 Point internal | 3 point internal and 2 quarter turns | External latching | 3 point internal | External latching | External latching |
| Hinge System | Discrete, Easily Removable | Continuous (Piano) | Continuous (Piano) | Continuous (Piano) | Continuous (Piano) | Continuous (Piano) |
| Gasketing System | Foamed-in-place | Oil-resistant | Oil-resistant | Foamed-in-place | Poured in place | Poured in place |
| Handle | Padlock-able Stainless Steel 316 | Black anodized | None | 316L Stainless Steel POWERGLIDE™ padlocking handle | None | None |
| Expandable | Yes | No | No | No | No | No |
| Unibody or modular | Modular | Unibody | Unibody | Unibody | Unibody | Unibody |
| Maximum Available Height | 87' | 90' | 72' | 90' | 72' | 72' |
| Maximum Available Width | 32' | 36" | 37' | 36" | 37' | 37' |
| Maximum Available Depth | 32' | 36" | 24" | 36" | 24" | 24" |
| Mounting Panel Included | Yes | No | No | No | No | No |
| Number of eyebolts | 4 | 2 | 2 | 2 | 2 | 2 |
| Mounting Panel Dimensions | 75"×28" | 60"×32" | 60"×22" | 60"×22" | 60"×32" | 60"×32" |
| Mounting Panel Area (sq. in.) | 2100 | 1920 | 1320 | 1320 | 1920 | 1920 |
| Surface Area of Above P/N | 11,904 sq. in. | 12960 sq. in. | 9,408 sq. in. | 9,216 sq. in. | 10,560 sq. in. | 10,560 sq. in. |
| Internal Gland Plate in Floor | Yes | No | No | No | No | No |

TS 8 Comparison Chart © Rittal Corporation 2016. Rittal and TS 8 are the trademarks of Rittal Corporation. All additional depicted trademarks are owned by the respective identified Company(ies). All non-Rittal information and data was obtained from publicly available sources, including competitor websites, consumer product catalogs and industry trade publications. Rittal Corporation does not warrant the accuracy of any non-Rittal information or data depicted herein, and is not responsible for the inclusion of any data inaccurately published by another party. For inquiries contact rittal@rittal.com.



316 Stainless Steel TS8 Enclosure, UL Type 4X, IP 66, Single Door — Type 316 Stainless Steel

| Part No. | H×W×D inches | H×W×D mm | Sidewalls Part Number (Pair) | Mounting Panel (Included) H×W inches | Mounting Panel (Included) H×W mm | 8" (200 mm) High Plinth, Front & Rear | 8" (200 mm) High Plinth, Sides | 12" (300 mm) High Floor Stand Kit |
|----------|--------------|----------------|------------------------------|--------------------------------------|----------------------------------|---------------------------------------|--------------------------------|-----------------------------------|
| 9977477 | 71×24×24 | 1800×0600×0600 | 9977479 | 67×20 | 1696×499 | 9972908 | 8702065 | 9963530 |
| 9977472 | 71×32×20 | 1800×0800×0500 | 9977478 | 67×28 | 1696×699 | 9972907 | 8702055 | 9963529 |
| 9977475 | 71×32×24 | 1800×0800×0600 | 9977479 | 67×28 | 1696×699 | 9972907 | 8702065 | 9963530 |
| 9977470 | 79×24×24 | 2000×0600×0600 | 9977481 | 75×20 | 1896×499 | 9972908 | 8702065 | 9963530 |
| 9977473 | 79×24×32 | 2000×0600×0800 | 9977482 | 75×20 | 1896×499 | 9972908 | 9977494 | 9973052 |
| 9977468 | 79×32×20 | 2000×0800×0500 | 9977480 | 75×28 | 1896×699 | 9972907 | 8702055 | 9963529 |
| 9977467 | 79×32×24 | 2000×0800×0600 | 9977481 | 75×28 | 1896×699 | 9972907 | 8702065 | 9963530 |
| 9977466 | 79×32×32 | 2000×0800×0800 | 9977482 | 75×28 | 1896×699 | 9972907 | 9977494 | 9973052 |
| 9977471 | 87×24×24 | 2200×0600×0600 | 9977483 | 83×20 | 2096×499 | 9972908 | 8702065 | 9963530 |
| 9977476 | 87×24×32 | 2200×0600×0800 | 9977484 | 83×20 | 2096×499 | 9972908 | 9977494 | 9973052 |
| 9977469 | 87×32×24 | 2200×0800×0600 | 9977483 | 83×28 | 2096×699 | 9972907 | 8702065 | 9963530 |
| 9977474 | 87×32×32 | 2200×0800×0800 | 9977484 | 83×28 | 2096×699 | 9972907 | 9977494 | 9973052 |

System Accessories



Padlock-able Handle

Provides both easy access and security.



Four-Point Latching System and Continuous Foamed-In-Place Gasket

Provides a water and dust proof environmental seal.



Floor Stand Kit

Permits easy access to the bottom of the enclosure and is purchased separately.



Base/Plinth Trim Panels

Fewer parts, more opportunities, lower purchasing, storage and assembly costs – this is the formula behind the base/plinth system.

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TS IT Dynaload Offers Superior Safety and Ease-Of-Use

Safely transport critical Data Center equipment eliminating additional labor and transportation costs. The shock pallet variant integrates a rigid design with additional bracing, ensuring a safe delivery. The rugged TS 8 rack, with 16-fold vertical sections, 9-fold horizontal sections and 19" component mounting rails secured directly to the patented frame, is delivered ready for component installation. Individual racks, with pre-installed casters, are shipped on shock absorbing, reinforced pallets with multipurpose brackets. Pallets and brackets are suitable for reuse.

Unpack. Build. Repack. Deploy.

The low profile frame system provides the greatest usable internal volume and ease of access from all angles, providing ease of installation for components while minimizing impact on installed devices. The unit features two parallel, full depth slotted roof cable entry cutouts with brush strips that provide support airflow management, flexible cable management and installation. A center cutout can support roof mount fan installation.

Single piece front and split rear doors are fully perforated, providing up to 85% of open perforated surface area. The large perforated surfaces maximize airflow through the enclosure.

The Rittal advanced shipping system adheres to strict International Safe Transit Association (ISTA) standards. Intelligent and economical packaging, suitable for reuse, is applied at Rittal's Ohio facility to each enclosure.

Additional features address thermal and cable management, including multi-functional roof design and cable management accessories.





The reinforced pallet with multi-purpose brackets is able to withstand transport hazards such as dropping or uneven flooring.



**Smart
Design**
enables
movement of
equipment
up to
2500 lbs.



The Facts: Engineered better to perform better than the competition

| |  Rittal |  APC |  CPI |  Damac |
|-----------------------------------|--|--|---|---|
| RU/Height | 42U/ 2000mm 47U/ 2200mm | 42U/ 2000mm | 42U/ 2000mm 45U/ 2100mm 47U/ 2200mm | 2133mm |
| Width | 600mm 800mm | 600mm | 600mm | 610mm |
| Depth | 1050mm 1200mm | 1200mm | 1075mm 1200mm | 1067mm 1219mm |
| Shiploadable Rating (lbs.) | 2,500 | 2,250 (needs additional bracing) | 3,000 | 3,000 |
| Strengths | <ul style="list-style-type: none"> ■ Wide variety of sizes available for today's high-density applications ■ Priced for value ■ Shock pallet and ramp available | <ul style="list-style-type: none"> ■ Widely accepted rack design and accessory offering | <ul style="list-style-type: none"> ■ High load rating | <ul style="list-style-type: none"> ■ High load rating |
| Weaknesses | | <ul style="list-style-type: none"> ■ Not a true ship-loadable solution without additional bracing (ordered separately) ■ Limited sizes | <ul style="list-style-type: none"> ■ Ramp ordered separately, limited width variants | <ul style="list-style-type: none"> ■ Built in air dam and cable management wall makes installation harder ■ Limited sizes available |

TS IT Dynaload Comparison Chart © Rittal Corporation 2016. Rittal and Dynaload are the trademarks of Rittal Corporation. All additional depicted trademarks are owned by the respective identified Company(ies). All non-Rittal information and data was obtained from publicly available sources, including competitor websites, consumer product catalogs and industry trade publications. Rittal Corporation does not warranty the accuracy of any non-Rittal information or data depicted herein, and is not responsible for the inclusion of any data inaccurately published by another party. For inquiries contact rittal@rittal.com.

Choose the Best:

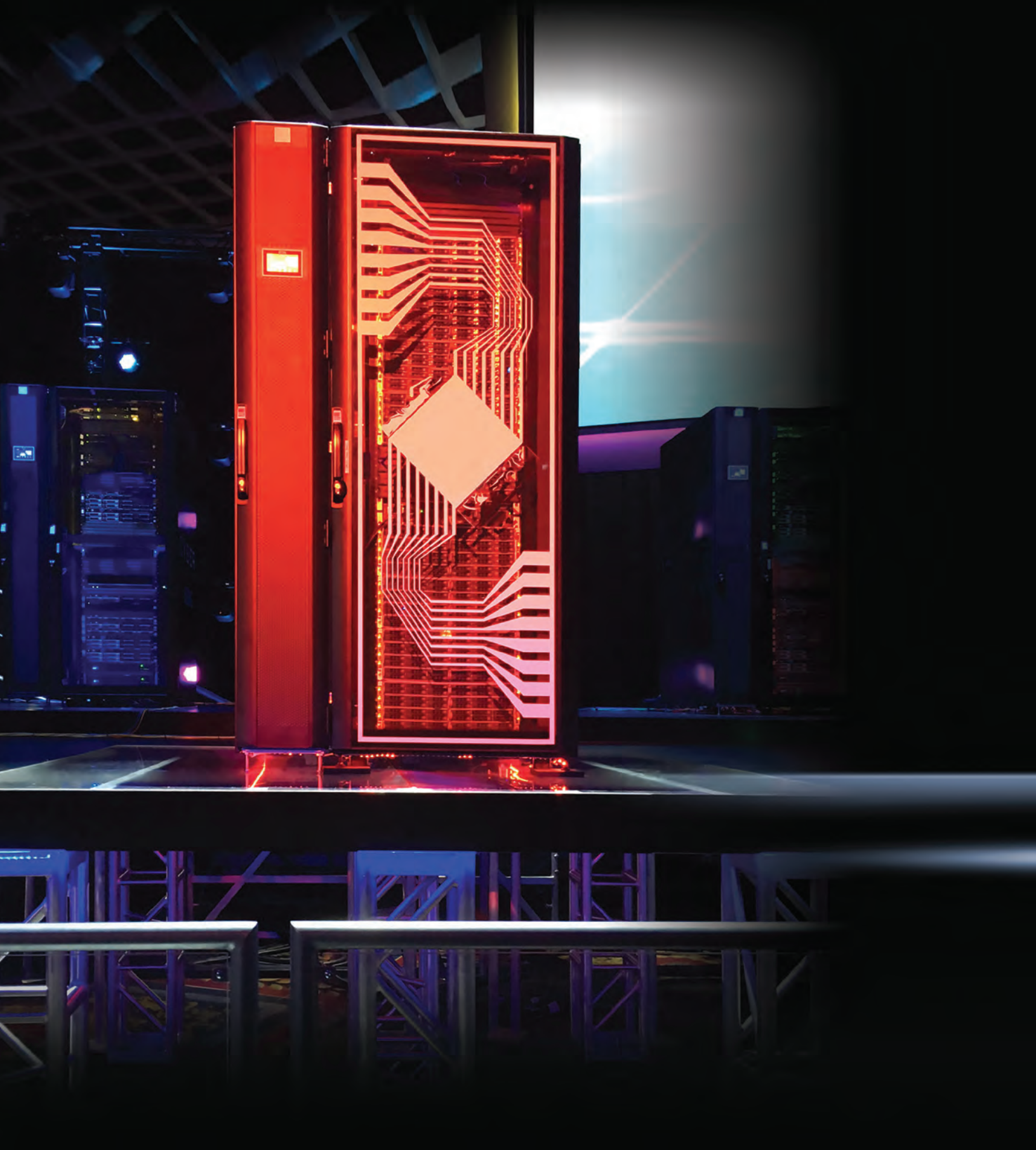
TS IT Dynaload Rack

TS-IT Dynaload Rack

| Part No. | Description |
|----------|---|
| 9962.173 | TS-IT Dynaload Rack, RAL9005, 2000mm H × 600mm W × 1050mm D (79 in. H × 24 in. W × 41 in. D), 42U |
| 9962.174 | TS-IT Dynaload Rack, RAL9005, 2000mm H × 600mm W × 1200mm D (79 in. H × 24 in. W × 47 in. D), 42U |
| 9962.175 | TS-IT Dynaload Rack, RAL9005, 2000mm H × 800mm W × 1050mm D (79 in. H × 32 in. W × 41 in. D), 42U |
| 9962.176 | TS-IT Dynaload Rack, RAL9005, 2000mm H × 800mm W × 1200mm D (79 in. H × 32 in. W × 47 in. D), 42U |
| 9962.177 | TS-IT Dynaload Rack, RAL9005, 2200mm H × 600mm W × 1050mm D (87 in. H × 24 in. W × 41 in. D), 47U |
| 9962.178 | TS-IT Dynaload Rack, RAL9005, 2200mm H × 600mm W × 1200mm D (87 in. H × 24 in. W × 47 in. D), 47U |
| 9962.179 | TS-IT Dynaload Rack, RAL9005, 2200mm H × 800mm W × 1050mm D (87 in. H × 32 in. W × 41 in. D), 47U |
| 9962.180 | TS-IT Dynaload Rack, RAL9005, 2200mm H × 800mm W × 1200mm D (87 in. H × 32 in. W × 47 in. D), 47U |
| 9962.181 | TS-IT Dynaload Rack with shock pallet, RAL9005, 2000mm H × 600mm W × 1050mm D (79 in. H × 24 in. W × 41 in. D), 42U |
| 9962.182 | TS-IT Dynaload Rack with shock pallet, RAL9005, 2000mm H × 600mm W × 1200mm D (79 in. H × 24 in. W × 47 in. D), 42U |
| 9962.183 | TS-IT Dynaload Rack with shock pallet, RAL9005, 2000mm H × 800mm W × 1050mm D (79 in. H × 32 in. W × 41 in. D), 42U |
| 9962.184 | TS-IT Dynaload Rack with shock pallet, RAL9005, 2000mm H × 800mm W × 1200mm D (79 in. H × 32 in. W × 47 in. D), 42U |
| 9962.185 | TS-IT Dynaload Rack with shock pallet, RAL9005, 2200mm H × 600mm W × 1050mm D (87 in. H × 24 in. W × 41 in. D), 47U |
| 9962.186 | TS-IT Dynaload Rack with shock pallet, RAL9005, 2200mm H × 600mm W × 1200mm D (87 in. H × 24 in. W × 47 in. D), 47U |
| 9962.187 | TS-IT Dynaload Rack with shock pallet, RAL9005, 2200mm H × 800mm W × 1050mm D (87 in. H × 32 in. W × 41 in. D), 47U |
| 9962.188 | TS-IT Dynaload Rack with shock pallet, RAL9005, 2200mm H × 800mm W × 1200mm D (87 in. H × 32 in. W × 47 in. D), 47U |

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Cooling Solutions to Protect Vital Equipment

From Enclosure Based to Room Based Thermal Management.



Controlling climate is key, and Rittal has a lock on a complete range of solutions: CRAC, in line/ in row, chillers, condensers, pipe installations, water distribution cabinets or water heat exchangers. Each product offers state-of-the-art, high efficiency climate control technology. We can support your precise application with planning, assembly, commission and service, all from your one stop supplier.

All Optimally Coordinated to the Tailored Requirements of your Data Center.

You know that 30-50% of your data center energy costs are attributable to your cooling infrastructure. When your best IT Cooling Solution includes Rittal, you know that you are achieving energy efficiency while you reduce investment and running costs, save resources and CO₂ output while your IT components work to capacity.







Rittal is
**THE
LEADING
PROVIDER**
of closed
loop cooling,
eliminating the
need for aisle
containment.





The Facts:

Engineered better to perform better than the competition

| |  |  |  |  |
|---------------------------|---|---|---|---|
| | Rittal LCP CW In Row - Open Loop | APC IN ROW 301S ACRC301S | STULZ CYBER ROW CRS 090 | LIEBERT CRV CR032RC1 |
| MAXIMUM CAPACITY | 30kW | 40kW | 37 kW | 32kW |
| ACTUAL CAPACITY | 30.7kW | 26kW | 29.5 kW | 25.2kW |
| Chill Water Supply | 59 | 59 | 50 | 50 |
| Warm Water Return | 70.3 | 71 | 62 | 60 |
| Server Air In | 73 | 75 | 72 | 75 |
| Server Air Return | 111 | 111 | 100 | 95 |
| Water Flow (GPM) | 18.5 | 16.4 | 17 | 18 |
| Air Flow (CFM) | 2900 | 3200 | 2900 | 2550 |
| Power Usage (Watts) | 1053 | 1000 | 1040 | 1300 |
| H x W x D | 78" x 12" x 48" | 78" x 12" x 43" | 78" x 12" x 42" | 78" x 12" x 43" |
| Weight | 484 lbs. | 406 lbs. | 380 lbs. | 365 lbs. |
| Input Power | 208 VAC, 20 Amp, 1 Phase | 100–220 VAC, 20 Amp, 1 Ph | 100–220VAC, 20 Amp, 1 or 3 Ph | 120/208–230/–460VAC, 20 Amp, 1 or 3 Ph |
| Power Feed | Single, ATS Optional | Dual – A & B | Single – ATS Optional | Single – ATS Optional |
| Air Flow Path | Closed & Open Loop | Open Loop ONLY | Open Loop ONLY | Open Loop ONLY |
| Max. Air Flow | 2900 CFM | 3200 CFM | 2900 CFM | 2550 CFM |
| Fan Type | EC, VFD, Hot swap | VFD, Hot Swap | EC, VFD | EC, VFD |
| Fan Location | Front | Front | Front | Front |
| Fan Speed Range | 0 - 100% | 30–100% | 0–100% | 0–100% |
| Number of Fans | 4 | 8 | 3 | 6 |
| Decibels @ 100% Fan Speed | 77 dB | 77.1dB | 58 dB | 72.4dB - Discharge Side |
| Humidity Control | No | No | No | No |
| Water Valve | 2 Way Control | 3 Way Control | 2 Way(std), 3 Way(Opt) | 3 Way (Std), 2 Way (Opt) |
| Water Connections | Top & Bottom | Top & Bottom | Top & Bottom | Top & Bottom |
| Pipe Connection | 1 1/2" | 1" | 1 1/4" | 1 1/4" |
| Condensate Pump | Optional | Standard | Standard | Optional |
| Touch Screen | Optional | Included | Included | Included - iCOM |
| Remote Monitoring | Yes | Yes | Yes | Yes |
| Communications Protocols | SNMP, TCP/IP | SNMP, ModBus, TCP/IP | Optional - pLAN: SNMP, ModBus, BACNet | Optional - Intellislot: SNMP, RS485 Modbus, ModbusIP/BACNet IP |

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Choose the Best: IT Cooling Solutions

Advantages:

- Maximum energy efficiency due to EC fan technology and IT-based control
- Minimal pressure loss at the air end, which in turn minimizes the power consumption of the fans
- Optimum adaptability due to dynamic, continuous control of the cold water volume flow
- By using high water inlet temperatures, the proportion of indirect free cooling is increased, which in turn reduces operating costs

- Targeted cooling output thanks to modular fan units
- Fan modules configurable as n+1 redundancy
- Redundant temperature sensor integrated at the air end
- The separation of cooling and enclosure prevents water from entering the server enclosure
- Up to 60 kW cooling output on a footprint of just 0.36 m²
- Minimal area load due to low weight

Approvals:

- UL
- cUL

Functions:

The hot air is drawn in from the room or hot aisle at the rear of the device and expelled at the front into the cold aisle after cooling. The LCP achieves maximum performance and efficiency in conjunction with cold aisle containment. With this product, a raised floor is not necessary.

Monitoring:

- Monitoring of all system-relevant parameters such as server air intake temperature, server waste air temperature, water inlet/return temperature, water flow, cooling output, fan speed and leakage
- Direct connection of the unit via SNMP over Ethernet
- Integration into RiZone

Temperature control:

- Infinitely variable fan control
- 2-way control ball valve

Color:

- RAL 9005

Protection category IP to IEC 60 529:

- IP 20

Cooling medium:

- Water

Optional:

- Various sensors
- Racks 2200mm high

Technical details:

Available on the Internet

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

LCP Inline CW

| Model No. | Packs of | 3311.148 | 3311.538 | 3311.548 | 3311.568 |
|---|----------|--|--|--|--|
| Total cooling output/number of fan modules required BTU (kW) | | 61419 (18)/2 92128 (27)/3 102364 (30)/4 | 34121 (10)/1 68243 (20)/2 102364 (30)/3 | 61419 (18)/2 92128 (27)/3 102364 (30)/4 | 136486 (40)/4 153546 (50)/5 187668 (60)/6 |
| Number of fan modules in supplied state | | 2 | 1 | 2 | 4 |
| Height inches (mm) | | 79 (2000) | 79 (2000) | 79 (2000) | 79 (2000) |
| Width inches (mm) | | 12 (300) | 12 (300) | 12 (300) | 12 (300) |
| Depth inches (mm) | | 41 (1050) | 47 (1200) | 47 (1200) | 47 (1200) |
| Installation in bayed enclosure suite | | Flush | Protruding | Flush | Protruding |
| Rated operating voltage V, ~, Hz | | 208, 2~, 60 230, 1~, 50/60 | 208, 2~, 60 230, 1~, 50/60 | 208, 2~, 60 230, 1~, 50/60 | 208, 2~, 60 230, 1~, 50/60 |
| Type of connection (electrical) | | Hard-wired | Hard-wired | Hard-wired | Hard-wired |
| Air throughput at max. cooling output cfm (m ³ /h) | | 2825 (4800) | 2825 (4800) | 2825 (4800) | 4709 (8000) |
| Fans may be exchanged with the system operational | | ■ | ■ | ■ | ■ |
| EC fan | | ■ | ■ | ■ | ■ |
| Permissible operating pressure (p. max.) psi (bar) | | 87 (6) | 87 (6) | 87 (6) | 87 (6) |
| Duty cycle % | | 100 | 100 | 100 | 100 |
| Water connection | | 1½" BSP Male Thread | 1½" BSP Male Thread | 1½" BSP Male Thread | 1½" BSP Male Thread |
| Water inlet temperature °F | | 59 | 59 | 59 | 59 |
| Weight in supplied state lb (kg) | | 485 (220.0) | 485 (220.0) | 485 (220.0) | 529 (240.0) |

Accessories

| Accessories | Quantity | 3311.016 | 3311.030 | 3311.040 |
|---------------------------------|----------|----------|----------|----------|
| Fan module | 1 pc(s). | 3311.016 | 3311.030 | 3311.040 |
| Touchscreen display, color | 1 pc(s). | 3311.030 | 3311.040 | 3311.040 |
| Connection hose, bottom and top | 2 pc(s). | 3311.040 | 3311.040 | 3311.040 |

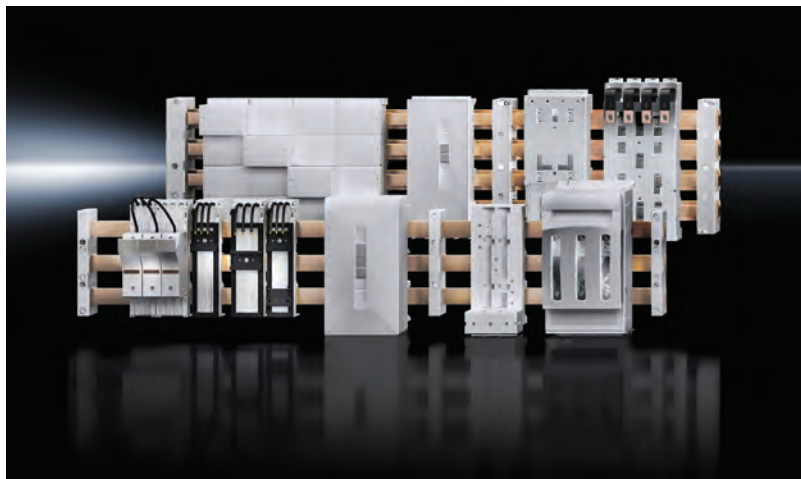
Rittal – The System.

Faster – better – everywhere.



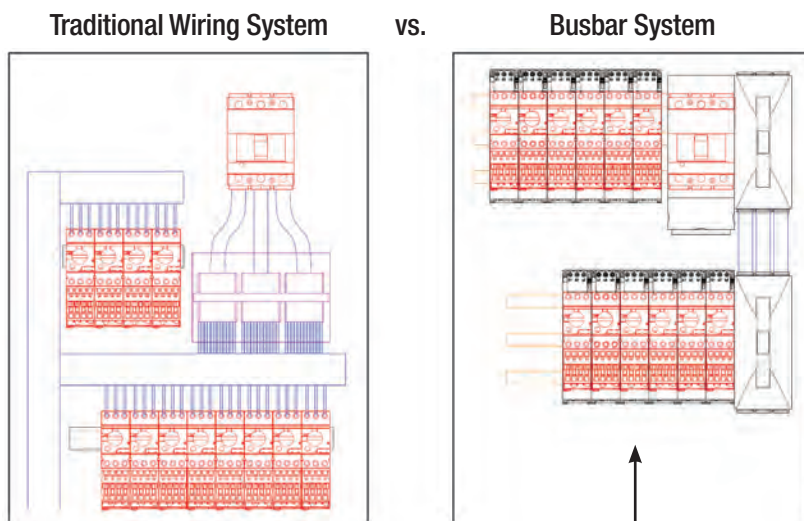
RiLine Busbar Systems Improve Enclosure Efficiency

Use of RiLine copper busbar system provides reliable electrical power distribution, requires less panel modification, and fewer contact points and wiring work. By eliminating power distribution blocks, line-side wiring and large, parallel cable runs, busbar systems save space and time for panel builders and increase contact hazard protection.



Power Management Systems Simplify System Expansion

RiLine Busbar systems enable expansion without additional wiring. Rapidly add or change operational layouts without losing uptime. New components can be simply snapped onto the unpopulated bus system.



Busbar system has smaller footprint with room for expansion. Example with 12 motor starters.

Power Management Systems

REDUCE SPACE

up to 50% within enclosures.

Flexibility is in the Design

The design options for the RiLine Busbar system include 3- or 4-pole design, systems rated up to 1660A and bars centered at 60mm. You get a continuous, reliable connection, with the safety of all around contact protection. In addition, the systems meet all international standards, including IEC, UL, and CSA.



The Facts:

Engineered better to perform better than the competition

| Aspect/feature | Busbar | Traditional Wiring |
|------------------------------|--|--|
| Approvals | Approvals to IEC, UL, CSA, GL, DNV, CCC | Manufacturer-dependent |
| Availability | Worldwide availability | Manufacturer-dependent |
| Cable installation | Minimized outlay for cable installation | Very high outlay and time requirement |
| CAD data | CAD data available free of charge | Manufacturer-dependent |
| Combinability | Perfect integration with the rest of the Rittal system | High outlay for integration |
| Compactness | Compact design (up to 50 per cent more compact than classic cabling) | Usually high space requirements for cable ducting, etc. |
| Connection types | Diverse connection types in one system | Dependent on design |
| Contact hazard protection | Standardized and tested, all-round contact hazard protection | Dependent on solution, but usually considerable outlay (openly accessible contacts, etc.), frequently difficult to calculate, often manufactured individually, inconvenient mechanical fixings, no proof of temperature stability or observance of contact hazard protection |
| Current carrying capacity | Busbar supports for variable cross-sections and top-mounting | Manufacturer-dependent |
| Dimensioning (current, etc.) | Very simple, by way of available tables or planning software | Complex (individual calculations, etc.) |
| Electromagnetic influence | Low | Relatively high with normal cables |
| Fire load | Low | High |
| Installation complexity | Minimum of work (little drilling and thread cutting necessary), short installation time | Considerable materials and installation aids necessary, long installation time |
| Manufacturer support | Flexible for devices for all usual manufacturers | Dependent on design, but mostly limited |
| Material quality | Tested material quality | Manufacturer-dependent |
| Power losses | Optimized power losses (no superfluous contact points) | High power losses due to high number of cables and contact points |
| Project planning | Fast and simple thanks to software-assisted system planning, including automated installation instructions | High outlay (distribution and cable configurations, wiring diagrams, etc.) |
| Quality | German engineered, tested to global standards | Manufacturer-dependent |
| Retrofitting | Low complexity | High complexity |
| Screwed connections | Few screwed connections (minimized errors) | Usually high outlay for drilling, threads, etc. |
| Service | Service-friendly (very tidy and no tangles of cables) | Service-unfriendly |
| Short circuit protection | Pre-defined high short-circuit protection thanks to busbar technology | Extensive calculations required for every project |
| Space requirements | Low; maximum space utilisation (power breakers, etc. integrated into system) | High; considerable space occupied by cabling and devices, as broad-scale distribution usually necessary |
| Structure | Tidy, readily comprehensible structure | Possibly confusing (due to large number of cables, etc.) |
| System documentation | Software-assisted system documentation for IEC end users | Complex, as documentation from all individual manufacturers must be collected together |
| System expansion | Simple expansion | Complicated expansion, as new cables need to be routed |
| Technical calculations | Considerably reduced outlay for calculation (electrical calculations from tables or via software) | Individual calculation/planning necessary for each system (time-consuming) |
| Testing | Systems tested to current standards by accredited laboratories | Manufacturer-dependent |
| Troubleshooting | Very simple | Complicated |
| User safety | High user safety (finger protection IPxxB) | Dependent on solution, but usually considerable outlay (openly accessible contacts, etc.) |

Choose the Best: RiLine Busbar Systems

Busbar Improves Space Management Over Traditional Wiring

RiLine copper busbar systems deliver a number of advantages for design engineers over traditional wiring of enclosures. By eliminating line-side wiring and distribution blocks enclosure size is reduced by 50 percent. It also removes difficult electrical calculations since short-circuit and operating current ratings for specific temperatures are provided at the beginning of the project. From a design perspective, busbar systems also allow for easy system modifications and expansions.

System integrators are looking to busbar systems more and more because of the speed and ease of integration, which can reduce labor and production time up to 50 percent. Busbar systems also mean less panel modifications, wiring work and fewer contact points. Integrators and panel builders also appreciate the easier connection of large cables and the improved certification process. This means quicker delivery to the customer with better power management organization.

Customers appreciate the lower maintenance and troubleshooting costs associated with better organization. As they grow their enterprise busbar delivers greater flexibility without the need for additional wiring. And regardless of their location, busbar system meets major international standards (IEC, UL, CSA) and is supported by a global network for replacement parts.



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Faster – better – everywhere.



Flange Mount Disconnect

Others Try But Only One Truly Meets the UL508A Standard: Rittal.

Safe, Smart Technology That Meets Industry Standards for Panel Builders.

Keeping your staff from opening a powered enclosure is one of the safest things you can do for them and your company. That sense of security is available with a simple switch to Rittal's TS 8 Flange Mount Disconnect. Rittal is the only manufacturer of a flange mount disconnect that truly meets the UL508A standard for one simple reason — you cannot throw the power switch on unless all of the enclosure doors are closed. It seems like a simple thing to do, but only Rittal does it.

The reason is simple: when any slave door is open, the master door cannot be closed and the power cannot be turned on. The master door can be closed and the system powered on only when all of the slave doors are closed. Only then does your enclosure truly meet requirement 66.1.3 from the UL508A standard.



When the
SLAVE DOOR
is open,
the power
cannot be
turned on.








Rittal – The System.

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The Facts:

Engineered better to perform
better than the competition

| TS 8 Disconnect | | | | | |
|---------------------------------------|---|--|--|--|--|
| |  |  |  |  |  |
| | FMD TS 8 Enclosure 1800H1600W0500D | FMD IMS Enclosure 1800H1600W0500D | FMD Proline Enclosure | FMD XM Enclosure | FMD XM Enclosure |
| Material | 16/14 ga carbon steel | 12 ga carbon steel | 10 ga carbon steel | 10 ga carbon steel | 10 ga carbon steel |
| Latching System | 4 Point | 3 Point | 3 Point | 3 Point | 3 Point |
| Hinge System | External | Concealed | Concealed | Concealed | Concealed |
| Handle | Padlockable comfort handles with defeater function | Black padlocking handles with defeater function | Black padlocking handle with defeater function | Black padlocking handle with defeater function | Black padlocking handle with defeater function |
| Expandable | Yes | Yes | Yes | No | No |
| Unibody or modular | Modular | Modular | Modular | Unibody | Unibody |
| Maximum Available Height | 79" (2000mm) | 79" (2000mm) | 84" (2200mm) | 90" | 90" |
| Maximum Available Width | 71" (1800mm) | 71" (1800mm) | 79" (2000mm) | 78" | 79" |
| Maximum Available Depth | 24" (600mm) | 22" (600mm) | 24" (600mm) | 24" | 24" |
| Mounting Panel Included | Yes, galvanized | No | Yes, painted | Yes, white powder coated | Yes, galvanized |
| Mounting Panel Dimensions | 67" x 59" | 66" x 59" | 60" x 72" ** | 60" x 60" | 60" x 60" |
| UL Type Ratings | Type 12 | Type 12 | Type 12 | Type 3R, 12, 4* | Type 12 |
| Flange Trim Door | Yes, 125mm wide | Yes, 178mm wide | No, 56mm offset | No, 56mm offset | No, 56mm offset |
| Operator Handle Installation | Simple, access behind handle with flange door open | Simple, access behind handle with flange door open | Simple, no behind access | Simple, no behind access | Simple, no behind access |
| Operator Handles Acceptability | Both low and high amperage handles with adapter plates | Low amperage only, large amperage with field cutouts only | Both low and high amperage handles with adapter plates | Low amperage only, large amperage with field cutouts or special order with universal cutout | Both low and high amperage handles with adapter plates |
| Door to Door Interlocking | Factory installed with added safety slave door must be closed before powering | Factory installed simple design, slave door can't be opened first, but can remain open with power ON | Factory installed simple design, slave door can't be opened first, but can remain open with power ON | Factory installed simple design, slave door can't be opened first, but can remain open with power ON | Factory installed simple design, slave door can't be opened first, but can remain open with power ON |

* Only a handful of sizes

** Bigger size used for comparison

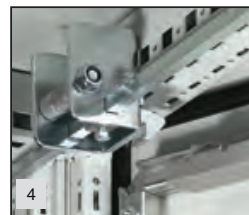
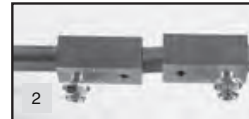
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Choose the Best: Flange Mount Disconnect

| | FMDC Part Number | Dimensions HxWxD | | Sidewalls Part Number | Mounting Panel (included) HxW | | 4" (100mm) High Flex Block Plinths Part Numbers | | | 4" (100mm) High Plinths Part Numbers | |
|-------------|------------------|------------------|----------------|-----------------------|-------------------------------|-----------|---|--------------|----------|--------------------------------------|--------------|
| | | inches | mm | | pair | inches | mm | front & rear | sides | corners | front & rear |
| Single Door | 9951.134 | 71x32x16 | 1800x0800x0400 | 8184.235 | 67x28 | 1696x0699 | 8100.800 | 8100.400 | 8100.000 | 8601.800 | 8601.040 |
| | 9951.135 | 71x32x20 | 1800x0800x0500 | 8185.235 | 67x28 | 1696x0699 | 8100.800 | 8100.500 | 8100.000 | 8601.800 | 8601.050 |
| | 9951.136 | 71x39x20 | 1800x1000x0500 | 8185.235 | 67x35 | 696x0899 | 8100.010 | 8100.500 | 8100.000 | 8601.000 | 8601.050 |
| | 9951.142 | 79x32x20 | 2000x0800x0500 | 8105.235 | 75x28 | 1896x0699 | 8100.800 | 8100.500 | 8100.000 | 8601.800 | 8601.050 |
| | 9951.143 | 79x32x24 | 2000x0800x0600 | 8106.235 | 75x28 | 1896x0699 | 8100.800 | 8100.600 | 8100.000 | 8601.800 | 8601.060 |
| | 9951.144 | 79x32x32 | 2000x0800x0800 | 8108.235 | 75x28 | 1896x0699 | 8100.800 | 8100.800 | 8100.000 | 8601.800 | 8601.080 |
| | 9951.145 | 79x39x20 | 2000x1000x0500 | 8105.235 | 75x35 | 1896x0899 | 8100.010 | 8100.500 | 8100.000 | 8601.000 | 8601.050 |
| | 9951.146 | 79x39x24 | 2000x1000x0600 | 8106.235 | 75x35 | 1896x0899 | 8100.010 | 8100.600 | 8100.000 | 8601.000 | 8601.060 |
| | 9951.153 | 87x32x24 | 2200x0800x0600 | 8126.235 | 83x28 | 2096x0699 | 8100.800 | 8100.600 | 8100.000 | 8601.800 | 8601.060 |
| | 9951.154 | 87x39x20 | 2200x1000x0500 | 8125.235 | 83x35 | 2096x0899 | 8100.010 | 8100.500 | 8100.000 | 8601.000 | 8601.050 |
| Double Door | 9951.138 | 71x63x20 | 1800x1600x0500 | 8185.235 | 67x59 | 1696x1499 | 8100.160 | 8100.500 | 8100.000 | 8601.920 | 8601.050 |
| | 9951.140 | 71x71x20 | 1800x1800x0500 | 8185.235 | 67x67 | 1696x1699 | 8100.180 | 8100.500 | 8100.000 | 8901.920 | 8601.050 |
| | 9951.147 | 79x63x20 | 2000x1600x0500 | 8105.235 | 75x59 | 1896x1499 | 8100.160 | 8100.500 | 8100.000 | 8601.920 | 8601.050 |
| | 9951.148 | 79x63x24 | 2000x1600x0600 | 8106.235 | 75x59 | 1896x1499 | 8100.160 | 8100.600 | 8100.000 | 8601.920 | 8601.060 |
| | 9951.150 | 79x71x20 | 2000x1800x0500 | 8105.235 | 75x67 | 1896x1699 | 8100.180 | 8100.500 | 8100.000 | 8901.920 | 8601.050 |
| | 9951.151 | 79x71x24 | 2000x1800x0600 | 8106.235 | 75x67 | 1896x1699 | 8100.180 | 8100.600 | 8100.000 | 8901.920 | 8601.060 |

| Accessories | |
|--|-------------|
| Description | Part Number |
| Low amp adapter plate (included with enclosure) | 1 9951.157 |
| High amp adapter plate | 1 9951.155 |
| Blank adapter plate | 1 9951.159 |
| Coupling for interconnecting rod | 2 9951.158 |
| Connecting rod replacement kit | 3 9951.160 |
| Slave door interlocking kit for single door enclosures | 4 4911.000 |
| Slave door interlocking kit for double door enclosures | 4 4911.100 |
| Interlocking rods 24" (600mm) | 5 4916.000 |
| Interlocking rods 32" (800mm) | 5 4918.000 |
| Interlocking rods 47" (1200mm) | 5 4920.000 |
| Interlock activator* | 6 4912.000 |



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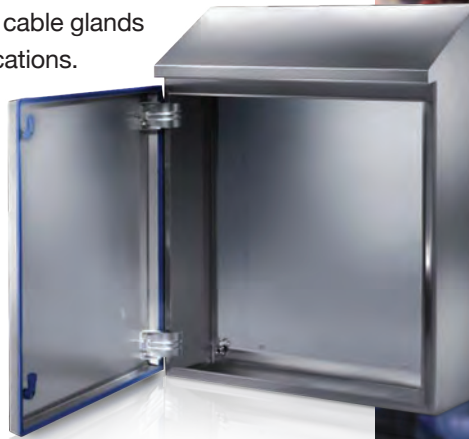
Hygienic Design Wallmount

Excellence in Hygienic Standards for the Food Industry

Successful Hygienic Design (HD) helps you battle the ever-present risk of contamination. It is crucial to maximize the units' safety for open processes. Our terminal boxes and compact enclosures are key elements in our plan for your cleaning solution. But we don't stop there. Rittal's baying system and production data enclosures have a number of flexible design options that can be integrated into production clean rooms for almost endless possibilities. Compatible accessories such as wall spacer brackets and HD-compatible cable glands customize your unit to your exact specifications.

It's All About Cleanliness

Our designs optimize your cleaning. There is no external cavity between the enclosure and the door. Strategic silicone sealing is joint-free, extends all around, and is a distinctive blue color to distinguish it from foodstuffs. Hinges are inside the sealing zone to create an exceptionally easy-to-clean surface on the outside. Every surface is designed with durability while being easy to maintain, from captive screws to stainless steel locks. Contamination risks are minimized, reducing the excessive use of cleaning and disinfecting agents.



Roof angled forward at 30° to allow fluid to drain rapidly and to be easily inspected.



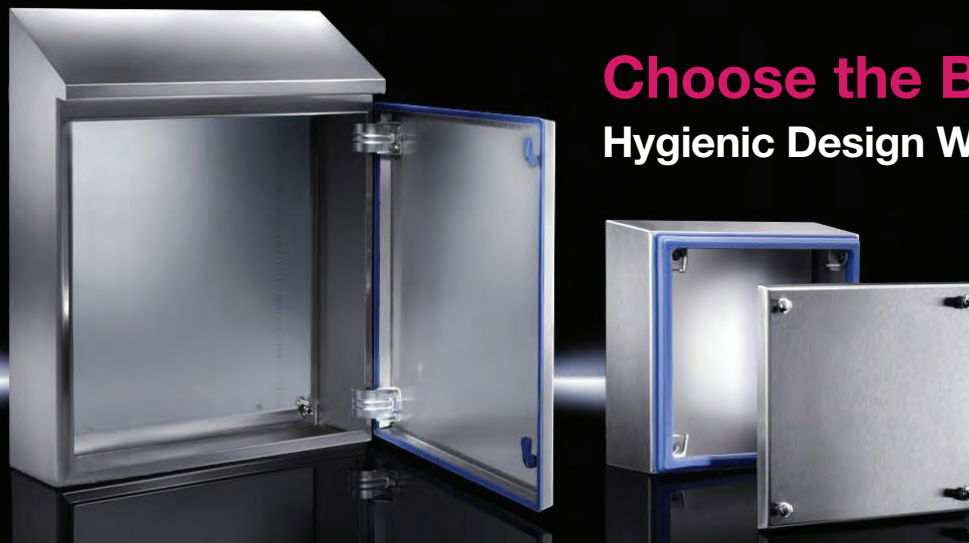
Rittal – The System.

Faster – better – everywhere.

The Facts:

Engineered better to perform
better than the competition

| | Rittal Hygienic Design | Hoffman Watershed |
|--------------|--|--|
| Roof Design | 30° forward sloping roof drains rapidly and prevents objects to be placed on top | 20° forward sloping angle limits drainage |
| | Overhanging roof protects the door seal | |
| Gasket | Joint-free blue silicon gasket sharply contrasts with food deposits | PU foam absorbs liquids and detergents and has shorter service life |
| | Easily replaceable | Not replaceable |
| Seal | Gapless seal provided on the entire circumference | Space between door and body is difficult to clean |
| | No external cavity between enclosure and door | |
| Door design | 10° circumferential chamfered door fold prevents liquid accumulation | Angled door seal preventing liquid accumulation |
| Hinge design | Hinges located inside the sealing zone improves exterior cleanability | Hinges located outside the sealing zone accumulates contaminants and makes cleaning more difficult |
| Lock | Unique external contour meets hygiene requirements | Screw driver insert lock is difficult to clean |
| | Prevents unauthorized access | |
| Accessories | Leveling feet, cable glands, retrofit accessories available | No leveling feet, cable glands nor retrofit accessories available |



Choose the Best: Hygienic Design Wallmount

Material:

- Enclosure and cover/door: Stainless steel 1.4301 (AISI 304)
- Screw fasteners/lock inserts: Stainless steel
- Seal: Silicone, compliant with FDA Guideline 21 CFR 177.2600
- Mounting plate: Sheet steel (HD compact enclosures only)

Surface finish:

- Enclosure and cover/door: Brushed, grain 400, RA < 0.8 µm
- Mounting plate: Zinc-plated
- Seal: Blue, dyed (RAL 5010)

Approvals

- UL + C-UL
- DGVV

Protection category IP to IEC 60 529:

- IP 66

Protection category IP to DIN 40 050-9:

- IP 69K

Protection category NEMA:

- NEMA 13
- NEMA 4X
- NEMA 3R (HD terminal boxes only)

Supply includes:

- Enclosure of all-round solid construction
- Cover/door
- Mounting bracket (pre-assembled, HD terminal boxes only)
- Mounting plate (HD compact enclosures only)

Technical details:

Available on the Internet

HD terminal boxes

| Width | Front mm | Packs of | 150 | 150 | 200 | 300 | 400 | 400 |
|------------------------|----------|-----------|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| | Rear mm | | 172 | 177 | 227 | 327 | 427 | 427 |
| Height | Front mm | | 150 | 150 | 200 | 200 | 200 | 300 |
| | Rear mm | | 172 | 177 | 227 | 227 | 227 | 327 |
| Depth mm | | | 80 | 120 | 120 | 120 | 120 | 120 |
| Model No. | | 1 pc(s). | 1670.600 | 1671.600 | 1672.600 | 1674.600 | 1675.600 | 1676.600 |
| Accessories | | | | | | | | |
| HD wall spacer bracket | | 1 pc(s). | 4000.100 | 4000.100 | 4000.100 | 4000.100 | 4000.100 | 4000.100 |
| Mounting plate | | 1 pc(s). | 1560.700 | 1560.700 | 1562.700 | 1563.700 | 1564.700 | 1568.700 |
| Support rail TS 35/7.5 | | 10 pc(s). | 2314.000 | 2314.000 | 2315.000 | 2316.000 | 2317.000 | 2317.000 |
| HD cable gland | | | Details on Rittal.us | | | | | |

HD compact enclosures, single-door

| Width mm | Packs of | | 220 | 390 | 390 | 510 | 610 | 610 | 810 | 810 |
|--------------------------------------|----------|----------|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | Height | Front mm | | 350 | 430 | 650 | 550 | 430 | 650 | 1050 |
| Rear mm | | | 437 | 549 | 769 | 669 | 601 | 769 | 1221 | 1421 |
| Depth mm | | | 155 | 210 | 210 | 210 | 300 | 210 | 300 | 300 |
| Mounting plate width mm | | | 162 | 334 | 334 | 449 | 549 | 549 | 739 | 740 |
| Mounting plate height mm | | | 275 | 355 | 570 | 470 | 355 | 570 | 955 | 1155 |
| Model No. | | 1 pc(s). | 1302.600 | 1306.600 | 1308.600 | 1307.600 | 1320.600 | 1310.600 | 1316.600 | 1317.600 |
| Accessories | | | | | | | | | | |
| HD wall spacer bracket | | 1 pc(s). | 4000.100 | 4000.100 | 4000.100 | 4000.100 | 4000.100 | 4000.100 | 4000.100 | 4000.100 |
| Rails for interior installation | | | Details on Rittal.us | | | | | | | |
| HD cable gland | | | Details on Rittal.us | | | | | | | |
| T handles with/without lock cylinder | | | on request | | | | | | | |

Rittal – The System.

Faster – better – everywhere.



Brilliant! Innovative Lighting Designed For Enclosures and Sealed Cases

Shine some light in your enclosure with the Rittal LED Compact Lighting System. It is safe, with an extra low voltage range. And it packs the newest generation of LED technology for double the luminous flux of past lighting. A Fresnel structured optical cover spreads light coverage throughout the enclosure. With the LED system, you blend economical energy use with low maintenance.

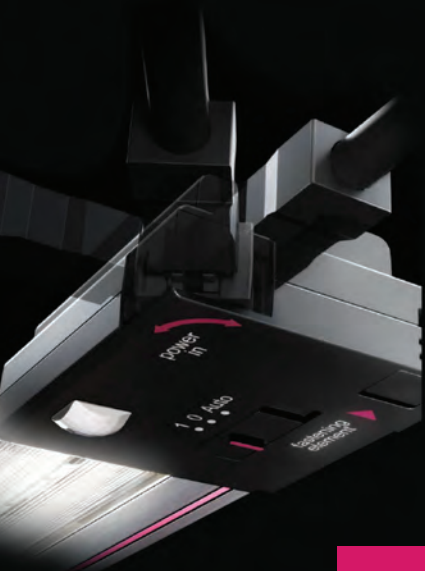


Get Attached to Intelligent Lighting

For optimal illumination of every corner of your enclosure, Rittal LED Compact Lighting is perfectly integrated into the TS 8. Fast and tool-free assembly since the light simply clips to the latch-in hook pattern, and optional screw fastening is available. Or go magnetic, for free positioning within the enclosure. Motion detection or door operated switch is available for hands-free illumination. The LED system is suitable for immediate, global use with a wide-range of voltage from 100–240 V (AC) and 24 V (DC).



**LED
LIGHTS**
provide
brilliance
at 1200
lumens.



The Facts:

Engineered better to perform better than the competition

| |  |  |  |  |  |
|--------------------------------------|---|---|--|---|---|
| |  |  |  |  |  |
| | RITTAL LED System Light 25003x0 | HOFFMAN LED Light LEDA1S35 | STEGO Ecoline LED 025 02540.0-11 | SAGINAW LED Strip Light SCE-SLMS, SCE-SLOF | SEIFERT stripLite SL-4000 400000, 400100 |
| Max Luminosity | 1200/900 Lm | 400 Lm | 400 Lm | 400 Lm | 400 Lm |
| Light Color | 4000K (neutral white) | 6000-7000K | 6000-7000K | 6500K | 6500K |
| Adjustable Light Distribution | Yes | Yes | Yes | Yes | Yes |
| Motion Sensor Option | Yes | Yes | Yes | Yes | Yes |
| Outlet Option | Yes, European 16A | No | No | No | No |
| Mounting Options | Toolless clip, screw, magnet | Screw, magnet | Screw, magnet, clip | Magnets, clip | Magnets, clip |
| Assembly Time | 2 min. | 10 min. | 10 min. | 10 min. | 10 min. |
| Cable Connection | 90° rotating | One direction only | One direction only | One direction only | One direction only |
| Daisy Chain Wiring | up to 15 lights without outlet, up to 10 lights with outlet | up to 10 lights | up to 10 lights | up to 16 AC lights up to 8 DC lights | up to 16 AC lights up to 8 DC lights |
| AC/DC Versions | AC 100-240V DC 24V | AC 100-240V DC 20-60V | AC 100-240V DC 20-60V | AC/DC 24-240V | AC/DC 24-240V |
| Product Cover | Transparent optical with Fresnel structure | Plastic, transparent | Plastic, transparent | Transparent | Transparent |
| Overall Product Length | 17.2" (437mm) | 13.8" (351mm) | 13.8" (351mm) | 14" (357.4mm) | 14" (357.4mm) |
| UL Certification | Yes, E76083 | Yes, E234324 | Yes, E234324 | Yes, E358386 | Yes, E358386 |

LED Housing Comparison Chart © Rittal Corporation 2016. Rittal is a trademark of Rittal Corporation. All additional depicted trademarks are owned by the respective identified Company(ies). All non-Rittal information and data was obtained from publicly available sources, including competitor websites, consumer product catalogs and industry trade publications. Rittal Corporation does not warranty the accuracy of any non-Rittal information or data depicted herein, and is not responsible for the inclusion of any data inaccurately published by another party. For inquiries contact rittal@rittal.com.

LED System Light



Benefits:

- Optimum illumination of the entire enclosure
- Optionally with clip, screw and magnetic attachment
- A configuration to suit every application

Length:

- 437mm

Material:

- Plastic
- Aluminum

Color:

- Enclosure: RAL 7016

Light color:

- 4000 K (neutral white)

Supply includes:

- Assembly screws

Approvals:

- ENEC

Note:

- Connection accessories should be ordered separately

| Model No. | | 2500.310 | 2500.300 | 2500.210 | 2500.200 | 2500.220 | Page |
|-------------------------------------|---|----------------------|-------------------------|-------------------------|-------------------------|-------------------------|------|
| Output (lumen) | | 1200 | 1200 | 900 | 900 | 900 | |
| Motion sensor | | ■ | ■ | – | – | – | |
| Voltage supply | 100 – 240 V AC | ■ | ■ | ■ | ■ | – | |
| | 24 V DC | – | – | – | – | ■ | |
| Equipment | Socket | ■ | – | ■ | – | – | |
| | 90° rotating connector | ■ | ■ | ■ | ■ | ■ | |
| | Adjustable light direction | ■ | ■ | – | – | – | |
| | Adjustable light distribution | ■ | ■ | ■ | ■ | ■ | |
| Protection class II (all-insulated) | | ■ | ■ | ■ | ■ | ■ | |
| Installation type | Screw-fastening | ■ | ■ | ■ | ■ | ■ | |
| | Clip attachment | ■ | ■ | ■ | ■ | ■ | |
| | Magnetic attachment to surfaces (accessory) | – | ■ | – | ■ | ■ | |
| Connection options | Infeed | 3-pole | 3-pole | 3-pole | 3-pole | 2-pole | |
| | Through-wiring | 3-pole | 3-pole | 3-pole | 3-pole | 2-pole | |
| | Door-operated switch (accessories) | – | – | ■ | ■ | ■ | |
| Mounting options | TS, SE | Screw fastening/clip | Directly on the profile | Directly on the profile | Directly on the profile | Directly on the profile | |
| | AE | Screw-fastening | With universal bracket | With universal bracket | With universal bracket | With universal bracket | |

Accessories

| | | | | | | |
|--------------------------------|----------|----------|----------|----------|----------|--------------|
| Universal bracket | 2373.000 | 2373.000 | 2373.000 | 2373.000 | 2373.000 | Cat. 34, 623 |
| Mounting kit magnet | – | 2500.480 | – | 2500.480 | 2500.480 | 29 |
| Rail for interior installation | see page | see page | see page | see page | see page | Cat. 34, 605 |

Connection accessories

| | | | | | | |
|--|----------|----------|----------|----------|----------|----|
| Infeed, 2-pole | – | – | – | – | 2500.410 | 29 |
| Infeed, 3-pole (with socket) | 2500.400 | 2500.400 | 2500.400 | 2500.400 | – | 29 |
| Through-wiring, 2-pole | – | – | – | – | 2500.440 | 29 |
| Through-wiring, 3-pole (with connector and socket) | 2500.430 | 2500.430 | 2500.430 | 2500.430 | – | 29 |
| Door-operated switch | – | – | 2500.460 | 2500.460 | 2500.460 | 29 |
| Door-operated switch, UL | – | – | 2500.470 | 2500.470 | 2500.470 | 29 |

Rittal – The System.

Faster – better – everywhere.

**Optimum Surface
Protection with
Innovative Technology**



Choose the Best: Rittal Surface Protection

Eco-friendly Coatings Extend Product Life

The three-phase eco-friendly finish provides the industry's best protection against corrosion and is resistant to mineral oils, lubricants, machining emulsions and solvents. Unlike most other enclosure manufacturers, Rittal uses the same paint and process as the automotive industry to guarantee a finish and barrier of protection that will last for years to come.

Rittal uses a three-phase, ecofriendly process free from phosphates, solvents and toxic heavy metals to coat and protect its products:

Raw Material

1st phase: Nanoceramic coating

- Nanoparticles form a solid connection with the metal surface
- An ultra-thin, glass-like layer is created to ensure extreme durability

Primer

2nd phase: Electrophoretic dipcoat-priming

- The material is dipped in eco-friendly, water-based paint free of heavy metals, chromates and silicon
- The process creates even layers on the surfaces, edges and hollow spaces, which ensures a complete seal
- Stove enameling of the primer creates a thick layer of approx. 20 µm

Powder

3rd phase: Textured powder-coating

- The eco-friendly powder coating on a polyester resin delivers excellent mechanical and electrostatic resistance, and is free of heavy metals, chromates and silicone
- The decontaminatable coating creates excellent chemical, temperature and weather resistance
- Stove enameling of the powder coating creates a thick layer of approx. 80 µm

A finish and barrier of protection that will
LAST FOR YEARS



Link to the Value Chain

From the very first customer interface through every process necessary to completing a customer's order...each step forms a link in the Rittal Value Chain.



Every step optimizes your production process to optimize your efficiency potential. Requirements are defined collaboratively to simulate your control panel design. In addition, individual production stages are

validated and documented in the virtual design. A final check ensures materials and resources will be efficiently utilized, and then the design is output to the machine for production. Once complete, and delivered safely, your system is seamlessly installed. Post-purchase Rittal provides ongoing service support, assuring your complete satisfaction.



Rittal brings the Industry 4.0 Value Chain to control panel designers at any organization of any size. You will appreciate the effective production and increased flexibility for your industry edge.



Rittal is the only manufacturer to provide **solutions** across the entire Value Chain.

EPLAN

efficient engineering.

As a world class suite of CAE software solutions, EPLAN provides design automation, automatic report generation, and data integration tools to reduce engineering times typically by 50%, compared with manual-intensive traditional CAD based drafting packages.

Based on a common database architecture, EPLAN facilitates inter-departmental collaboration through the following efficiency and quality improving products:

- **EPLAN Electric P8:** For the design and documentation of electrical schematics and layouts.

- **EPLAN Pro Panel:** For mounting panel and entire enclosure layouts and virtual verification in 3D.

- **EPLAN Fluid:** For the design and documentation of hydraulic, pneumatic, cooling and lubrication schematics and layouts.

- **EPLAN Preplanning:** For capturing preliminary project data to be used in detailed engineering as well as the design and documentation of I&C systems and P&ID's.

- **EPLAN Data Portal:** An integrated, web-based library of up-to-date, certified manufacturers' parts data.

- **EPLAN Engineering Configuration (EEC):** A modular, rule based configurator that binds together the mechatronic aspects of mechanical, electrical and software engineering, as well as documentation.

- **EPLAN Harness ProD:** For the design and documentation of wire harnesses and cable routing in 2D/3D, from the digital prototype to the automatic generation of production documents, including 1:1 nailboards.



- Process consulting
- Engineering software
- Implementation
- Global support



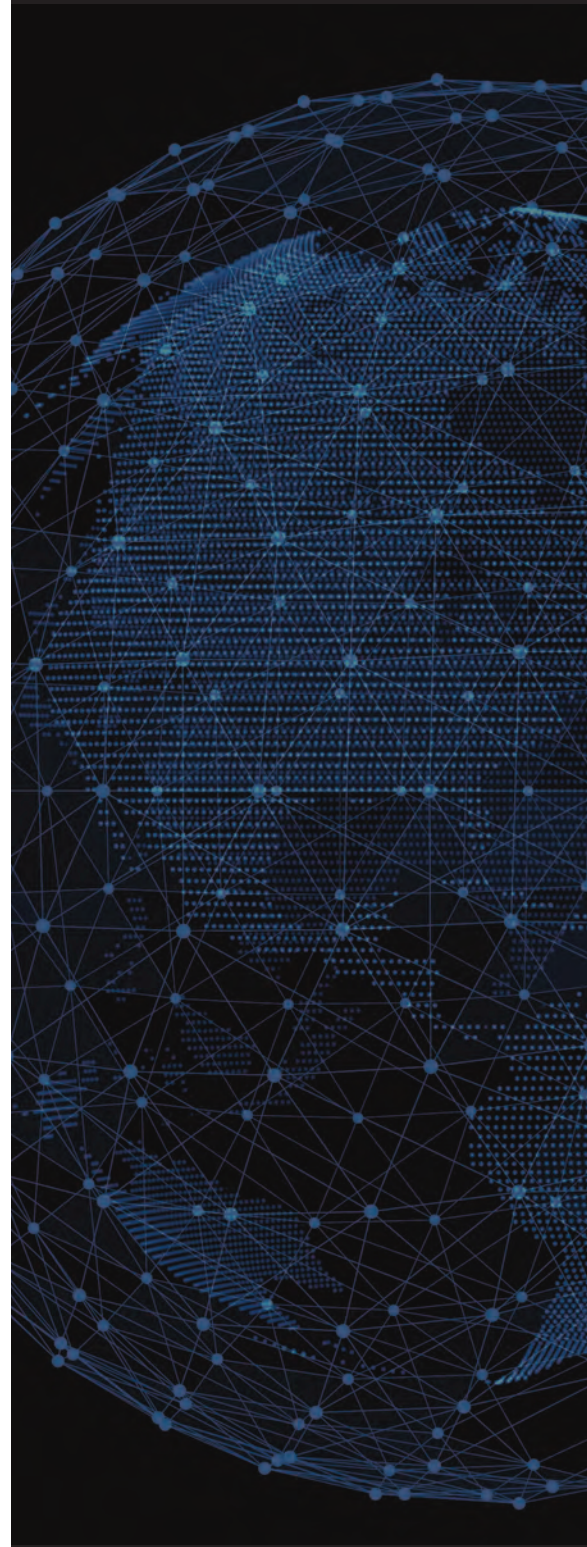
Rittal: World Leader in the Field of IT and Industrial Enclosure Systems, Climate Control, and IT Infrastructure Solutions.

When you specify product for a comprehensive data center or a single stand alone enclosure unit, know that Rittal keeps your user experience at the forefront in everything they do. Our innovations don't simply introduce something new and different, they solve a problem, improve your efficiency, lower your costs or decrease your CO₂ footprint. We chose our superior stainless steel for TS 8 to withstand your most aggressive environment. We developed Blue e+ to be the world's most efficient cooling unit to save you operating costs, and give your components a longer service life. Rittal wants to give you and your company the global competitive advantage you deserve.



Value Chain

links engineering to manufacturing.



Rittal Automation Systems (RAS) to Optimize your Panel Building Processes



We've automated panel building and switch-gear engineering with comprehensive range of solutions from manual tools to fully mechanical engineering solutions.

We can assist in implementing the exact modifications for your individual panels.

- **Machining:** Discover our solutions for the fully automated, fast, precise and reliable milling or laser machining of enclosures and cases, plus cut-optimized machining of cable ducts and DIN rails.

- **Assembly:** Find enhanced efficiency with automated production of clamping strips and ergonomic component mounting systems.

- **Wire Processing:** Professional and practical solutions for wire machining and processing featuring simple and reliable handling.

- **Wiring:** Our fully automated wiring of mounting plates offers efficient wiring and intuitive control.

- **Tools:** High quality manual tools available for use by those with high professional standards.

- **Handling:** Ergonomic, efficient handling systems for transport and lifting operations.

For each step, Rittal Automation Systems will simplify and streamline your panel building process.

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