Rittal – The System.

Faster – better – everywhere.

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

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RITTAL

Rittal – The System.

Faster – better – everywhere.

Let us help you make a change for the better.

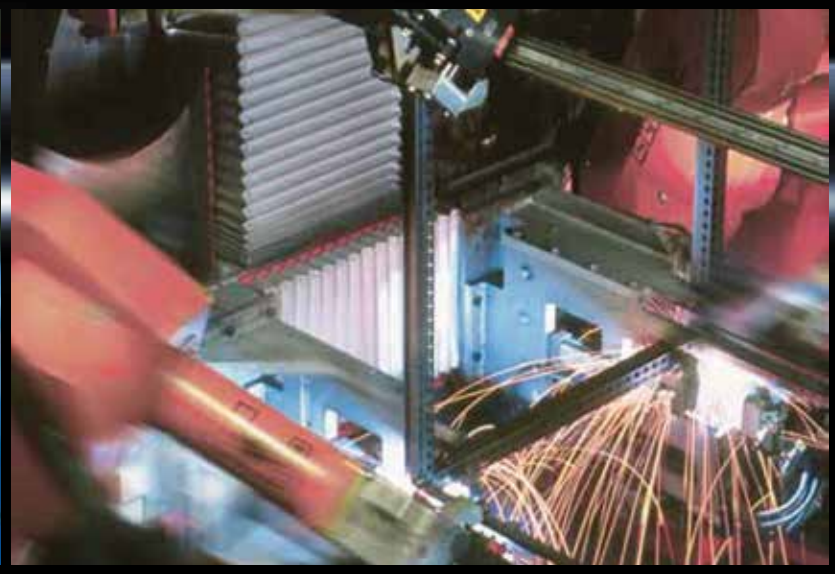
You are an innovator. Your mind runs with “what if?”
You know the status quo can always be improved. “We tried something similar 10 years ago” is not a dead end, but a challenge to do things better.

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.**



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.

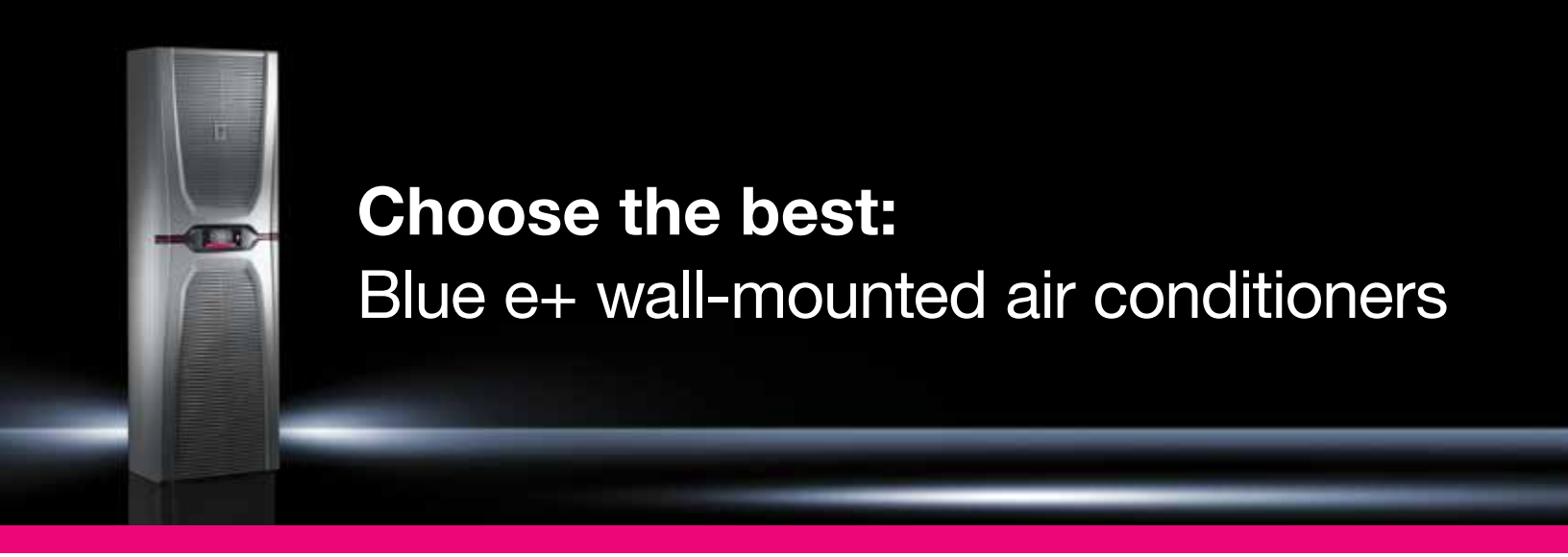
Join the revolution in hybrid technology. Never compromise on savings, efficiency and longevity.

The facts:
Engineered better to perform better than the competition

		Rittal Blue e+	Hoffman	Pfannenberg	Kooltronic	ICEqube	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	1,000–13,650 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

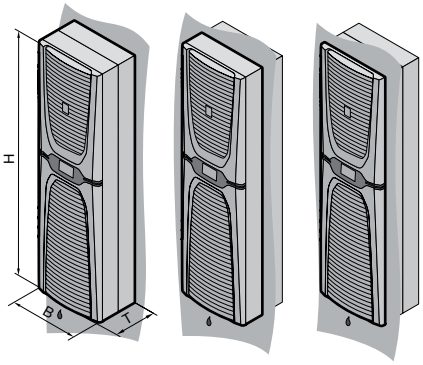
- One version for external mounting, partial internal mounting and full internal mounting
- One mounting cut-out for external mounting, partial internal mounting and full internal mounting in multiple output categories
- Maintenance-friendly, toolless filter mat replacement



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)**	**14,330 (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)	14,330 / 14,330 (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 m^3/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

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 aci

Whether housing drives, flow monitoring systems or critical electrical components, this TS 8 maintains a clean, consisten environment in the most extreme conditions found in industrie 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 e door removal and replacement
- Strength of modular construction delivers a load capacity o 3,150 pounds to handle more equipment within the enclosu

TS 8 Line proven more than 10 million times over

The TS 8 316 stainless steel enclosure is a welcomed additio to the highly innovative and remarkably flexible TS 8 line of enclosures. Its modular construction allows for easy assembl baying, equipment installations, removals and reconfiguration

The ideal modular freestanding solution for harsh environments.

- Greater efficiency
- Unlimited flexibility
- Increased safety
- Better quality
- Greater productivity

The facts:
Engineered better to perform better than the competition

	RITTAL	SCE	Hoffman	Hoffman	HAMMOND MANUFACTURING	EATON
	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 A723636SSFSN4)**	**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	Concealed	Continuous (Piano)	Continuous (Piano)	Continuous (Piano)	Concealed
Gasketing System	Foamed-in-place	Oil-resistant	Oil-resistant	Foamed-in-place	Poured in place	Poured in place
Handle	Padlock-able Stainless Steel 316	Zinc Die Cast	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	4	2	4	2	2
Mounting Panel Dimensions	75″×28″	60″×32″	60″×26″	60″×32″	60″×32″	60″×32″
Mounting Panel Area (sq. in.)	2100	1920	1560	1920	1920	1920
Internal Gland Plate in Floor	Yes	No	No	No	No	No

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

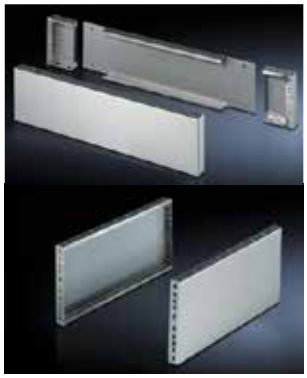
Provides both easy access and security.

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.

SE 8 system enclosures

SE 8 enclosure stands above in quality and value

As industrial facilities replace or upgrade control systems, many plant engineers are moving beyond the challenges of unibody enclosure designs. With unibody enclosures, the skins are welded together to support the load of the system. As a result, system integrators, OEMs and facilities are limited in the configurations and modifications to meet end-use needs. Because the lifecycle of a typical industrial enclosure is filled with planned and unplanned modifications and repairs, using a unibody enclosure can increase costs and downtime.

Stand-Alone Design

By comparison, the Rittal SE 8 enclosure brings together the benefits of modular design and accessories with a price point that competes with unibody enclosures. Because the strength and interior mounting are handled by the roll-formed frame section of the enclosure, the SE 8 delivers improved durability and 30 percent more internal space than comparable unibody designs. In addition, the SE 8 is available in 16-gauge carbon or stainless steel, and features the standard, reversible TS 8 door to accommodate modifications over the lifecycle of the enclosure.

For larger control systems, the SE 8 is available in a double-door design starting at 39". To ensure components remain protected, the single-door carbon-steel model is UL Type 12 and 3R with a Type 4 version available. The double-door design is currently rated at Type 12 and 3R. The single-door stainless-steel model is UL Type 12, 3R with a Type 4X version available. The stainless-steel double-door version is rated Type 12 and 3R.

Unlike unibody enclosures, the SE 8 features a variety of interchangeable accessories, including:

- Cable entry options
- Plinth, cable base and flex-block
- Locking system
- Comfort handle, inserts
- TS 8 interior system accessories
- Swing frames, chassis, rails and partial panels
- Lighting and grounding systems

The singular choice for freestanding enclosures for industrial environments.

Choose the best:
SE 8 enclosures

Stand-Alone Enclosures

Roof and sides form a single piece
– Non-bayable single- or double-door
– Welded base frame

Integrated roof with cheese-head bolts
– Eyebolts can be added as accessory

Integrated roll-formed TS 8 frame
– 2 integrated mounting levels
– 25 mm hole pattern

Door
– 2 mm rolled sheet metal or stainless steel
– Right-hand hinged, reversible door and handle with double-bit locking insert

Rear Wall
– Removable rear panel
– Split rear walls start at 63”

Closed housing body (roof/ sides)
– 1.5 mm (16 ga.)

Vertical frame members
– 1.5 mm (16 ga.)
– Standard TS 8 25 mm profile

Mounting Panel
– Depth-adjustable
– 3 mm (11 ga.)

SE 8 Carbon Steel – Type 12, 3R

Model No.	Height inches (mm)	Width inches (mm)	Depth inches (mm)	Door(s)
SE 5830.500	71” (1800 mm)	24” (600 mm)	16” (400 mm)	1
SE 5831.500	71” (1800 mm)	31” (800 mm)	16” (400 mm)	1
SE 5832.500	79” (2000 mm)	31” (800 mm)	16” (400 mm)	1
SE 5833.500	79” (2000 mm)	31” (800 mm)	20” (500 mm)	1
SE 5834.500	79” (2000 mm)	31” (800 mm)	24” (600 mm)	1
SE 5840.500	71” (1800 mm)	39” (1000 mm)	16” (400 mm)	2
SE 5841.500	71” (1800 mm)	47” (1200 mm)	16” (400 mm)	2
SE 5842.500	71” (1800 mm)	63” (1600 mm)	16” (400 mm)	2
SE 5843.500	79” (2000 mm)	47” (1200 mm)	16” (400 mm)	2
SE 5844.500	79” (2000 mm)	47” (1200 mm)	20” (500 mm)	2
SE 5845.500	79” (2000 mm)	47” (1200 mm)	24” (600 mm)	2
SE 5846.500	79” (2000 mm)	71” (1800 mm)	20” (500 mm)	2

SE 8 Carbon Steel – Type 4, 3R

Model No.	Height inches (mm)	Width inches (mm)	Depth inches (mm)	Door(s)
SE 5830.580	71” (1800 mm)	24” (600 mm)	16” (400 mm)	1
SE 5831.580	71” (1800 mm)	31” (800 mm)	16” (400 mm)	1
SE 5834.580	79” (2000 mm)	31” (800 mm)	24” (600 mm)	1

Horizontal frame members
– 1.5 mm (16 ga.)
– Depth and width same as TS 8
– Symmetrical roof frame

Grounding
– Integrated potential equalization for back panel and gland plates

System accessories
– Full line of TS 8 accessories
– High levels of customization, cable and power management

SE 8 304 Stainless Steel – Type 12, 3R

Model No.	Height inches (mm)	Width inches (mm)	Depth inches (mm)	Door(s)
SE 5850.500	63” (1600 mm)	24” (600 mm)	16” (400 mm)	1
SE 5851.500	71” (1800 mm)	24” (600 mm)	20” (500 mm)	1
SE 5852.500	71” (1800 mm)	31” (800 mm)	20” (500 mm)	1
SE 5853.500	79” (2000 mm)	31” (800 mm)	24” (600 mm)	1
SE 5854.500	71” (1800 mm)	39” (1000 mm)	16” (400 mm)	1
SE 5855.500	79” (2000 mm)	47” (1200 mm)	20” (500 mm)	2

SE 8 304 Stainless Steel – Type 4x, 3R

Model No.	Height inches (mm)	Width inches (mm)	Depth inches (mm)	Door(s)
SE 5850.580	63” (1600 mm)	24” (600 mm)	16” (400 mm)	1
SE 5852.580	71” (1800 mm)	31” (800 mm)	20” (500 mm)	1
SE 5853.580	79” (2000 mm)	31” (800 mm)	24” (600 mm)	1

TS IT Dynaload rack

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.

Smart design enables movement of equipment up to 2500 lbs.

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

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	■ Wide variety of sizes available for today's high-density applications ■ Priced for value ■ Shock pallet and ramp available	■ Widely accepted rack design and accessory offering	■ High load rating	■ High load rating
Weaknesses		■ Not a true ship-loadable solution without additional bracing (ordered separately) ■ Limited sizes	■ Ramp ordered separately, limited width variants	■ Built in air dam and cable management wall makes installation harder ■ Limited sizes available

Choose the best:
TS IT Dynamax 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

IT cooling solutions

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 CO_2 output while your IT components work to capacity.

Rittal is the leading provider of closed loop, eliminating the need for aisle containment.

The facts:
Engineered better to perform better than the competition

	RITTAL	APC by Schneider Electric	STULZ	EMERSON
	Rittal LCP CW In Row - Open Loop	**APC IN ROW 301S ACRC301S**	**STULZ CYBER ROW CRS 090**	**LIEBERT CRV CR032RC1**
MAXIMUM CAPACITY (kW)	30	40	37	32
ACTUAL CAPACITY (kW)	30.7	26k	29.5	25.2
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 × W × D	78″ × 12″ × 48″	78″ × 12″ × 43″	78″ × 12″ × 42″	78″ × 12″ × 43″
Weight (lbs.)	484	406	380	365
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 (CFM)	2900	3200	2900	2550
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	77.1	58	72.4d - 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

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

RiLine busbar system

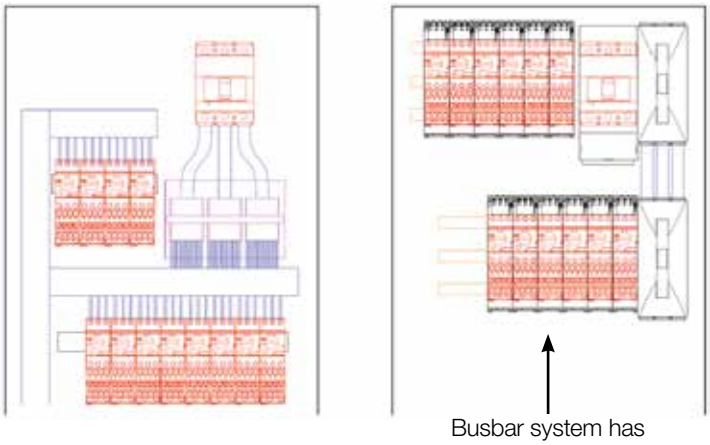
RiLine busbar systems improve enclosure efficiency

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.

Traditional Wiring System vs. Busbar 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 utilization (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.

c UL us LISTED

Flange mount disconnect

c UL us LISTED

Added safety found only with Rittal

Safe, smart technology that meets and exceeds industry standards for panel builders.

Keeping your staff from opened and powered enclosures 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 and exceeds 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 provides this option.

The reason is simple: when any slave door is open, the master door cannot be closed and the power cannot be turned on. This added safety feature from Rittal allows end users to further protect their staff from exposure to uninsulated live electrical controls.

When the slave door is open, the power cannot be turned on.

The facts:
Engineered better to perform better than the competition

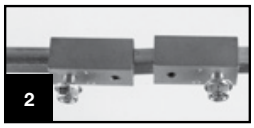
	RITTAL	SCE	Hoffman	SCE	Hoffman
	FMD TS 8 Enclosure 1800H1600W0500D	**FMD IMS Enclosure 1800H1600W0550D**	**AMOD Enclosure 1832H1994W0460D**	**FMD XM Enclosure 1828H1670W455D**	**FMD XM Enclosure 1832H1689W0460D**
Material	16/14 ga carbon steel	0.104" carbon steel	11 ga carbon steel	0.125" carbon steel	11 ga carbon steel
Latching System	4 Point	3 Point	3 Point	3 Point	3 Point
Hinge System	External	Concealed	Concealed	Concealed	Continous Hinge
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" (2286mm)	90" (2286mm)
Maximum Available Width	71" (1800mm)	71" (1800mm)	79" (2000mm)	78" (1981mm)	79" (2000mm)
Maximum Available Depth	24" (600mm)	22" (550mm)	24" (600mm)	24" (600mm)	24" (600mm)
Mounting Panel Included	Yes, galvanized	No	Yes, painted	Yes, white powder coated	Yes, galvanized
Mounting Panel Dimensions	67" × 59"	66" × 59"	60" × 72" **	60" × 60"	60" × 60"
UL Type Ratings	Type 12	Type 3R, 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, nwwccess	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 handfull of sizes ** Bigger size used for comparison

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	sides
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	8601.800	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	8601.800	8601.050
	9951.146	79x39x24	2000x1000x0600	8106.235	75x35	1896x0899	8100.010	8100.600	8100.000	8601.800	8601.060
	9951.153	87x32x24	2200x0800x0600	8126.235	83x28	2096x0699	8100.800	8100.600	8100.000	8601.800	8601.060
	9951.154	87x39x20	2200x1000x0500	9964.893	83x35	2096x0899	8100.010	8100.500	8100.000	8601.800	8601.050
Double Door	**9951.138**	71x63x20	1800x1600x0500	8185.235	67x59	1696x1499	8100.160	8100.500	8100.000	8901.920	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	8901.920	8601.050
	9951.148	79x63x24	2000x1600x0600	8106.235	75x59	1896x1499	8100.160	8100.600	8100.000	8901.920	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**
1	Low amp adapter plate (included with enclosure)	9951.157
1	High amp adapter plate	9951.155
1	Blank adapter plate	9951.159
2	Coupling for interconnecting rod	9951.158
3	Connecting rod replacement kit	9951.160
4	Slave door interlocking kit for single door enclosures	4911.000
4	Slave door interlocking kit for double door enclosures	4911.100
5	Interlocking rods 24" (600mm)	4916.000
5	Interlocking rods 32" (800mm)	4918.000
5	Interlocking rods 47" (1200mm)	4920.000
6	Interlock activator*	4912.000



Hygienic design wallmount

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

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.

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
- DGUV

	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 difficut 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

The facts:
Engineered better to perform better than the competition

Protection category IP to IEC 60 529:
– IP 66

Protection category IP to DIN 40 050-9:
– IP 69K

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

Protection category NEMA:
– NEMA 13
– NEMA 4X
– NEMA 3R (HD terminal boxes only)

Technical details:
Available on the Internet

Terminal boxes

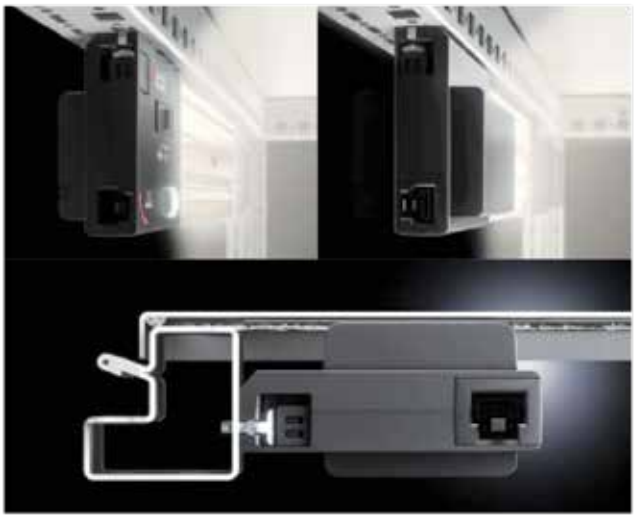
Width (front) in. (mm)	Packs of	5.9" (150)	5.9" (150)	7.8" (200)	11.8" (300)	15.7" (400)	15.7" (400)
Width (rear) in. (mm)		6.7" (172)	6.9" (177)	8.9" (227)	12.8" (327)	16.6" (427)	16.8" (427)
Height (front) in. (mm)		5.9" (150)	5.9" (150)	7.8" (200)	7.8" (200)	7.8" (200)	11.8" (300)
Height (rear) in. (mm)		6.7" (172)	6.9" (177)	8.9" (227)	8.9" (227)	8.9" (227)	12.8" (327)
Depth in. (mm)		3.1" (80)	4.7" (120)	4.7" 120	4.7" 120	4.7" 120	4.7" 120
Model No.	1 pc(s).	**1670.600**	**1671.600**	**1672.600**	**1674.600**	**1675.600**	**1676.600**
Weight lbs. (kg)		3.1 lbs. (1.7)	4.1 lbs (2.2)	6.9 lbs. (3.0)	8.1lbs. (4.0)	11lbs. (5.0)	13lbs. (5.9)
Accessories							
HD wall spacer bracket	1 pc(s).	4000.100	4000.100	4000.100	4000.100	4000.100	4000.100
Mounting plates	1 pc(s).	1560.700	1560.700	1562.700	1563.700	1564.700	1568.700
Support rails 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						

Compact enclosure HD

Width in. (mm)	Packs of	8.6" (220)	15.3" (390)	15.3" (390)	20" (510)	24" (610)	24" (610)
Height (front) in. (mm)		13.7" (350)	16.9" (430)	25.5" (650)	21.6" (550)	16.9" (430)	25.5" (650)
Height (rear) in. (mm)		17.2" (437)	21.6" (549)	30.2" (769)	26.3" (669)	23.6" (601)	30.2" (769)
Depth in. (mm)		6.1" (155)	8.2" (210)	8.2" (210)	8.2" (210)	11.8" (300)	8.2" (210)
Mounting plate width in. (mm)		6.3" (162)	13.1" (334)	13.1" (334)	17.6" (449)	21.6" (549)	21.6" (549)
Mounting plate height in. (mm)		10.8" (275)	13.9" (355)	22.4" (570)	18.5" (470)	13.9" (355)	22.4" (570)
Model No.	1 pc(s).	**1302.600**	**1306.600**	**1308.600**	**1307.600**	**1320.600**	**1310.600**
Weight lbs. (kg)		14.8 lbs. (6.6)	32.6 lbs. (14.7)	39.7 lbs. (17.9)	43.6 lbs. (19.7)	47.1 lbs. (21.7)	60.6 lbs. (27.4)

Width (B) mm	Packs of	31.8" (810)	31.8" (810)	31.8" (810)	31.8" (810)	24" (610)	29.9" (760)
Height (front) in. (mm)		16.9" (430)	25.5" (650)	41.3" (1050)	49.2" (1250)	31.8" (810)	31.8" (810)
Height (rear) in. (mm)		21.6" (549)	32.3" (821)	48" (1221)	55.9" (1421)	36.5" (929)	38.6" (981)
Depth in. (mm)		8.02" (210)	11.8" (300)	11.8" (300)	11.8" (300)	8.2" (210)	11.8" (300)
Mounting plate width in. (mm)		29.4" (749)	29.1" (739)	29.1" (739)	29.1" (740)	21.6" (549)	27.7" (704)
Mounting plate height in. (mm)		22.4" (570)	13.9" (355)	37.5" (955)	45.4" (1155)	28.7" (730)	28.7" (730)
Model No.	1 pc(s).	**1314.600**	**1315.600**	**1316.600**	**1317.600**	**4000.012**	**4000.014**
Weight lbs. (kg)		56.3 lbs. (25.5)	85.1 lbs. (39.0)	132.7 lbs. (60.1)	156.8 lbs.(71.0)	70.8 lbs. (32)	74.1 lbs. (34)
Accessories							
HD wall spacer bracket	1 pc(s).	4000.100					
HD cable gland		Details on Rittal.us					
HD hinge	2 pc(s).	4000.130					
Rails for interior installation	4 pc(s).	Details on Rittal.us					
HD T-handle	1 pc(s).	4000.065					

LED light



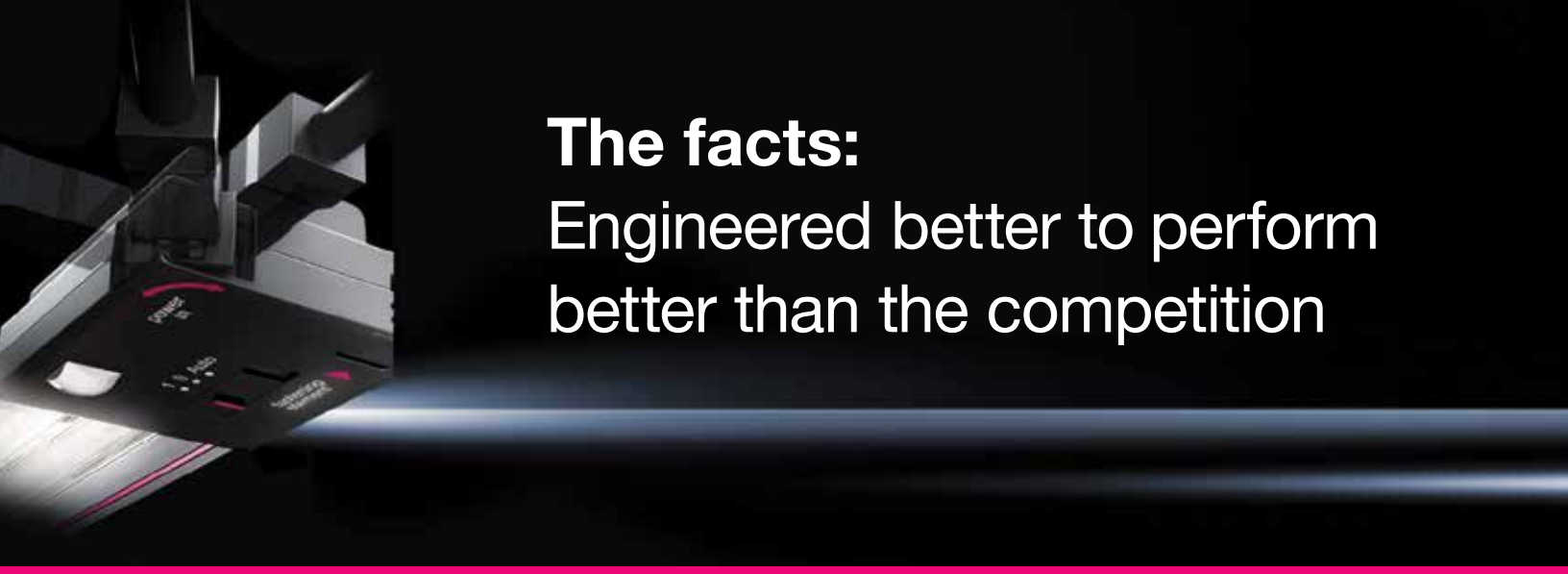
Brilliant! innovative lighting designed for enclosures and sealed cases

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

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

Material:
- Plastic
- Aluminum

Color:
- Enclosure: RAL 7016

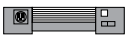
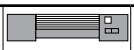
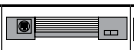
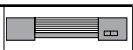
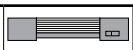
Light Color:
- 4000 K (neutral white)

Supply Includes:
- Assembly screws

					
	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	Screw, magnet, clip	Screw, magnet, clip
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, UL listed E489137	Yes, E234324	Yes, E234324	Yes, E358386	Yes, E358386

Choose the best:
LED light

Note:
– Connection accessories should be ordered separately
– Information on other country-specific versions with socket can be found on the internet

									
Model No.			**2500.314**	**2500.300**	**2500.214**	**2500.200**	**2500.220**	**2500.114**	**2500.104**
Output (lumen)			1200	1200	900	900	900	600	400
Length (inches/mm)			17/437	17/437	17/437	17/437	17/437	13/337)	10/262
Motion sensor			■	■	–	–	–	–	–
Rated operating voltage	100 – 240 V AC		■	■	■	■	–	■	■
	24 V DC		–	–	–	–	■	–	–
Equipment	Socket – NEMA		■	–	■	–	–	–	–
	90° rotating connector		■	■	■	■	■	–	–
	Adjustable light direction		■	■	–	–	–	–	–
	Adjustable light distribution		■	■	■	■	■	–	–
Protection class II			II (all-insulated)				III (SELV)	II (all-insulated)	
Approvals	UL		■	■	■	■	■	■	■
	cUL		■	■	■	■	■	■	■
	CCC		–	■	–	■	–	■	■
	ENEC		■	■	■	■	■	■	■
Installation type	Screw-fastening		■	■	■	■	■	■	■
	Clip attachment		■	■	■	■	■	■	■
	Magnetic attachment to surfaces (accessory)		–	■	–	■	■	■	■
Connection options	Infeed		3-pole	3-pole	3-pole	3-pole	2-pole	2-pole	2-pole
	Through-wiring		3-pole	3-pole	3-pole	3-pole	2-pole	2-pole	2-pole
	Door-operated switch (accessories)		–	–	■	■	■	■	■
Mounting options	Enclosures with a 22mm pitch pattern	Screw Fastening/clip	Directly on the profile	Directly on the profile	Directly on the profile	Directly on the profile	Directly on the profile	Directly on the profile	Directly on the profile
	AE	Screw fastening	With universal bracket						
Accessories									
Universal bracket			2373.300	2373.300	2373.300	2373.300	2373.300	2373.300	2373.300
Mounting kit magnet			–	2500.490	–	2500.490	2500.490	2500.490	2500.490
Door-operated switch			–	–	2500.460	2500.460	2500.460	2500.460	2500.460
Door-operated switch, UL			–	–	2500.470	2500.470	2500.470	2500.470	2500.470
Connection accessories									
Infeed, 2-pole			–	–	–	–	2500.410	2500.420	2500.420
Infeed, 2-pole, ENEC, UL			–	_	–	–	–	2500.520	2500.520
Infeed, 3-pole			2500.400	2500.400	2500.400	2500.400	–	–	–
Infeed, 3-pole, ENEC, UL			2500.500	2500.500	2500.500	2500.500	–	–	–
Through-wiring, 2-pole			–	–	–	–	2500.440	2500.450	2500.450
Through-wiring, 2-pole, ENEC, UL			–	–	–	–	–	2500.550	2500.550
Through-wiring, 3-pole			2500.430	2500.430	2500.430	2500.430	–	–	–
Through-wiring, 3-pole, ENEC, UL			2500.530	2500.530	2500.530	2500.530	–	–	–

Metric measurements are exact, imperial measurements are rounded.

Optimum surface protection with innovative technology

Choose the best: Rittal surface protection

A finish and barrier of protection that will last for years.

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, eco-friendly 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 approximately 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 approximately 80 µm

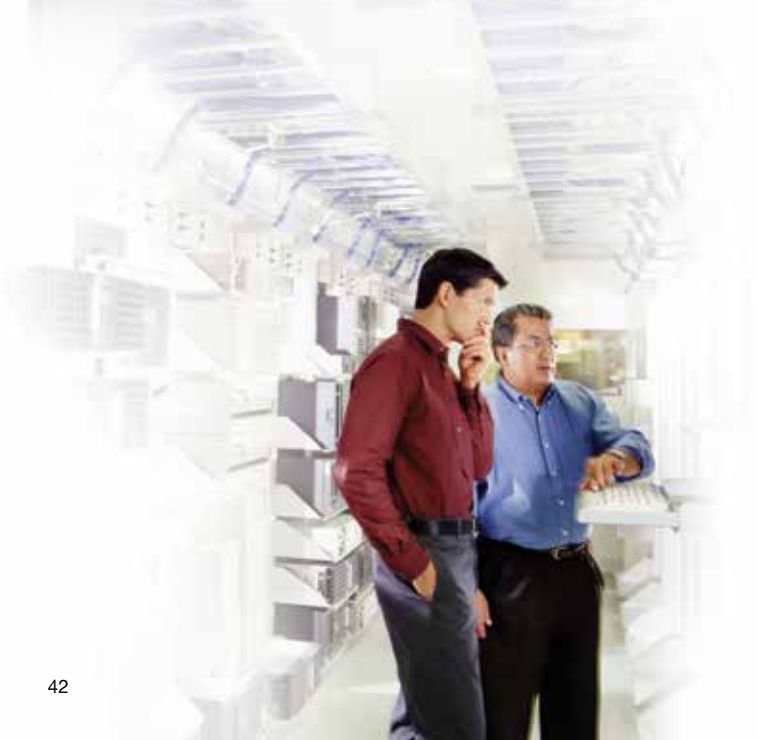
Rittal Value Chain

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.



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 Value Chain

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 CO_2 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 switchgear 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.

Rittal REV

A Rittal REV Truck visit is an event not to be missed.

Seeing is believing with Rittal Expo Vehicles and mobile design center

Our products are coming to you so book your visit today! It's been said that seeing is believing. But in this case, it is so much more with our Rittal Expo Vehicle (REV) and Mobile Design Center. Each visit delivers a mobile showroom with an eye-opening spectrum of Rittal products for you to explore. You'll experience Rittal quality and innovation firsthand by opening, closing, and examining what Rittal has to offer.

Inside our mobile showrooms are a sampling of outstandingly engineered and constructed enclosures by Rittal, as well as the latest in climate control, power distribution, software and systems, and data center infrastructure solutions. You'll see enclosure solutions for a wide range of applications with a single standard of quality.

Book your personal Rittal REV visit today, and prepare to be surprised. Requests for a visit can be made through www.rittalenclosures.com.

Rittal – The System.

Faster – better – everywhere.

- Enclosures
- Power Distribution
- Climate Control
- IT Infrastructure
- Software & Services

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