

# Rittal – The System.

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## Assembly and operating instructions

9980094

9980095

9980096

9980097

9980098

9980099

ENCLOSURES

POWER DISTRIBUTION

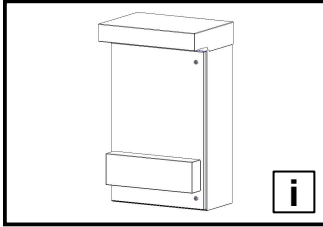
CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

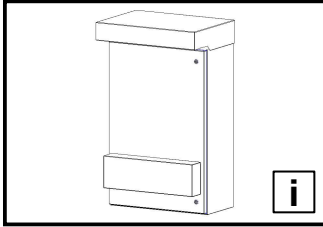
FRIEDHELM LOH GROUP





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## 1. Notes on documentation

The assembly instructions are aimed at all persons who have appropriate specialist training to allow them to equip enclosures to conform to standards with electrical, electronic, mechanical or pneumatic operating equipment, to place or install at the destination site and to connect ready to operate.

The operating instructions are for the operating personnel and appropriately trained specialists for electro-technical and mechanical maintenance.

### 1.1 Storing the documents

The safety notes and the accompanying note are part of the product. They must be given to the plant operator, who is then responsible for the storage of the documents so that they are readily available when needed.

### 1.2 Symbols used

Please observe the following safety instructions and other notes in this guide:



**Danger!**  
Immediate danger to life and limb.







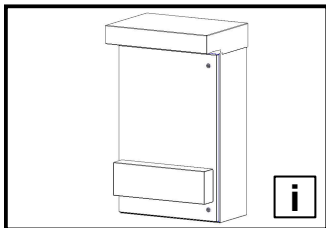
**Caution!**  
Potential threat to the product and its environment.

### 1.3 Other applicable documents

These installation instructions and operating instructions for the described enclosures can be downloaded from [www.rittal.com](http://www.rittal.com). We cannot accept any liability for damage associated with failure to observe these instructions. The instructions for any accessories used also apply.

## 2. Safety instructions

					
Warning against closing movements for mechanical parts of a machine/device	Warning against independently moving parts	The instructions must be read	Climbing on surfaces is prohibited	Installation by specialist electricians	Installation by specialist mechanics
<ul style="list-style-type: none"> <li>– The enclosure must be secured against tilting during transport, assembly and configuration.</li> <li>– Danger to life and health in case of non-observance of the safety instructions.</li> </ul>					



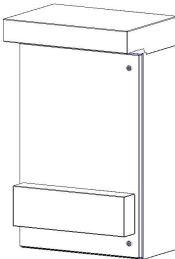








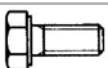



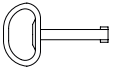

### 3. Device Description

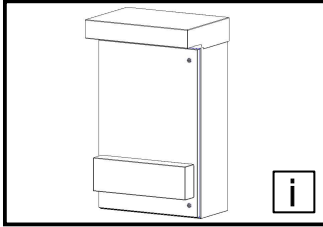
#### 3.1 Proper usage

These Rittal products are empty enclosures for low-voltage switchgear combinations with maximum rated voltage 1000 V AC or 1500 V DC, and incorporate instrumentation and control systems. For special requirements and for outdoor installations, confirmation of suitability must be obtained from Rittal. The load limits specified in the assembly instructions must be observed.

**3.2 Function description and components** As a wall mounting enclosure, the vented WM is suitable for accepting electrical, electronic or mechanical operating equipment and devices in the indoor or outdoor industrial area.

#### 3.3 Scope of delivery

						
Model No.	9980094	9980095	9980096	9980097	9980098	9980099
		Ø 9			5 x	
		M6 x 10			4 x	
		M8x30			1 x	
		M8			4 x	
		Ø 8,4			2 x	
		Ø 8,2			1 x	
		M6			2 x	
		Ø 6,1			2 x	
		M6 x 12			1 x	
		Ø 6,4			6 x	
		Ø 8,1			1 x	
					3 x	
					1 x	
		Ø 16			1 x	



## 4. Assembly and siting

### 4.1 Site requirements

Prior to assembly, ensure that

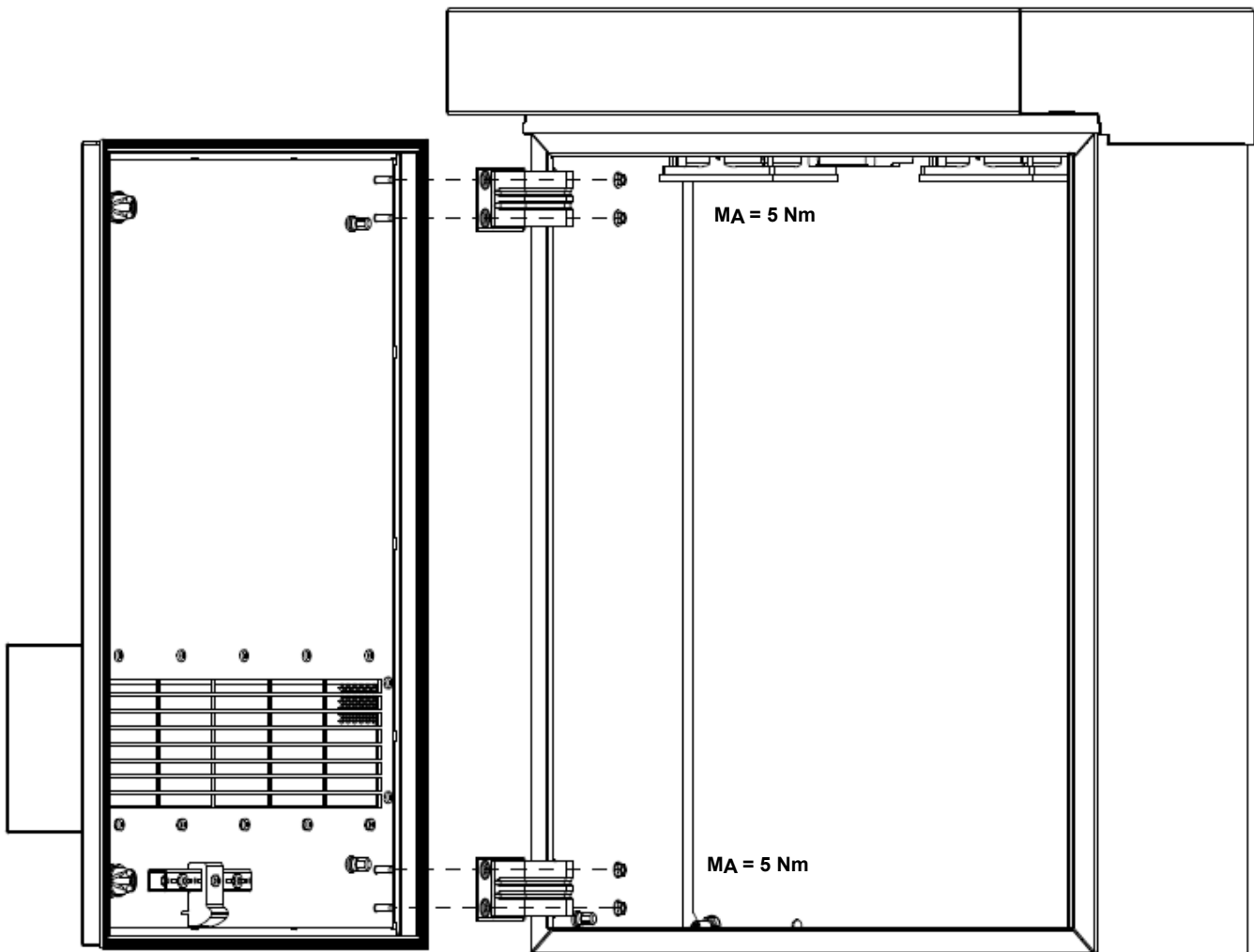
- the ambient temperature at the installation site is not higher than +80°C.
- the ambient temperature at the installation site is not lower than -20°C.
- the relative humidity does not exceed 50% at +40°C (higher humidity levels are permitted at lower temperatures).

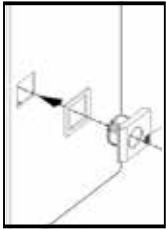
If particular operating conditions apply, special agreements must be made between Rittal and the user.

Assembly instructions

- Observe the load capacities specified on page 13.
- Observe all specified torque values. Over- or undershooting the tensioning torques specified in these instructions can cause system damage, severe injuries or even death.
- Avoid any unnecessary openings in the enclosure. Any opening that is not made and sealed carefully can reduce the degree of protection.
- The equipped mounting plate must be secured for transport.
- Ensure adequate carrying capacity for wall mounting. The notes in the instructions for the deployed system accessories must also be observed.

### 4.2 Dismantling/fitting the door





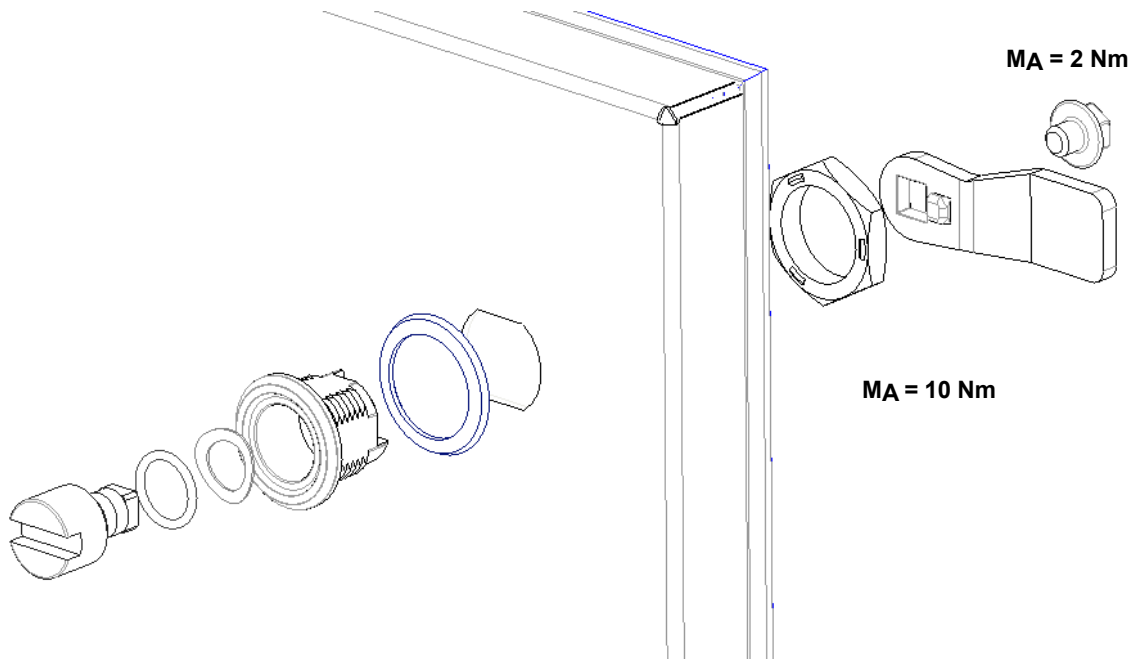
TX 30

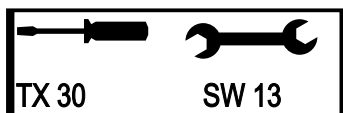
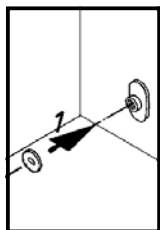
SW 27

#### 4. Assembly and siting



##### 4.3 Cam lock, modification



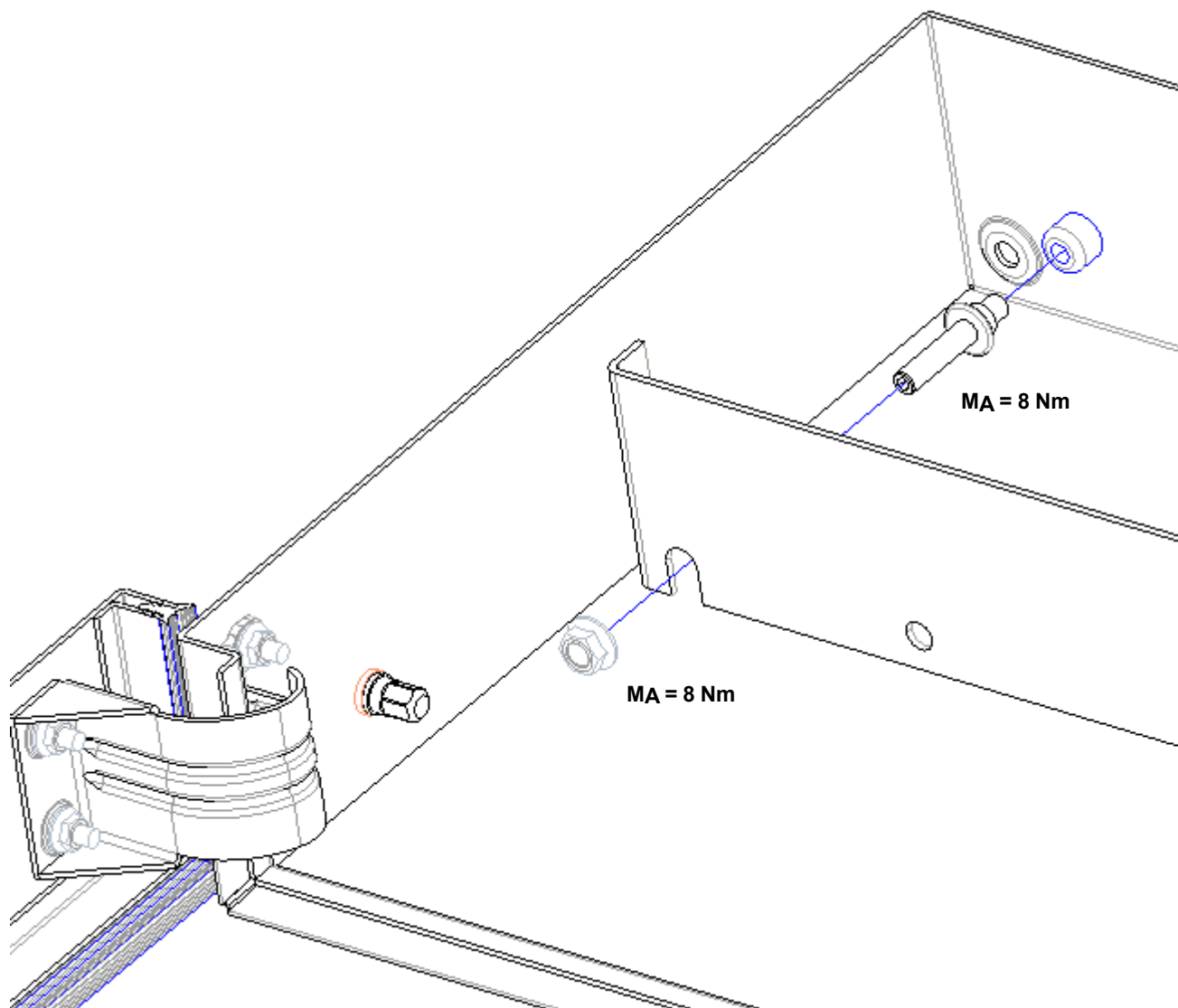


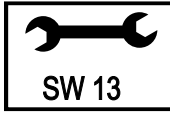
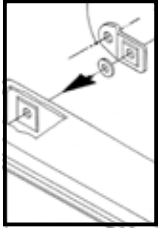
TX 30

SW 13

#### 4. Assembly and siting

##### 4.4 Mounting plate, installation

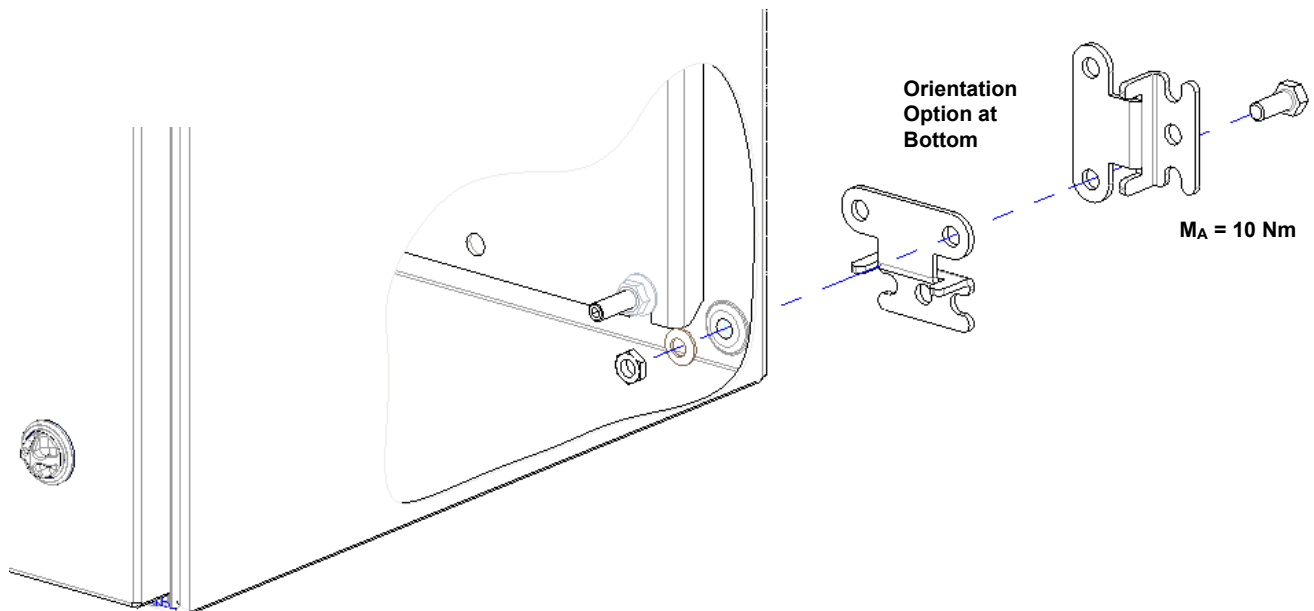
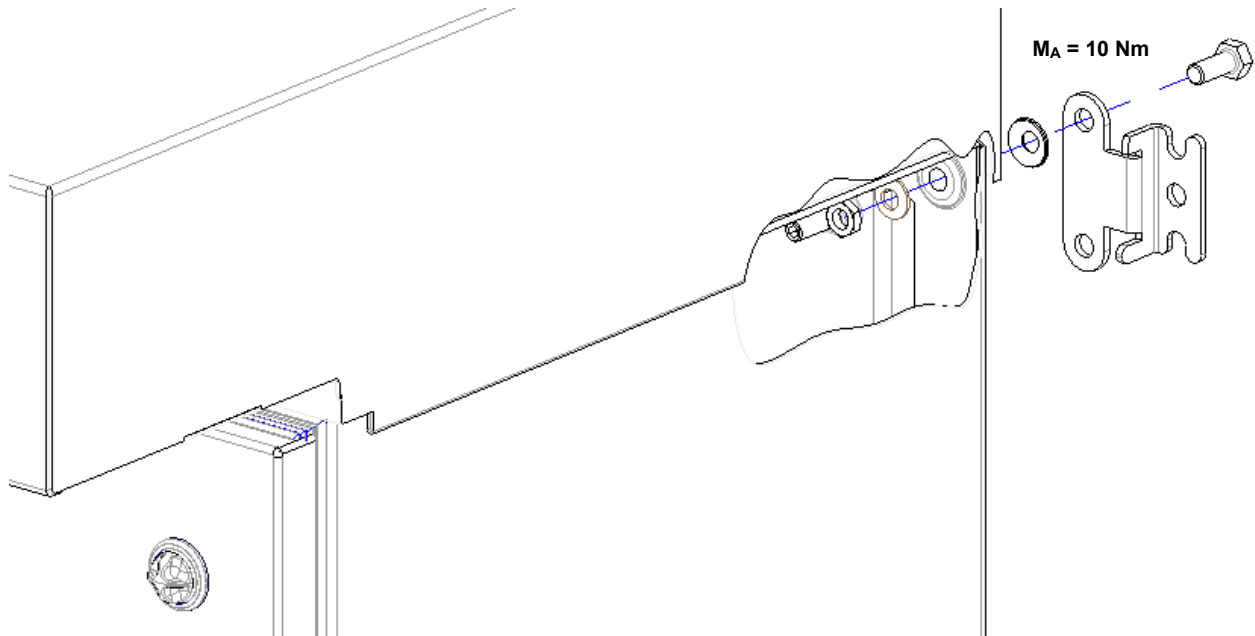




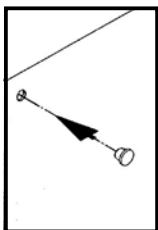
#### 4. Assembly and siting

##### 4.5 Wall mounting

Model No.:  
9980.100

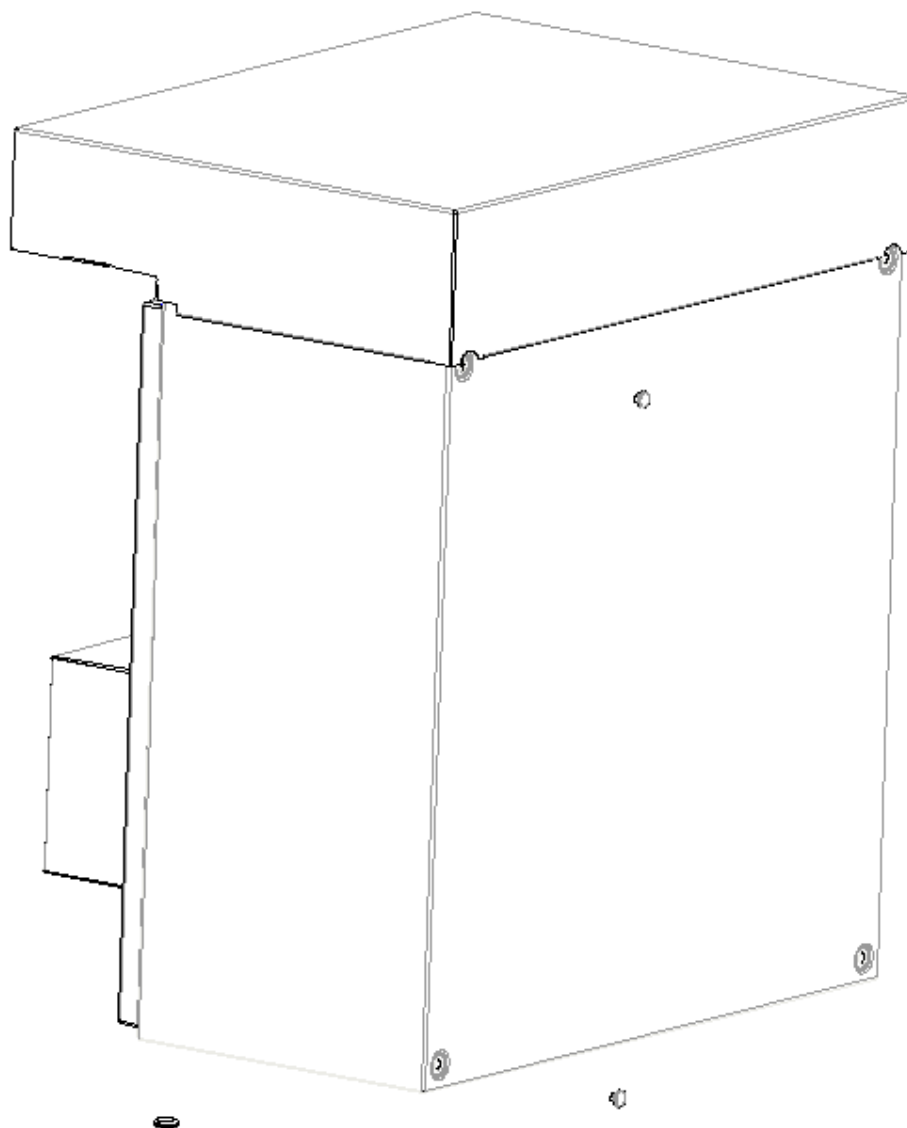




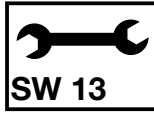
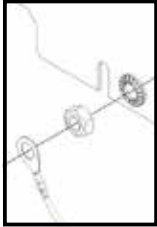


## 4. Assembly and siting

### 4.6 Sealing plugs



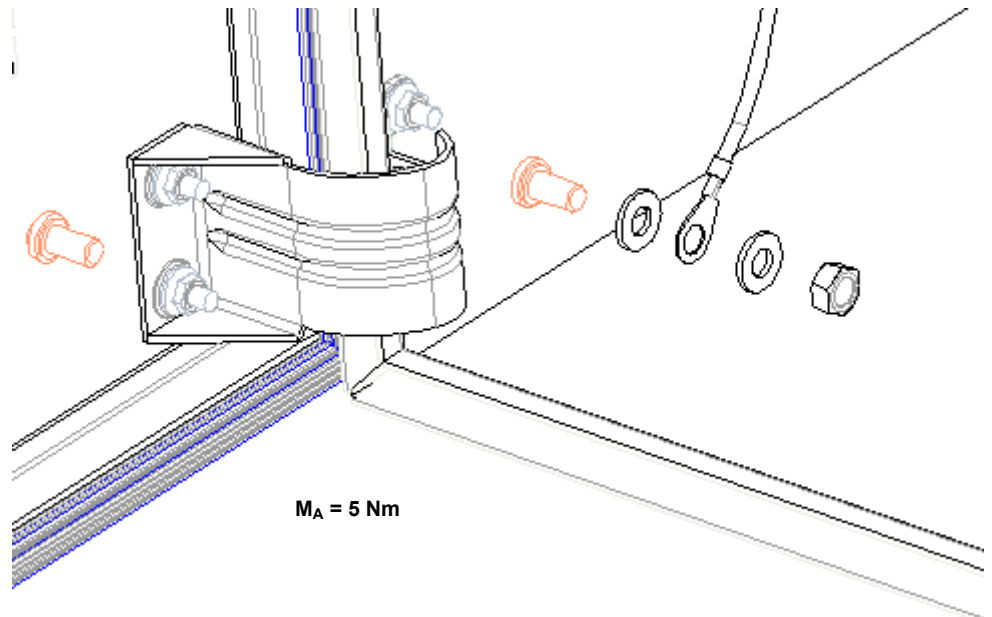
IP  
Type rating



## 4. Assembly and siting

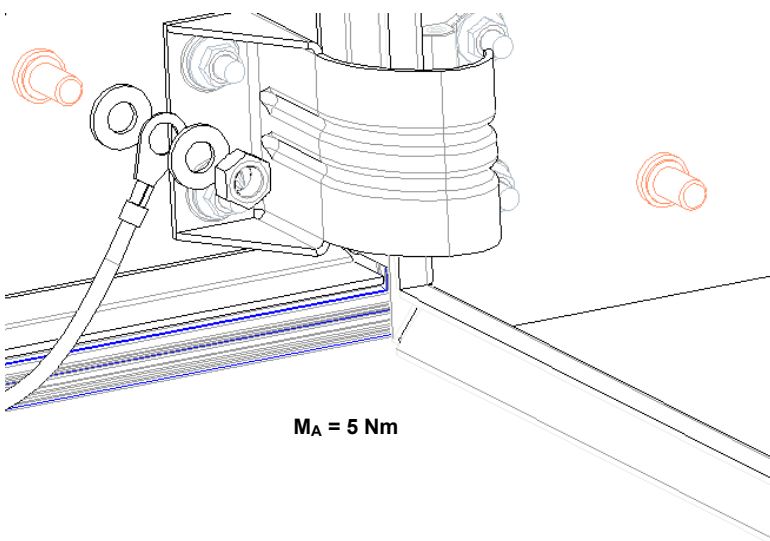
### 4.7 Earthing and potential equalisation

Enclosure



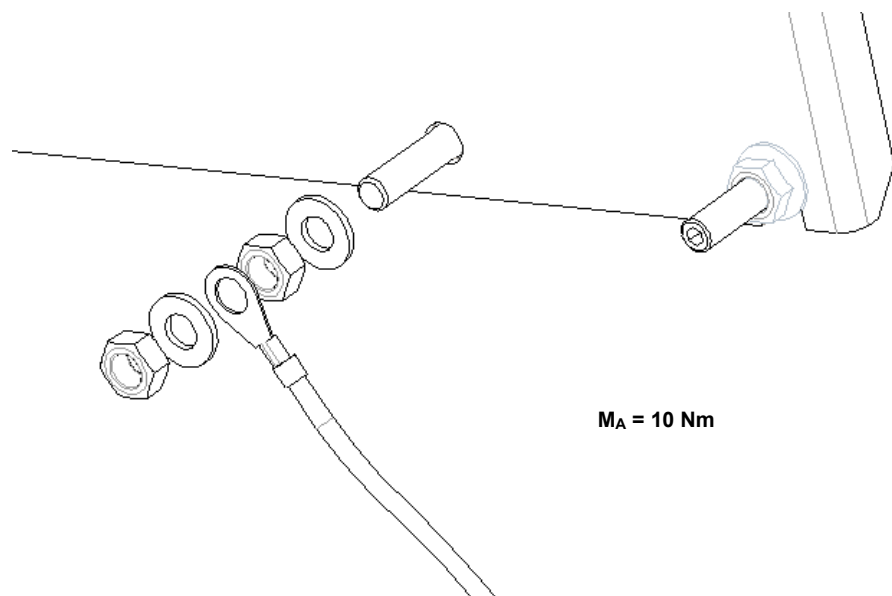
$M_A = 5 \text{ Nm}$

Door

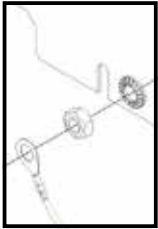


$M_A = 5 \text{ Nm}$

Mounting plate



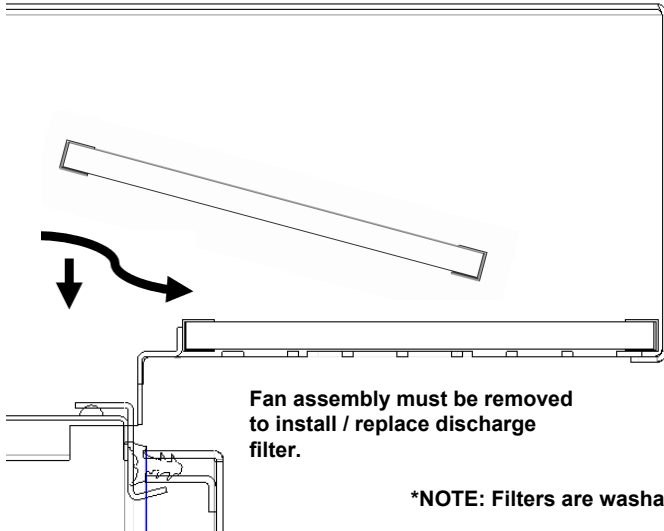
$M_A = 10 \text{ Nm}$



## NO TOOLS REQUIRED

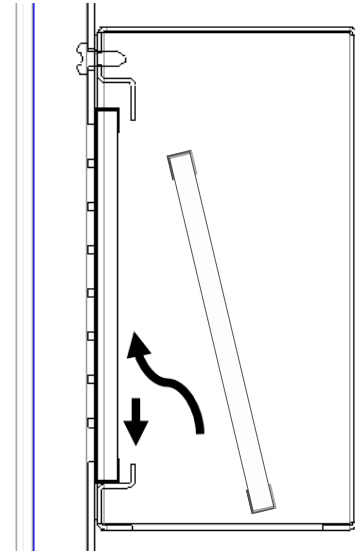
### 4. Assembly and siting

#### 4.8 Filters and Fan Assembly

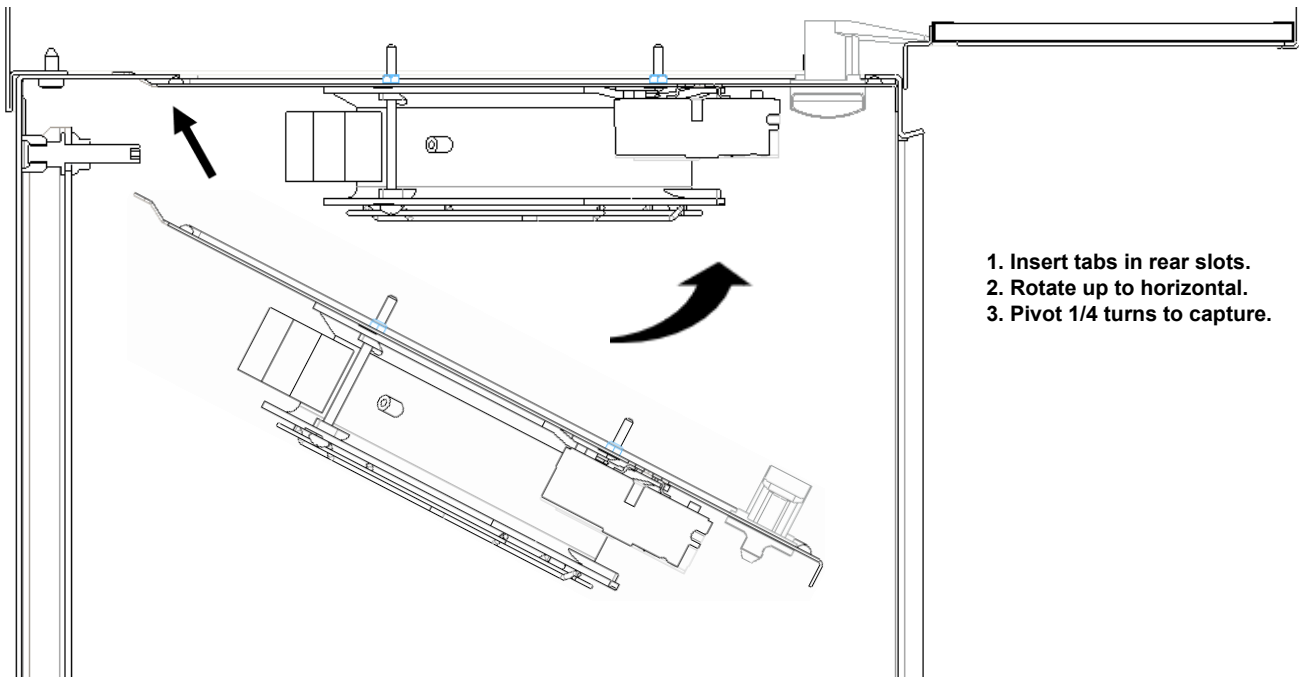


Fan assembly must be removed to install / replace discharge filter.

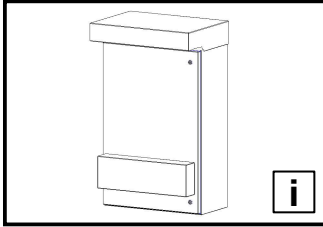
\*NOTE: Filters are washable.



Intake filter can be installed / replaced with door closed.



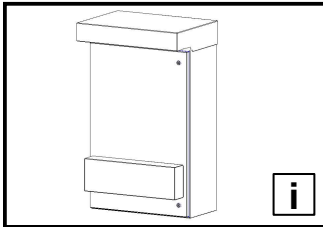
1. Insert tabs in rear slots.
2. Rotate up to horizontal.
3. Pivot 1/4 turns to capture.



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## 5. Installation

If there is the possibility of high pressures developing within the enclosure, the enclosure parts could burst. To counteract all associated dangers, the user must adopt appropriate safety measures.

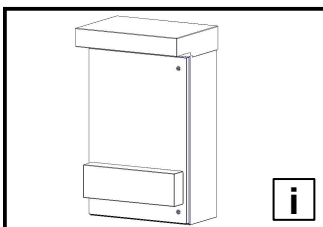


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## 6. Earthing and potential equalisation

-A physical potential equalisation for the door and the enclosure is present. Additionally the doors are provided with bolts for earth straps to be fitted when the installation requires a system-specific earth connection.

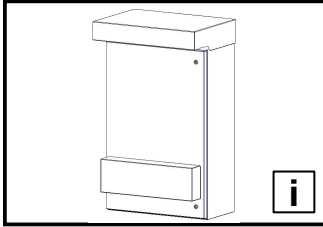
-All connections must be assembled in accordance with the assembly instructions.



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## 7. Operation

- To prevent dust, humidity and air contaminated with pollutants from entering the enclosure, avoid leaving the door open for an unnecessarily long time. The equipped mounting plate must be secured for transport.
- After working on the enclosure, check that the door is closed properly.



## 8. Inspection and maintenance

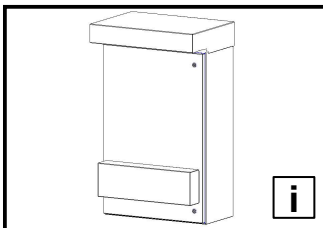
Maintenance must be performed at regular intervals depending on use and ambient conditions, at least once annually and documented accordingly.

Nature and extent of the work to be performed:

- Washable filters to be removed and cleaned to ensure adequate air flow is maintained.
- The door hinges are checked for ease of movement and sprayed with a suitable, water-free lubricant.
- The lock is checked for ease of movement. All moving closure parts are sprayed with a suitable, water-free lubricant.
- Gaskets in the contact edge area must be replaced completely if damaged. If the gasket is damaged outside the contact edges, the sealing effect is still sufficient as a rule.
- Common agents such as talcum, petroleum jelly or wax can be used to prevent damage due to gaskets freezing because of low temperatures. All components and surfaces are examined for external damage.
- Steel enclosures are also inspected for traces of corrosion.

Any damage is repaired as follows:

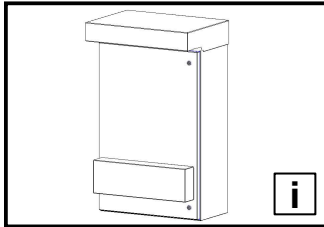
- Damage to small areas that affect only a part of the surface (e.g. scratches): Lightly sand off the surface at the damaged place and remove all traces of corrosion as well as all contamination. Depending on the degree of damage, apply the Rittal touch-up paint either with a paint stick, a brush or a spray paint can (alternative: 2K-PUR acrylic paint).
- Large area damage: Sand off the surface uniformly and clean with white spirit; then paint over the entire surface with Rittal touch-up paint (alternative: 2K-PUR acrylic paint).



## 9. Storage

When storing the enclosure, ensure that

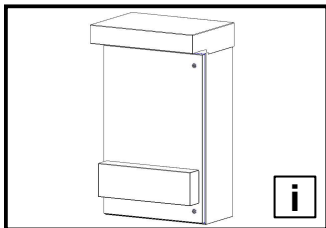
- The ambient temperature is not higher than +80°C.
- The ambient temperature is not lower than -20°C.
- The relative humidity does not exceed 50% at +40°C (higher humidity levels are permitted at lower temperatures).



## 10. Technical specifications/Degrees of protection

Model No.	Dimensions (mm)			Interior Volume (cf)	Mounting plate design	Load (N)			Degree of protection
	Width	Height	Depth		Thickness (mm)	Total	Mounting plate	Door	Type
9980094	610	710	430	2.8	1.5	225	175	50	Type 3R
9980095	610	870	430	3.7	1.5	270	220	50	Type 3R
9980096	610	1010	430	4.4	1.5	340	290	50	Type 3R
9980097	610	1185	480	6.2	2.0	450	400	50	Type 3R
9980098	910	1335	555	12.6	2.0	560	510	50	Type 3R
9980099	910	1635	555	15.9	2.0	560	510	50	Type 3R

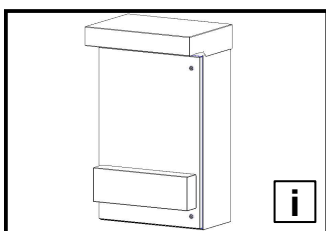
Model No.	Fans	Diam	cfm	Fan VAC	Fan Amps (60 Hz)
9980094	1	4"	75	115	.23
9980095	2	4"	160	115	.46
9980096	2	4"	160	115	.46
9980097	1	6"	200	115	.34
9980098	2	6"	400	115	.68
9980099	3	6"	500	115	1.02



## 11. Spare parts

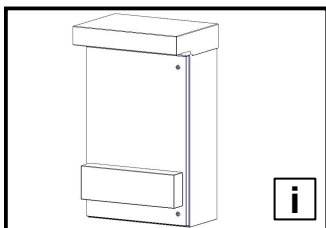


A current overview is available at  
[www.rittal.com](http://www.rittal.com).



## 12. Guarantee

The conditions named in the sales and delivery  
 conditions of the associated Rittal agents and  
 subsidiaries apply.



## 13. Customer services addresses

### Headquarter Deutschland Headquarters Germany Siège en Allemagne

RITTAL GmbH & Co. KG  
 Auf dem Stuetzelberg  
 35745 Herborn  
 Germany  
 Phone +49(0)2772 505-1855  
 Fax +49(0)2772 505-1850  
 E-mail: [service@rittal.de](mailto:service@rittal.de)

### Service-HUB USA Service HUB USA Plateforme de service aux États-Unis

RITTAL Corporation  
 801 State Route 55 Dock 25  
 Urbana, OH 43078  
 Phone +1 800 477 4000, option 3  
 E-mail: [service@rittal.us](mailto:service@rittal.us)  
[www.rittal-corp.com](http://www.rittal-corp.com)

### Service-HUB Brasilien Service HUB Brazil Plateforme de service au Brésil

RITTAL Sistemas Eletromecânicos Ltda.  
 Av. Cândido Portinari, 1174  
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 Phone +55 (11) 3622 2361  
 Fax +55 (11) 3622 2399  
 E-mail: [service@rittal.com.br](mailto:service@rittal.com.br)

### Service-HUB China Service HUB China Plateforme de service en Chine

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 Shanghai, 201612  
 Phone +86 21 5115 7799-213  
 Fax +86 21 5115 7788  
 E-mail: [service@rittal.cn](mailto:service@rittal.cn)

### Service-HUB Indien Service HUB India Plateforme de service en Inde

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 Doddaballapur-561 203  
 Bengaluru District  
 Phone +91 (80) 22890792  
 Fax +91 (80) 7623 343  
 E-mail: [service@rittal-india.com](mailto:service@rittal-india.com)

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