

# **FLANGE MOUNT KITS FOR MR4-MR7 MOUNTING INSTRUCTIONS**



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## FLANGE MOUNT KITS FOR MR4-MR7 MOUNTING INSTRUCTIONS

### GENERAL

Using the optional Flange Mounting Kit, you can mount the AC drive through a cabinet wall or similar surface so that the control unit of the drive remains inside the cabinet.

The correct installation of the Flange Mounting Kit might affect the IP protection class of the AC drive. If the drive is protected according to an IP54/Type12, or the drive is supplied with the flange option at the factory, you only need to install the collars, as instructed. However, the power module of an IP21/Type1-protected drive will only become protected according to the IP54/Type12 on the rear side (see figure below), if all parts of the flange mounting kit are installed properly. The need for this has to be evaluated and these actions are explained in this guide.

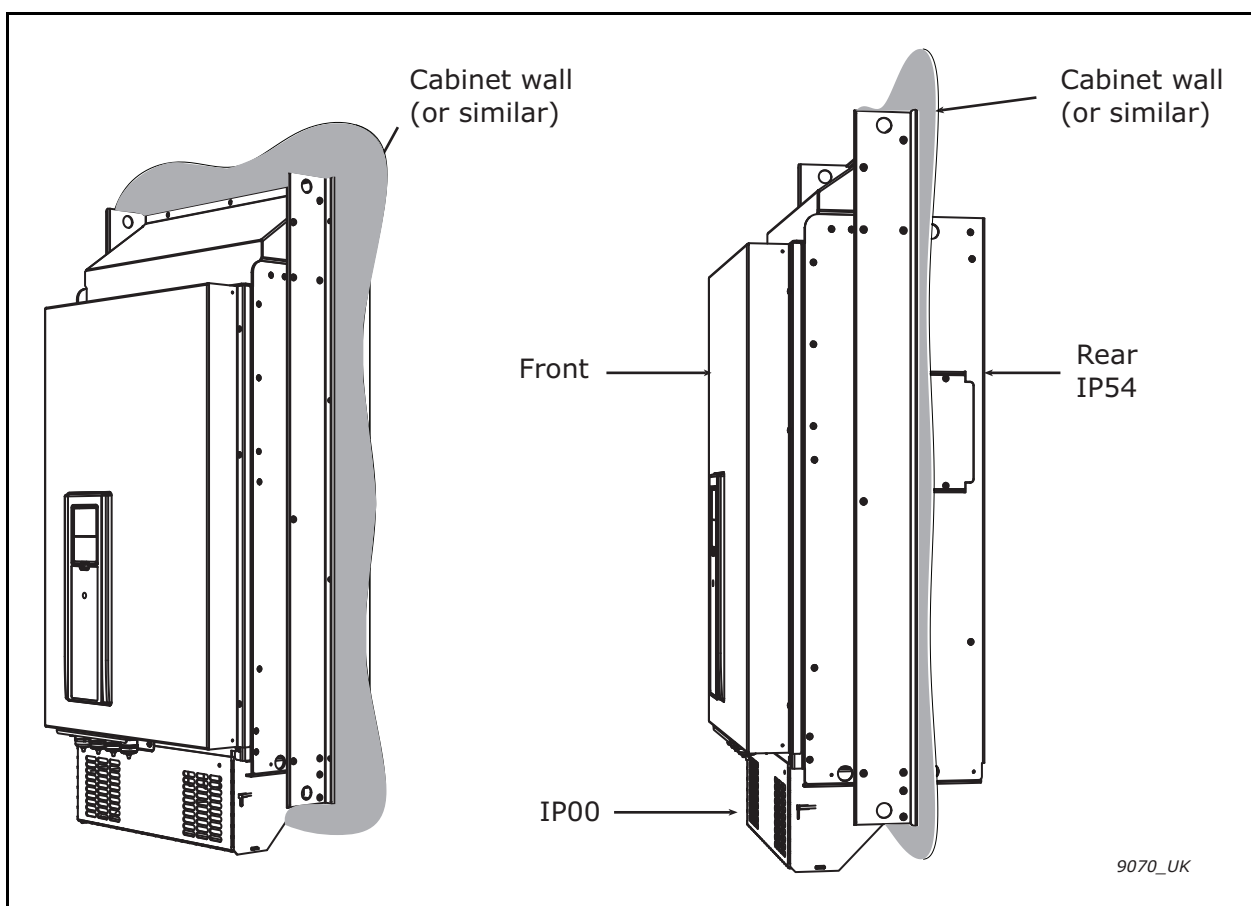


Figure 1. Example of the flange mounting with MR9

## FLANGE MOUNT - MR4-MR7

Figure 6. presents the dimensions of the opening and the drive outline with the flange. Figures 2. - 5. present the dimensions of the drives with the flange mount option.

It is recommended that the embossed holes or self clinching nuts are used in the back plate for the drive mounting in order to guarantee the sealing.

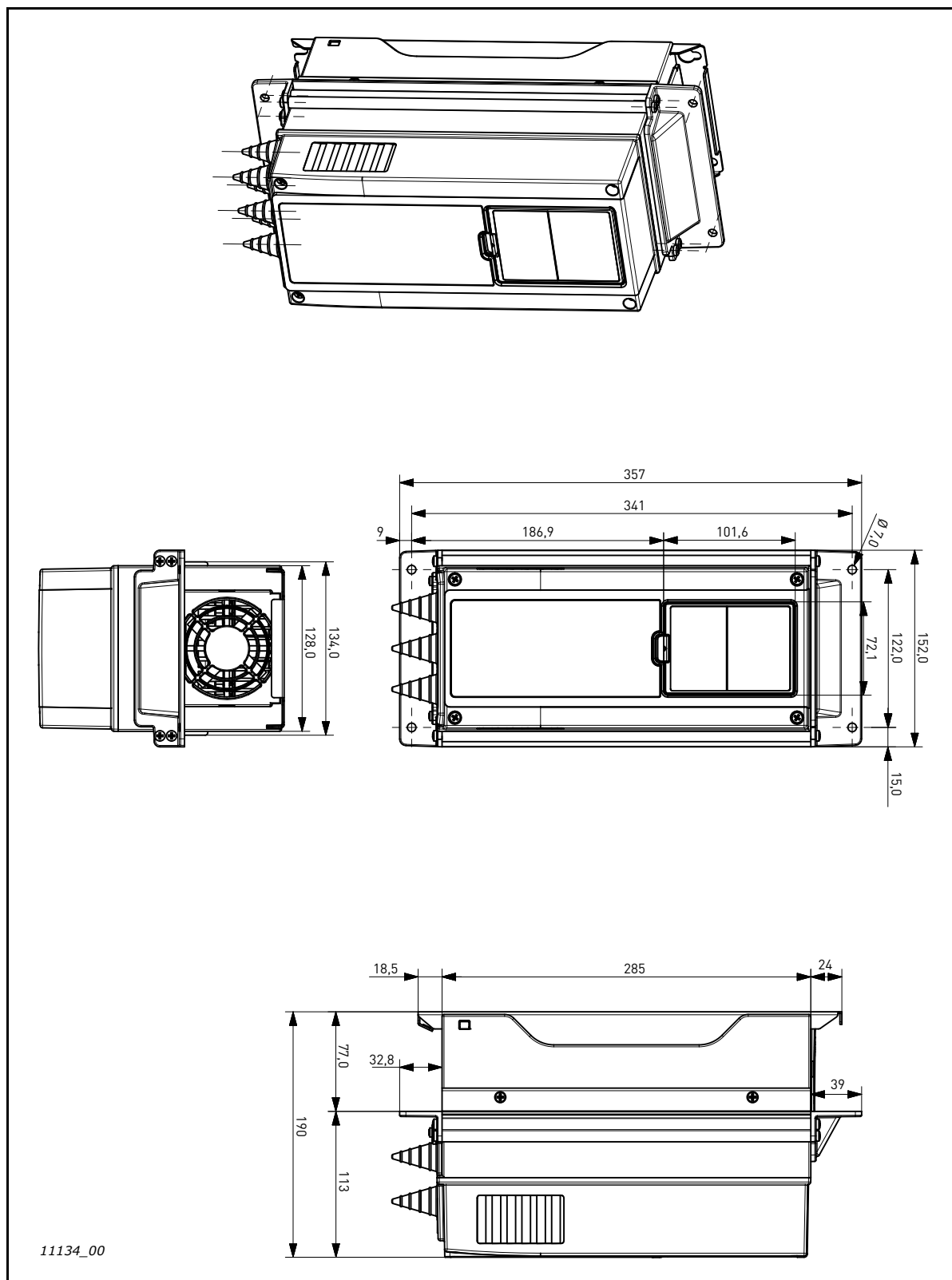


Figure 2. MR4, flange mount, dimensions

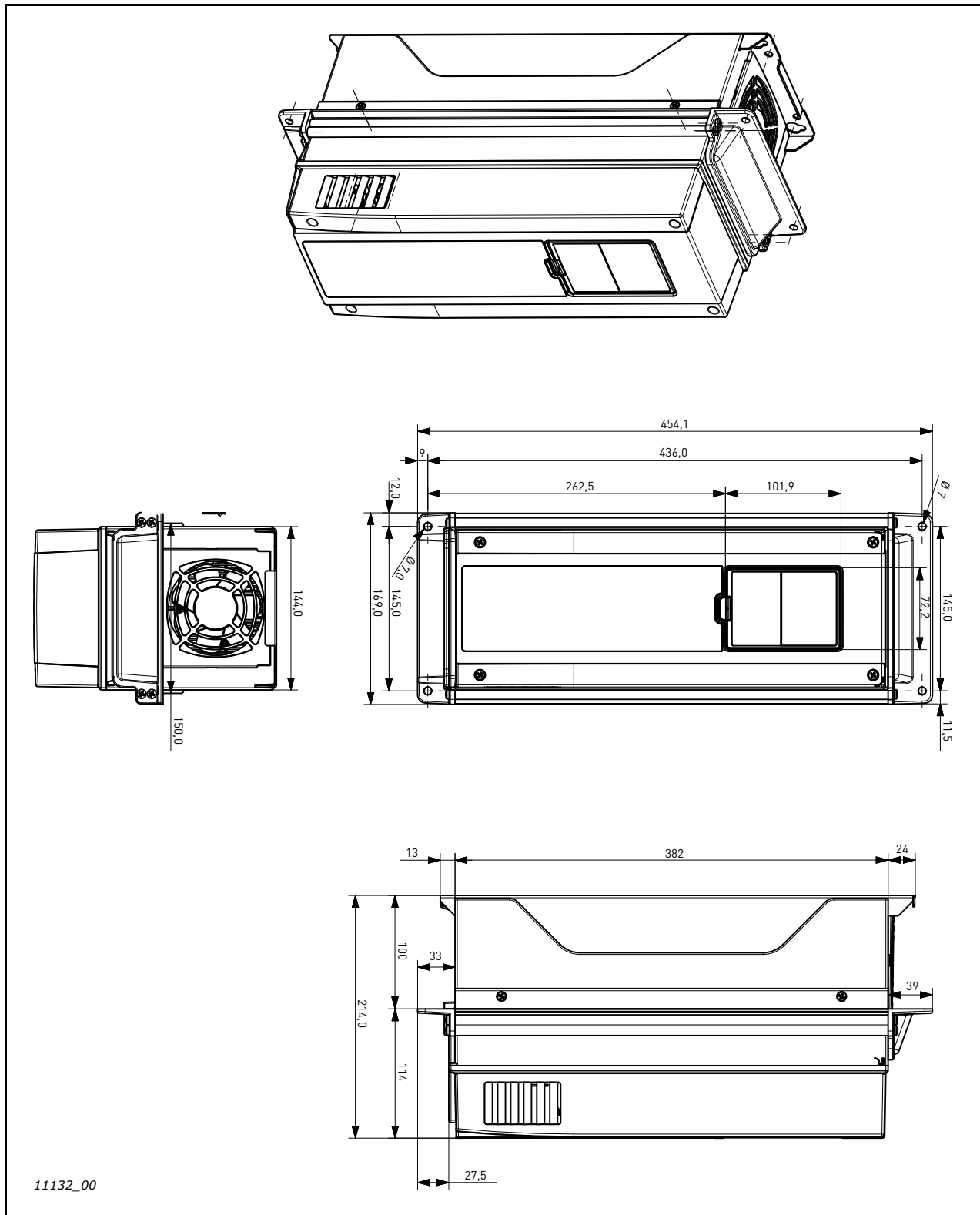


Figure 3. MR5, flange mount, dimensions

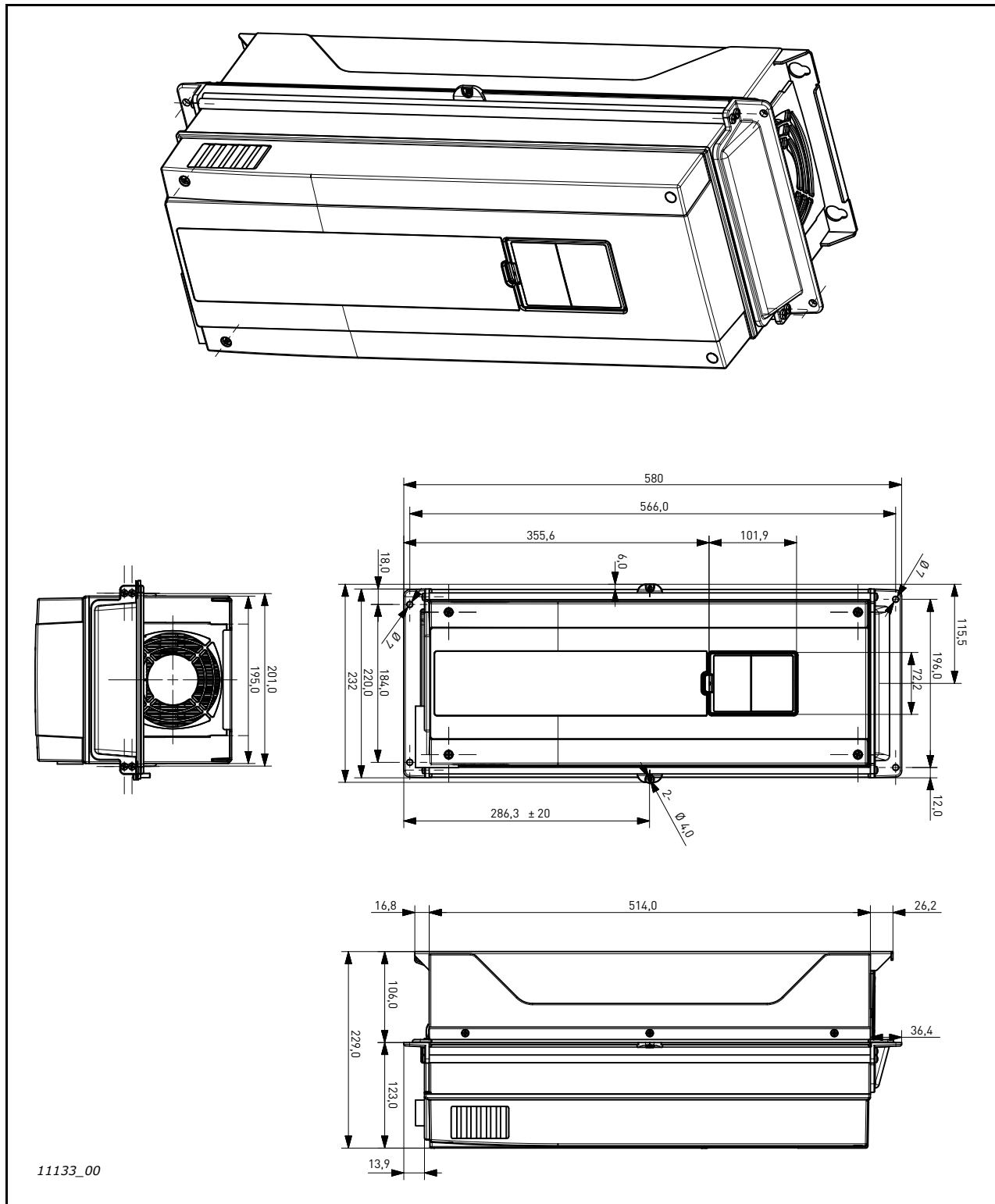


Figure 4. MR6, flange mount, dimensions

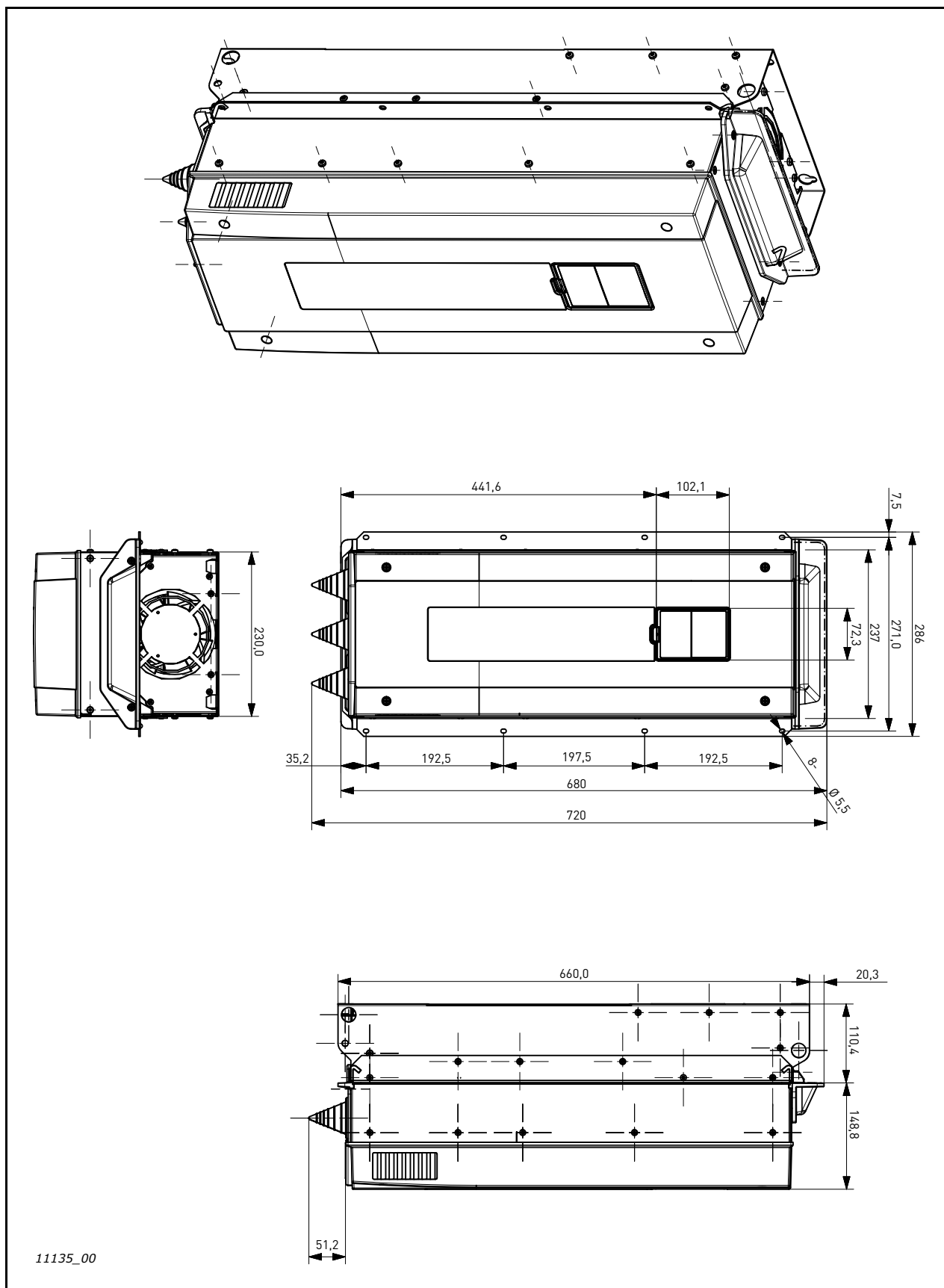


Figure 5. MR7, flange mount, dimensions



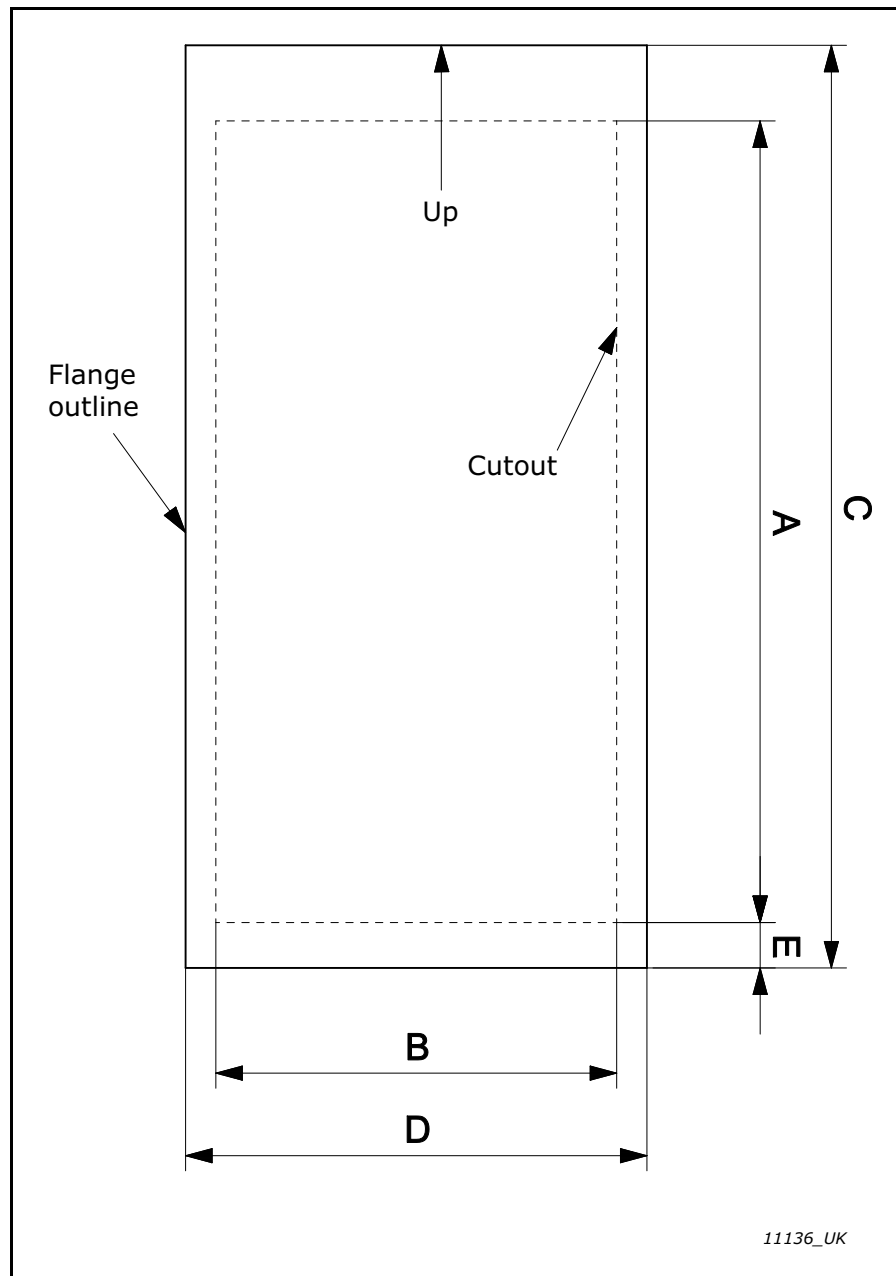
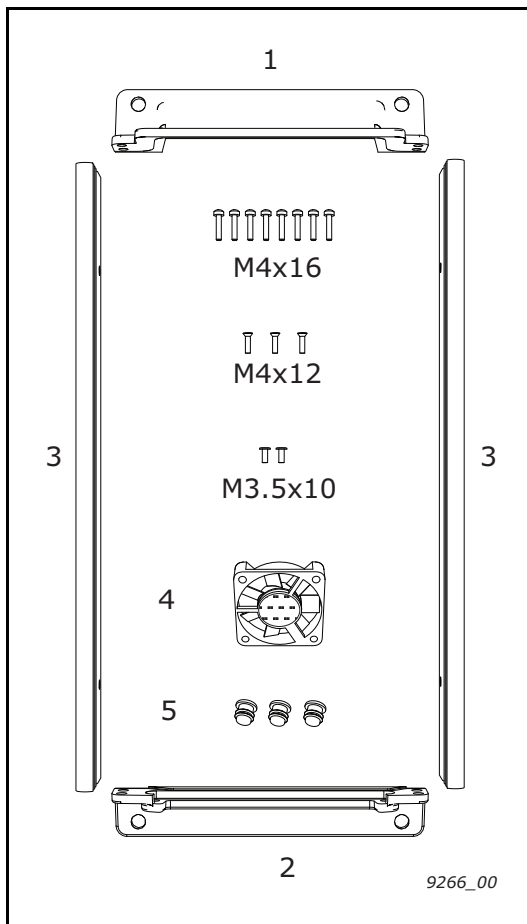


Figure 6. Flange mount cutout and drive outline dimensions for MR4-MR7

Table 1. Flange mount cutout dimensions for MR4-MR7

Enclosure size	A	B	C	D	E
MR4	315	137	357	152	24
MR5	408	152	454	169	23
MR6	541	203	580	220	23
MR7	655	240	680	286	13

## FLANGE MOUNT KIT FOR MR4



### The parts needed in the installation:

- 1 = Top collar (70CMR00281)
- 2 = Bottom collar (70CMR00280)
- 3 = Side collars, 2 pcs (70CMR00282)
- 4 = Internal fan, (70CPE00132, 70CPE00056) depending on the control unit
- 5 = Sealing plugs, 3 pcs (70CMR00324)

### Additionally:

- 8 pcs screws, size 4x16 (for the top and bottom collar mounting)
- 3 pcs screws, size 4x12 (for the side collar mounting)
- 2 pcs screws, size 3.5x10 (for the bottom collar mounting)

## MR4 FLANGE MOUNTING

If your drive is IP21/Type1-protected and there is the risk that dust or other impurities in the cooling air might end up inside the control unit, start the mounting with actions described in steps 1 to 4.

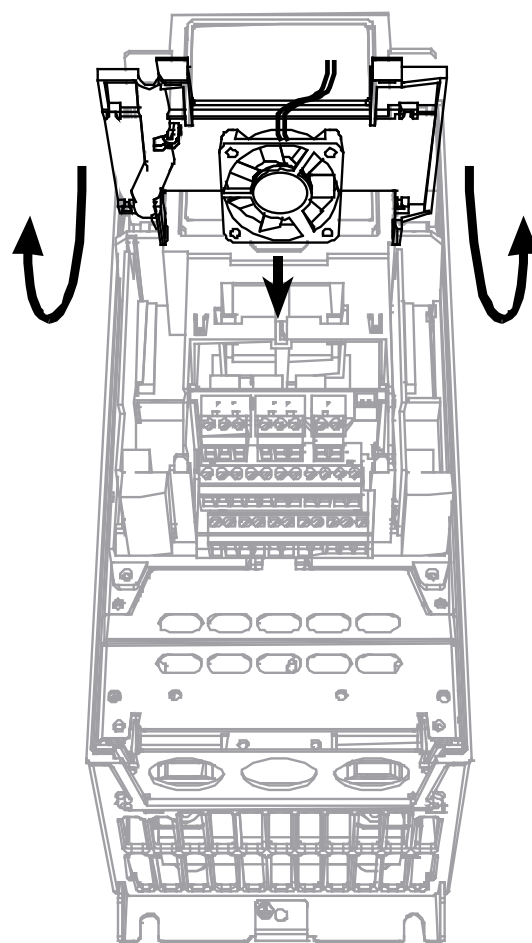
If this is not needed, install the flange mounting kit proceeding directly to step 5. Note, in this case the rear will not be according to the IP54/Type12.

1

Remove the cover of the drive.

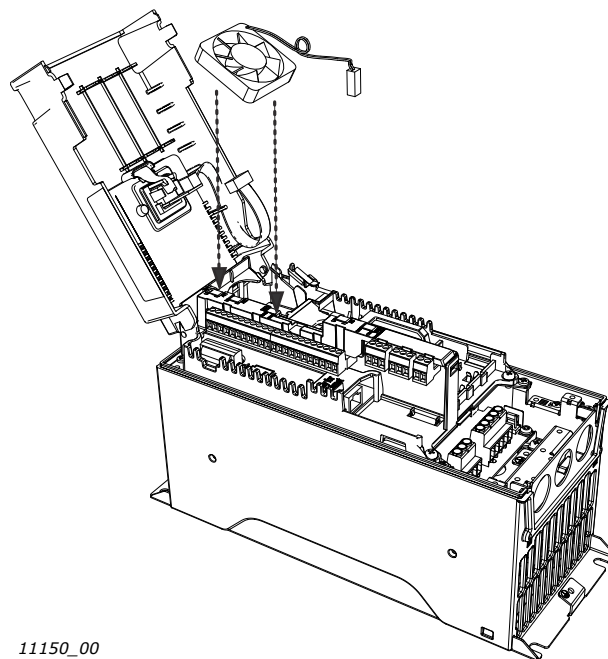
Open the control unit.

The location of the **internal fan** depends on the control unit.  
If you have the control unit presented in the upper picture, Slide the **internal fan** into the opening with the label facing the cabling end of the drive.



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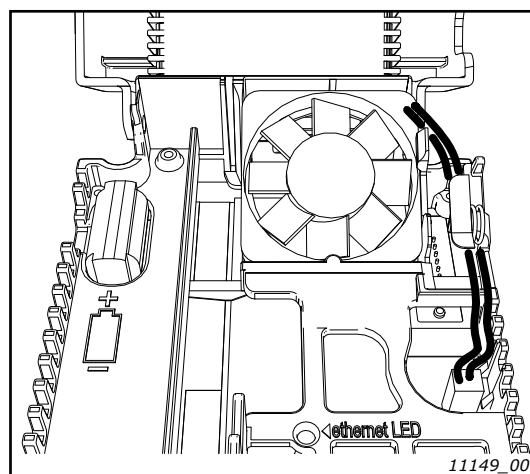
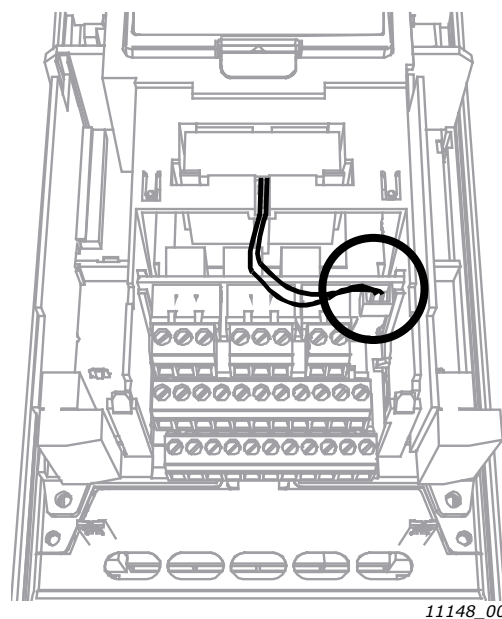
If you have the control unit presented in the lower picture, install the **internal fan** with the label facing downwards.



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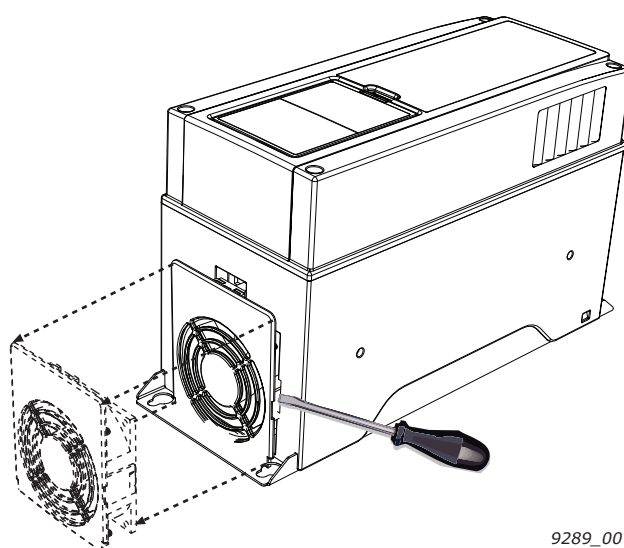
2

Connect the power wire to the power connector. The location of the power connector depends on the control unit.



3

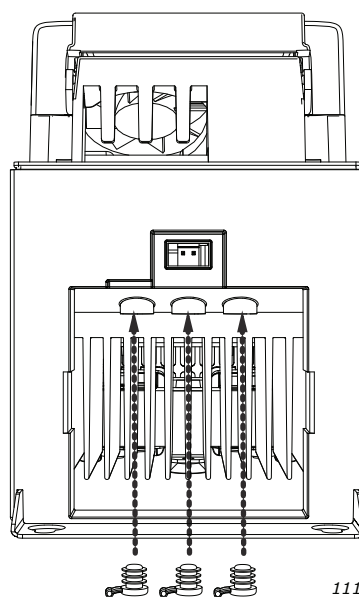
Remove the main fan.



4

Insert three **sealing plugs** into their positions.

Remount the main fan carefully checking its position.

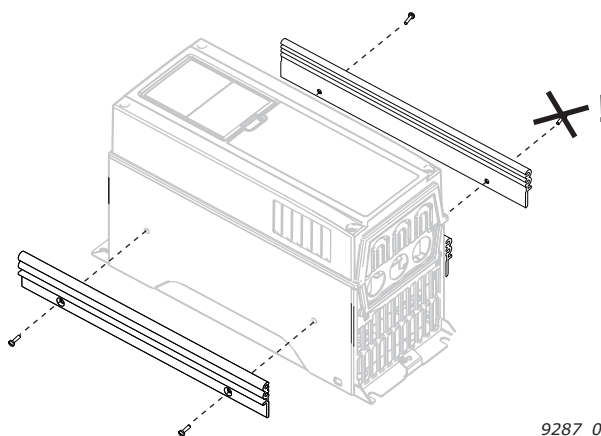


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5

Attach the **side collars** with three size 4x12 screws. The tightening torque for the screws is 2 Nm.

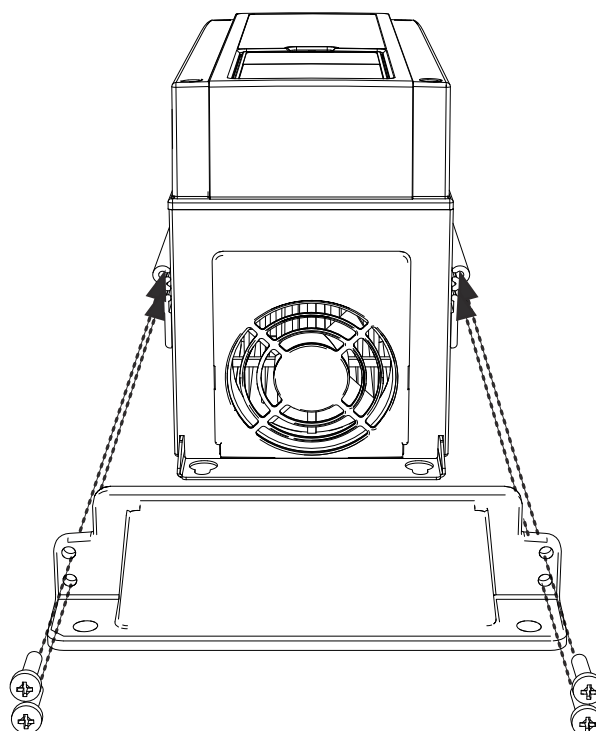
**Important!** Do not, however, install the fourth screw in the bottom right hole.



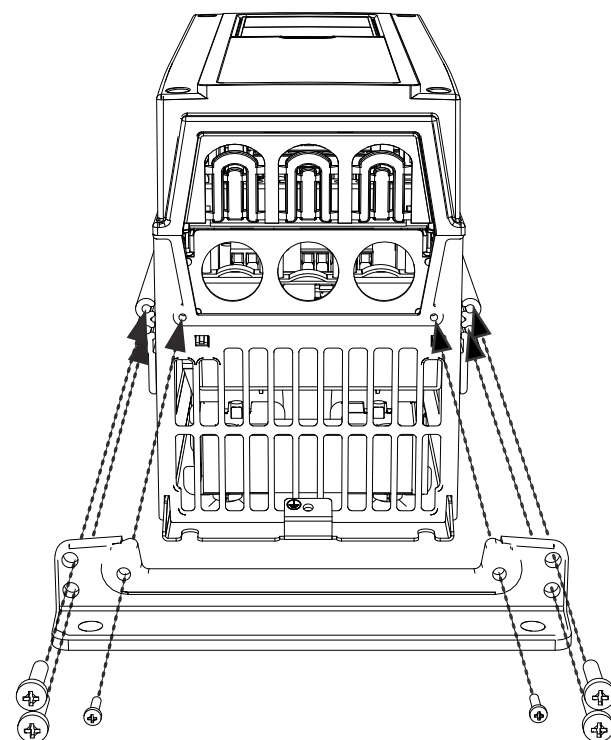
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6

Then mount the **top collar** with the four size 4x16 screws. The tightening torque is 2 Nm.

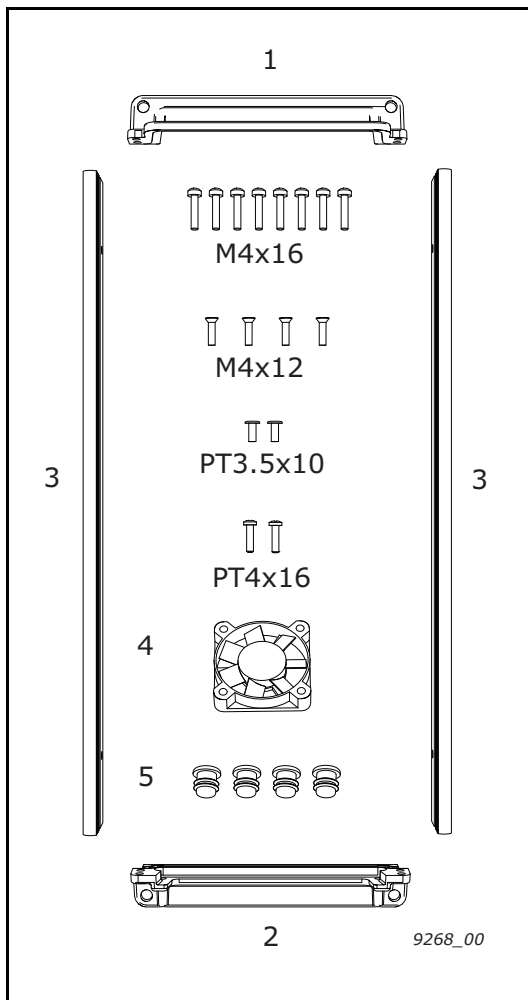


Mount the **bottom collar** with the four size 4x16 screws (the torque is 2 Nm) and the two size 3.5x10 screws (the torque is 1.7 Nm).



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## FLANGE MOUNT KIT FOR MR5



### The parts needed in the installation:

- 1 = Top collar (70CMR00176)
- 2 = Bottom collar (70CMR00175)
- 3 = Side collars, 2 pcs (70CMR00090)
- 4 = Internal fan (70CPE00056)
- 5 = Sealing plugs, 4 pcs (70CMR00324)

### Additionally:

- 8 pcs screws, size 4x16 (for the top and bottom collar mounting)
- 4 pcs screws, size 4x12 (for the side collar mounting)
- 2 pcs screws, size 3.5x10 (for the bottom collar mounting)
- 2 pcs screws, size 4x16 (for the mounting of the internal fan)

## MR5 FLANGE MOUNTING

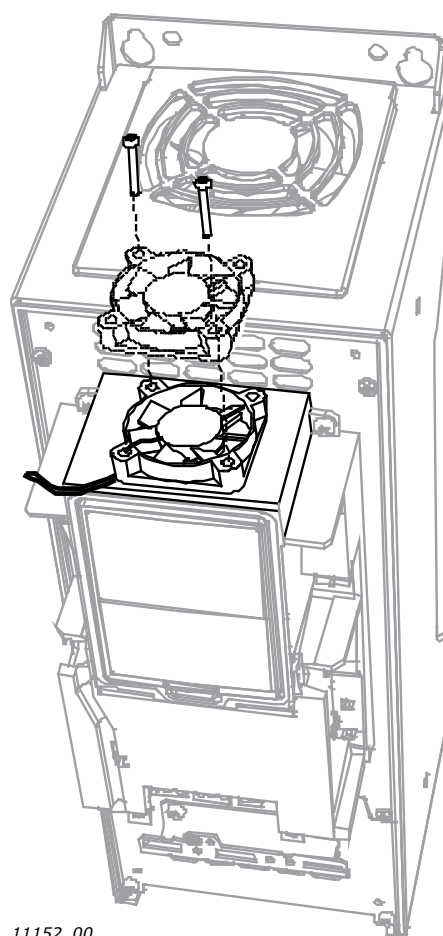
If your drive is IP21/Type1-protected and there is the risk that dust or other impurities in the cooling air might end up inside the control unit, start the mounting with actions described in steps 1 to 4.

If this is not needed, install the flange mounting kit proceeding directly to step 5. Note, in this case the rear will not be according to the IP54/Type12.

1

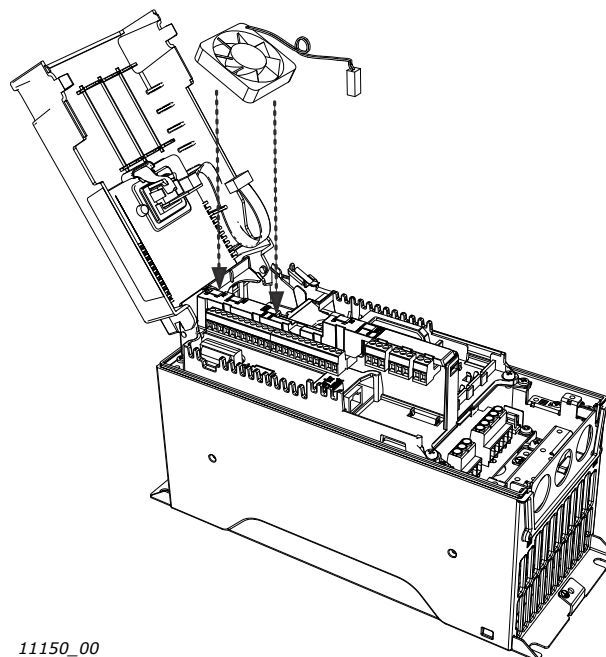
Remove the cover of the drive.

The location of the **internal fan** depends on the control unit. If you have the control unit presented in the upper picture, install the **internal fan** with the label facing upwards. Size 4x16 screws are needed for mounting. The tightening torque for the screws is 0.5 Nm.



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If you have the control unit presented in the lower picture, open the control unit and install the **internal fan** with the label facing downwards.



11150\_00

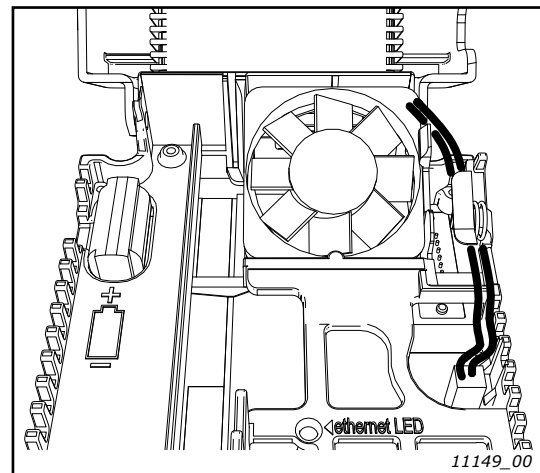
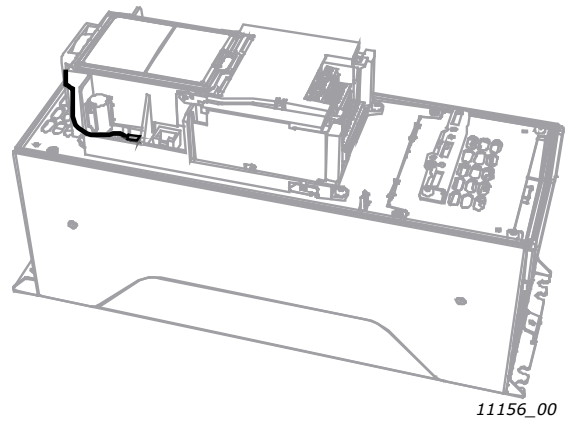


**2**

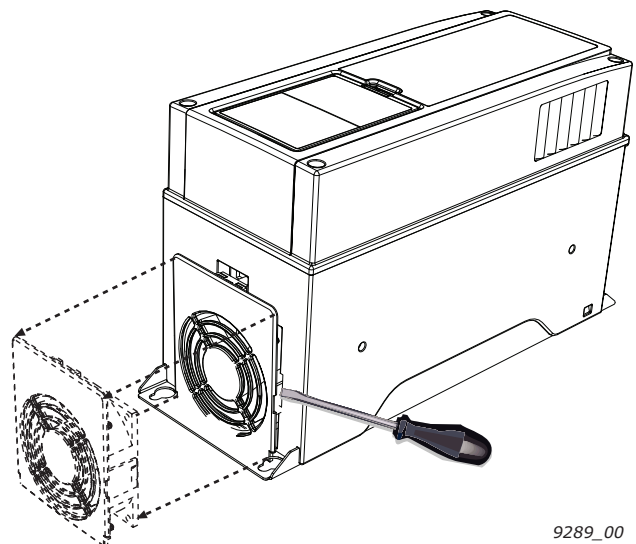
Then insert the power connector of the **internal fan** to the power terminal.

The location of the power connector depends on the control unit.

Remount the drive cover.

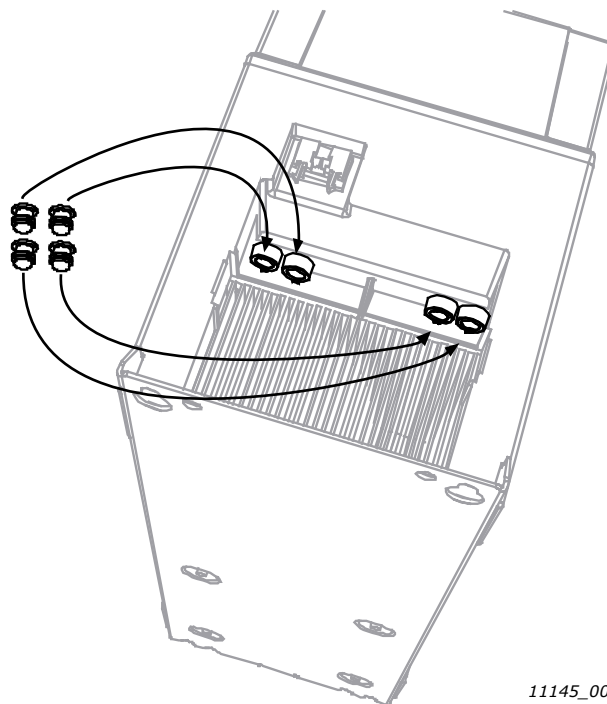
**3**

Remove the main fan.



4

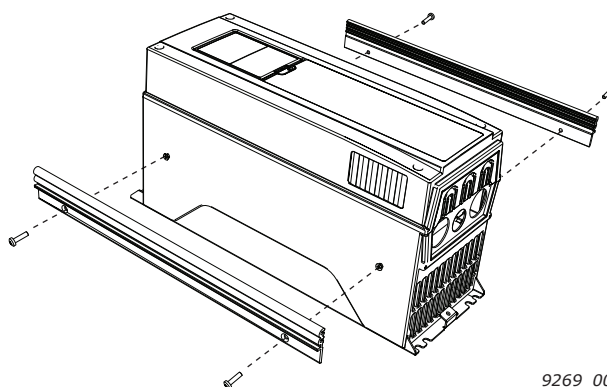
Insert the **sealing plugs**.  
Remount the main fan.



11145\_00

5

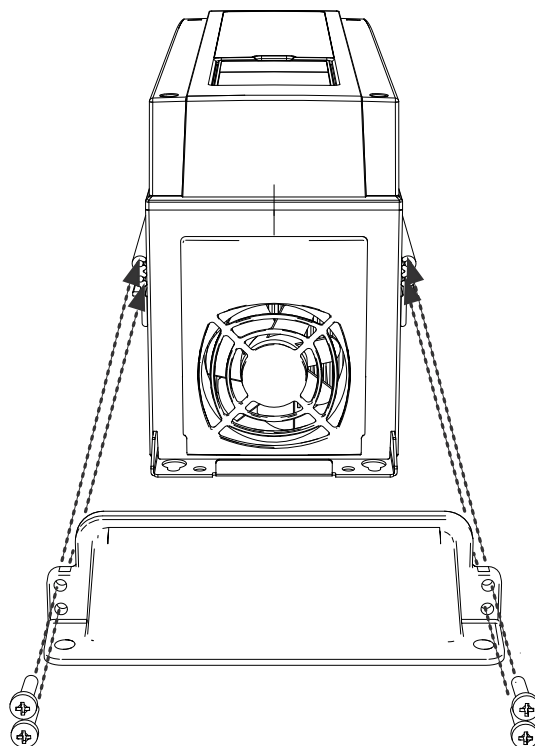
Attach the **side collars** with the  
four size 4x12 screws. The  
tightening torque for the screws is  
2 Nm.



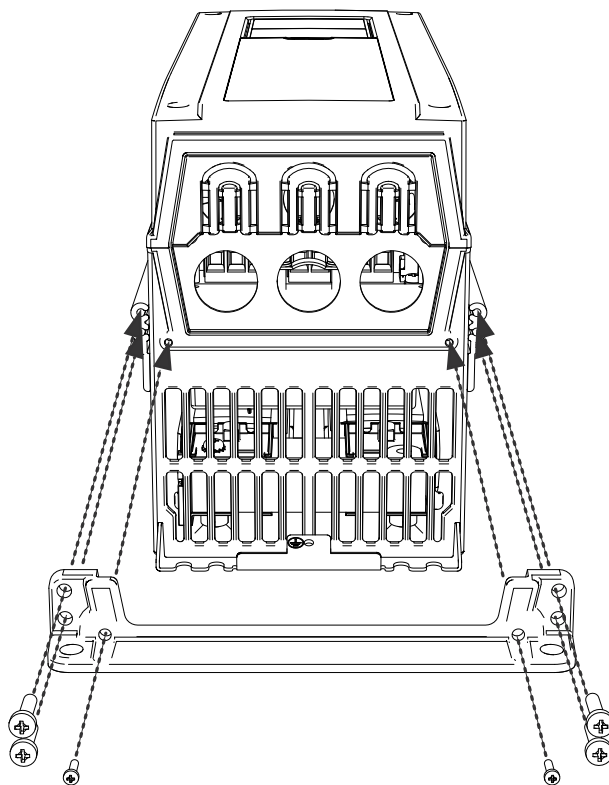
9269\_00

6

Then mount the **top collar** with the four size 4x16 screws. The tightening torque is 2 Nm.

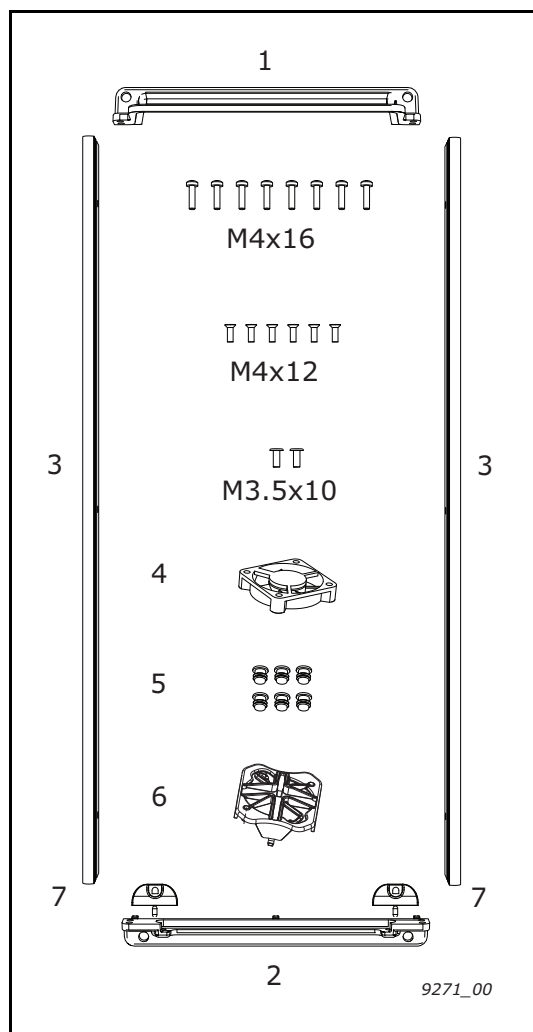


Mount the **bottom collar** with the four size 4x16 screws (the torque is 2 Nm) and the two size 3.5x10 screws (the tightening torque is 1.7 Nm). Place the screws as shown in the picture.



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## FLANGE MOUNT KIT FOR MR6



### The parts needed in the installation:

- 1 = Top collar (70CMR00174)
- 2 = Bottom collar (70CMR00173)
- 3 = Side collars, 2 pcs (70CMR00145)
- 4 = Internal fan (70CPE00056)
- 5 = Sealing plugs, 6 pcs (70CMR00324)
- 6 = Fan grille 50 mm (70CTC1102509)
- 7 = Additional fasteners, 2 pcs (70CTC1103801)

### Additionally:

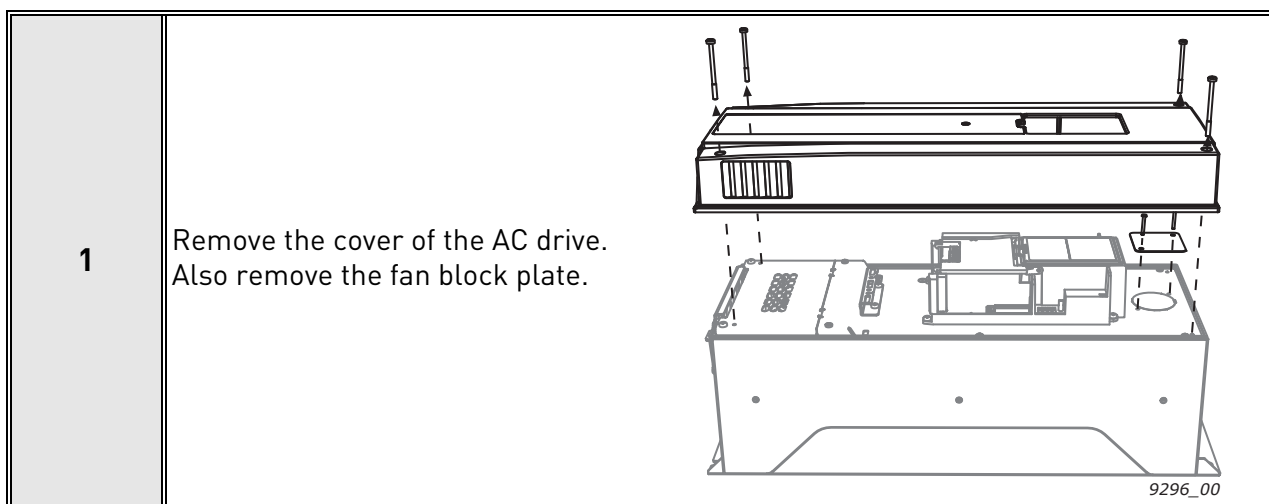
- 8 pcs screws, size 4x16 (for the top and bottom collar mounting)
- 6 pcs screws, size 4x12 (for the side collar mounting)
- 2 pcs screws, size 3.5x10 (for the bottom collar mounting)

## MR6 FLANGE MOUNTING

If your drive is IP21/Type1-protected and there is the risk that dust or other impurities in the cooling air might end up inside the control unit, start the mounting with actions described in steps 1 to 5.

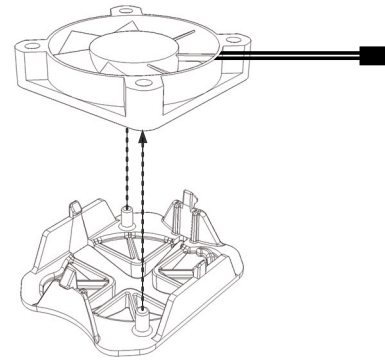
If this is not needed, install the flange mounting kit proceeding directly to step 6. Note, in this case the rear will not be according to IP54/Type12.

Please read step 8 first in order to find out if the additional fasteners are needed.

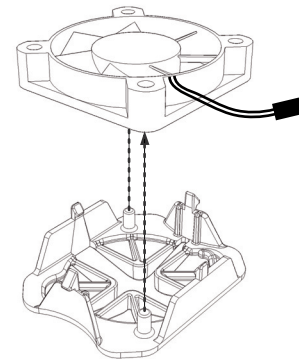


**2**

Install the **internal fan** to the fan grille so that the label is facing upwards.



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11138\_00

3

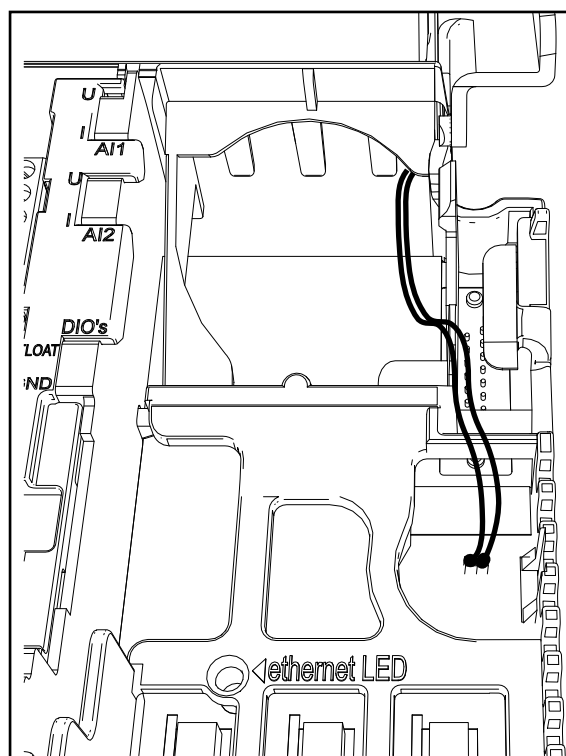
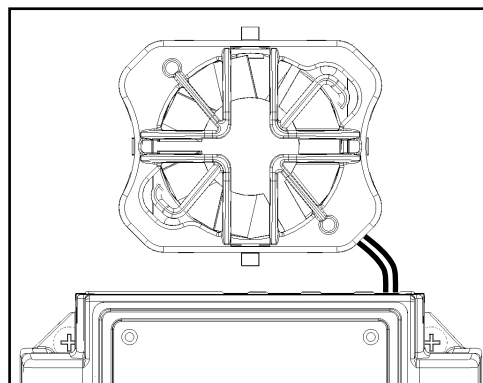
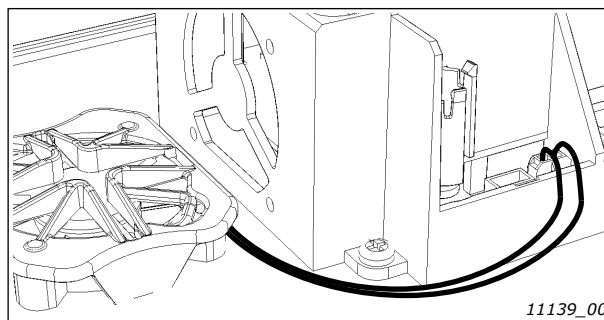
Install the **internal fan** and the fan grille assembly to the frame.

**NOTE!** Make sure that the fan wire is routed away from the fan blades. The direction of the wire depends on the control unit.

Then insert the power connector of the internal fan to the power terminal.

**NOTE!** The location of the power connector depends on the control unit.

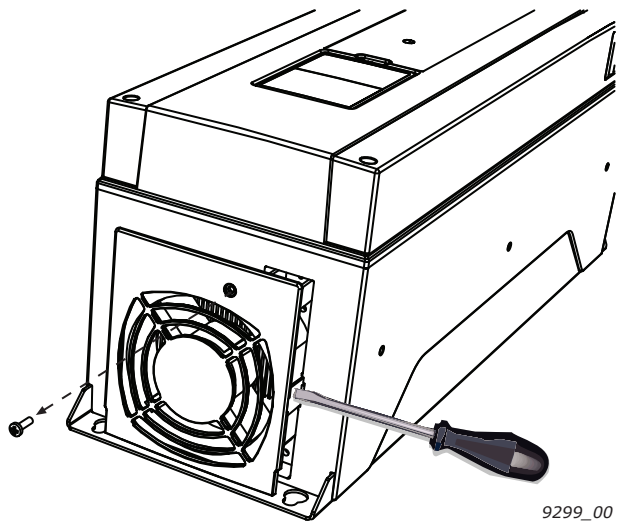
Remount the drive cover.



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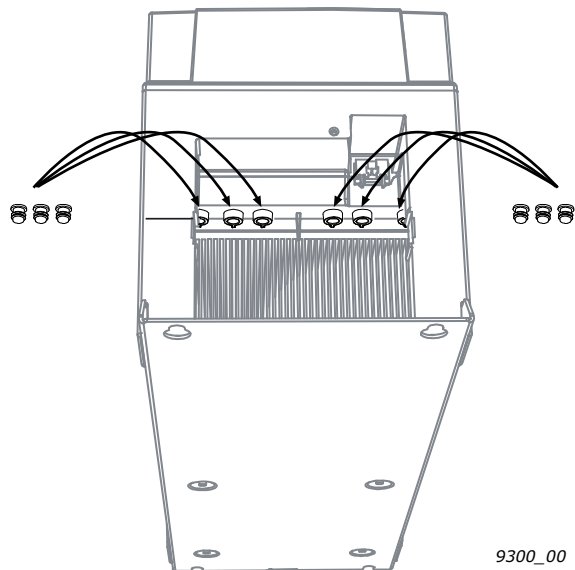
4

Remove the screw and detach the main fan.



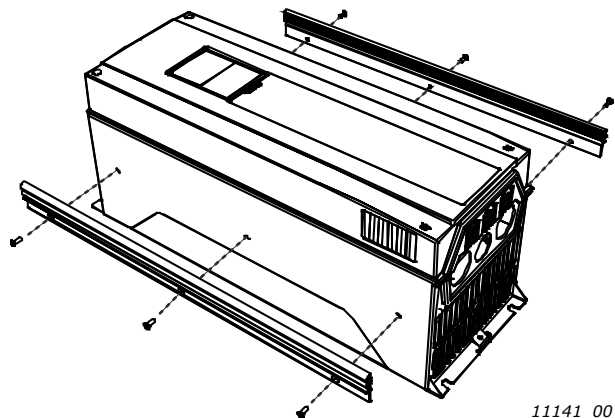
5

Insert the **sealing plugs** (6 pcs).  
Remount the main fan.



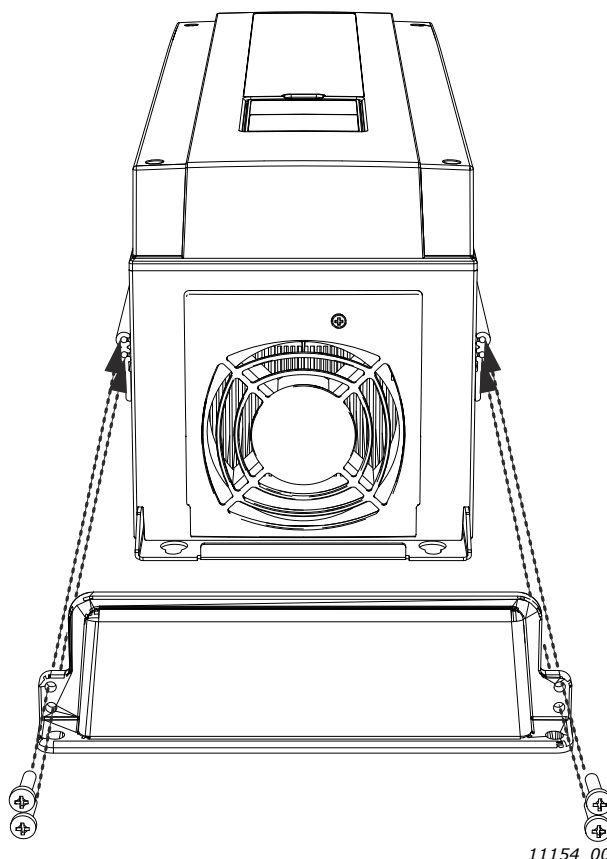
6

Attach the **side collars** with the six size 4x12 screws.  
The tightening torque for the screws is 2 Nm.

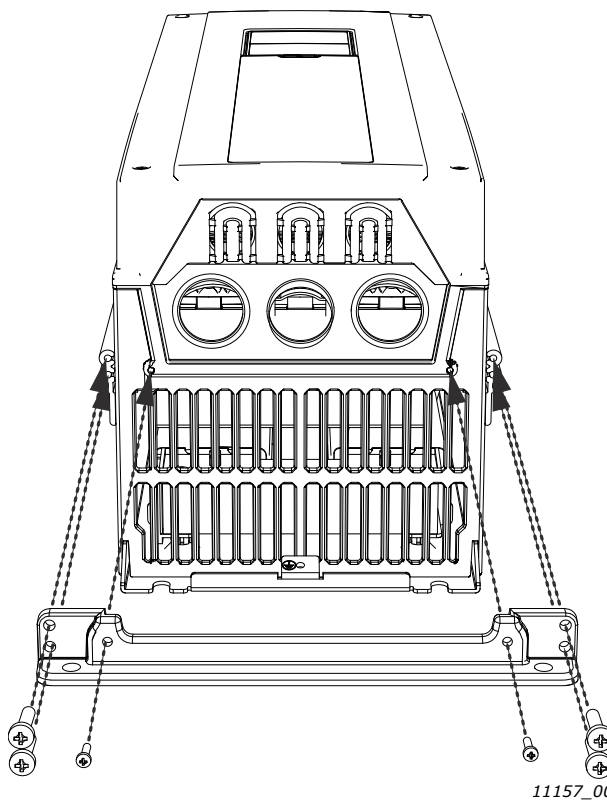


7

Then mount the **top collar** with the four size 4x16 screws, the tightening torque is 2 Nm.



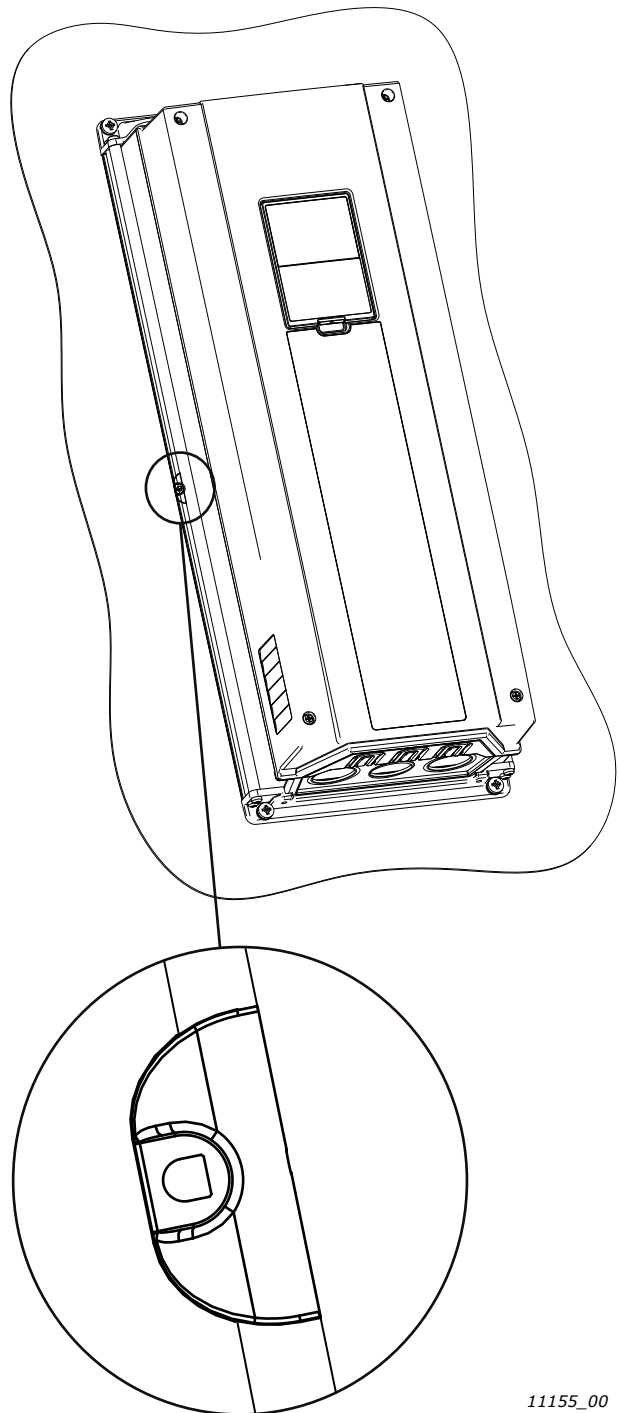
Mount the **bottom collar** with the four size 4x16 screws (the torque is 2 Nm) and the two size 3.5x10 screws (the tightening torque is 1.7 Nm).





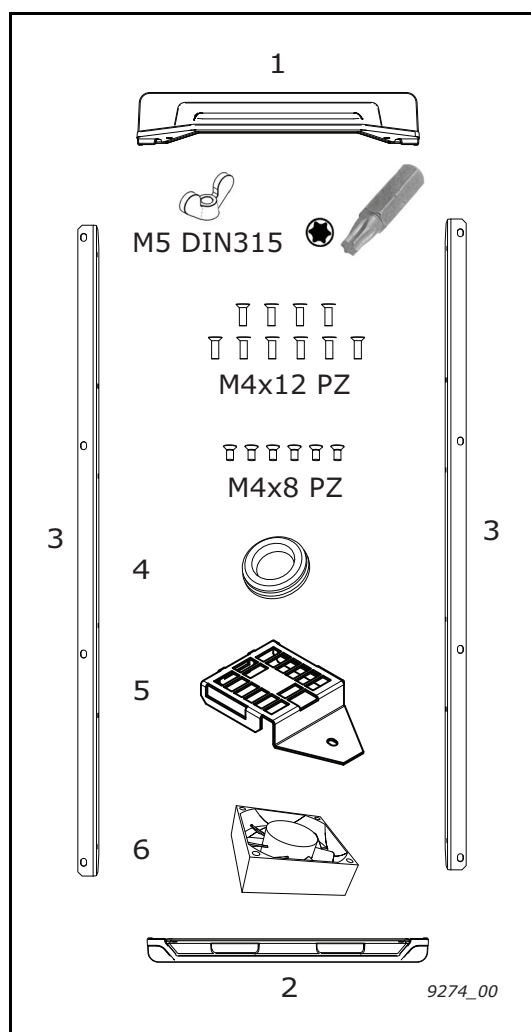
**8**

In case the back plate bends more than 1.5 mm, the additional fasteners are required to guarantee sealing. The fasteners can be battered down from the bottom cover (4 mm screws to be used with the fasteners). Position the fastener according to the dimensional drawing, see Figure 4. (MR6, flange mount, dimensions)



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## FLANGE MOUNT KIT FOR MR7



### The parts needed in the installation:

- 1 = Top collar (70CMC00343)
- 2 = Bottom collar (70CMC00344)
- 3 = Side collars, 2 pcs (70CMC00345)
- 4 = Bushing rubber (MC00016)
- 5 = Fan grille (70CTC1102699)
- 6 = Internal fan (70CPE00173)

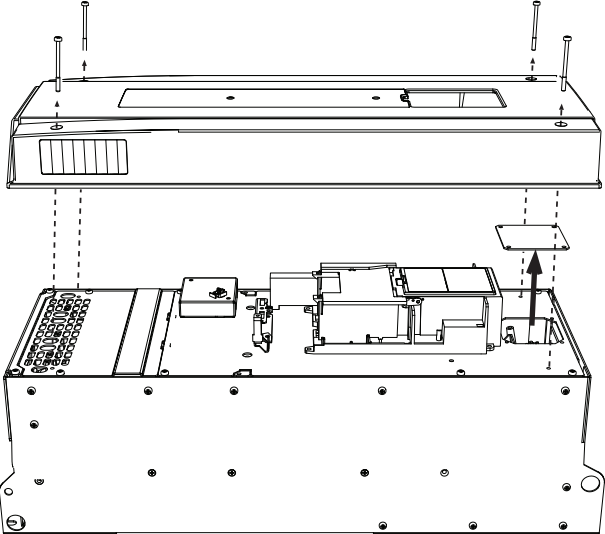
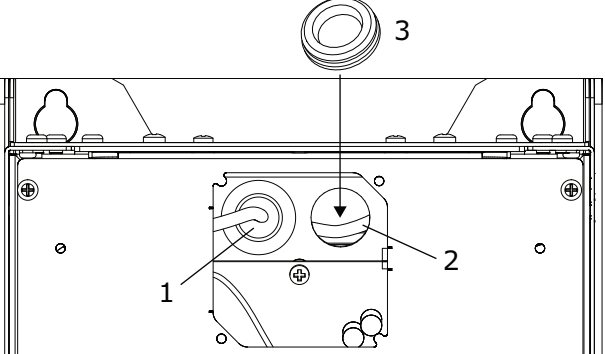
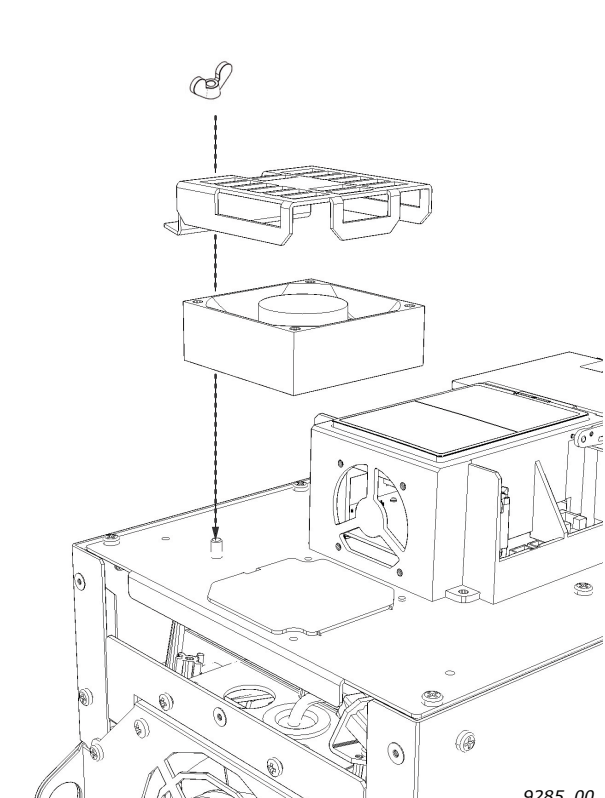
### Additionally:

- 10 pcs screws, size M4x12 PZ (for mounting the side, top and bottom collars)
- 6 pcs screws, size M4x8 PZ (for mounting the side collars)
- 1 pcs wing nut, size M5 DIN315 (for mounting the fan grille)
- 1 pcs torx head (for removing screws. See step 6.)

## MR7 FLANGE MOUNTING

If your drive is IP21/Type1-protected and there is the risk that dust or other impurities in the cooling air might end up inside the control unit, start the mounting with actions described in steps 1 to 5.

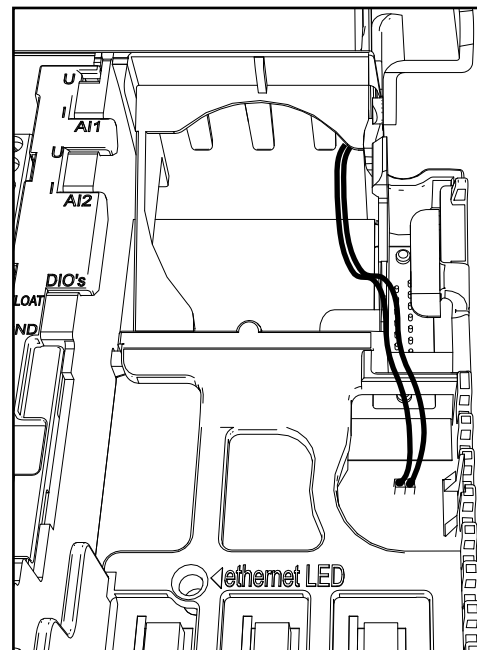
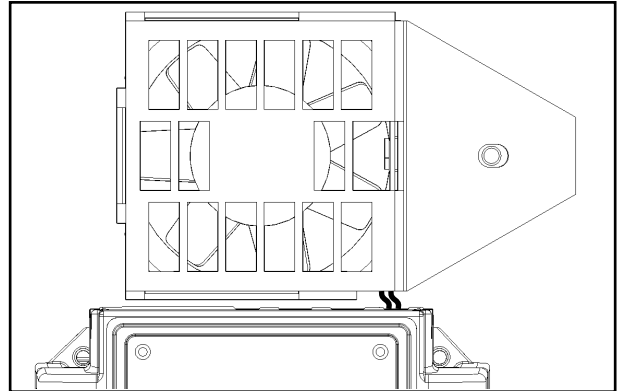
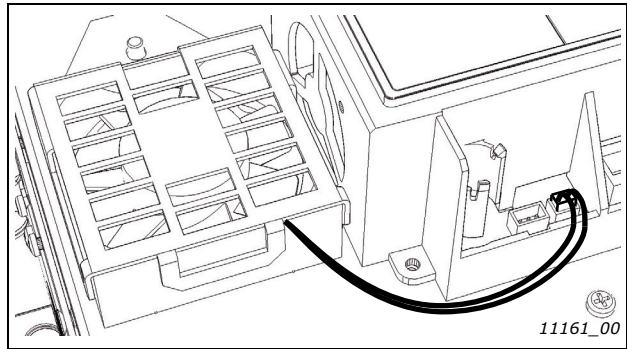
If this is not needed, install the flange mounting kit proceeding directly to step 6. Note, in this case the rear will not be according to the IP54/Type12.

1	<p>Remove the cover of the AC drive. Also remove the fan block plate.</p>  <p>9283_00</p>
2	<ol style="list-style-type: none"><li>1. Install the fan bushing located on the fan wire into its position.</li><li>2. Make sure that the fan wires are routed on top of the fan away from the fan blades.</li><li>3. Place the supplied <b>bushing rubber</b> into the open hole.</li></ol>  <p>9284_00</p>
3	<p>Install the <b>internal fan</b> so that the wire leaves to the right direction. The direction depends on the control unit. See step 4 below.</p>  <p>9285_00</p>

4

To power the fan, connect it to the power terminal next to the keypad. The location of the power connector depends on the control unit.

**NOTE!** Make sure that the fan wire is routed away from the fan blades.

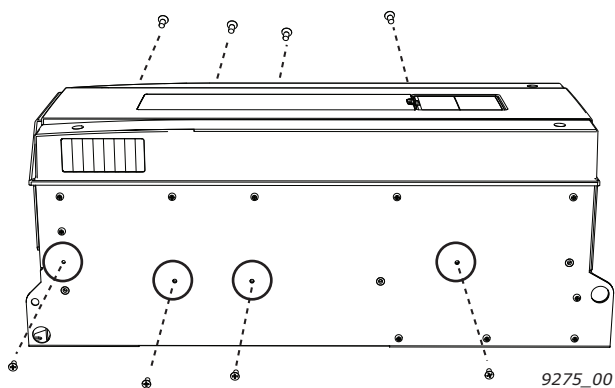


5

Remount the drive cover.

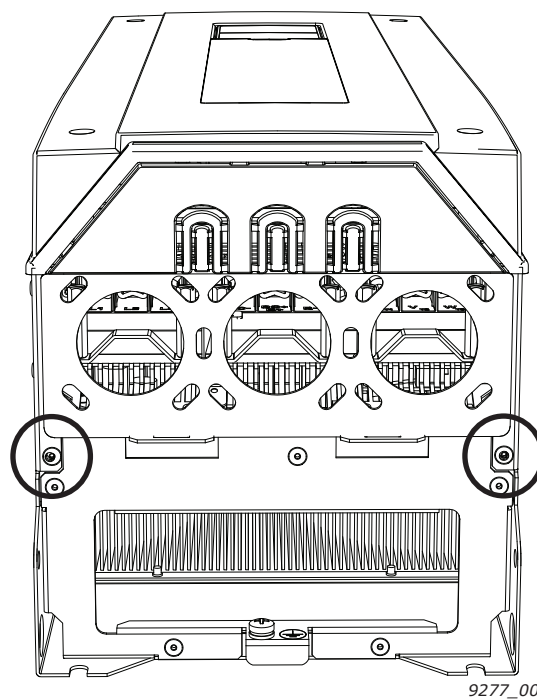
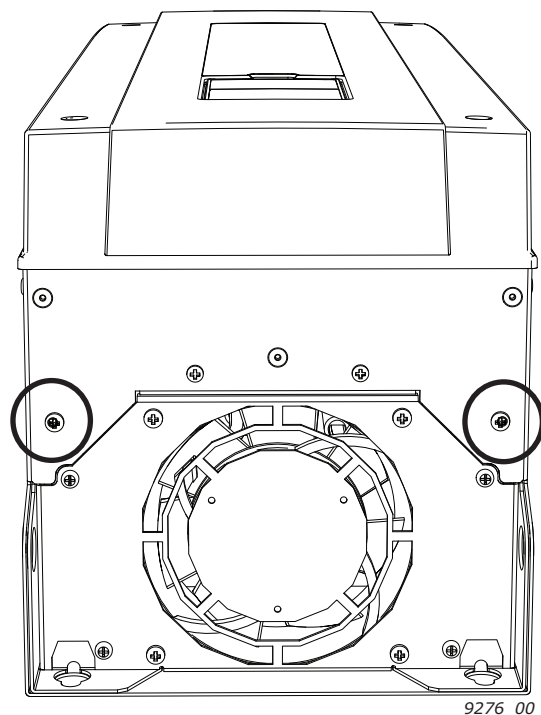
6

Remove the screws from both sides of the drive as shown in the picture. Use the torx head provided with the kit.



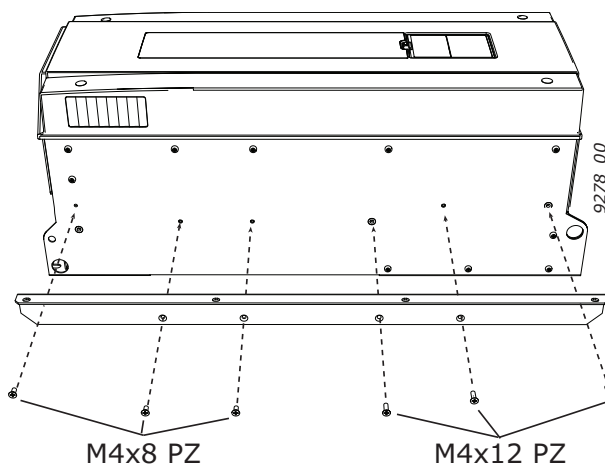
7

Remove the screws from the top and bottom of the drive as shown in the picture. Use the torx head provided with the kit.



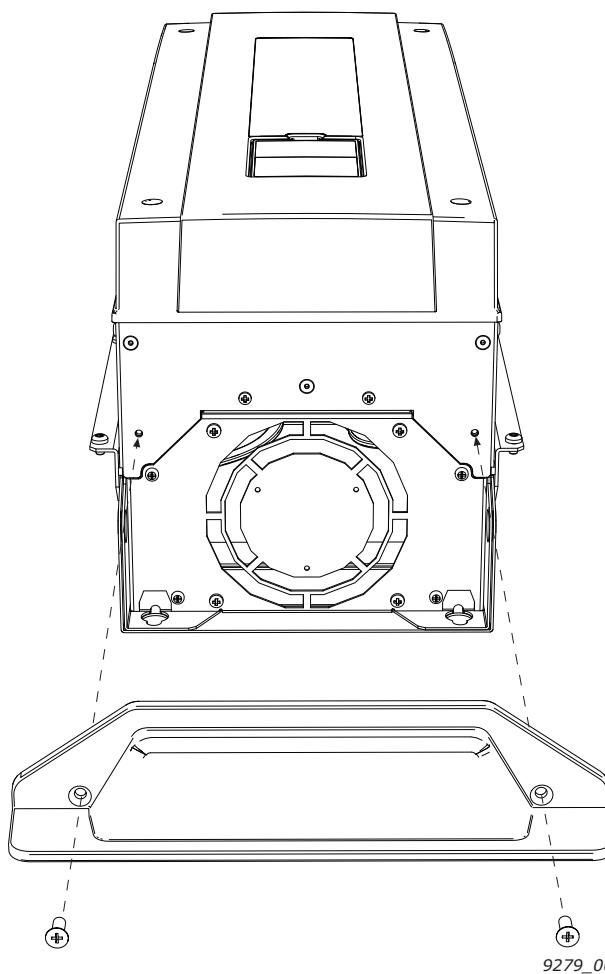
8

Fix the **side collars** with the screws starting from the top: 6 pcs M4x12 PZ screws for the upper three holes and 6 pcs M4x8 PZ for the lower three holes. The tightening torque for the screws is 2 Nm.



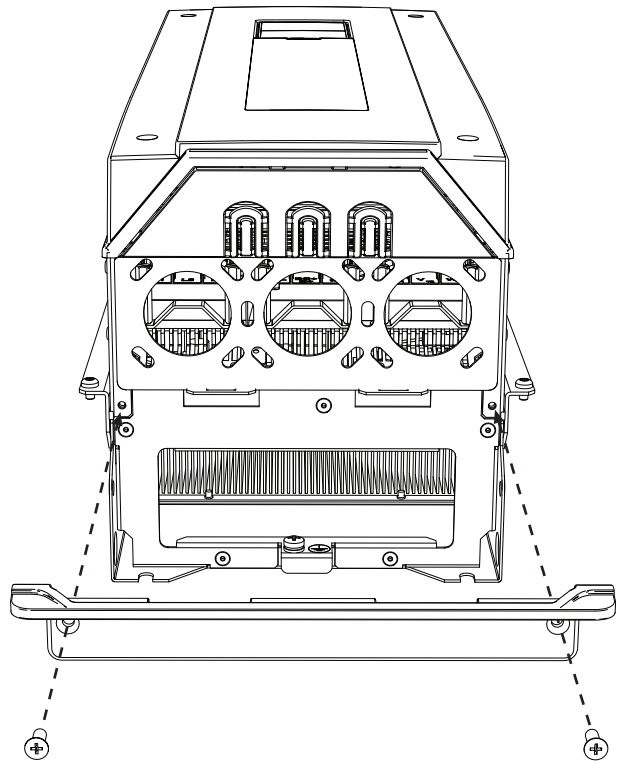
9

Fix the **top collar** with the two M4x12 PZ screws. The tightening torque for the screws is 2 Nm.



**10**

Fix the **bottom collar** with the two M4x12 PZ screws. The tightening torque for the screws is 2 Nm.



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Rev. F