



Application Note

Back Plate



VLT® 5000

■ Back plate to VLT

Abstract: To ensure optimum cooling of the frequency converter, it is necessary to mount it on a solid wall or plate. If the frequency converter is mounted on a non solid surface, rails or a machine frame, it is necessary to use a backplate to guide the airflow over the heat sink.

■ Situation

In the Operating Instructions, it is stated that some of the frequency converters have to be placed on a solid back plate or wall. The back plate or wall guides the air flow, generated by the fan on the top of the drive, over the heat sink. As illustrated in figure 1, false air is drawn in from the sides when the frequency converter is placed on rails. This reduces the efficiency of the heat sink dramatically.

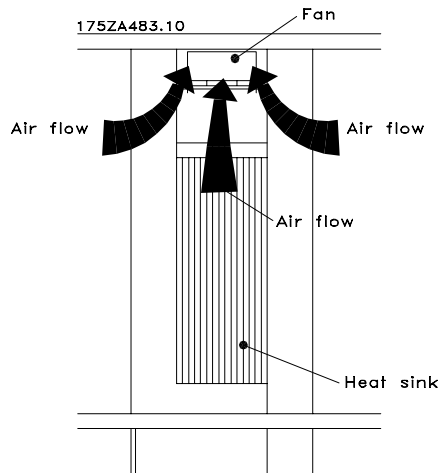


Fig. 1
VLT 5125 mounted on rails and without a solid back plate to guide the airflow.

■ Solution

One solution is to place a thin plate on the back of the frequency converter to guide the airflow over the heat sink. Zinc plated steel is the recommended material for the plate, as it offers the best EMC performance. The plate is mounted on the bolts used for fixing the VLT to the rails. This is done to prevent the plate from being removed when replacing the VLT.

Values for A, a, B, b are stated in the Operating Instructions in the section *Mechanical Dimensions*.

$$a1 = (A-a)/2$$

$$b1 = (B-b)/2$$

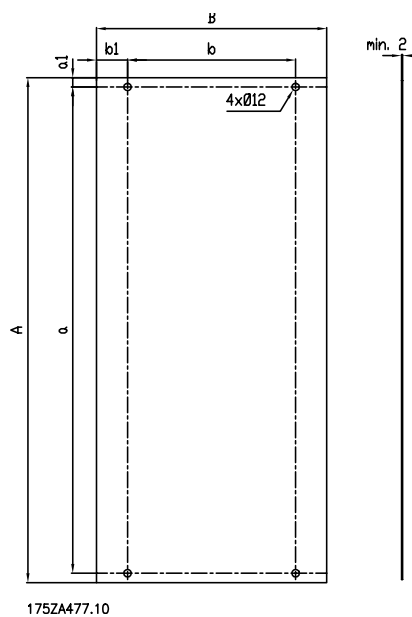


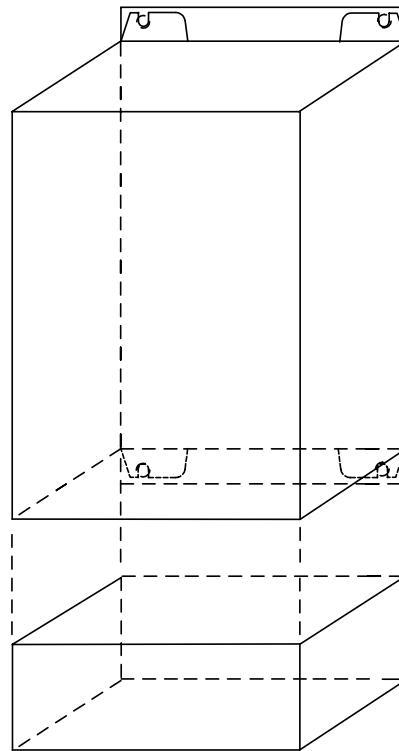
Fig. 2
Back plate dimensions

Figure 3 - 5 illustrate the frequency converters.



NB!

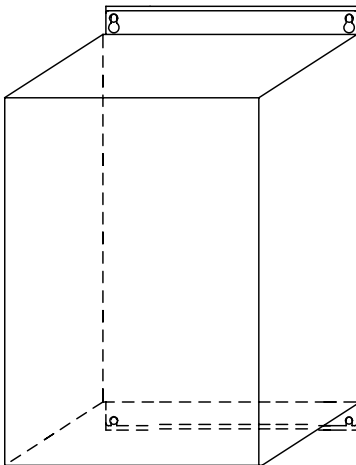
Before installing a frequency converter on rails, please consult the relevant instructions for installation. When the drives are mounted on a non flat surface, for example rails or a frame, it must be ensured that the surface is stable and stiff.



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Fig. 3 Compact IP00 or Nema 1 (IP20)

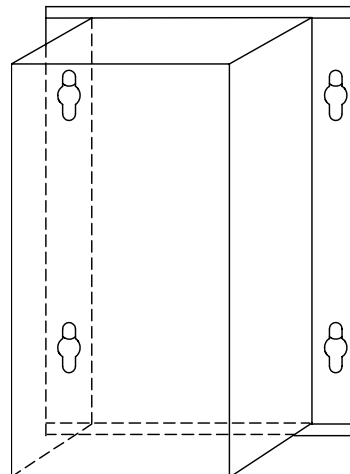
- VLT 5032 - 5052 200 - 240 V
- VLT 5075 - 5250 380 - 500 V
- VLT 6042 - 6062 200 - 240 V
- VLT 6100 - 6275 380 - 460 V
- VLT 8042 - 8062 200 - 240 V
- VLT 8100 - 8275 380 - 480 V



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Fig. 4 Compact IP20

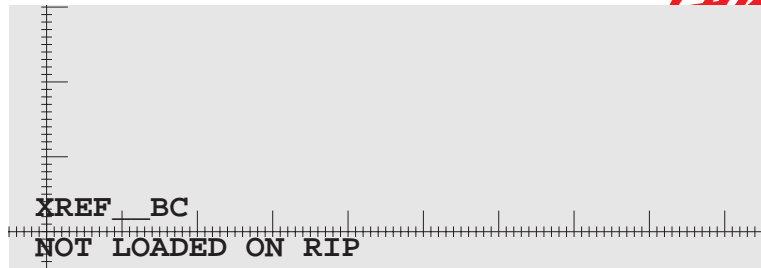
- VLT 5001 - 5027 200 - 240 V
- VLT 5001 - 5062 380 - 500 V
- VLT 6002 - 6032 200 - 240 V
- VLT 6002 - 6072 380 - 460 V
- VLT 8006 - 8032 200 - 240 V
- VLT 8006 - 8072 380 - 480 V



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Fig. 5 Compact IP54

- VLT 5001 - 5027 200 - 240 V
- VLT 5001 - 5062 380 - 500 V
- VLT 6002 - 6032 200 - 240 V
- VLT 6002 - 6072 380 - 460 V
- VLT 8006 - 8032 200 - 240 V
- VLT 8006 - 8072 380 - 480 V



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