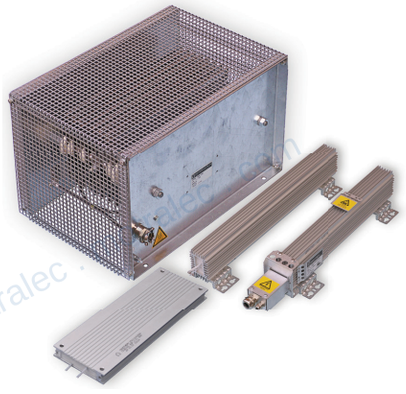
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ENGINEERING TOMORROW

Fact Sheet

VLT® Brake Resistor MCE 101
Dissipates energy generated during braking



When the speed reference of a frequency converter is reduced during braking, the motor acts as a generator.

With no brake resistor, the intermediate circuit voltage of the frequency converter would continue to increase, until it cuts out for protection.

Energy generated during braking is absorbed by the VLT® Brake Resistor MCE 101, protecting electrical components from heating up.

The brake resistors in this series are all external components. Therefore, the brake resistor does not form an integral part of the frequency converter.

Precision
electrical match to individual VLT® drive power sizes

Advantages

- Select horizontal or vertical braking profile
- Flexibility to place the brake resistor optimally for heat dissipation considerations

The VLT® Brake Resistor MCE 101 series is optimised for these Danfoss frequency converters:

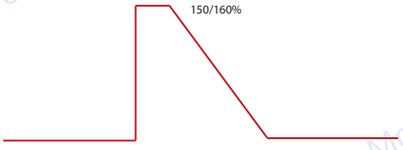
- VLT® Micro Drive FC 51
- VLT® HVAC Drive FC 102
- VLT® AQUA Drive FC 202
- VLT® AutomationDrive FC 300
- VLT® AutomationDrive FC 360
- VLT® Decentral Drive FCD 302
- VLT® 2800

Three concepts are available:

- Aluminium-housed flat-pack brake resistors
- Aluminium-housed compact brake resistors
- Steel grid brake resistors

The Danfoss brake resistor range consists of brake resistors for

- Horizontal motion: conveyors and trolleys



Tyipcal braking profile for horizontal motion (10 % duty cycle)

- Vertical motion: cranes, hoists, and elevators



Typical braking profile for vertical motion (40 % duty cycle)

Feature	Benefit
Compact design	– Less wall or floor space required
External component	– Select horizontal or vertical braking profile – Flexibility to place the brake resistor optimally for heat dissipation considerations
Flexible installation	**Wall or floor mounting** – Full range of protection classes: IP20, IP21, IP54 and IP65 **Connect to drive via** – Screw terminal connections or – fixed unscreened cables
Integrated thermal switch	– Monitors and prevents overload
Cooled by natural convection	– No fan required – No service and maintenance required
Precise match to each individual VLT® drive power size for FC 102, FC 202, FC 301, FC 302	– Cost saving, no over-dimensioning required – Compatible with all VLT® drives voltage classes: T2, T4, T5, T6 and T7

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The requirements for brake resistors vary in different applications.

To determine the optimal brake resistor for a specific application, consult the VLT® Brake Resistor MCE 101 Design Guide – MG.90.O2.02.

This Design Guide contains easy-to-use selection tables.

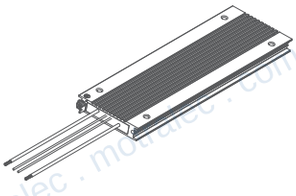
Accessories for flat-pack brake resistors

- **Footprint bracket**
  Enables mounting parallel to the wall, behind the VLT® drive
- **L-profile bracket**
  Enables book-style mounting perpendicular to the wall

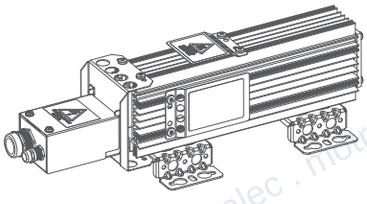
Specifications

Environment	
Ambient temperature range	-40 to 70 °C
Maximum temperature at housing	300 °C
Maximum relative humidity	5-85%, non-condensation during operation
Power derating as a function of ambient temperature	
Steel grid brake resistors, IP20	Continuous power 100% @ 40 °C to 70% @ 70 °C, linear
Aluminium-housed compact brake resistors, IP21	Continuous power 100% @ 40 °C to 75% @ 70 °C, linear
Aluminium-housed brake resistors – compact and flat-pack, IP54	Continuous power 100% @ 40 °C to 75% @ 70 °C, linear
Aluminium compact brake resistors, IP65	Continuous power 100% @ 40 °C to 50% @ 70 °C, linear
Cooling requirements	
The brake resistors are cooled by free natural convection. The power ratings of the resistors refer to cooling conditions with free natural cooling. The requirements for minimum clearances must be observed during installation.	
Compliance	
CE	A selection of the vertical-mounted units are UL-recognized

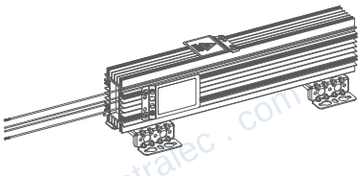
Compact
size and flexibility in installation



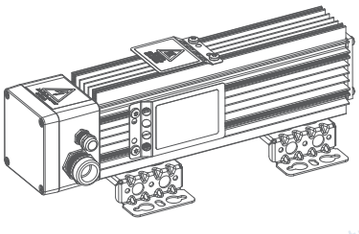
Aluminimum-housed flat-pack, IP54



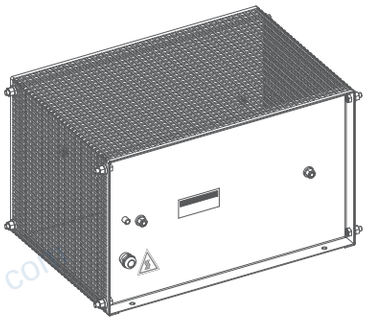
Aluminimum- housed compact with screw terminal connection box, IP21



Aluminimum-housed compact, IP54 fixed unscreened cable



Aluminimum- housed compact with screw terminal connection box, IP 65



Steel grid, IP20

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