

# Register Braking Resistors

3 – 7.5 kW, DB

Series BW 600  
Type BW 605/...

## Applications:

Braking resistors are used with inverters, driving motors with a dynamic load that requires to be stopped quickly such as lifts, cranes or high-speed mechanisms.

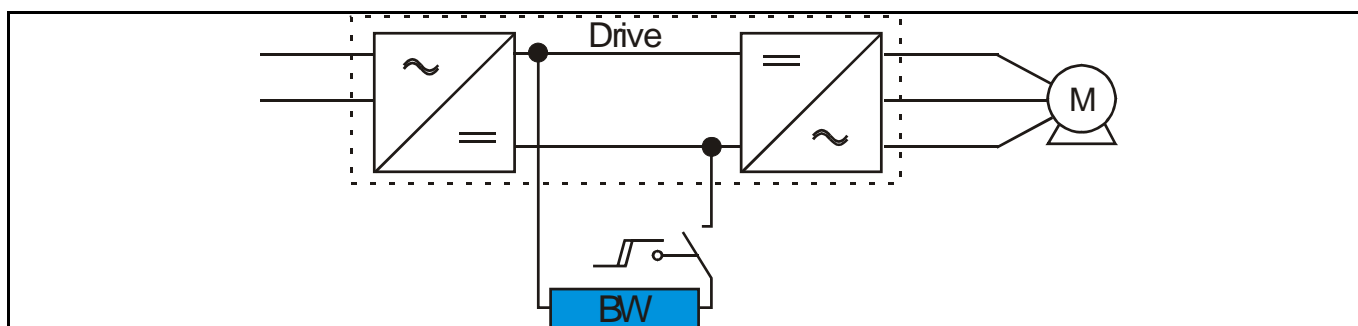
The braking resistor is connected in the DC link, between the rectifier and the switching semiconductors. When the DC voltage rises, to a pre-selected limit, a chopper circuit switches in the braking resistor thereby allowing excess energy to be “dumped” in the form of heat, instead of causing damage to the inverter.

When the DC level drops to a lower preset minimum limit the braking resistor is switched out of circuit until it is required again



Protection IP 20...IP 22	Test voltage 3.5 kV
Max. temperature 300 °C	Climatic rating DIN IEC 60068-1

## Circuit example



### Benefits:

- Decelerating a load with large inertia
- Increase the control torque of the inverter
- For frequently repeated ON/OFF cycles
- Compact construction
- Easy installation
- Suitable for the use with any frequency drive
- Compact design
- Continuous power: Max. 7.5kW
- High temperature wire
- CE Marked
- DIN 41 480 compliant
- UL Recognized

## Technical Data

Type	Continuous power [W]	Resistance values [Ω]	Max. Operating voltage [V]
BW 605 / 3 / R[Ω]	3000	3.8 – 330	1000
BW 605 / 4 / R[Ω]	4000	1.8 – 250	1000
BW 605 / 5.5 / R[Ω]	5500	1.2 – 181	1000
BW 605 / 7.5 / R[Ω]	7500	0.9 – 130	1000

Resistance values conforming to E 6

Other power ratings on request

Option: Connecting strands

Low-inductance winding

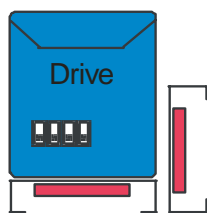
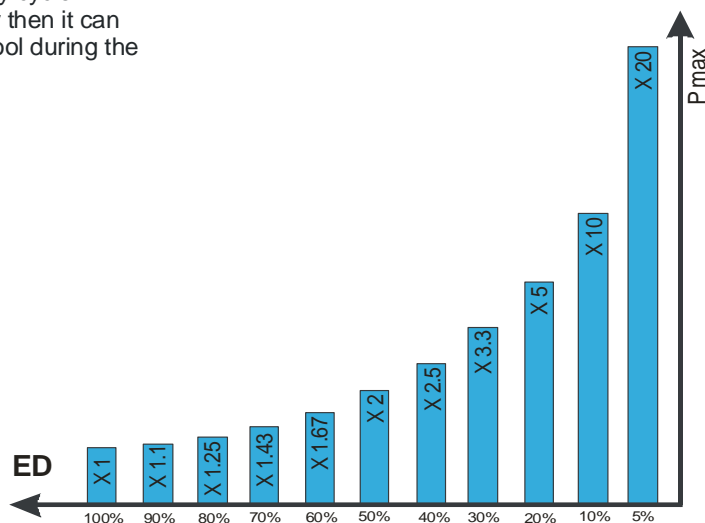
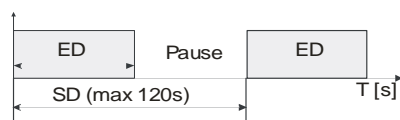
### Power Rating Calculation

A braking resistor is selected according to the systems duty cycle requirements. If the resistor is not being used continuously then it can be used for a higher power rating because it has time to cool during the "rest" period. To calculate, the following formula is used:

$$P_{\max} = \frac{P \times 100}{ED [\%]}$$

$$ED\% = \frac{ED[s]}{SD[s]} \times 100$$

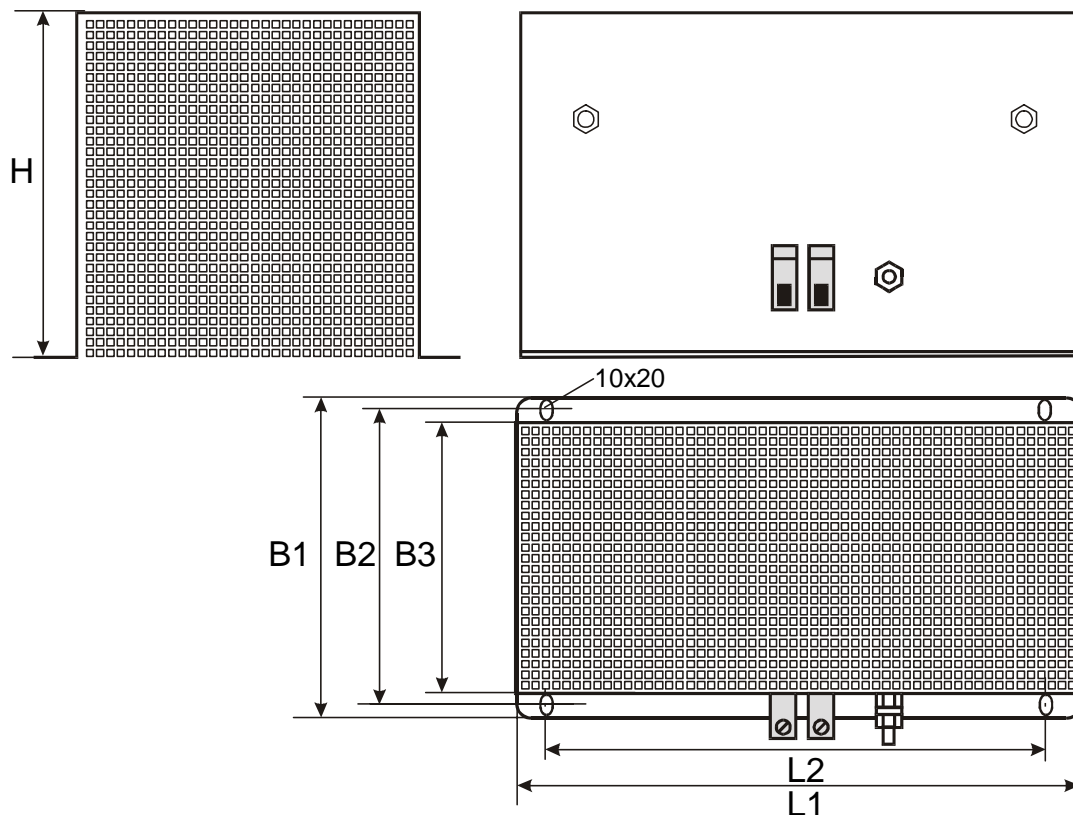
Where ED = Duty Cycle  
SD = Cycle time



REO-USA, Inc. can offer virtually any braking resistor design to suit any frequency drive, with optional mounting methods: such as footprint, book style, or compact. The footprint version is particularly useful for retrofit applications because no extra panel space is required. Most constructions are in a modular form that is easy to install.

Additional forced air cooling can be fitted to some versions and this greatly increases their power rating, or alternatively enables use within a confined space, such as an IP65 enclosure for food quality or clean room applications.

### Dimension Drawing



Dimensions							
Type	B1 [mm]	B2 [mm]	B3 [mm]	H [mm]	L1 [mm]	L2 [mm]	Connection terminal
BW 605 / 3 / R[Ω]	295	270	240	260	490	380	50 mm <sup>2</sup>
BW 605 / 4 / R[Ω]	395	370	340	260	490	380	50 mm <sup>2</sup>
BW 605 / 5.5 / R[Ω]	395	370	340	260	490	380	50 mm <sup>2</sup>
BW 605 / 7.5 / R[Ω]	595	570	540	260	490	380	95 mm <sup>2</sup>