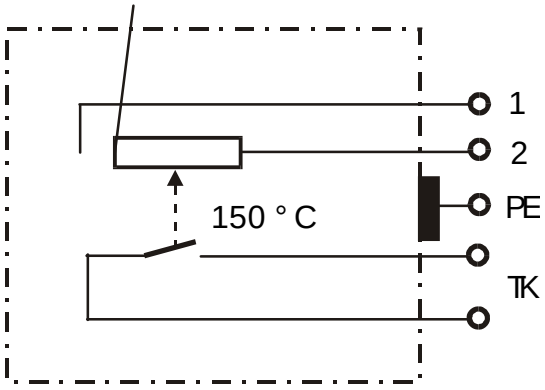
Braking resistors
Book-style

Series BW 200
Type BW 201/...

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.

Circuit



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. 20kw
- Dielectric strength
- CE Marked
- DIN 41 480 compliant

Technical data

Type	BV-number	for inverter up to [kW]	for braking power (W)	Resistance [Ohm]	continuous duty [%]
BW 201/100	983000	3.0	100	220	3
BW 201/150	983001	5.0	150	130	3
BW 201/250	983002	7.5	250	96	3
BW 201/450	983003	15.0	450	45	3
BW 201/600	983004	20.0	600	32	3

Rated voltage: 580 V
Test voltage: 2500 V

Other ratings on request

Braking resistors are triggered from a braking chopper. When the intermediary circuit voltage exceeds a certain voltage source, the chopper will switch the braking resistor to the intermediary circuit over a semiconductor.
The period during which the braking resistors are switched on is generally short. There are dead times in between. This cycle time is called an intermittent service with a relative continuous duty (ED).

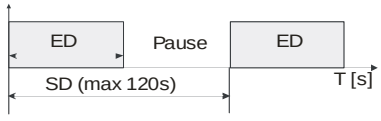
Power Rating Calculation

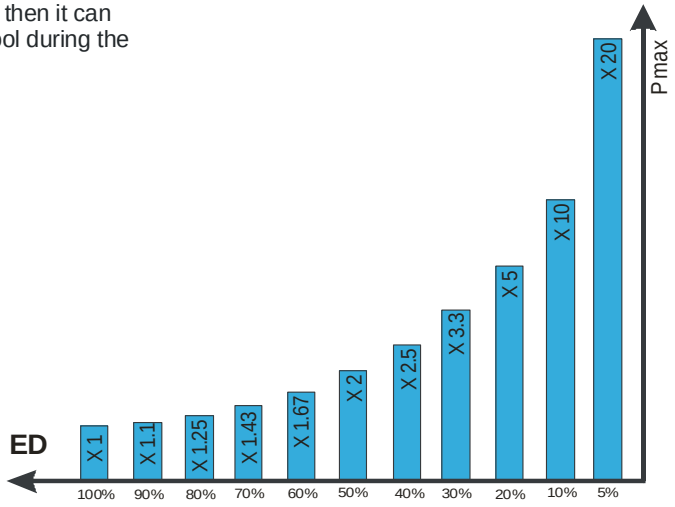
A braking resistor is selected according to the systems duty cycle requirements. If the resistor is not being used continuously then it can be used for a higher power rating because it has time to cool during the "rest" period. To calculate, the following formula is used:

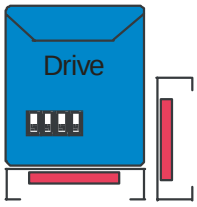
$$P_{max} = \frac{P \times 100}{ED\ [\%]}$$

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

Where ED = Duty Cycle
SD = Cycle time



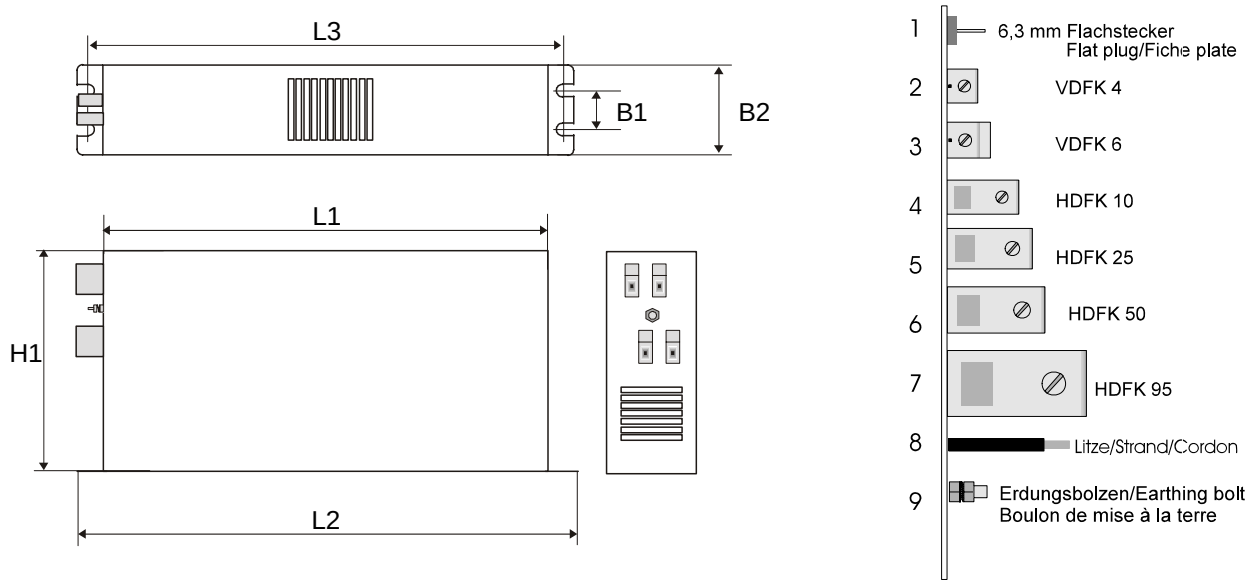




REO-USA, Inc. can offer virtually any braking resistor design to suit any frequency drive, with optional mounting methods: such as footprint, book style, or compact. The footprint version is particularly useful for retrofit applications because no extra panel space is required. Most constructions are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



Type	Dimensions						Connections
	L1 [mm]	L2 [mm]	L3 [mm]	B1 [mm]	B2 [mm]	H1 [mm]	
BW 201/100	225	255	240	25	50	126	2/2/9
BW 201/150	275	305	290	30	55	142	2/2/9
BW 201/250	275	305	290	30	55	142	2/2/9
BW 201/450	305	335	320	35	60	150	2/2/9
BW 201/600	300	330	314	45	70	185	2/2/9

Other connection, terminals or cables on request!