

GBR belonging to our medium range of Alpha Aluminium Housed Compact Brake Resistors is electrically insulated and can easily be integrated in compact constructions. It is specially constructed for high pulse loads compared to the average load.

The resistors comply with IP21 / 1X giving electrical and thermal protection. The resistors are Silicone free. The power range is from 280 W to 3400 W steady state load and pulse loads of 60 times compared to the nominal load in one second each 120s.

KWX has developed thermal models for all resistor types and resistor values. By using these models we are able to calculate the temperature rises in the resistor wire and on the surface for all possible load applications. We offer our assistance to our customers to find the optimum solution for any situation. All types can be equipped with thermo watch.

Alpha GBR DTt is a range of compact Aluminum Profile Brake Resistors with protection class IP21. The resistors are supplied with an internal thermo watch (Max. temperature 200°C) and equipped with a connection box, which contains cable glands and cable connection to the resistor and the thermo watch.

Connection

Power cables are connected through a pg16 cable gland with integrated braid connection. The range of outer diameter of the power cable is 15- 18mm.

The power cables (0.5 ~ 10 mm²) are connected to a terminal block with screw connections. The PE is connected directly to the connector box with a screw.

The cable for the thermo watch is connected to a terminal block (0.5-4mm²) via a M12 gland with clamping range 3 - 7mm.

High Temperature Warning

The GBR BT resistors have a “High Temperature” warning label on the profile.

The resistors can optionally be supplied with a Protecting Grating

Ordering Information

Type identification:

If you have chosen a GBR Brake Resistor with IP21 protection it is necessary to specify the size (length), the configuration (Number of profiles) and the ohm value. Please specify your GBR Brake resistor as follows

GBR 645 D (H) (T) 281 22R 10%

Ohm Value (Examples: 2R2=2.2Ω; 22R=22 Ω; 220R=220Ω; 2K2 = 2.2 kΩ (10% standard))

Configuration: (See above) or if XXX > 400: customer specified version

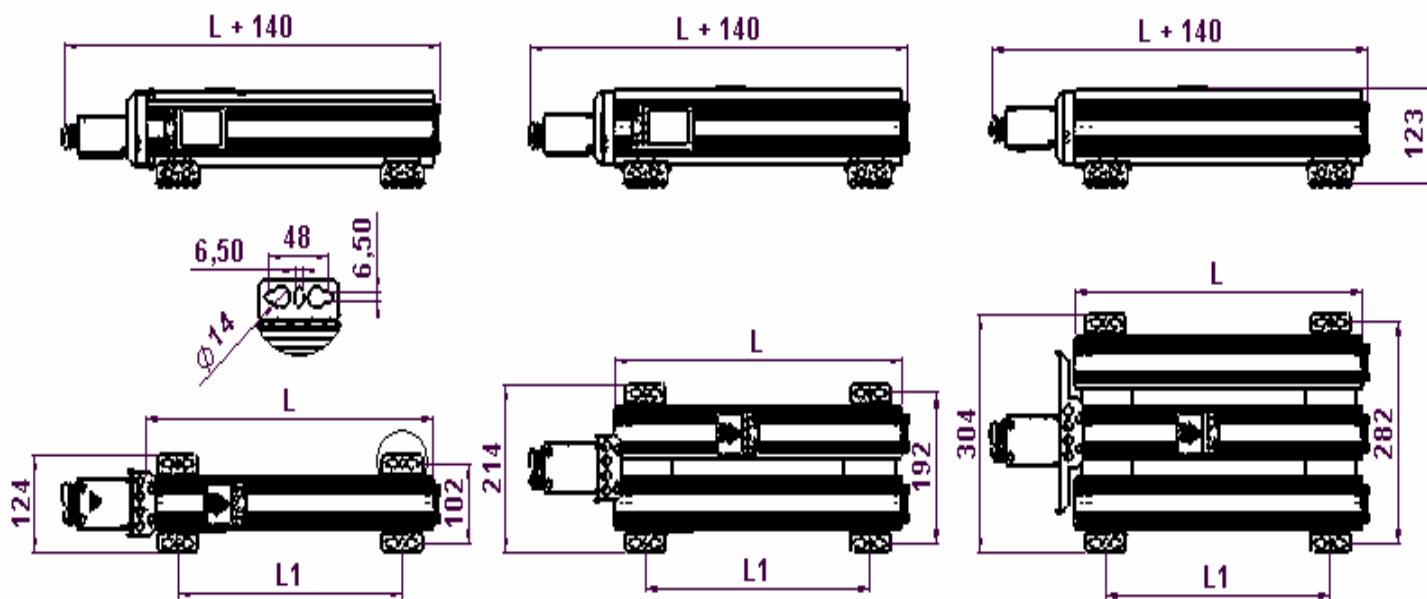
T With Thermostat

H indicates if Helix winding is used. Specified by KWX length of resistor profile in mm.

More configurations and types (IP65, IP50, Protection grid) can be supplied, please consult

KWX Electric A/S for further details.

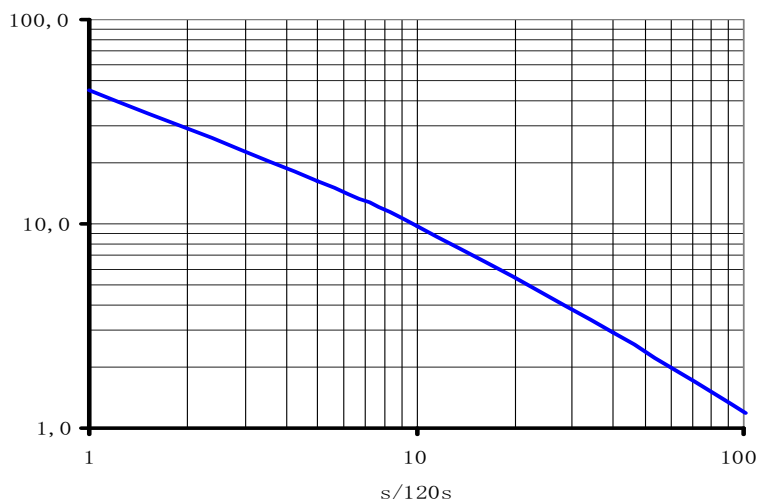
● Dimensions



Type	L 2	L1 2	Weight	Type	L 2	L1 2	Weight
GBR-V 160 D T 281	160	70	1,3 Kg	GBR-V 460 D T 282	460	360	7,5 Kg
GBR-V 210 D T 281	210	110	1,8 Kg	GBR-V 560 D T 282	560	460	9 Kg
GBR-V 260 D T 281	260	160	2,4 Kg	GBR-V 660 D T 282	660	560	10,5 Kg
GBR-V 330 D T 281	330	230	3,0 Kg	GBR-V 760 D T 282	760	660	11,9 Kg
GBR-V 400 D T 281	400	300	3,5 Kg				
GBR-V 460 D T 281	460	360	3,9 Kg	GBR-V 460 D T 283	460	360	11 Kg
GBR-V 560 D T 281	560	460	4,6 Kg	GBR-V 560 D T 283	560	460	13,2 Kg
GBR-V 660 D T 281	660	560	5,4 Kg	GBR-V 660 D T 283	660	560	15,5 Kg
GBR-V 760 D T 281	760	660	6,1 Kg	GBR-V 760 D T 283	760	660	18 Kg

● Derating Curve

The curves show the pulse load ability compared to the nominal load for the GCR resistors under the following conditions: The load is a periodic pulse load with a constant period time of 120 sec and a pulse width from one second to 40 sec.



For all other load conditions please contact KWX. By mean of individual thermal models we can simulate the rises of temperatures in the components and on the surfaces during and between specified pulses.

Applications And Ratings

Ratings: Resistors with 200° C thermo watch.

TYPE GBR-V DT -V: Profile vertically D: Box IP21 H: High Pulse (HELIX) T: Internal Thermostat 281 Configuration*)	PNW@40°C Approved UI508	MaxSurface temp.°C@40°C	Pulse Load in 1 s each 120s. P1/120kW @40° C	Pulse Load in 5 s each 120s. P1/120kW @40° C	Pulse Load in 10 s each 120s. P1/120kW @40° C	Pulse Load in 40 s each 120s. P1/120kW @40° C	TimeConst.sec. (Steady state)	RΩ ± 10% (± 5% onrequest)
GBR-V 160 D T 281	280	230	12.6	4.54	2.84	0.84	1000	0.5 – 1000
GBR-V 210 D T 281	360	230	16.2	5.83	3.65	1.08	1000	0.8 – 1500
GBR-V 260 D T 281	450	230	20.0	7.20	4.56	1.35	1000	1.5 – 2000
GBR-V 330 D T 281	570	230	25.6	6.24	5.75	1.70	1000	1.8 – 2000
GBR-V 400 D T 281	680	240	30.0	10.0	6.85	2.04	1000	2.0 – 2000
GBR-V 460 D T 281	790	250	35.0	12.7	7.90	2.23	1000	2.4 – 40
GBR-V 560 D T 281	960	270	43.0	15.4	9.70	2.80	1000	3.0 – 45
GBR-V 660 D T 281	1130	300	50.0	18.0	11.0	3.30	1000	3.5 – 50
GBR-V 760 D T 281	1290	340	58.0	20.0	12.6	3.80	1000	4.0 – 55
GBR-V 460 D T 282	1400	250	70.0	25.0	15.0	4.40	1000	1.2 – 20
GBR-V 560 D T 282	1720	270	86.0	30.0	19.0	5.60	1000	1.6 – 22
GBR-V 660 D T 282	2034	300	101	36.0	22.0	6.60	1000	1.5 – 25
GBR-V 760 D T 282	2300	340	116	41.0	25.0	7.60	1000	2.0 – 27
GBR-V 460 D T 283	2090	250	105	38.0	23.0	6.70	1000	1.5 – 13
GBR-V 560 D T 283	2530	270	129	46.0	29.0	8.40	1000	1.8 – 15
GBR-V 660 D T 283	3120	300	152	54.0	34.0	9.90	1000	2.2 – 17
GBR-V 760 D T 283	3410	340	174	62.0	37.0	11.0	1000	2.4 – 18
General Specifications								
Temperature Coefficient:				< ± 100ppm				
Dielectric strength:				2500VAC 1 minute				
Working Voltage:				UL: 600VAC / CE: 690VAC; 1100VDC				
Isolation Resistance:				> 20 MΩΩ				
Overload:				5-10x in 10 sec; 25-35 x in 1 s				
Environmental:				-40 ° C – 90 ° C				
Derating :				Linear: 40 ° C = PN to 70 ° C = 0.5*PN				
Thermo watch contact.				NC, 2A, 250V				
Approvals				UL 508				

PN: Nominal Power With Natural Cooling, 200°C T.W. and mounted in a vertical position.

Surface Temperature: 200°C @ 40°C AMB near Connector Box and Thermostat.

Configurations: 2X1: ONE resistor profile; 2X2 TWO resistor profiles; 2X3 THREE resistor profiles.

X specifies thermo watch temperature: X=5:130°C; X=6: 160°C; X=7:180°C; X=8:200°C; X=0: No thermostat

3XX: Resistors with protection grid