

## Vitreous Wirewound Resistors with Ferrules



### FEATURES

- Caps made from drawn brass, nickel plated
- Machined caps with inner thread available
- Easy to change when mounted with spring clips
- Complete vitreous coating for perfect humidity protection
- TC 100...180ppm/K

STANDARD ELECTRICAL SPECIFICATIONS					
MODEL	POWER RATING P <sub>40°C</sub> W	LIMITING VOLTAGE V	RESISTANCE RANGE Ω	TOLERANCE ± %	E-SERIES
GWK 10	10	280	1R8 - 16K 6R8 - 16K 270R - 16K	10 5 2	E 12 E 24 E 24
GWK 10 Ni	7		2R4 - 1K0 15R - 1K0	10 5	E 12 E 24
GWK 20	20	400	2R2 - 27K 12R - 27K 360R - 27K	10 5 2	E 12 E 24 E 24
GWK 20 Ni	13		4R7 - 1K8 20R - 1K8	10 5	E 12 E 24
GWK 40	30	580	3R3 - 43K 12R - 43K 470R - 43K	10 5 2	E 12 E 24 E 24
GWK 40 Ni	20		6R8 - 2K7 20R - 2K7	10 5	E 12 E 24
GWK 60	40	850	6R2 - 82K 6R2 - 82K 47R - 82K	10 5 2	E 12 E 24 E 24
GWK 60 Ni	25		13R - 5K1 13R - 5K1	10 5	E 12 E 24
GWK 100	80	1200	8R2 - 82K 8R2 - 82K 47R - 82K	10 5 2	E 12 E 24 E 24
GWK 100 Ni	50		27R - 10K 27R - 10K	10 5	E 12 E 24
GWK 150	100	1600	12R - 110K 12R - 110K 30R - 110K	10 5 2	E 12 E 24 E 24
GWK 150 Ni	60		36R - 15K 36R - 15K	10 5	E 12 E 24
GWK 200	160	2300	20R - 180K 20R - 180K 20R - 180K	10 5 2	E 12 E 24 E 24
GWK 200 Ni	100		56R - 22K 56R - 22K	10 5	E 12 E 24
GWK 300	260	4000	36R - 330K 36R - 330K 36R - 330K	10 5 2	E 12 E 24 E 24
GWK 300 Ni	180		100R - 43K 100R - 43K	10 5	E 12 E 24

**DIMENSIONS**

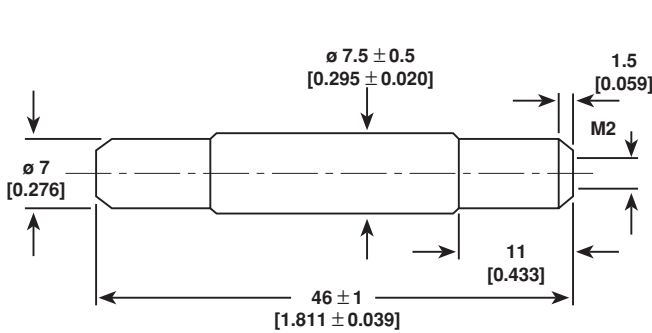


Figure 1: GWK 10

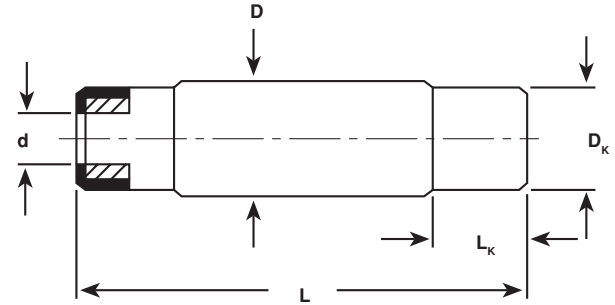


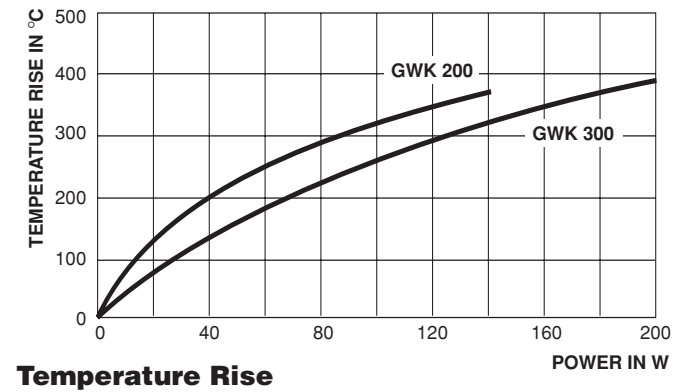
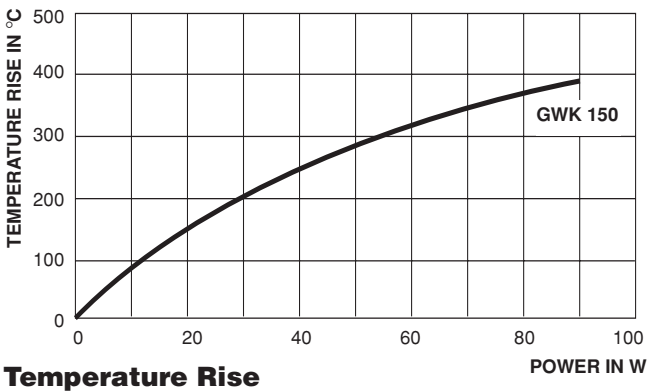
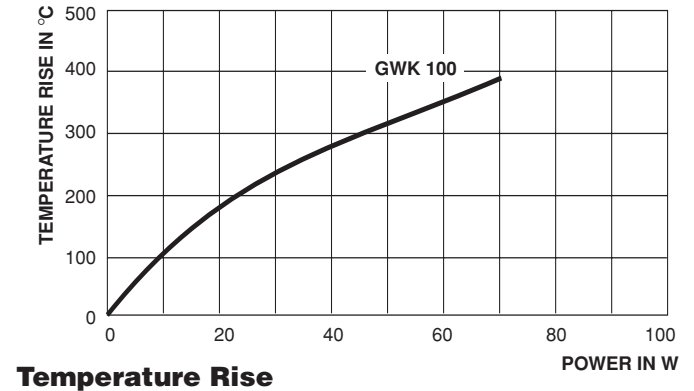
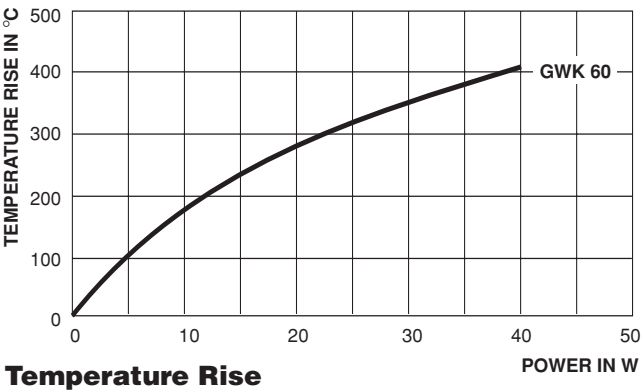
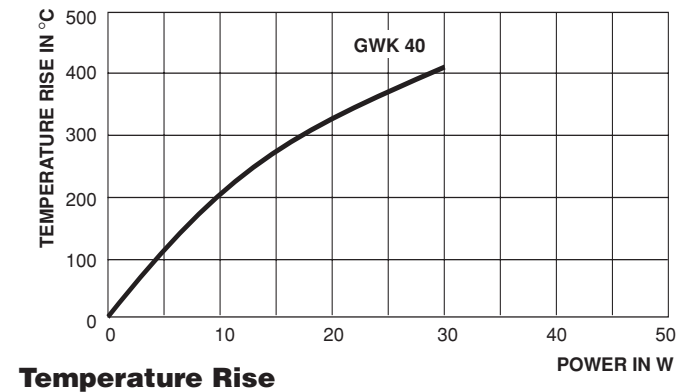
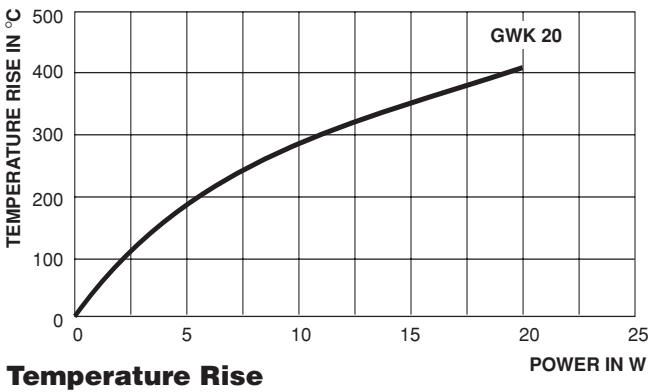
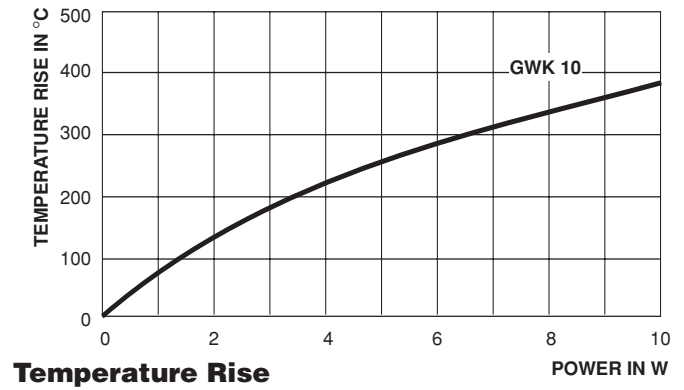
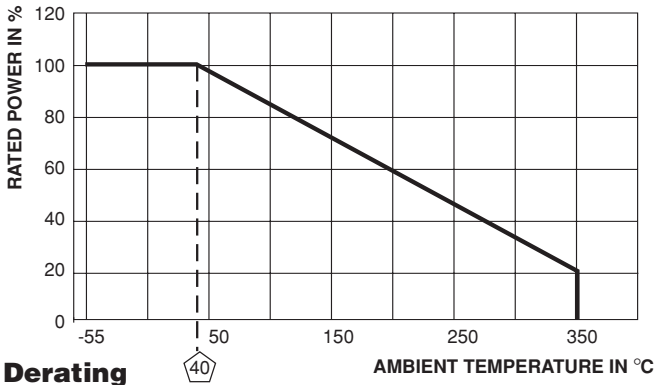
Figure 2: GWK 20...GWK 300

MODEL	DIMENSIONS in millimeters [inches]			
	GWK 10 GWK 10 Ni	GWK 20 GWK 20 Ni	GWK 40 GWK 40 Ni	GWK 60 GWK 60 Ni
D	See Drawing Figure 1	12.3±0.8 [0.484±0.031]	15.3±0.8 [0.602±0.031]	15.3±0.8 [0.602±0.031]
L		51±1.3 [2.008±0.051]	61±1.5 [2.402±0.059]	81±2 [3.189±0.079]
D <sub>k</sub>		11 [0.433]	14 [0.551]	14 [0.551]
L <sub>k</sub>		10 [0.394]	13 [0.512]	13 [0.512]
d		4.5 [0.177]	5.5 [0.217]	5.5 [0.217]

MODEL	DIMENSIONS in millimeters [inches]			
	GWK100 GWK 100 Ni	GWK 150 GWK 150 Ni	GWK 200 GWK 200 Ni	GWK 300 GWK 300 Ni
D	22 ±1 [0.866±0.039]	22 ±1 [0.866±0.039]	22 ±1 [0.866±0.039]	22 ±1 [0.866±0.039]
L	101±2.5 [3.976±0.098]	121±3 [4.764±0.118]	166.5 ±4.2 [6.555±0.165]	266.5 ±6.7 [10.492±0.264]
D <sub>k</sub>	21 [0.827]	21 [0.827]	21 [0.827]	21 [0.827]
L <sub>k</sub>	16 [0.63]	16 [0.63]	16 [0.63]	16 [0.63]
d	10 [0.394]	10 [0.394]	10 [0.394]	10 [0.394]

**ORDERING INFORMATION**

GWK	100	100R	± 5%
MODEL	SIZE	RESISTANCE VALUE Ω	TOLERANCE ± %
SET FREE FOR DRAWN CAPS OR ADD "M4" FOR MACHINED CAPS WITH INNER THREAD M4 (M4 IS STANDARD, OTHER THREADS AVAILABLE)			





**PULSE HANDLING FOR SHORT PULSES** (less than 100 milliseconds)

For single pulsed up to 100 milliseconds duration time the following energy resistance chart can be used to calculate the energy a resistor can handle. Look to the resistance value or the next higher value of the model you need and follow this row to the energy per ohm column to the left. The energy per ohm value multiplied by the resistance value is the energy the resistor can handle for 100 milliseconds. This energy divided by .1 ms is the power the resistor can handle for 100 milliseconds. For the power the resistor can handle for 10 milliseconds needed divide the energy by .01. The maximum pulse power is limited at 625 x rated power.

Do not use this chart for GWK...ni styles. For more information and assistance please contact factory.

<b>ENERGY RESISTANCE CHART</b>															
GWK10		GWK 20		GWK 40		GWK 60		GWK 100		GWK 150		GWK 200		GWK 300	
ENERGY/Ω [Ws/Ω]	R [Ω]	ENERGY/Ω [Ws/Ω]	R [Ω]	ENERGY/Ω [Ws/Ω]	R [Ω]	ENERGY/Ω [Ws/Ω]	R [Ω]	ENERGY/Ω [Ws/Ω]	R [Ω]	ENERGY/Ω [Ws/Ω]	R [Ω]	ENERGY/Ω [Ws/Ω]	R [Ω]	ENERGY/Ω [Ws/Ω]	R [Ω]
1.17E - 04	16.0K	1.15E - 04	27.0K	1.15E - 04	43.0K	1.15E - 04	82.0K	2.80E - 04	82.0K	2.80E - 04	110K	2.80E - 04	180K	2.79E - 04	330K
1.17E - 04	13.0K	1.16E - 04	2.40K	1.15E - 04	36.0K	1.15E - 04	68.0K	2.80E - 04	62.0K	2.80E - 04	82.0K	2.80E - 04	130K	2.80E - 04	240K
1.72E - 04	9.1K	1.70E - 04	16.0K	1.69E - 04	24.0K	1.68E - 04	43.0K	4.41E - 04	43.0K	4.40E - 04	56.0K	4.40E - 04	91.0K	4.40E - 04	160K
2.88E - 04	6.2K	2.83E - 04	11.0K	2.82E - 04	18.0K	2.81E - 04	33.0K	7.52E - 04	30.0K	7.51E - 04	39.0K	7.51E - 04	62.0K	7.50E - 04	120K
4.53E - 04	4.3K	4.47E - 04	7.5K	4.45E - 04	11.0K	4.42E - 04	22.0K	1.20E - 03	22.0K	1.20E - 03	30.0K	1.20E - 03	47.0K	1.20E - 03	82.0K
7.72E - 04	3.0K	7.65E - 04	5.1K	7.58E - 04	8.2K	7.54E - 04	15.0K	1.84E - 03	15.0K	1.83E - 03	20.0K	1.83E - 03	33.0K	1.83E - 03	62.0K
1.24E - 03	2.2K	1.23E - 03	3.9K	1.22E - 03	5.6K	1.21E - 03	11.0K	2.93E - 03	10.0K	2.93E - 03	15.0K	2.93E - 03	22.0K	2.92E - 03	39.0K
1.91E - 03	1.5K	1.87E - 03	2.7K	1.86E - 03	3.9K	1.84E - 03	7.5K	4.53E - 03	3.0K	4.51E - 03	4.3K	4.49E - 03	6.8K	4.48E - 03	12.0K
3.06E - 03	1.1K	3.00E - 03	1.8K	2.98E - 03	2.7K	2.95E - 03	5.1K	7.12E - 03	2.2K	7.09E - 03	3.0K	7.05E - 03	4.7K	7.04E - 03	9.1K
5.05E - 03	330	4.79E - 03	560	4.70E - 03	820	4.58E - 03	1.6K	1.14E - 02	1.6K	1.14E - 02	2.0K	1.13E - 02	3.3K	1.13E - 02	6.2K
8.11E - 03	220	7.61E - 03	390	7.44E - 03	560	7.20E - 03	1.1K	1.85E - 02	1.1K	1.84E - 02	1.5K	1.83E - 02	2.4K	1.83E - 02	4.3K
1.31E - 02	160	1.23E - 02	300	1.19E - 02	430	1.17E - 02	750	2.98E - 02	750	2.97E - 02	1.0K	2.94E - 02	1.6K	2.94E - 02	3.0K
2.06E - 02	110	2.01E - 02	200	1.94E - 02	300	1.89E - 02	560	4.81E - 02	560	4.78E - 02	750	4.75E - 02	1.2K	4.73E - 02	2.2K
3.56E - 02	75	3.24E - 02	150	3.16E - 02	200	3.04E - 02	390	1.14E - 01	390	1.14E - 01	560	7.23E - 02	1.0K	7.20E - 02	1.8K
5.77E - 02	56	5.30E - 02	100	5.10E - 02	150	4.93E - 02	270	1.79E - 01	300	1.78E - 01	390	1.13E - 01	910	1.13E - 01	1.6K
1.34E - 01	43	1.24E - 01	75	1.21E - 01	110	7.49E - 02	220	2.81E - 01	200	2.79E - 01	270	1.77E - 01	620	1.76E - 01	1.1K
2.14E - 01	30	1.98E - 01	51	1.90E - 01	75	1.17E - 01	200	4.81E - 01	150	4.79E - 01	180	2.77E - 01	430	2.76E - 01	750
3.47E - 01	20	3.14E - 01	36	3.00E - 01	56	1.83E - 01	150	7.75E - 01	100	7.69E - 01	130	4.75E - 01	300	4.72E - 01	560
5.96E - 01	15	5.48E - 01	24	5.22E - 01	36	2.88E - 01	100	1.19E + 00	68	1.17E + 00	100	7.62E - 01	220	7.57E - 01	390
9.93E - 01	10	8.86E - 01	18	8.41E - 01	27	4.96E - 01	68	1.87E + 00	51	1.85E + 00	68	1.17E + 00	150	1.16E + 00	270
1.54E + 00	7.5	1.38E + 00	13	1.29E + 00	20	7.98E - 01	51	2.92E + 00	36	2.89E + 00	47	1.83E + 00	110	1.81E + 00	200
2.52E + 00	5.1	2.21E + 00	9.1	2.05E + 00	15	1.23E + 00	36	4.61E + 00	27	4.56E + 00	36	2.85E + 00	82	2.82E + 00	150
4.00E + 00	3.9	3.48E + 00	6.8	3.26E + 00	10	1.93E + 00	27	7.46E + 00	18	7.36E + 00	24	4.50E + 00	56	4.45E + 00	100
6.58E + 00	2.7	5.64E + 00	4.7	5.26E + 00	6.8	3.05E + 00	18	1.21E + 01	12	1.19E + 01	18	7.24E + 00	39	7.16E + 00	68
1.12E + 01	1.8	9.11E + 00	3.6	8.50E + 00	5.1	4.84E + 00	13	1.97E ± 01	8.2	1.93E + 01	12	1.17E + 01	27	1.15E + 01	51
		1.56E + 01	2.2	1.42E + 01	3.3	7.86E + 00	9.1					1.89E + 01	20	1.86E + 01	36
						1.29E + 01	6.2								