

**Wire Wound Vitreous Enamelled Resistors (Prefix PE)**

**Ohmic Values**

The range of Ohmic values is shown below. You may select any Ohmic value between the Max and Min values.

**Low Inductance Windings**

Ayrton Perry windings are available for resistors which are required to be substantially non-inductive.

**Thermal cut-outs**

Cut-outs can be fitted to certain resistors which will operate a contact to disconnect the resistor to prevent overload damage.

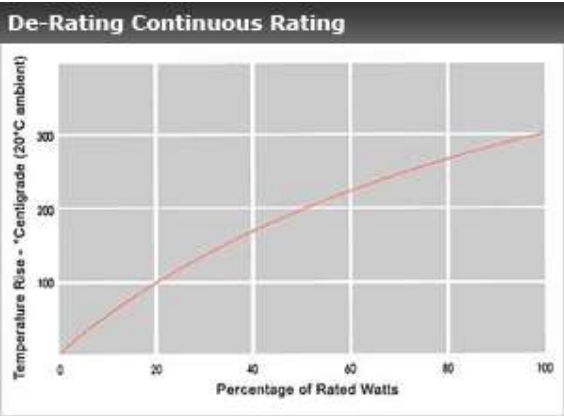
**Electrical Data Power Rating - Continuous Duty**

The two power ratings given to each type of resistor in the table are based on temperature rises of 280 °C and 380 °C respectively and relate to single resistors mounted in free air.

\* 380 °C applies only to vitreous resistors.

Where it is desirable to limit the surface temperature of the resistor, refer to the graph shown below.

Standard Ohmic Values & Tolerances - Other Values & Tolerances available on request													
WATTS TYPE	RANGE	30	40	45	60	90	130 OHMICVALUE	150	180	220	320	380	TOLERANCE
PE FIXED WIRE	MIN	2R2	4R7	4R7	4R7	10R	10R	12R	22R	22R	33R	47R	> 10R +/- 5%
	MAX	5K0	10K	10K	15K	30K	60K	70K	100K	120K	120K	125K	≤ 10R +/- 10%
PT FIXED TAPE	MIN	0R02	0R15	0R2	0R2	0R3	0R7	0R8	1R0	1R0	1R5	1R5	+/- 10%
	MAX	2R0	4R5	4R5	4R5	9R0	9R0	10R	20R	20R	30R	30R	
NI NON INDUCTIVE	MIN	1R0	2R0	2R0	3R0	3R0	5R0	6R0	7R0	10R	25R	30R	+/- 10%
	MAX	500R	500R	500R	500R	1K0	1K5	1K5	1K5	1K5	2K0	2K5	
ADJ ADJUSTABLE	MIN	2R2	2R2	4R7	4R7	8R2	15R	16R	20R	27R	36R	43R	+/- 10%
	MAX	1K3	3K9	2K2	3K9	6K2	11K	13K	16K	22K	22K	22K	



Where it is desirable to limit the surface temperature of the resistor, refer to this graph.



**HVR Pentagon Limited**  
 Unit 2, Tudor Industrial Estate  
 Wharfedale Road  
 Tyseley  
 Birmingham B11 2DG  
 UK

Tel: + 44 (0) 121 707 7922  
 Fax: + 44 (0) 121 706 6176  
 Email: sales@hvrpentagon.com  
 Web: www.hvrpentagon.com

**Wire Wound Vitreous Enamelled Resistors (Prefix PE)**

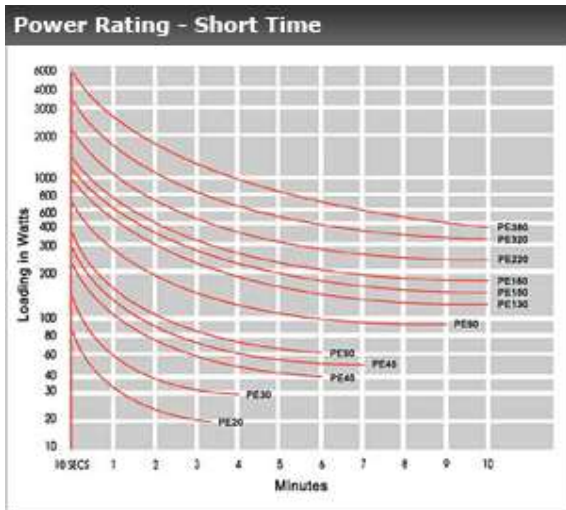
**Short Time**

In cases where resistors are only required to be operated intermittently, a higher short-time rating may be considered.

The graph shows loading against on time assuming a cooling time of at least 20 minutes between duty cycles.

**Short Time Ratings for Vitreous Enamelled Resistors**

TYPE	SIZE (cm)	WINDING SPACES (cm)	CONT. RATING (W) 280°C	10 SECOND RATING (W)	5 SECOND RATING (W)	1 SECOND RATING (W)	0.5 SECOND RATING (W)	VOLTS MAX (Vm)
PE30	5.1 x 1.9	2.6	30	200	400	600	1300	360
PE40	10.2 x 1.9	7.7	40	300	600	900	1800	1080
PE45	5.1 x 3.2	2.6	45	400	800	1300	2600	360
PE60S	7.0 x 3.2	4.5	60	600	1200	1900	3800	630
PE60L	8.9 x 2.2	6.4	60	600	1200	1900	3800	890
PE90S	10.2 x 3.2	6.2	90	800	1600	2600	5200	860
PE90L	16.5 x 2.2	14	90	800	1600	2600	5200	1900
PE130	15.2 x 3.2	11.2	130	1000	2000	3300	6600	1500
PE150	17.8 x 3.2	13.8	150	1200	2400	3900	7900	1900
PE180	21.6 x 3.2	17.6	180	1500	3000	4950	9900	2400
PE220	26.7 x 3.2	22.7	220	2200	4400	7260	14500	3100
PE320	26.7 x 4.5	22.7	320	3500	7000	11550	23100	3100
PE380	30.5 x 4.5	26.5	380	6000	12000	19800	39600	3700
PE600	30.5 x 5.4	26.5	600	9400	18800	31000	62000	3700
PE750	35.6 x 5.4	31.6	750	11800	23600	38900	77800	4400
PT750	35.6 x 5.4	31.6	1000	15700	31400	52000	104000	4400



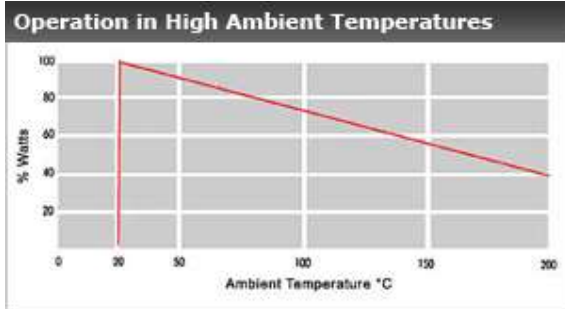
**HVR Pentagon Limited**  
 Unit 2, Tudor Industrial Estate  
 Wharfdale Road  
 Tyseley  
 Birmingham B11 2DG  
 UK

Tel: + 44 (0) 121 707 7922  
 Fax: + 44 (0) 121 706 6176  
 Email: sales@hvrpentagon.com  
 Web: www.hvrpentagon.com

**Wire Wound Vitreous Enamelled Resistors (Prefix PE)**

**Operation in High Ambient Temperatures**

When the ambient temperature is above 20 °C, resistors should be de-rated as shown on the graph below.



**Dimensions (mm) - Vitreous Enamelled & Open Wound Resistors**

TYPE	WATTS 280°C	WATTS 380°C	A	B	C	D	E	F	G	H	HR	J	K	L	M	N	P	R
PB & PE30 PT30	30 35	35 44	51	19	9,5	25	6,3	4	72	62	42	16	20	64	38	25	4x6	4x6
PB & PE40 PT40	40 50	65 80	102	19	9,5	25	6,3	4	123	113	93	16	20	114	38	25	4x6	4x6
PB & PE45 PT45	45 55	65 80	51	32	19	37	6,3	4	91	75	30	28	27	64	54	41	5x8	5x13
PB & PE60L PT60L	60 75	75 90	89	22	12,6	30	6,3	4	117	103	77	20	27	102	45	32	4x6	5x8
PB & PE60S PT60S	60 75	75 90	70	32	19	37	6,3	4	110	94	48	28	27	83	54	41	5x8	5x13
PB & PE90L PT90L	90 110	125 185	165	22	12,6	30	6,3	4	193	179	153	20	27	178	45	32	4x6	5x8
PB & PE90S PT90S	90 110	125 185	102	32	19	37	9,5	6	142	126	80	28	27	114	54	41	5x8	5x13
PB & PE130 PT130	130 160	175 215	152	32	19	37	9,5	6	192	176	130	28	27	165	54	41	5x8	5x13
PB & PE150 PT150	150 185	195 245	178	32	19	37	9,5	6	218	202	156	28	27	191	54	41	5x8	5x13
PB & PE180 PT180	180 220	230 285	216	32	19	37	9,5	6	256	240	194	28	27	229	54	41	5x8	5x13
PB & PE220 PT220	220 275	285 400	267	32	19	37	9,5	6	307	291	245	28	27	279	54	41	5x8	5x13
PB & PE320 PT320	320 400	420 560	267	45	28	43	9,5	6	318	291	248	44	51	-	-	-	-	7x14
PB & PE380 PT380	380 476	500 625	305	45	28	43	9,5	6	356	327	286	44	51	-	-	-	-	7x14

Notes

PE = Vitreous Enamelled Resistors    PT = Tape Wound Resistors    PB = Open Wire Wound Resistors

PT Resistors: Dimension 'B' may vary up to 10mm greater depending on the resistance value specified.



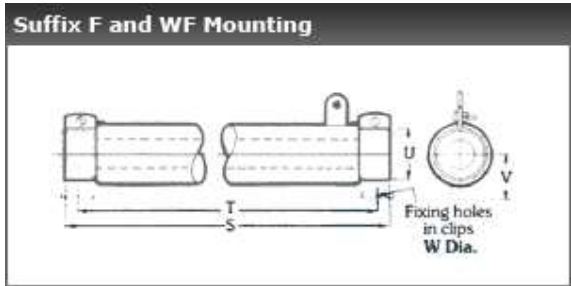
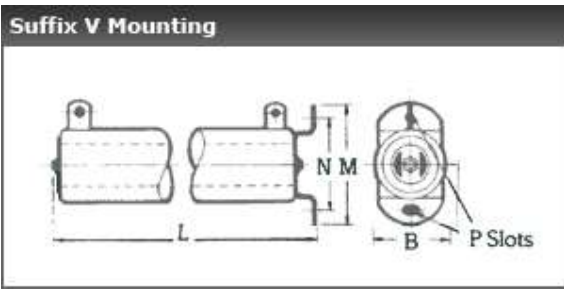
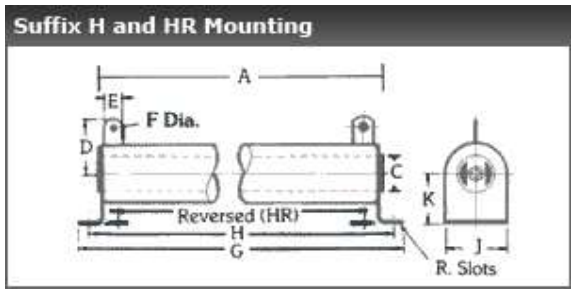
**HVR Pentagon Limited**  
 Unit 2, Tudor Industrial Estate  
 Wharfdale Road  
 Tyseley  
 Birmingham B11 2DG  
 UK

Tel: + 44 (0) 121 707 7922  
 Fax: + 44 (0) 121 706 6176  
 Email: sales@hvrpentagon.com  
 Web: www.hvrpentagon.com

**Wire Wound Vitreous Enamelled Resistors (Prefix PE)**

**Dimensions (mm) - continued**

TYPE	WATTS 280°C	WATTS 380°C	S	T	U	V	W
PB & PE20F & WF PT20F & WF	20 23	30 35	59	48	14	19	4
PB & PE30F & WF PT30F & WF	30 35	35 44	76	65	14	19	4
PB & PE40F & WF PT40F & WF	40 50	65 80	127	116	14	19	4
PB & PE45F & WF PT45F & WF	45 55	65 80	83	70	27	32	6
PB & PE60LF & WF PT60LF & WF	60 75	75 90	121	108	21	22	5
PB & PE60SF & WF PT60SF & WF	60 75	75 90	102	90	27	32	6
PB & PE90LF & WF PT90LF & WF	90 110	150 185	197	184	21	22	5
PB & PE90F & WF PT90F & WF	90 110	125 185	133	121	27	32	6
PB & PE130F & WF PT130F & WF	130 160	175 215	184	171	27	32	6
PB & PE180F & WF PT180F & WF	180 220	230 285	248	235	27	32	6
PB & PE220F & WF PT220F & WF	220 275	285 400	298	286	27	32	6



**Suffixes**

- H: Horizontal Mounting
- HR: Horizontal Mounting (Reverse)
- V: Vertical Mounting
- F: Dead Ferrule Ends
- WF: Live Ferrule Ends



**HVR Pentagon Limited**  
 Unit 2, Tudor Industrial Estate  
 Wharfdale Road  
 Tyseley  
 Birmingham B11 2DG  
 UK

Tel: + 44 (0) 121 707 7922  
 Fax: + 44 (0) 121 706 6176  
 Email: sales@hvrpentagon.com  
 Web: www.hvrpentagon.com