Dynamic Braking Resistors Catalogue Numbers

Rated continuous power, kW:

	0,6	1	1,5	2	3	4,5
Catalogue No.	ESH	EST	ES1	EST2	ES2	ES3

Resistance Value (ohms)	Code for resistance value - add to catalogue number:					
3,9						3R9
4,7	4R7				4R7	4R7
5,6	5R6				5R6	5R6
6,8	6R8				6R8	6R8
8,2	8R2				8R2	8R2
10	10R	10R	10R	10R	10R	10R
12	12R	12R	12R	12R	12R	12R
15	15R	15R	15R	15R	15R	15R
18	18R	18R	18R	18R	18R	18R
20	20R	20R	20R	20R	20R	20R
22	22R	22R	22R	22R	22R	22R
24	24R	24R	24R	24R	24R	24R
27	27R	27R	27R	27R	27R	27R
30	30R	30R	30R	30R	30R	30R
33	33R	33R	33R	33R	33R	33R
39	39R	39R	39R	39R	39R	39R
40	40R	40R	40R	40R	40R	40R
47	47R	47R	47R	47R	47R	47R
50	50R	50R	50R	50R	50R	50R
56	56R	56R	56R	56R	56R	56R
68	68R	68R	68R	68R	68R	68R
75	75R	75R	75R	75R	75R	75R
82	82R	82R	82R	82R	82R	82R
100	100R	100R	100R	100R	100R	100R
120	120R	120R	120R	120R	120R	120R
150	150R	150R	150R	150R	150R	150R
180		180R	180R	180R	180R	180R
220		220R	220R	220R	220R	220R
270		270R	270R	270R	270R	
330					330R	

A complete catalogue number is created as follows:

ESH-4R7-S-C

Cont. power	Catalogue number from table left
Resistance value	Code from table
Terminals	S= Terminal block ≤ 10 mm^2 cond.
Accessories	N= no terminal cover or thermal switch C= Cover for terminal block, IP 20 T= Thermal switch B= Cover for terminal block, IP 20, and thermal switch

Examples

1.5 kW braking resistor, 10 ohms with terminal block and terminal cover will be ES1-10R-S-B.

Duty Cycle

Continuous power rating can be exceeded when power is applied for less than 100% of the time. The graph below gives a duty cycle based on 10 s

on time against a “power multiplier”. Multiply the resistor’s continuous power rating by the “power multiplier” number to calculate power. A de-rating factor of 0,8 should be applied to

- ESH (0,6 kW) resistors with resistance value ≥ 39 _
- EST1 (1 kW) resistors with resistance value ≥ 68 _
- ES1 (1,5 kW) resistors with resistance value ≥ 100 _
- EST2 (2 kW) resistors with resistance value ≥ 150_
- ES2 (3 kW) resistors with resistance value ≥ 220 _

Example: 10 s in 100 s is defined as a 10% duty cycle, %ED, which gives a power factor of 4.6. ES1 braking resistors are rated 1.5 kW continuous and can be rated 1.5*4.6=6,9 kW for 10% ED.

If resistance is ≥ 100 ohms, then the power rating is reduced to 6.9*0.8=5.5 kW

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