

S.I.R. Resistor presentation



S.I.R. Società Italiana Resistor

Via Isonzo 13 - 21053 Castellanza (VA) Italy - tel. ++39 (0)331 504828 - fax ++39 (0)331 504565 www.sirresistor.it info@sirresistor.it



S.I.R. profile

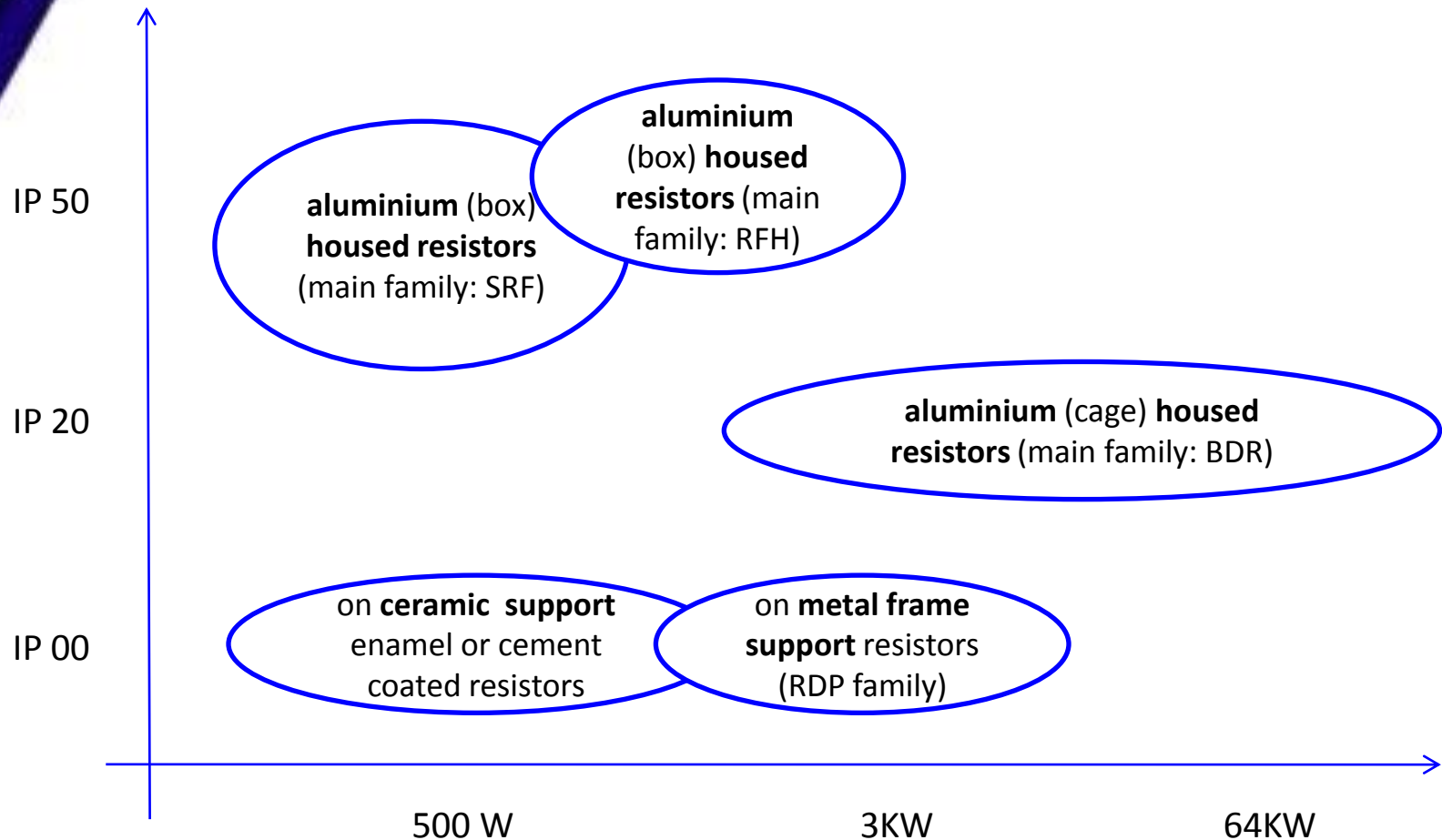
- **S.I.R. Resistor, founded in 1968, is a specialist and expert in the design and manufacture of power resistors ranging since 2W to 120 KW.**
- **since its foundation S.I.R. power resistors are recognized by many customers for their quality level.**
- **S.I.R.'s competitive advantage is our flexibility which provides competitive delivery times, and the ability to provide custom solutions quickly.**



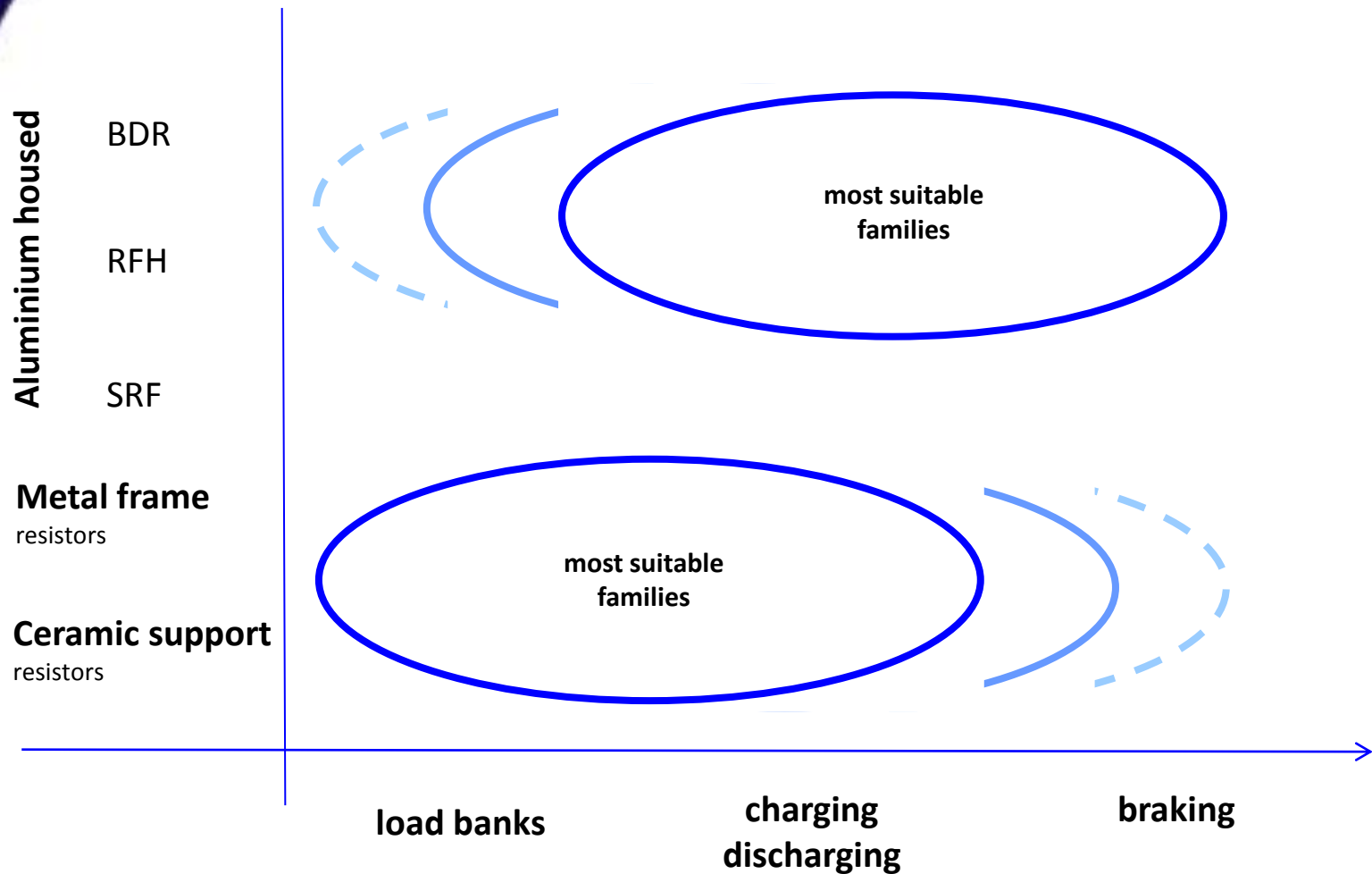
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products overview – guide line



products overview – main applications



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... ceramic tubular support



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... ceramic tubular support (enamelled)

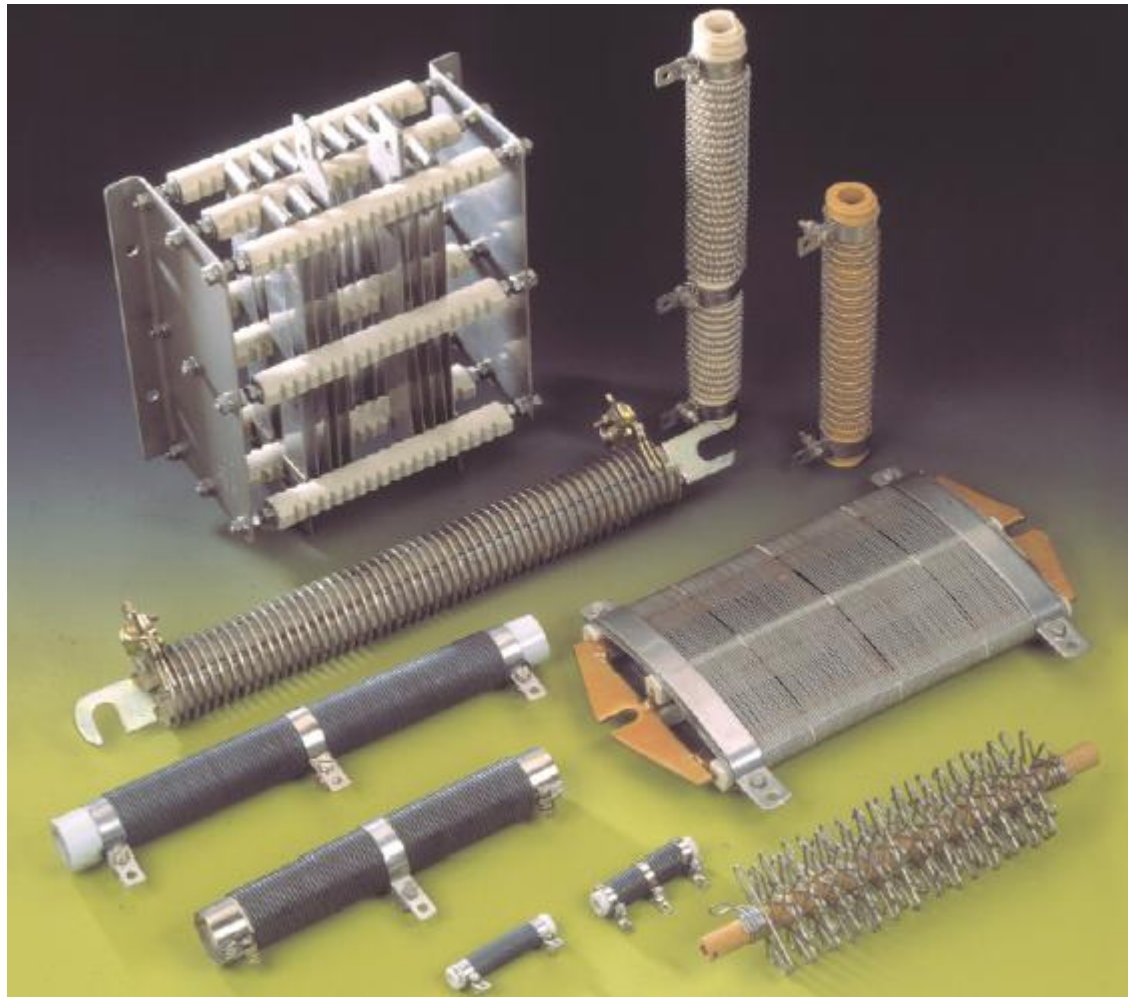
	Power range [W]	Resistance ohmic range [Ω]	min and max dimensions range [diam.xlength ... mm]
SMS_SMR ... with embedded collars fixed and adjustable 	12-250	1Ω-47K	from 8.45 to 29.265
SRS_SRR ... with embedded collars fixed and adjustable 	10-700	1Ω-100K	from 8.34 to 50.373
SRE SRER ... flat with embedded collars fixed and adjustable 	21-91	1Ω-22K	from 8.32 to 8.153
RNO RNOR corrugated ribbon winding fixed and adjustable 	155-1500	0,068-100Ω	from 29.108 to 65.500
SRA ... with axial leads 	3-25	1Ω-27K	from 6.12 to 9.64

... ceramic tubular support (cemented)



	Power range [W]	Resistance ohmic range [Ω]	min and max dimensions range [diam.xlength ... mm]
SRC_SRCR ... with embedded collars fixed and adjustable 	10-1000	0,5Ω-30K	from 8.34 to 60.500
SREC_SRECR ... flat resistor 	21-91	1Ω-22K	from 8.32 to 8.153
SCE ... elliptical section resistor 	500-1300	2Ω-47K	from 70.240 to 70.500
RNOC RNOCR ... corrugated ribbon winding fixed and adjustable 	155-1500	0,068-100Ω	from 29.108 to 65.500
SRAC ... with axial leads 	3-25	1Ω-27K	from 6.12 to 9.64

... bare wire and grid resistors






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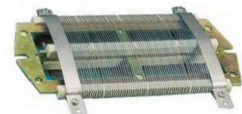
... bare wire on ceramic support



	Power range [W]	Resistance ohmic range [Ω]	min and max dimensions range [diam.xlength ... mm]
SRO ... oxidated wire power resistors 	15-1.000	1Ω-8,1K	from 13.64 to 80.500
RCF ... "flower style" 	1.000-2.500 with ventilation	1Ω-12,5 Ω	from 63.120 to 63.290
RCF ... spiral wire 	220-2.000 with ventilation	13,9-320 Ω	from 20.150 to 70.500

... bare wire on metal frame support (ceramic supports located on steel frame)



	Power range [W]	Resistance ohmic range [Ω]	min and max dimensions range [diam.xlength ... mm]
RWC ... helix ribbon coil 	400-1200	0,05-1,0Ω	from 90.230 to 90.515
RDP 70.xxx ... rectangular section 	600-1200	1,0-61Ω	from 77x18x320 to 77x18x560
RDP 800.1600 ... rectangular section 	800-1800	0,5-68Ω	from 100x22x255 to 100x22x575
RDP 2200-5000 ... romboidal section 	2500-5000	0,3-100Ω	from 100x22x255 to 100x22x575

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... metal (box) housed resistors





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... metal (box) housed resistors (SRF family - 1/2)



	Power rating range with heat sink + Absorbed energy @ 250°C ΔT	Resistance ohmic range [Ω]	IP level	min and max dimensions range [length x depth x height]
SRF 100 & 150 ... fixing on longitudinal sides 	<ul style="list-style-type: none"> • 100-150W • 8-10KJ 	0,39Ω-1,5K	IP55	from 120x29x16 to 180x29x16
SRF 120 & 180 ... fixing on head sides 	<ul style="list-style-type: none"> • 120-180W • 50-75KJ 	2,0-300Ω	IP55	from 170x42x20 to 170x65x20
SRF 170-175 ... fixing on head sides	<ul style="list-style-type: none"> • 165-600W • 29-120KJ 	1,8-1800Ω	IP55	from 90x35x30 to 320x35x30
SRF 250 & 350 ... fixing with longitudinal sides or base brackets	<ul style="list-style-type: none"> • 250-350W • 18-24KJ 	1,8-1800Ω	IP55	from 150x35x30 to 200x35x30

... metal (box) housed resistors (SRF family - 2/2)



Power rating range with heat sink
+
Absorbed energy
@ 250°C ΔT

Resistance ohmic range
[Ω]

IP level

min and max dimensions range
[length x depth x height]

SRF 650, 950, 1350



- 650-1.350W
- 90-150KJ

5,6 Ω-250Ω

IP55

from 155x70x20
to 255x70x20

SRF 1001&2002 HE ... high energy version

- 900-1800W
- 450-800KJ

6,8-300Ω

IP55

from 320x100x30
to 385x150x50

SRF 600, 900, 1300



- 600-1.300W
- 35-75KJ

5,6 Ω-200Ω

IP33

from 102x68x13
to 195x81x13

SRF 601-2001

- 600-2.000W
- 35-85KJ



2,0-300Ω

IP33

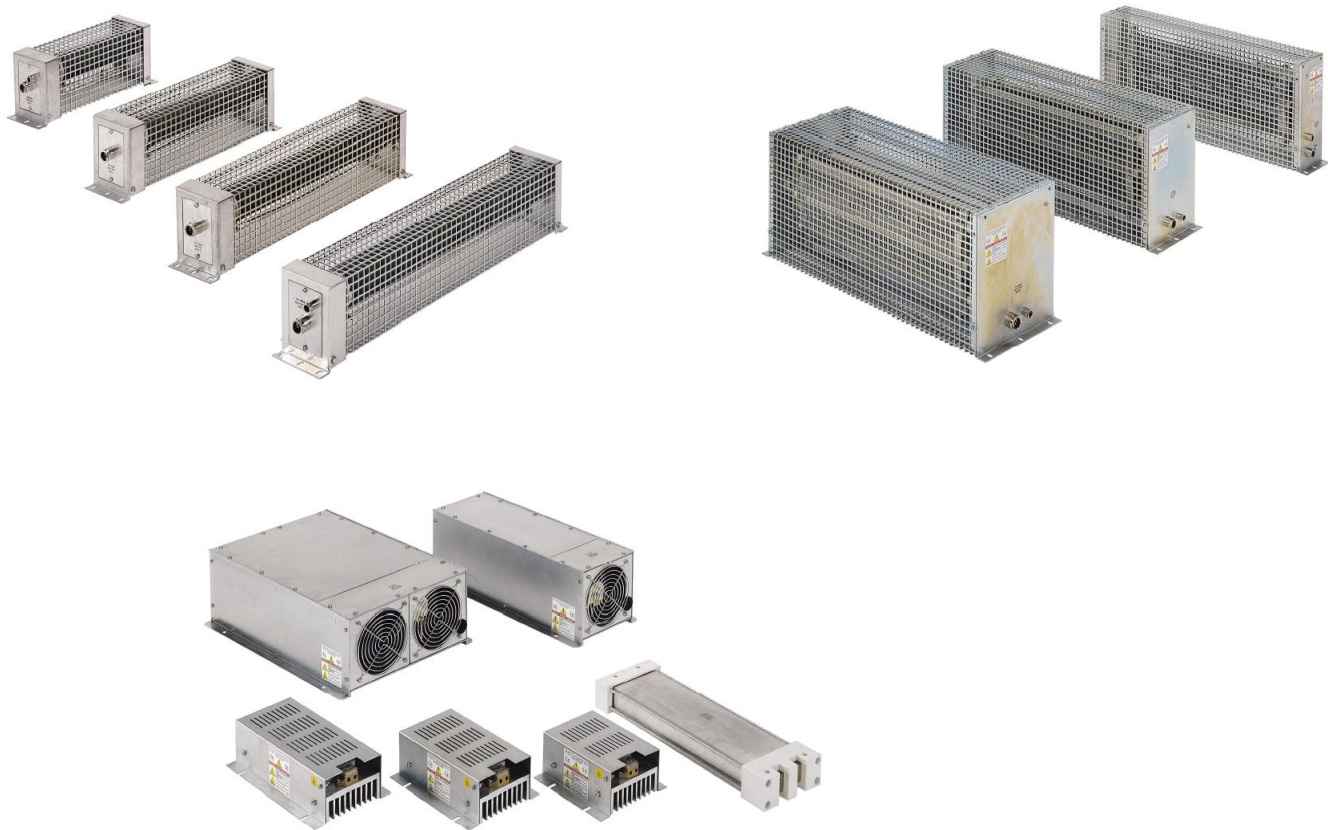
from 129x68x12
to 222x68x12

... metal (cage) housed resistors (RFH + RFF, SFO families)



	Power rating range with heat sink + Absorbed energy @ 250°C ΔT	Resistance ohmic range [Ω]	IP level	min and max dimensions range [length x ldepth x height]
RFH 350, 500, 750, 1100 	<ul style="list-style-type: none"> • 350-950W • 50-150KJ 	1,0Ω -20K	IP55	from 110x95x30 to 320x95x30
RFH 1000, 1400, 1900	<ul style="list-style-type: none"> • 1.000-1.900W • 450-750KJ 	6,8-300Ω	IP55 IP65	from 246x100x73 to 366x100x73
RFH 1500, 1800, 2200	<ul style="list-style-type: none"> • 1.000-1.900W • 500-1.000KJ 	6,8-300Ω	IP55	from 320x120x40 to 380x190x67
RFF 201&301, 202&302 	<ul style="list-style-type: none"> • 200-370W • 40-50KJ 	0,4 -8K2	IP55	from 150x29x22 to 200x29x22
SFO 100, 150, 200, 300, 450, 600 ... high energy version	<ul style="list-style-type: none"> • 100-600W • 7-140KJ 	4,7-250 Ω	IP55	from 150x29x22 to 200x29x22

... metal (cage) housed resistors



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... metal (cage) housed resistors (BDR family)



**Power rating
range
+
Absorbed energy
@ 250°C ΔT**

**Resistance
ohmic range
[Ω]**

IP level

**min and max
dimensions range**
[length x ldeapth x height]

**BDR 2K0, 4K0, 5K0, 8K0, 12K0,
16K0, 24K0**



- 2-24KW
- 20-120KJ

1 - 100Ω

IP20

from 498x100x250
to 625x95x500

**BDR 4K1, 8K1, 12K1, 16K1,
24K1, 32K1**



- 4-32KW
- 20-260KJ

1 - 100Ω

IP23

from 625x100x290
to 625x450x550

BDR 48K2, 64K2

- 48-64KW
- 20-260KJ

1 - 100Ω

IP21

from 625x510x860
to 625x510x1200

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... metal (cage) housed resistors (BUV, BRU, BRE families)



**Power rating
range
+
Absorbed energy
@ 250°C ΔT**

**Resistance
ohmic range
[Ω]**

IP level

**min and max
dimensions range**
[length x ldepth x height]

BUV 1 ... ventilated resistors



- 1-4KW
- 0,5-16KJ

2Ω- 10K

IP22

425x180x145

BRU 10K, 14K, 16K, 21K ... ventilated resistors



- 6-24KW
- 12KJ-48KJ

2Ω- 10K

IP20

from 480x340x540
to 590x340x650

BRE xx1, BRE 600-1000

- 0,6-1,5KW
- 5-12KJ

4-330Ω

IP20

from
294x64x120 to
455x121x141

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... others peculiar resistors (“high energy absorption” + “water cooling”)



... form high energy absorption ... and high dielectric strength too (> 12.000 V_{rms})

RPGS 500, 750, 1000, 1500



... water cooled resistors ...
“high power small volume”

RHO 6000, 25000



Power rating range
+
Absorbed energy

- 500-1600W
- 250-500KJ
in 60 sec

Resistance ohmic range
[Ω]

0,2 Ω – 30K

IP level

IP55


min and max dimensions range
[length x depth x height]

from
425x125x125
to
520x125x125

from
390x70x80
to
515x135x155



... others peculiar resistors ("low power braking" + "heaters" + "low power ceramic cage")



	Power rating range	Resistance ohmic range [Ω]	IP level	min and max dimensions range [length x ldepth x height]
<p>... low power braking</p> <p>SFM 51, 76, 101, 121xx</p>	50W-120W	0,2 Ω – 30K	IP33	from 100x40x11 to 195x40x13
<p>... heaters and condensate prevention</p> <p>ACP 50, 100 ... ACS 100, 200 ... ACST 100,200</p>	50W-200W	1,4 Ω – 5K	IP54	from 100x50x29 to 200x100x35
 <p>... low power ceramic cage</p> <p>RFA 4, ..., 20</p>	4 - 22W	0,1Ω – 27K	IP56	from 20x6,4x6,4 to 64x12,5x12,5

... others peculiar resistors ("Al housed with heat sink" + "shunt" + "rheostat")



	Power rating range	Resistance ohmic range [Ω]	IP level	min and max dimensions range [length x depth x height]
... Al housed with heat sink RHS, RHW 	10 - 600W	0,1Ω - 62K	IP56	from 19x21x11 to 115x73x46
... shunt SH series 	from 1A to 4000A @ 60 and 150mV	n.a.	n.a.	from 90x20x8 to 200x120x60
... rheostat cemented or enamelled rheostat	25 - 1000W	1Ω - 33K	n.a.	from 42x45x35 to 200x270x85

... “groups”

- each resistor can be arranged in groups or in rack accordingly to the customer needs.
- here next some some examples about



RPGS group
G4 R PGS



SCE group
G4 SCE



grid resistor group



RDP in rack
(120KW system)

application sectors

For itself intrinsic characteristics, power resistors are applied in any sector.
Most important of them are:

✓ industrial automation



✓ energy (wind mills, photovoltaic etc.)



✓ transport (railway, trams etc.)



✓ movement systems (lifts, cranes etc.)

