

## Fixed Wirewound High Power Vitreous Resistors with Terminal Collars or Bands



### FEATURES

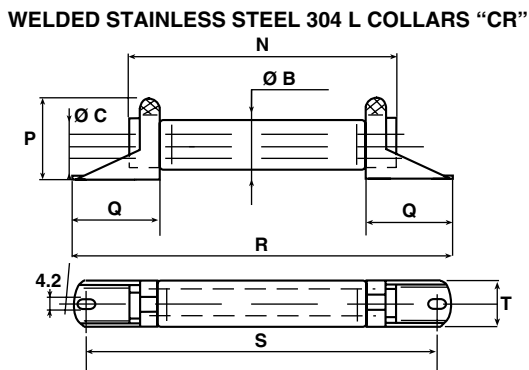
- 10 W to 80 W at 25 °C
- NF C 93-214
- RB 13 x 70 RB 20 x 117
- High power up to 80 W at 25 °C
- High long term stability drift < 2.5 % after 5000 h
- Great mechanical strength
- Fire proof
- Environmental performance
- Thermal shock strength 0.5 % (100 % h at - 25 °C)
- Compliant to RoHS directive 2002/95/EC



The RW wirewound power resistors are extremely well suited to professional applications, where high power and excellent endurance are required. They meet all requirements of NF C 93-214 specifications and five sizes cover the power range from 10 W to 80 W. Non inductive types are available, by using the special RWNI winding. For higher power or extremely severe conditions of use, see the RWST series.

NF F 16101, 10/1988 and 16102, 04/1992: Not applicable (our parts are made of metallic and refractory materials).  
NF C 93-214. Performances according to NF C 93-214.

### DIMENSIONS in millimeters



RW STYLE		8 x 34	10 x 50	13 x 70	16 x 94	20 x 117
CONNECTIONS	Collar	AN	AN	AN	AN	AN
	Collar	-	CR	CR	-	-
	Collar	-	-	CS	-	-
	Band	-	B	B	B	B
A ±2		34	50	70	94	117
Ø B max.		11.5	13	16	19.5	23
Ø C min.		4.1	5	5	9	9
D +0.5 +0		-	8	10.5	12	14
E		-	11 ± 0.5	14 ± 0.5	17.5 ± 0.5	21 ± 0.7
F max.		-	21	24.5	28	33
G		-	14 ± 0.5	16 ± 0.5	18 ± 0.5	21 ± 0.7
H		28 ± 1.0	31 ± 1.0	34 ± 1.0	38 ± 1.0	42 ± 1.5
J		19.5 ± 0.5	22 ± 0.5	24 ± 0.5	25 ± 0.5	28 ± 0.7
K		16 ± 0.5	18 ± 0.5	20 ± 0.5	21 ± 0.5	24 ± 0.7
L +0.5 +0		5	6.35	0.6	0.6	0.8
M ± 1.5		1	1.5	3.5	4	6
N ± 2		27	40	56	78	98
P ± 1		-	19.5	22.5	-	-
Q ± 0.5		-	19.5	20.5	-	-
R ± 2		-	72	91	-	-
S ± 2		-	62	81	-	-
T		-	12	15	-	-
Ø U		3.2	4.2	4.2	4.2	4.2

### WELDED STAINLESS STEEL 304L COLLARS "CS"





**Fixed Wirewound High Power Vitreous Resistors  
with Terminal Collars or Bands**

Vishay Sfernice

**MECHANICAL SPECIFICATIONS**

Mechanical Protection	Enamel
Resistive Element	Ni-Cr wire
Connections	B band
	AN - CR - CS collars
Average Unit Weight	10 g to 100 g

**ENVIRONMENTAL SPECIFICATIONS**

Temperature Limits	- 55 °C + 450 °C
Climatic Category	- 55 °C/+ 200 °C/56 days

**ELECTRICAL SPECIFICATIONS**

Resistance Range	1 Ω to 68 kΩ (E12 preferred series value)
Resistance Tolerances Standard	± 5 %
Power Rating	10 W to 80 W at 25 °C
Temperature Coefficient	75 ppm/°C (typical)
Dielectric Strength	1000 V <sub>RMS</sub> (AN collars)
Insulation Resistance	100 MΩ (500 V <sub>DC</sub> ) AN collars
Shelf Life	0.1 % year (typical)

**PERFORMANCE**

TESTS	CONDITIONS	REQUIREMENTS	TYPICAL VALUES AND DRIFTS
Short Time Overload	10 Pr during 5 s Voltage limited at < 5000 V current limited at 5 A	2 % or 0.05 Ω	0.5 %
Climatic Sequence	- 55 °C + 200 °C 5 cycles	3 % or 0.05 Ω Insulation resistance > 100 MΩ	0.5 %
Humidity (Steady State)	56 days 95 % relative humidity	2 % or 0.05 Ω Insulation resistance > 100 MΩ	0.5 %
Thermal Shock	Load at 100 % Pr followed by cold temp. exposure at - 55 °C	2 % or 0.05 Ω	0.5 %
Shock	Severity 50 9 shocks/each side	1 % or 0.05 Ω	0.25 %
Vibration	Severity 55B	1 % or 0.05 Ω	0.25 %
Terminal Strength	Collar AN Traction 40 N Band B Torque 60 Ncm	1 % or 0.05 Ω	0.5 %
Load Life	90'/30' cycle 1000 h at Pr 25 °C	5 %	1000 h 1.5 %
			5000 h 2.5 %

**SPECIAL FEATURES**

RW STYLE	8 x 34	10 x 50	13 x 70	16 x 94	20 x 117
Designation NF C 93-214	-	-	RB 13 x 70	-	RB 20 x 117
Power Rating at 25 °C	10 W	17 W	28 W	44 W	72 W
Maximum Power Rating at 25 °C	13 W	20 W	32 W	50 W	80 W
Ohmic Range (E12, E24 series)	1 Ω 10 kΩ	1 Ω 27 kΩ	2.2 Ω 56 kΩ	2.2 Ω 56 kΩ	2.7 Ω 68 kΩ
Limiting Element Voltage	300 V	450 V	650 V	900 V	1100 V
Critical Resistance	6.9 kΩ	10 kΩ	13.2 kΩ	16 kΩ	15.1 kΩ

**NON INDUCTIVE WINDING**

For high frequencies, low self induction resistors are available with special windings.  
RWNI designation.

MODEL AND STYLE	RWNI 8 x 34	RWNI 10 x 50	RWNI 13 x 70	RWNI 16 x 94	RWNI 20 x 117
Ohmic Range	4.7 Ω 100 Ω	4.7 Ω 220 Ω	4.7 Ω 620 Ω	10 Ω 1.2 kΩ	10 Ω 2.2 kΩ

**POWER RATING CHART**



**TEMPERATURE RISE**



**MARKING**

SFERNICE trademark, model, style, NF style (if applicable) nominal resistance (in  $\Omega$ ), tolerance (in %), manufacturing date.

ORDERING INFORMATION								
<b>RW</b>	<b>20 x 117</b>	<b>NI</b>		<b>AN</b>	<b>68 <math>\Omega</math></b>	<b><math>\pm 5\%</math></b>	<b>B020</b>	<b>e</b>
MODEL	STYLE	NON-INDUCTIVE WINDING	SPECIAL DESIGN	CONNECTIONS	OHMIC VALUE	TOLERANCE	PACKAGING	LEAD (Pb)-FREE
		Optional	Optional		Custom items are subject to extra-charge and min. order. Please see price list.			



GLOBAL PART NUMBER INFORMATION																		
R	W	1	6	X	9	4	A		2	0	3	J	B	0	0			
GLOBAL MODEL	SIZE	LEADS	OPTION	OHMIC VALUE				TOLERANCE	PACKAGING	SPECIAL								
RW	8X34 10X50 13X70 16X94 20117	A = AN B = B C = CS D = CR	N = Non inductive winding	<p>The first two digits are significant figures and the last digit specifies the number of zeros to follow. R designates decimal point.</p> <p><b>203</b> = 20 kΩ  <b>471</b> = 470 Ω  <b>48R</b> = 48.7 Ω  <b>R01</b> = 0.01 Ω</p>				J = 5.0 %	<p><b>Box:</b>            BA25            BA25NA            BO20            BO20NA            BO30            BO30NA            BO40            BO40NA            BO50            BO50NA</p>	As applicable. Example: <b>BC1</b>								



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