

## 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

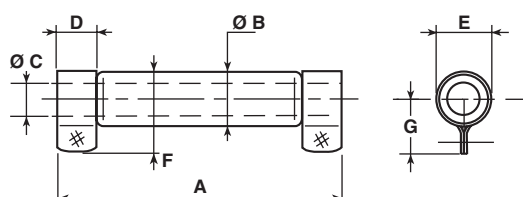

**RoHS**  
COMPLIANT

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.

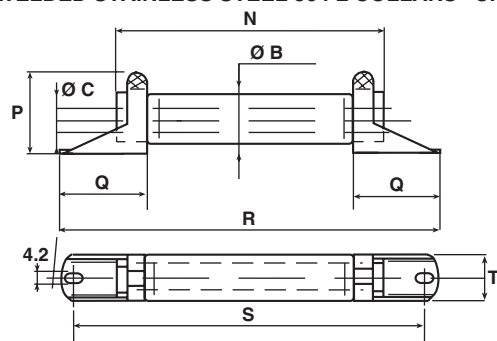
NF F 16101, 10/1988 and 16102, 04/1992: Not applicable (our parts are made of metallic and refractory materials).  
NF C 93-214. Performances according to NF C 93-214.

### DIMENSIONS in millimeters

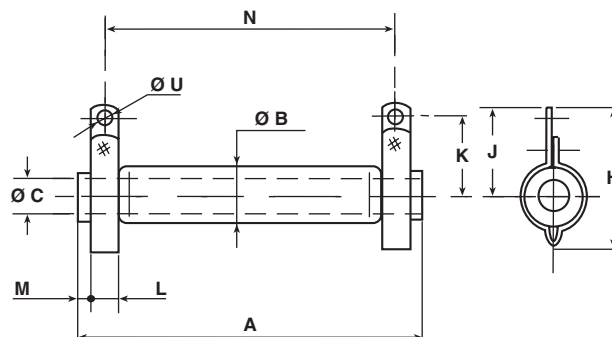
#### WELDED STAINLESS STEEL 304 L BAND "B"



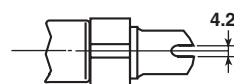
#### WELDED STAINLESS STEEL 304 L COLLARS "CR"



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



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



SERIES	CONNECTIONS				A ± 2	Ø B MAX.	Ø C MIN.	D + 0.5 + 0	E	F MAX.	G	H	J	K
	Collar	Collar	Collar	Band										
RW 8 x 34	AN	-	-	-	34	11.5	4.1	-	-	-	-	28 ± 1.0	19.5 ± 0.5	16 ± 0.5
RW 10 x 50	AN	CR	-	B	50	13	5	8	11 ± 0.5	21	14 ± 0.5	31 ± 1.0	22 ± 0.5	18 ± 0.5
RW 13 x 70	AN	CR	CS	B	70	16	5	10.5	14 ± 0.5	24.5	16 ± 0.5	34 ± 1.0	24 ± 0.5	20 ± 0.5
RW 16 x 94	AN	-	-	B	94	19.5	9	12	17 ± 0.5	28	18 ± 0.5	38 ± 1.0	25 ± 0.5	21 ± 0.5
RW 20 x 117	AN	-	-	B	117	23	9	14	21 ± 0.7	33	21 ± 0.7	42 ± 1.5	28 ± 0.7	24 ± 0.7

**DIMENSIONS** in millimeters

SERIES	CONNECTIONS				L + 0.5 + 0	M ± 1.5	N ± 2	P ± 1	Q ± 0.5	R ± 2	S ± 2	T	Ø U
	Collar	Collar	Collar	Band									
RW 8 x 34	AN	-	-	-	5	1	27	-	-	-	-	-	3.2
RW 10 x 50	AN	CR	-	B	6.35	1.5	40	19.5	19.5	72	62	12	4.2
RW 13 x 70	AN	CR	CS	B	0.6	3.5	56	22.5	20.5	91	81	15	4.2
RW 16 x 94	AN	-	-	B	0.6	4	78	-	-	-	-	-	4.2
RW 20 x 117	AN	-	-	B	0.8	6	98	-	-	-	-	-	4.2

**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 P <sub>r</sub> 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 % P <sub>r</sub> 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 P <sub>r</sub> 25 °C	5 %	1000 h 1.5 %
			5000 h 2.5 %

**SPECIAL FEATURES**

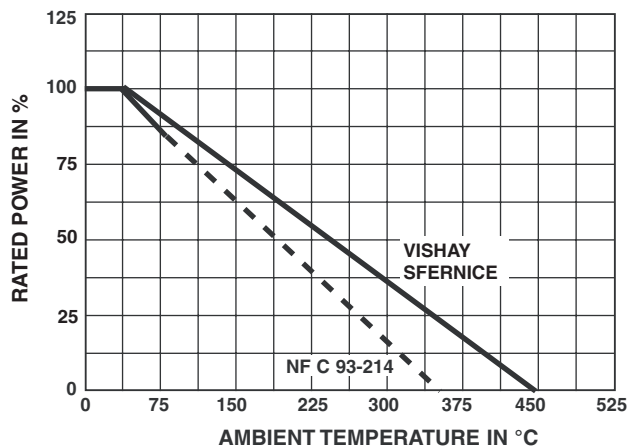
RW STYLE	8 x 34	10 x 50	13 x 70	16 x 94	20 x 117
Designation NF C 93-214	-	-	RB 13 x 70	-	RB 20 x 117
Power Rating at 25 °C	10 W	17 W	28 W	44 W	72 W
Maximum Power Rating at 25 °C	13 W	20 W	32 W	50 W	80 W
Ohmic Range (E12, E24 series)	1 Ω 10 kΩ	1 Ω 27 kΩ	2.2 Ω 56 kΩ	2.2 Ω 56 kΩ	2.7 Ω 68 kΩ
Limiting Element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

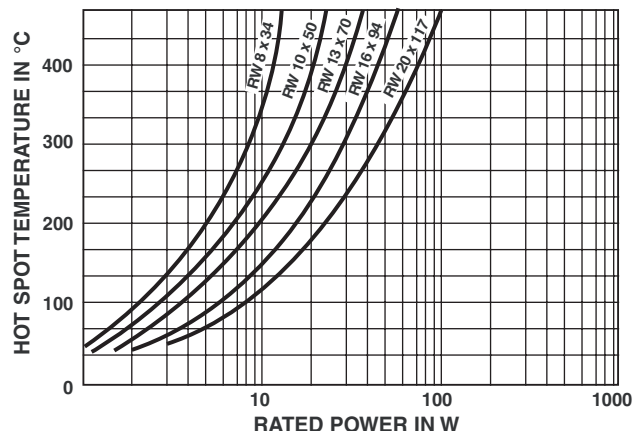
For high frequencies, low self induction resistors are available with special windings.  
RWNI designation.

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 $\Omega$ 100 $\Omega$	4.7 $\Omega$ 220 $\Omega$	4.7 $\Omega$ 620 $\Omega$	10 $\Omega$ 1.2 k $\Omega$	10 $\Omega$ 2.2 k $\Omega$

## POWER RATING



## TEMPERATURE RISE



## MARKING

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

## ORDERING INFORMATION

RW	20 × 117	NI		AN	68 Ω	± 5 %	B020	e
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

<b>R</b>	<b>W</b>	<b>1</b>	<b>6</b>	<b>X</b>	<b>9</b>	<b>4</b>	<b>A</b>		<b>2</b>	<b>0</b>	<b>3</b>	<b>J</b>	<b>B</b>	<b>0</b>	<b>0</b>			
GLOBAL MODEL	SIZE	LEADS	OPTION	OHMIC VALUE	TOLERANCE	PACKAGING	SPECIAL											
<b>RW</b>	8 x 34 10 x 50 13 x 70 16 x 94 20 x 117	<b>A</b> = AN <b>B</b> = B <b>C</b> = CS <b>D</b> = CR	<b>N</b> = Non inductive winding	The first two digits are significant figures and the last digit specifies the number of zeros to follow. R designates decimal point.  203 = 20 k $\Omega$ 471 = 470 $\Omega$ 48R = 48.7 $\Omega$ R01 = 0.01 $\Omega$	<b>J</b> = 5.0 %	<b>Box:</b> BA25 BA25NA BO20 BO20NA BO30 BO30NA BO40 BO40NA BO50 BO50NA	As applicable. Example: <b>BC1</b>											



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