## Vishay Sfernice



COMPLIANT

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



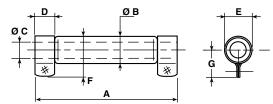
#### **FEATURES**

- 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)

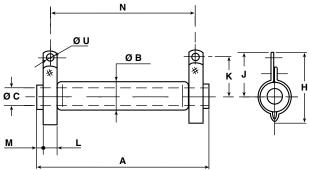
The RW wirewound power resistors are extremely well suited to professional applications, where high power and excellent endurance are required. They meet all requirements of NF C 93-214 specifications and five sizes cover the power range from 10 W to 80 W. Non inductive types are available, by using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

#### **DIMENSIONS** in millimeters

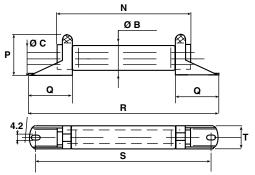
#### WELDED STAINLESS STEEL 304 L BAND "B"



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

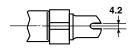


#### WELDED STAINLESS STEEL 304 L COLLARS "CR"



RW STYLE		8 × 34	10 × 50	13 × 70	16 × 94	20 × 117
	Collar	AN	AN	AN	AN	AN
CONNECTIONS	Collar	-	CR	CR	-	-
CONNECTIONS	Collar	-	-	CS	-	=
	Band	-	В	В	В	В
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
Н		28 ± 1.0	31 ± 1.0	34 ± 1.0	38 ± 1.0	42 ± 1.5
J		$19.5 \pm 0.5$	$22 \pm 0.5$	24 ± 0.5	25 ± 0.5	$28 \pm 0.7$
K		16 ± 0.5	18 ± 0.5	$20 \pm 0.5$	21 ± 0.5	$24 \pm 0.7$
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	-	ı
Q ± 0.5		-	19.5	20.5	-	-
R ± 2		-	72	91	-	•
S ± 2		-	62	81	-	=
T		-	12	15	-	
ØU		3.2	4.2	4.2	4.2	4.2

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



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

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#### **MECHANICAL SPECIFICATIONS**

Mechanical ProtectionEnamelResistive ElementNi-Cr wireConnectionsB band

AN - CR - CS collars

Average Unit Weight 10 to 100 g

#### **ENVIRONMENTAL SPECIFICATIONS**

**Temperature Limits** - 55 °C + 450 °C

Climatic Category - 55 °C/+ 200 °C/56 days

ELECTRICAL SPECIFICATIONS					
Resistance Range	1 $\Omega$ to 68 k $\Omega$ (E12 peferred 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 seconds Voltage limited at < 5000 V current limited at 5 A	2 % or 0.05 $\Omega$	0.5 %
Climatic Sequence	- 55 °C + 200 °C 5 cycles	$3$ % or 0.05 $\Omega$ Insulation resistance > 100 $\text{M}\Omega$	0.5 %
Humidity (Steady State)	56 days 95 % relative humidity	$2$ % or 0.05 $\Omega$ Insulation resistance > 100 $\text{M}\Omega$	0.5 %
Thermal Shock	Load at 100 % Pr followed by cold temp. exposure at - 55 °C	2 % or 0.05 $\Omega$	0.5 %
Shock	severity 50 9 shocks/each side	1 % or 0.05 Ω	0.25 %
Vibration	severity 55B	1 % or 0.05 $\Omega$	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	5 %	1000 h 1.5 %
Loau Lile	1000 hours at Pr 25 °C	5 %	5000 h 2.5 %

SPECIAL FEATURES											
RW STYLE	8 3	<b>c</b> 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	10 W		17 W		28 W		44 W		72 W	
Maximum Power Rating at 25 °C	13	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	30	300 V		450 V		650 V		900 V		1100 V	
Critical Resistance	6.9	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.

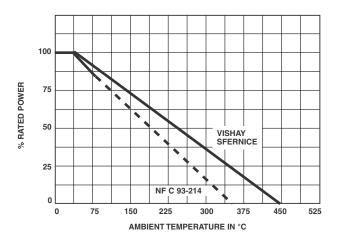
MODEL	RWNI	RWNI	RWNI	RWNI	RWNI
AND STYLE	8 x 34	10 x 50	13 x 70	16 x 94	20 x 117
Ohmic range	4.7 Ω 100 Ω	4.7 Ω 220 Ω	$\begin{array}{c} 4.7~\Omega \\ \text{620}~\Omega \end{array}$	10 Ω 1.2 kΩ	10 Ω 2.2 kΩ

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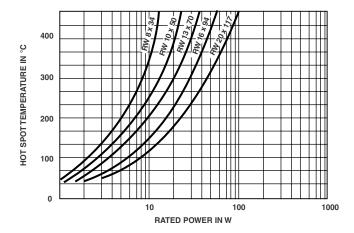
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#### **POWER RATING CHART**



#### **TEMPERATURE RISE**



#### **MARKING**

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

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

SAP PART NUMBERING GUIDELINES								
RW	20117	Α	680	J	B15			
MODEL	STYLE	CONNECTIONS	OHMIC VALUE	TOLERANCE	PACKAGING			

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