

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



### FEATURES

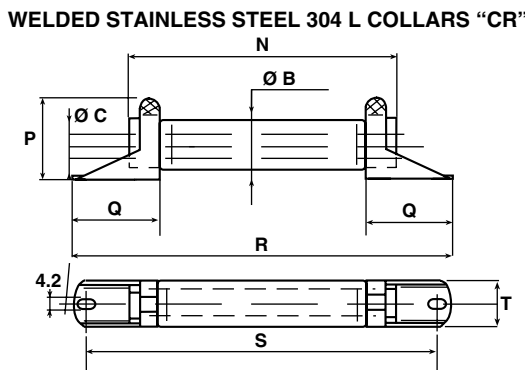
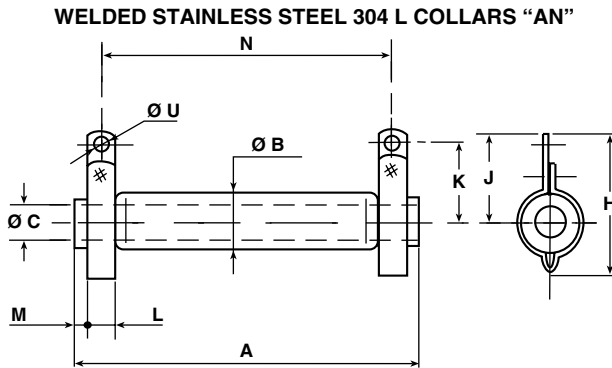
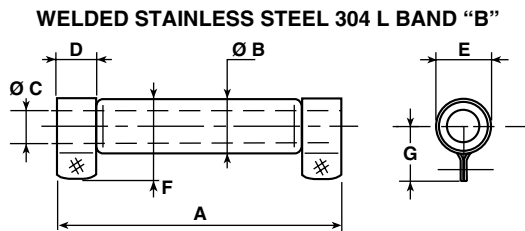
- 10 W to 80 W at 25 °C
- NF C 93-214
- RB 13 x 70 RB 20 x 117
- High power up to 80 W at 25 °C
- High long term stability drift < 2.5 % after 5000 h
- Great mechanical strength
- Fire proof
- Environmental performance
- Thermal shock strength 0.5 % (100 % h at - 25 °C)
- Compliant to RoHS directive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

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

**ENVIRONMENTAL SPECIFICATIONS**

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

**ELECTRICAL SPECIFICATIONS**

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

**PERFORMANCE**

TESTS	CONDITIONS	REQUIREMENTS	TYPICAL VALUES AND DRIFTS
<b>Short Time Overload</b>	10 Pr during 5 s Voltage limited at < 5000 V current limited at 5 A	2 % or 0.05 Ω	0.5 %
<b>Climatic Sequence</b>	- 55 °C + 200 °C 5 cycles	3 % or 0.05 Ω Insulation resistance > 100 MΩ	0.5 %
<b>Humidity (Steady State)</b>	56 days 95 % relative humidity	2 % or 0.05 Ω Insulation resistance > 100 MΩ	0.5 %
<b>Thermal Shock</b>	Load at 100 % Pr followed by cold temp. exposure at - 55 °C	2 % or 0.05 Ω	0.5 %
<b>Shock</b>	Severity 50 9 shocks/each side	1 % or 0.05 Ω	0.25 %
<b>Vibration</b>	Severity 55B	1 % or 0.05 Ω	0.25 %
<b>Terminal Strength</b>	Collar AN Traction 40 N Band B Torque 60 Ncm	1 % or 0.05 Ω	0.5 %
<b>Load Life</b>	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
<b>Designation NF C 93-214</b>	-	-	RB 13 x 70	-	RB 20 x 117
<b>Power Rating at 25 °C</b>	10 W	17 W	28 W	44 W	72 W
<b>Maximum Power Rating at 25 °C</b>	13 W	20 W	32 W	50 W	80 W
<b>Ohmic Range (E12, E24 series)</b>	1 Ω 10 kΩ	1 Ω 27 kΩ	2.2 Ω 56 kΩ	2.2 Ω 56 kΩ	2.7 Ω 68 kΩ
<b>Limiting Element Voltage</b>	300 V	450 V	650 V	900 V	1100 V
<b>Critical Resistance</b>	6.9 kΩ	10 kΩ	13.2 kΩ	16 kΩ	15.1 kΩ

**NON INDUCTIVE WINDING**

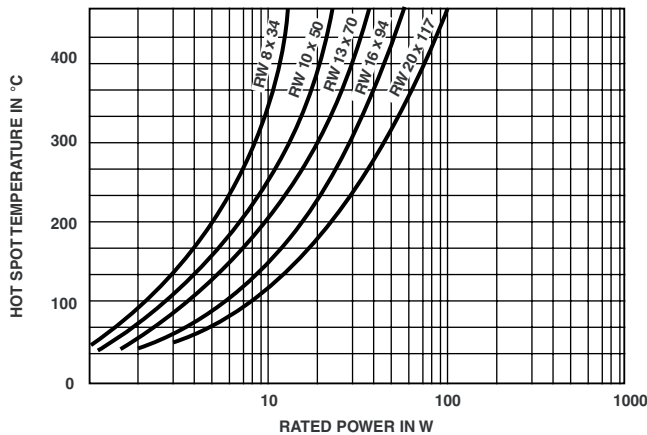
For high frequencies, low self induction resistors are available with special windings. RWNI designation.

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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- Защиту от снятия компонента с производства.
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- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)  
Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)