

## Fixed Wirewound High Power Vitreous Resistors Electrical Traction Model



“CS” Type 1 Collars

**FEATURES**

- 95 W to 800 W at 25 °C
- NF C 93-214
- RB 25 x 168, RB 30 x 250
- Rugged construction for use in severe environmental conditions
- Compliant to RoHS directive 2002/95/EC



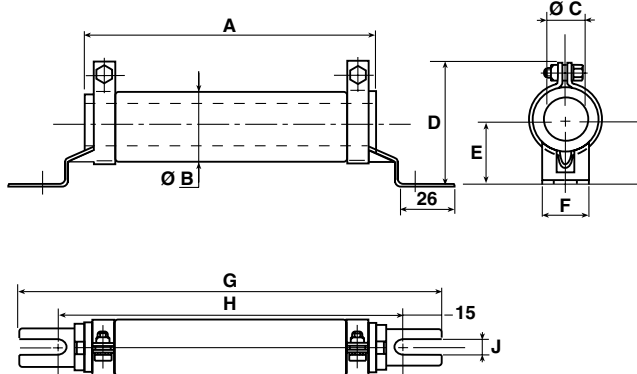
The RWST vitreous wirewound high power resistors are known for their excellent reliability which has developed out of the VISHAY SFERNICE experience over several decades in the field of high current applications.

Extremely severe conditions of use are encountered in electrical traction including repeated overloads. To withstand such conditions the new RWST model is extremely rugged and is manufactured to a very carefully monitored process using the best materials.

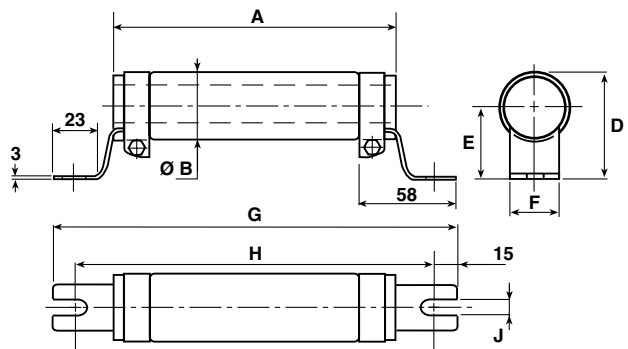
NF F 16101, 10/1988 and 16102, 04/1992: Not applicable (our parts are made of metallic and refractory materials).  
NF C 93-214. Performances according to NF C 93-214.

**DIMENSIONS** in millimeters

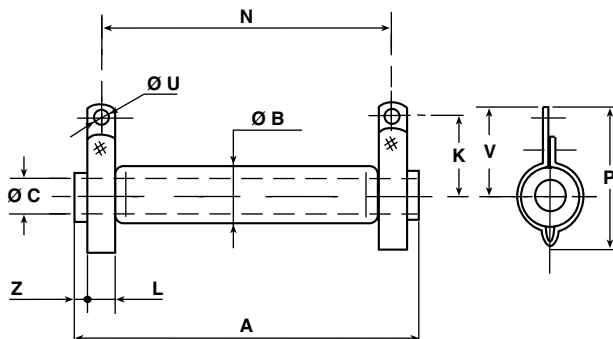
**STAINLESS STEEL 304 L COLLARS “CS” TYPE 1**



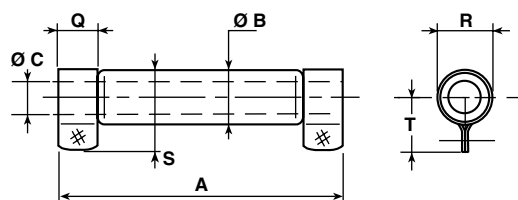
**STAINLESS STEEL 304 L COLLARS “CS” TYPE 2**



**WELDED STAINLESS STEEL 304 L COLLARS “AN”**



**WELDED STAINLESS STEEL 304 L BAND “B”**





<b>DIMENSIONS</b> in millimeters					
<b>RWST STYLE</b>	<b>25 x 138</b>	<b>25 x 168</b>	<b>30 x 250</b>	<b>40 x 370</b>	<b>50 x 373</b>
Connections	AN-B CS type 1	AN-B CS type 1	AN-B CS type 1	AN CS type 2	AN CS type 2
A ± 2	138	168	250	370	373
Ø B max.	28	28	33	45	53
Ø C min.	12	12	17	22	27.1
D	50 ± 1.5	50 ± 1.5	60 ± 1.5	69 max.	80 max.
E	27 ± 1	27 ± 1	30 ± 1	45 ± 1.5	51 ± 1.5
F ± 0.5	24	24	25	30	30
G - 4/+ 0	199	229	317	432	432
H - 4/+ 0	169	199	287	405	405
J ± 0.5	6.5	6.5	9	9	9
K	28.5 ± 1	28.5 ± 1	31 ± 1	45 ± 1.5	51 ± 1.5
L - 0/+ 0.5	9	9	13	18	18
N	117 ± 2	147 ± 2	227 ± 2	332 ± 3	332 ± 3
P	51 ± 1.5	51 ± 1.5	55 ± 1.5	81.5 max.	92.5 max.
Q - 0/+ 0.5	15	15	18	-	-
R - 0.3/+ 0.9	26	26	31	-	-
S max.	38.5	38.5	43.5	-	-
T ± 1	23.5	23.5	26	-	-
Ø U	5.7	5.7	5.7	9.2	9.2
V	33.5 ± 1	33.5 ± 1	36 ± 1	57 ± 1.5	63 ± 1.5
Z	6	6	5	10	11.5
Average unit weight in g (CS collars)	225	250	445	1400	2200

**MECHANICAL SPECIFICATIONS**

<b>Mechanical Protection</b>	Vitreous enamel
<b>Resistive Element</b>	Ni-Cr wire
<b>Connections</b>	CS supporting collars
<b>AN Collar or B</b>	on Request
<b>Average Unit Weight</b>	225 g to 2200 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>	2.7 Ω to 430 kΩ E12-E24 preferred series values)
<b>Resistance Tolerance Standard</b>	± 5 %
<b>Power Rating</b>	95 W to 800 W at 25 °C
<b>Temperature Coefficient</b>	75 ppm/°C (typical)
<b>Shelf Life</b>	0.1 % year (typical)

<b>PERFORMANCE</b>			
<b>TESTS</b>	<b>CONDITIONS</b>	<b>REQUIREMENTS</b>	<b>TYPICAL VALUES AND DRIFTS</b>
<b>Short Time Overload</b>	10 Pr during 5 s Voltage limited at < 5000 V	2 % or 0.05 Ω	0.5 %
<b>Climatic Sequence</b>	- 55 °C + 200 °C	2 % or 0.05 Ω Insulation resistance 100 MΩ	0.5 %
<b>Humidity (Steady State)</b>	56 days 95 % relative humidity	3 % or 0.05 Ω Insulation resistance 100 MΩ	0.5 %
<b>Thermal Shock</b>	Load at 100 % Pr followed by cold temperature exposure at - 55 °C/15'	2 % or 0.05 Ω	0.5 %
<b>Shock</b>	Severity 50 A 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>	<b>AN</b> <b>B</b> Traction 40 Ncm 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 % 5000 h 2 %

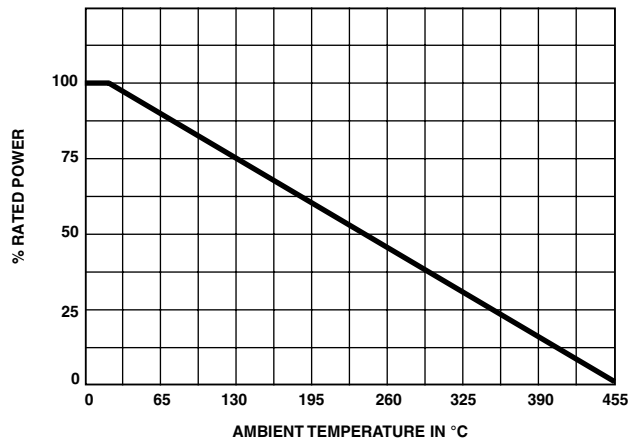
SPECIAL FEATURES					
RWST STYLE	25 x 138	25 x 168	30 x 250	40 x 370	50 x 373
Designation NF C 93-214	-	RB 25 x 168	RB 30 x 250	-	-
Power Rating at 25 °C	95 W	160 W	280 W	500 W	700 W
Maximum Power Rating at 25 °C P max.	110 W	180 W	320 W	600 W	800 W
Ohmic Range (E12, E24 series)	2.7 Ω 82 kΩ	2.7 Ω 100 kΩ	4.7 Ω 220 kΩ	8.2 Ω 360 kΩ	12 Ω 430 kΩ
Limiting Element Voltage	1400 V	1900 V	3000 V	4500 V	5000 V
Critical Resistance	18 kΩ	20 kΩ	30 kΩ	36 kΩ	30 kΩ

## NON INDUCTIVE WINDING

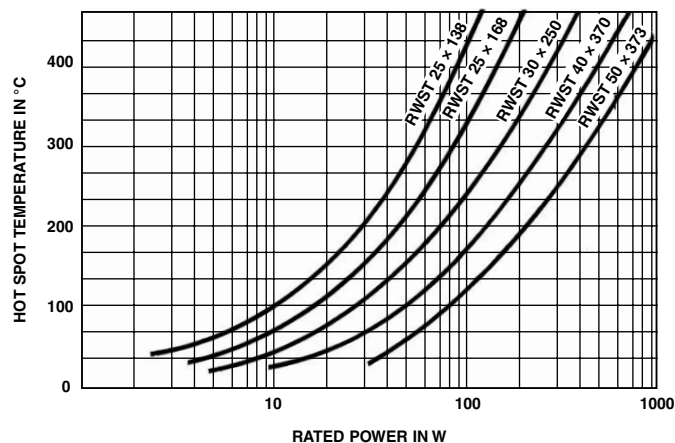
For high frequencies, low self induction resistors are available with special windings. RWSTNI designation.

MODEL AND STYLE	RWSTNI 25 x 138	RWSTNI 25 x 168	RWSTNI 30 x 250	RWSTNI 40 x 370	RWSTNI 50 x 373
OHMIC RANGE (E12 SERIES)	22 Ω 2.5 kΩ	22 Ω 4 kΩ	120 Ω 6.8 kΩ	120 Ω 8.2 kΩ	150 Ω 8.2 kΩ

## POWER RATING CHART



## TEMPERATURE RISE





Fixed Wirewound High Power Vitreous Resistors  
Electrical Traction Model

Vishay Sfernice

**PACKAGING**

Box: Fixed quantity depending on size and connections.

**MARKING**

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

ORDERING INFORMATION								
RWST	25 x 138			B	56U	± 5 %	B06	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																					
R	W	S	T	2	5	1	6	8	C		4	7	0	0	J	B	0	4			
GLOBAL MODEL	SIZE	LEADS	OPTION	OHMIC VALUE				TOLERANCE	PACKAGING	SPECIAL											
RWST	25138 25168 30250 40370 50373	A = AN B = B C = CS F = Faston	N = Non inductive winding	The first three digits are significant figures and the last digit specifies the number of zeros to follow. R designates decimal point.  4700 = 470 $\Omega$ 48R8 = 48.7 $\Omega$ R010 = 0.01 $\Omega$ R470 = 0.47 $\Omega$				J = 5.0 % K = 10 %	Box: BO1 BO2 BO2NA BO4 BO4NA BO6 BO6NA	As applicable. Example: BA7											



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