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WCR Vishay MCB

## Water Cooled Wirewound Resistor



## **DESIGN SUPPORT TOOLS**

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STANDARD ELECTRICAL SPECIFICATIONS				
GLOBAL MODEL	POWER RATING <sup>(1)</sup> W	RESISTANCE RANGE Ω	TOLERANCE ± %	
WCR 30 x 250	1500	4.7 to 56K	5	
WCR 38 x 250	2000	4.7 to 56K	5	
WCR 38 x 300	2500	4.7 to 56K	5	

#### Note

 $^{(1)}\,$  Water inlet temperature 60 °C with 40 % glycol, flow rate 5 l/min

TECHNICAL SPECIFICATIONS				
PARAMETER UNIT RESISTOR CHARACTERISTICS				
Temperature coefficient	ppm/°C	100 ppm/°C (typical)		
Maximum working voltage	V	Up to 3500 V (6600 V on specific request)		
Operating temperature range	°C	-55 to +120		

GENERAL CHARACTERISTICS				
Core	Ceramic			
Winding	NiCr alloy fully insulated from water			
Hydraulic plugs	Stainless steel (corrosion free)			
Coating	Vitreous enamel or silicone coating <sup>(1)</sup>			
Ohmic values	E12 (4.7 Ω to 56 kΩ)			
Inductance	Non-inductive type on request			
Cooling	Industrial or deionized water; coolant mixtures up to 60 % glycol			
Operating pressure	1 bar to 6 bars			
Test pressure	10 bars			
Flow	5 I/min to 15 I/min			
CTI Index	> 600			
Creeping distance	On request			
Clearance distance	On request			
Electrical connections	M3 screw and nut (other on request)			
Mounting	Vertically (recommended)			
Overload	$2 \times P_n$ 10 s ( $\theta_{60 \circ C}$ at 5 l/min)			
Endurance	1000 cycles P <sub>n</sub> 30 s/30 s; variation < 5 %			
Pressure drop 0.8 bar for WCR 30 mm x 250 mm; 0.25 bar for WCR 38 mm x 250 mm and WCR 38 mm (flow rate 10 l/min)				

#### Note

<sup>(1)</sup> For PD reason (withstand)



Better power / volume ratio

· Direct cooling without heat sink

Non-inductive optional

**FEATURES** 

- 1 WCR = 6 wirewound resistors = 5 thick-film resistors
- Up to 6 resistive functions on 1 WCR tube
- 1 single supply for several functions (snubber and divider)
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

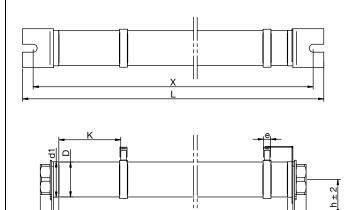


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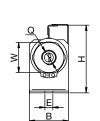
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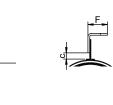
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### **DIMENSIONS** in millimeters



U





ТҮРЕ	30 x 250	38 x 250	38 x 300
Water pipe diameter	Ø 8	Ø 10	Ø 10
A	250	250	300
B + 0.5 / - 0	32	44	44
с	3.5	3.5	3.5
С	14.5	14.5	14.5
D <sub>max.</sub>	35	43	43
d1	32	40	40
E	7	9	9
e	8	8	8
f	Ø 3.2	Ø 3.2	Ø 3.2
F	11	11	11
H <sub>max.</sub>	54	80	80
h ± 2	25	40	40
К	(1)	(1)	(1)
L <sub>max.</sub>	304	335	385
Ø	30	38	38
Q	G 3/8 <sup>(2)</sup>	G 3/8 <sup>(2)</sup>	G 3/8 <sup>(2)</sup>
U	288	292	342
V	20	35	35
W	24	34	34
X ± 2	286	308	358
Weight	1 kg	1.3 kg	1.5 kg

#### Notes

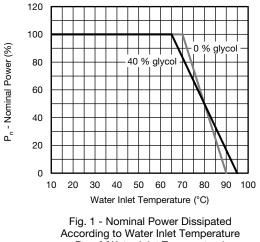
<sup>(1)</sup> Creeping / clearance on request

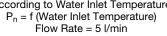
<sup>(2)</sup> Other hydraulic connections on request

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### **SPECIFIC CHARACTERISTICS**





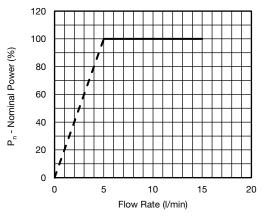


Fig. 2 - Power Dissipated According to the Flow Rate  $P_n = f$  (Flow Rate) Temperature = 60 °C

## **OPTIONS**

On request

ORDERING INFORMATION						
WCR	30 x 250	Α	10K	± 5 %	XXX	BO12
MODEL	STYLE	NON-INDUCTIVE WINDING	RESISTANCE VALUE	TOLERANCE	CUSTOM DESIGN	PACKAGING
		Optional		± 5 % ± 10 % Other on request	Optional On request: special value, tolerance, terminals, etc.	

GLOBAL PART NUMBER INFORMATION						
W C R 3 8 2 5 0 A 3 9 0 0 J B    1 2 3 4 5 6 7						
1	2	3	4	5	6	7
PRODUCT TYPE	SIZE	OPTION (if applicable)	RESISTANCE VALUE	TOLERANCE	PACKAGING	INDUSTRIALIZATION NUMBER
WCR	30250 38250 38300	A = non-inductive winding	The first three digits are significant figures and the last specifies the number of zeros to follow, R designates decimal point. $4702 = 47 \text{ k}\Omega$ $47\text{R0} = 47 \Omega$	J = 5 % K = 10 %	B = box Box quantity depends of model and size	3 specific digits (if applicable)

EXAMPLES				
MODEL	DESCRIPTION	PART NUMBER		
WCR	WCR 38X250 15U A 5 % BO12	WCR38250A15R0JB		



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