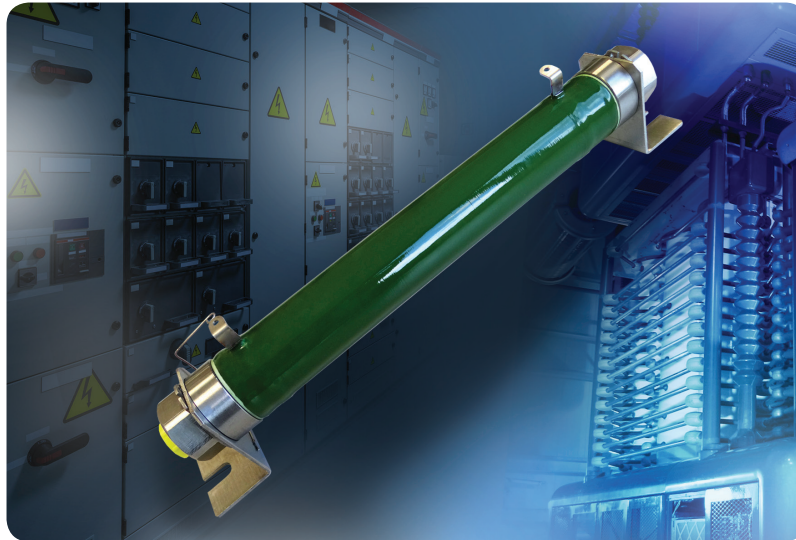


## Water-Cooled Wirewound Resistor



### KEY BENEFITS

- Very high power dissipation up to 2500 W at 60 °C water inlet temperature and 5 l/min
- High pulse tolerance: up to 5000 W for 10 s
- Non inductive option: below 250 nH

### APPLICATIONS

- Snubber and DC grading resistor for HVDC
- Discharge and balancing resistor
- Snubber resistor for drives and large drives
- Filter resistor

### RESOURCES

- Datasheet: WCR - [www.vishay.com/doc?32500](http://www.vishay.com/doc?32500)
- For technical questions contact [mcfixedresistors@vishay.com](mailto:mcfixedresistors@vishay.com)
- Material categorization: For definitions please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

**RoHS**  
COMPLIANT



## Water-Cooled Wirewound Resistor



### FEATURES

- Direct cooling without heat sink
- Better power / volume ratio
- Non-inductive optional
- 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 [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

### STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	POWER RATING <sup>(1)</sup> W	RESISTANCE RANGE $\Omega$	TOLERANCE $\pm$ %
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

<sup>(1)</sup> 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	Ni-Cr 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 $\Omega$ to 56 k $\Omega$ )
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 l/min to 15 l/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 x P <sub>n</sub> 10 s ( $\theta_{80}$ °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 x 300 mm (flow rate 10 l/min)

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#### Note

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