**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**
- For technical questions contact mcbfixedresistors@vishay.com

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)

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### STANDARD ELECTRICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>GLOBAL MODEL</th>
<th>POWER RATING (1) W</th>
<th>RESISTANCE RANGE Ω</th>
<th>TOLERANCE ± %</th>
</tr>
</thead>
<tbody>
<tr>
<td>WCR 30 x 250</td>
<td>1500</td>
<td>4.7 to 56K</td>
<td>5</td>
</tr>
<tr>
<td>WCR 38 x 250</td>
<td>2000</td>
<td>4.7 to 56K</td>
<td>5</td>
</tr>
<tr>
<td>WCR 38 x 300</td>
<td>2500</td>
<td>4.7 to 56K</td>
<td>5</td>
</tr>
</tbody>
</table>

**Note**

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

### TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>UNIT</th>
<th>RESISTOR CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature coefficient</td>
<td>ppm/°C</td>
<td>100 ppm/°C (typical)</td>
</tr>
<tr>
<td>Maximum working voltage</td>
<td>V</td>
<td>Up to 3500 V (6600 V on specific request)</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>°C</td>
<td>-55 to +120</td>
</tr>
</tbody>
</table>

### GENERAL CHARACTERISTICS

- **Core**: Ceramic
- **Winding**: Ni-Cr alloy fully insulated from water
- **Hydraulic plugs**: Stainless steel (corrosion free)
- **Coating**: Vitreous enamel or Silicone coating
- **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 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 Pn 10 s (θ60 °C at 5 l/min)
- **Endurance**: 1000 cycles Pn 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)

**Note**

(1) For PD reason (withstand)