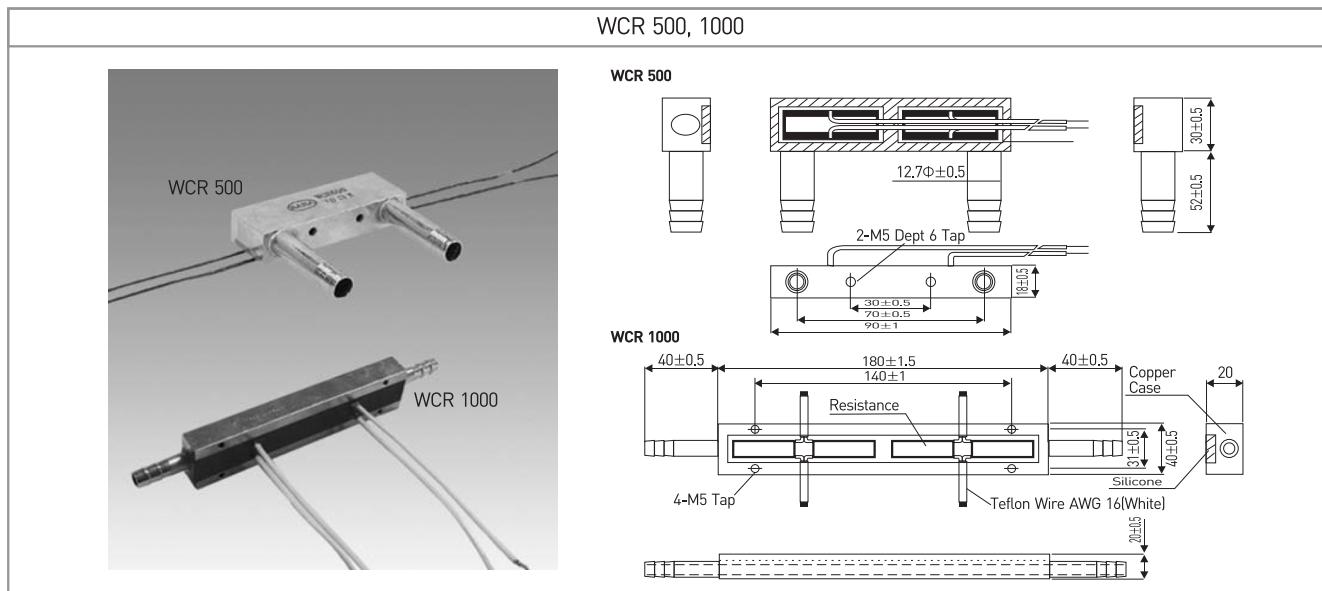




Water Cooled High Power Resistors

These are 500W, 1000W high power resistors exhibiting very low operating temperatures. This model offers very low inductance and high surge handling capacity. It consists of a flat resistive element with twisted air leads. A 5kV dielectric strength is ensured with an alumina substrate. The low operating temperature of the element gives a low failure rate in high-density, compact instruments and equipment. This model can be used in snubber resistors, GTO and IGBT in electric power conversion systems.

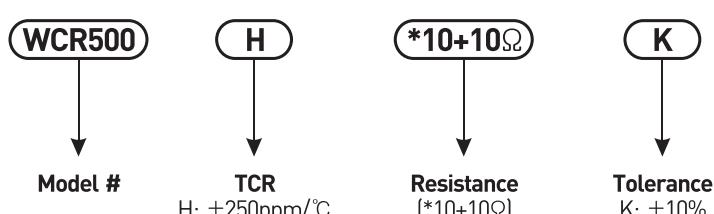
DIMENSIONS (mm)



CHARACTERISTICS

Power Rating	WCR500: 500W(Water cooling)	WCR1000: 1000W(Water cooling)
Resistance Range		Stock Values: 10, 20, 40, 120Ω [Custom Values MOQ: 100pcs / value]
Temperature coefficient		±250ppm/°C
Resistance Tolerance		K(±10%)
Dielectric Withstanding Voltage	AC 2000V between terminals and fin. option: DC 5000V between terminals and fin.	
Series Inductance	40nH / dual resistor(typical)	0.1 μH
Volume of Water Flow	2l / 1minute(minimum)	6l / 1minute(minimum)
Water Temperature		41 °C at maximum at inlet, more than the dew point
Case Temperature Rise		14 °C
Water Temperature Rise		1.4 °C
House Mouth		Standard: Nipple, any types are available
Surface Temperature Rise		50 °C
Max. Element Surface Temperature		110 °C
Water Pressure Loss	0.06 kgf/cm²	0.1 kgf/cm²
Weight	355(g)	750(g)

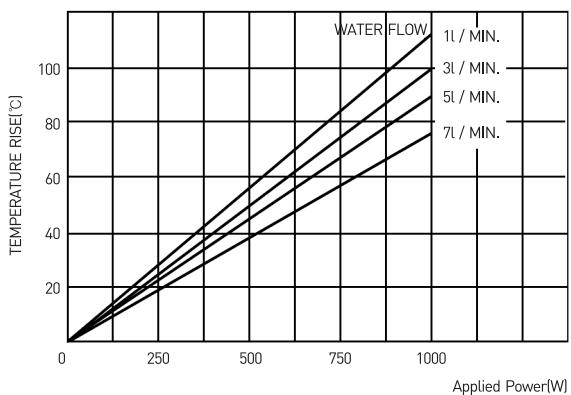
ORDERING PROCEDURE EXAMPLE



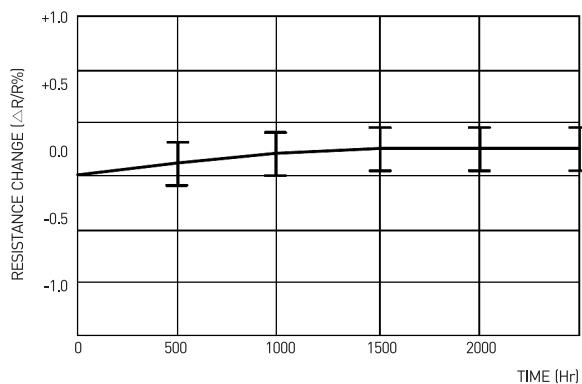


■ TEMPERATURE INCREASE VERSUS POWER LOAD (WCR500)

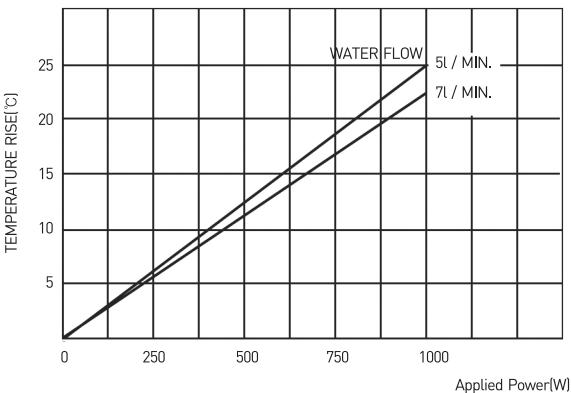
Element Surface Temperature Rise



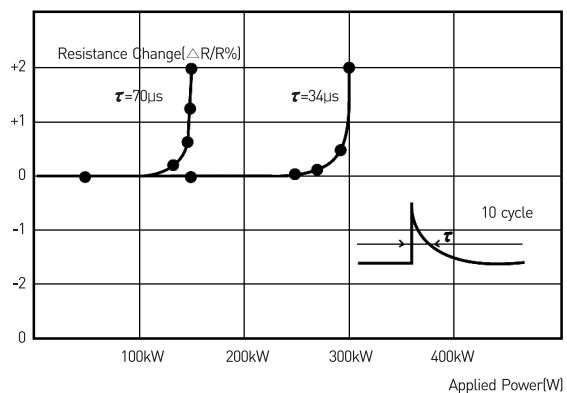
Load Life Characteristics



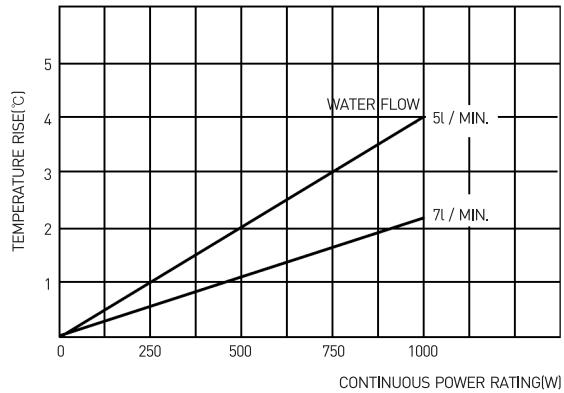
Case Temperature Rise



Impulse Test (Typical)



Cooling Water Temperature Rise Versus Power Rating



Note: The standard circuit consists of two elements (each with two leads), independently.
All measuring data was taken by connecting two elements in parallel.

Wire Wound
Resistors

Current Sensing
Resistors

Precision
Resistors

Power-Film
Resistors

High voltage
Resistors

Bulk Ceramic
Resistors

Heaters