A new range of water cooled resistors for low and medium voltage applications, especially severe conditions in automotive, traction or marine systems.

**Applications**

Rheostatic braking of all types of low and medium voltage AC drives in:
- Hybrid and all-electric vehicles
- Winches and cranes
- Cable laying vessels
- Propulsion drives on ships or oil rigs
- Dummy loads and discharge resistors for MV electrical systems
- Liquid heating

Patented design that encapsulates and totally separates the resistor elements from the coolant.

**EV2 advanced water cooled modular resistor**

- **System voltage up to 12kV** - Continuous operating voltage - EV2: 1.5kV, 4EV2: 6kV
- **Advanced materials** - Light weight, low volume, high (10kW/kg) power density
- **Modular construction** - EV resistors can be combined to handle any power inputs from 10kW to 1MW or more.
- **Extensively tested** - Proven to meet all major shock and vibration standards for automotive/traction use.
- **IP56 ingress protection** - Suitable for for automotive/traction/marine use.
- **Low time constant** - Full output temperature within 2 sec for heating applications.
Cressall

EV2 advanced water cooled modular resistor

EV2 25kW module

EV2 Single module performance chart
EV2 advanced water cooled modular resistor

Ratings
Continuous power: 25kW
Overloads:
10% for 60s, 20% for 15s, 30% for 5s
Ohmic value: min: 0.1Ω, max: 17Ω

Operating conditions
Ambient temperature
-30° to +50°C (operation),
-40° to +80°C (storage)

Dimensions (excluding pipe connections)
EV2: 300 x 164 x 53 mm
4EV2: 300 x 164 x 208 mm

Dimensions (including pipe connections)
EV2: 300 x 164 x 90 mm
4EV2: 300 x 164 x 284 mm

Weight (empty)
EV2: 2.6kg
4EV2: 10.2kg

Cooling
Medium: Fresh water or water-glycol
Operating pressure: 3 bar max
Test pressure: 6 bar
Burst pressure: 10 bar

Flow rates, temperature rises
Minimum flow for 20°C temp. rise:
0.3 litres/sec
Pressure drop at 0.3 litres/sec: 0.8 bar
See charts for other flow rates

Electrical
Working voltage (to earth): up to 12kV
Working voltage (terminal - terminal): up to 1500V
Test voltage: 7.2kV, 1 min to earth
Megger: > 100MΩ
Air clearance, terminal - terminal: 35 mm
Surface creepage, terminal - terminal: 35 mm
Protection degree to EN60529: Body IP65

Ingress protection
BS-EN 60529: IP56

Thermal Protection
Flow rate monitored required

Shock and vibration
JLR spec TPJLR.00.047:
50 hours random vibration
3-axis shock, 4000 x 30g

Interfaces
Water: 2 x pipe stubs for 25mm ID hose
Electrical: 38 x 1.5 mm copper
Temperature/pressure: 2 x ¼” BSP

Materials
Body: Glass-filled plastic, colour RAL7031
Cable box: Glass-filled plastic, colour RAL7021
Terminals: copper
Seals: silicone rubber

Patents
GB2478547

www.cressall.com

© Cressall Resistors Ltd, Evington Valley Road, Leicester, LE5 5LZ, United Kingdom. Cressall reserve the right to change and improve products and specifications.
For more information about this exciting breakthrough in regenerative braking contact our sales engineers at the address below.