

MRC Series Thermoelectric Cooler Assembly

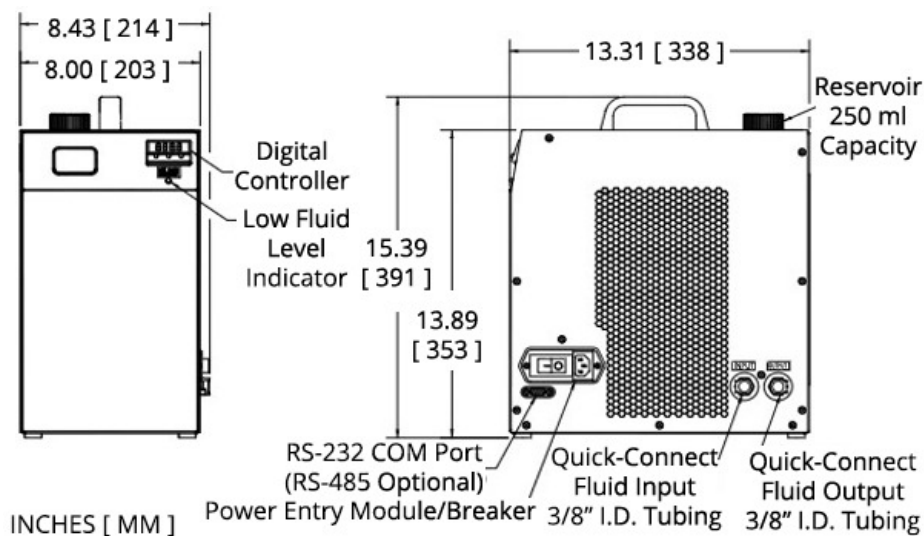
The MRC300-DH2-HT-DV is a bench top re-circulating chiller that offers dependable, compact performance by controlling the temperature of a coolant in a liquid circuit. The coolant is re-circulated using a pump with high MTBF. Heat from coolant is absorbed by a heat exchanger and dissipated thru high density heat sinks equipped with brand name fans. The thermoelectric modules are custom designed to achieve long life operation. The unit is regulated with an easy to use digital temperature controller with push button interface. The controller can control temperature of liquid circuit at outlet from -12°C to 40°C. The unit is housed inside an a sheet metal casing, operates on universal input 115/230 VAC and is UL/IEC rated. Custom configurations are available, however, MOQ applies.

Features

- Compact design
- Precise temperature control
- Reliable solid-state operation
- Low noise
- RoHS-compliant

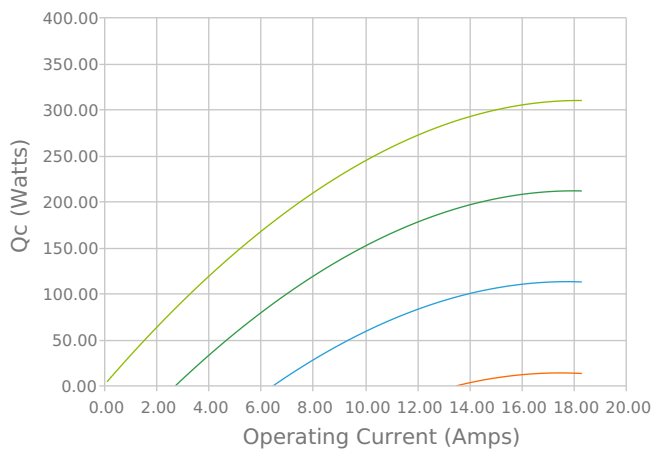
Applications

- Liquid Cooling Options for PET and SPECT Scanners
- Cooling Particle Accelerators: Linear Accelerators and Cyclotrons
- Spindle Screw Pump Technology for Medical Cooling
- Semiconductor Fabrication Equipment Cooling
- X-ray Cooling in Industrial Scanners

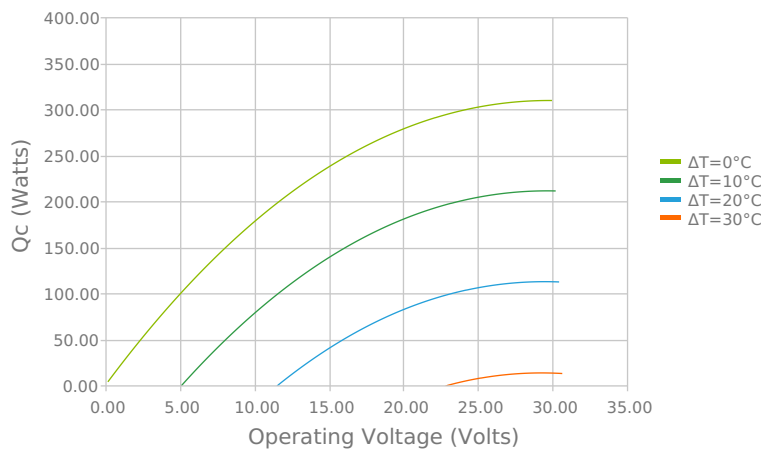


ELECTRICAL AND THERMAL PERFORMANCE

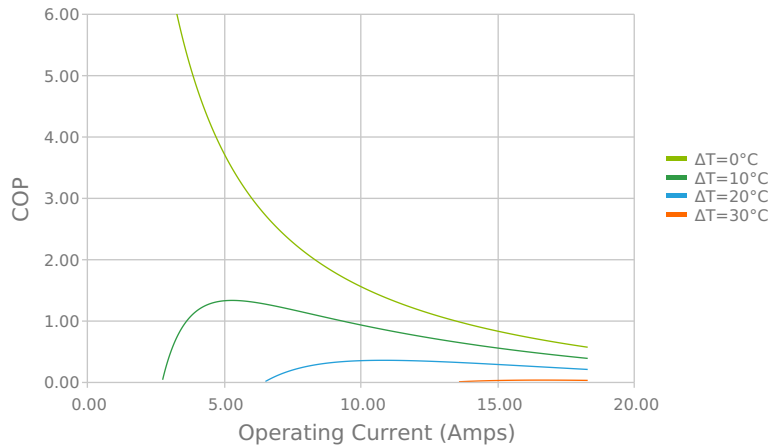
Heat Pumped at Cold Side (Q_c)
Tambient = 35°C | Tcontrol = 20°C



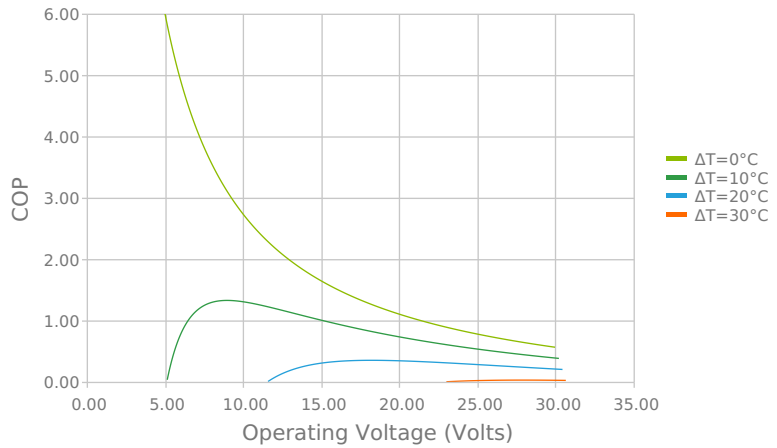
Heat Pumped at Cold Side (Q_c)
Tambient = 35°C | Tcontrol = 20°C



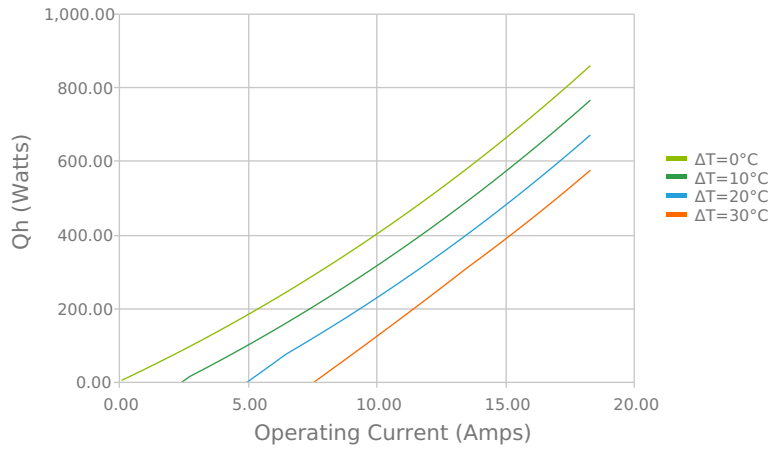
Coefficient of Performance (COP = Q_c/P_{in})
 $T_{ambient} = 35^{\circ}\text{C}$ | $T_{control} = 20^{\circ}\text{C}$



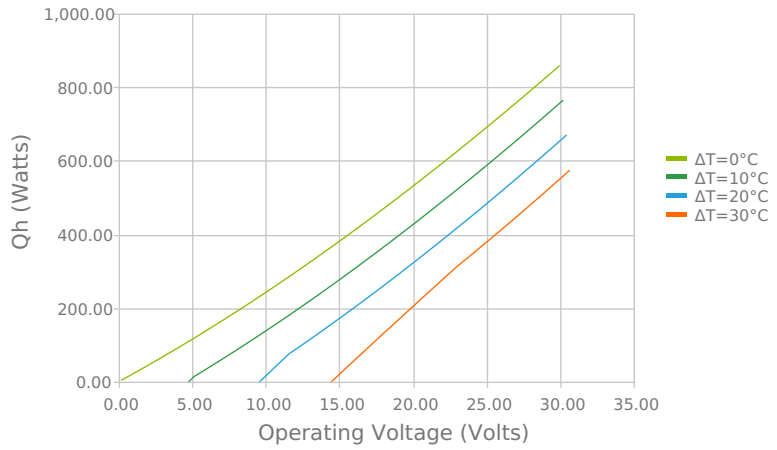
Coefficient of Performance (COP = Q_c/P_{in})
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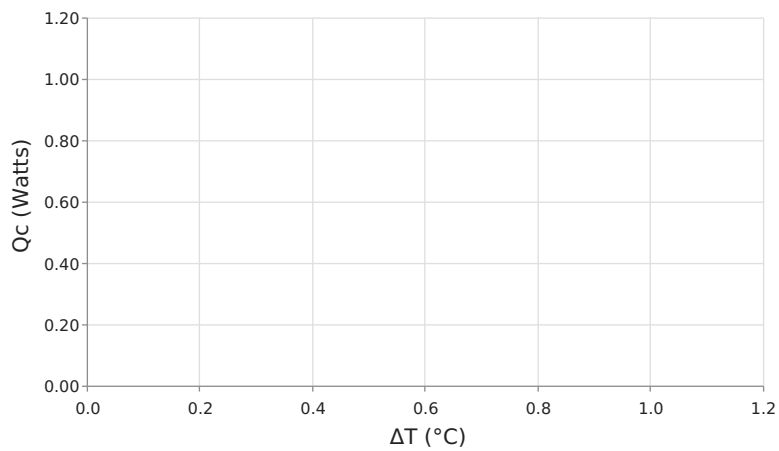
Total Heat Dissipated at Hot Side ($Q_h = Q_c + P_{in}$)
 $T_{ambient} = 35^{\circ}\text{C}$ | $T_{control} = 20^{\circ}\text{C}$



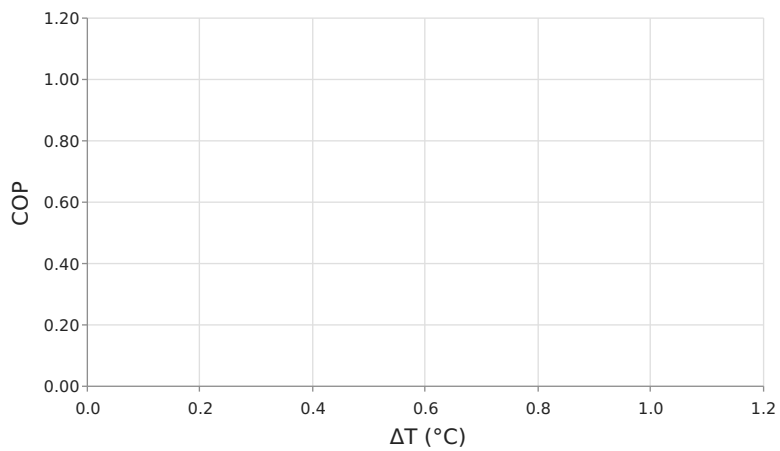
Total Heat Dissipated at Hot Side ($Q_h = Q_c + P_{in}$)
 $T_{ambient} = 35^{\circ}\text{C}$ | $T_{control} = 20^{\circ}\text{C}$



Heat Pumped at Cold Side (Q_c)
 $V_{operating} = 24\text{ Volts}$ | $I_{operating} = 15\text{ Amps}$



Coefficient of Performance (COP = Q_c/P_{in})
 $V_{operating} = 24\text{ Volts}$ | $I_{operating} = 15\text{ Amps}$



SPECIFICATIONS

Operating Environment Temperature Range

4 °C to 45°C

Control Temperature Range (70/30 Water/Glycol)

-12 °C to 40°C

Supply Voltage

115 VAC to 230 VAC

Current 115 VAC (230 VAC)

8.5 Amps (4.3 Amps)

Power Supply

507.0 Watts

Performance Tolerance

10%

Fluid Capacity

450 mL

Maximum Flow Rate

3.3 L/min

Weight

13.60 kg

NOTES

¹Use distilled water as coolant for control temperatures above 5°C

²To prevent freezing, use coolant with 70/30 distilled water/ethylene glycol

³Unit comes with a 115 VAC North American cord and a 230 VAC European cord

⁴UL Rating: UL61010 – 1/IEC61010-1

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