

Liquid Series Thermoelectric Cooler Assembly

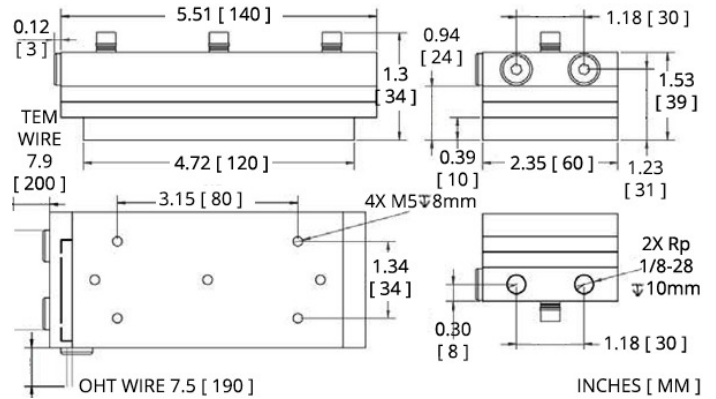
The DL-120-24-00 thermoelectric cooler assembly offers dependable, compact performance by cooling objects via liquid to transfer heat. Heat is absorbed through a cold block and dissipated thru a second liquid heat exchanger. The thermoelectric modules are custom designed to achieve a high coefficient of performance (COP) to minimize power consumption. It has a maximum Qc of 135 Watts when $\Delta T = 0$ and a maximum ΔT of 42 °C at Qc = 0. The liquid heat exchanger is designed to accommodate distilled water with glycol. Corrosion resistant turbulators are enclosed inside channels to increase heat transfer. Mating port adaptors are sold separately.

Features

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

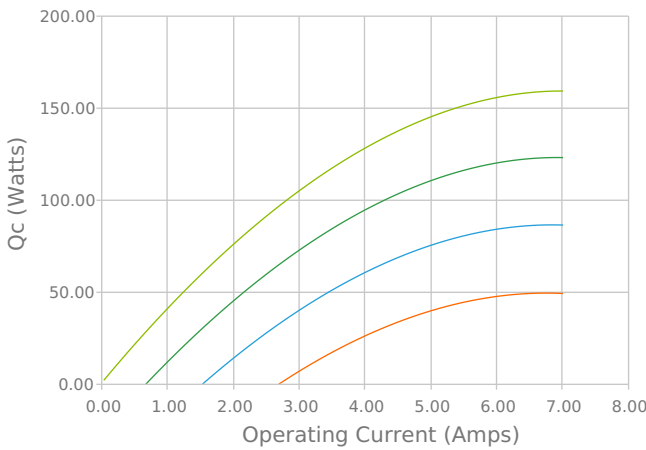
Applications

- Medical Diagnostics
- Industrial Lasers
- Medical Lasers
- Analytical Instrumentation

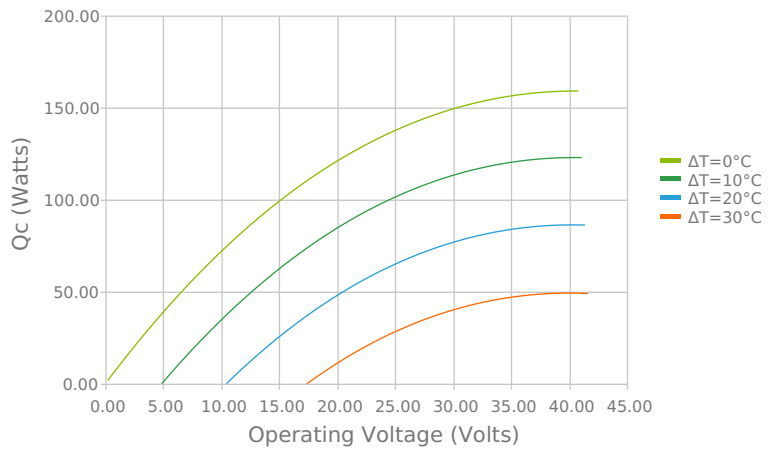


ELECTRICAL AND THERMAL PERFORMANCE

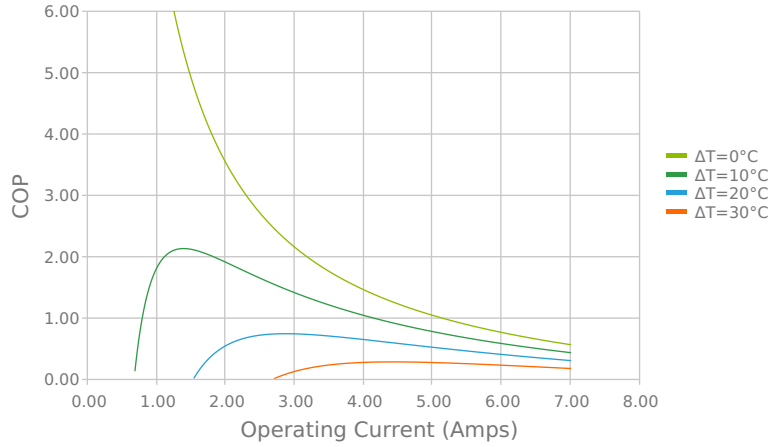
Heat Pumped at Cold Side (Qc)
 Tambient = 35°C | Tcontrol = 20°C



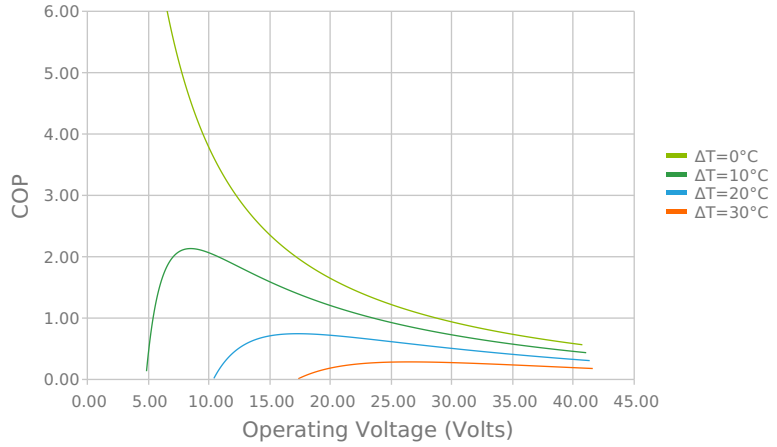
Heat Pumped at Cold Side (Qc)
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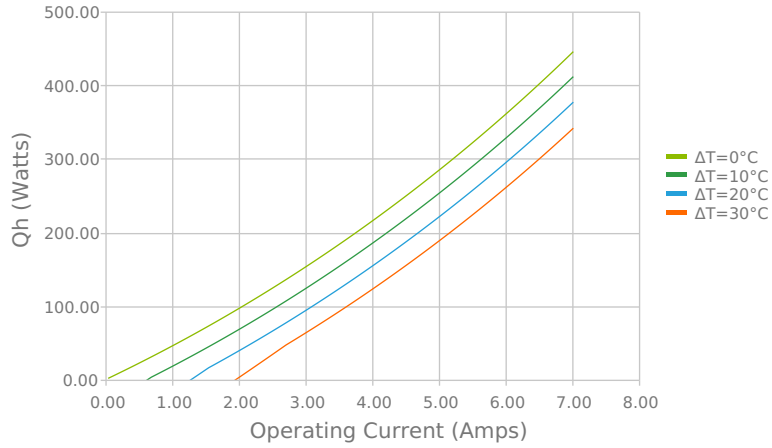
Coefficient of Performance (COP = Qc/Pin)
 Tambient = 35°C | Tcontrol = 20°C



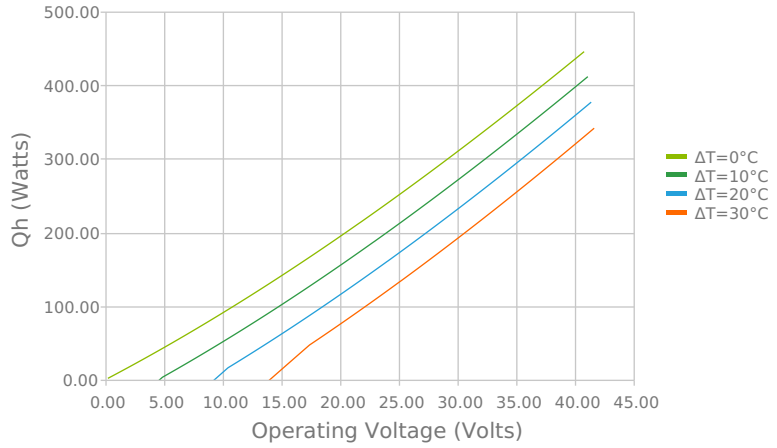
Coefficient of Performance (COP = Qc/Pin)
 Tambient = 35°C | Tcontrol = 20°C



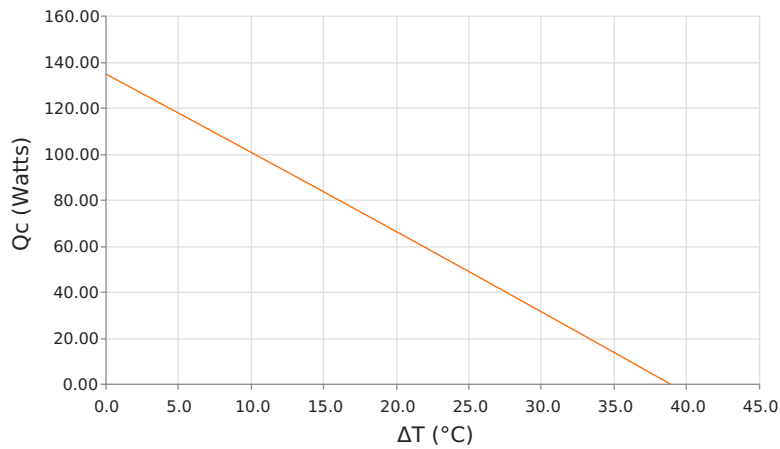
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Tambient = 35°C | Tcontrol = 20°C



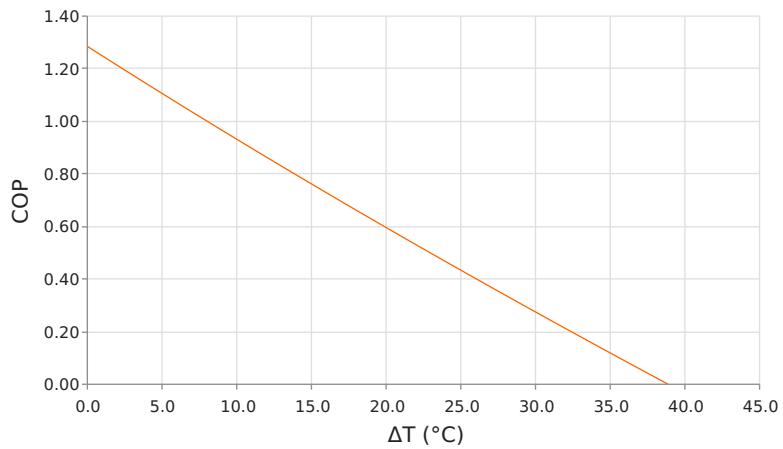
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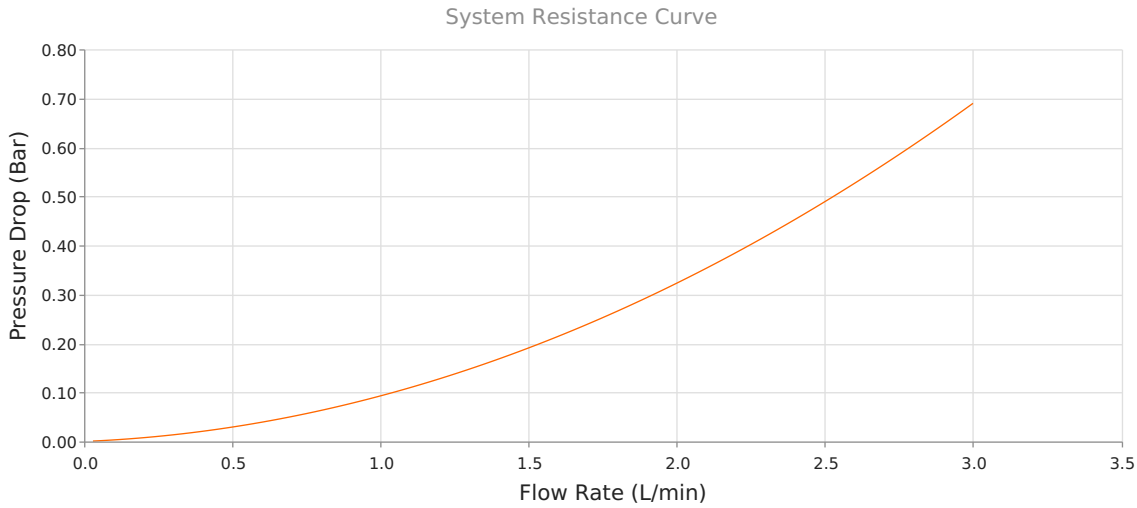


Heat Pumped at Cold Side (Qc)
 Voperating = 24.02 Volts | Ioperating = 4.37 Amps



Coefficient of Performance (COP = Qc/Pin)
 Voperating = 24.02 Volts | Ioperating = 4.37 Amps





SPECIFICATIONS

Heat Transfer Mechanism, Cold Side

Heat Transfer Mechanism, Hot Side

Operating Temperature Range

Supply Voltage

Current Draw

Power Supply

Performance Tolerance

Hi-Pot Testing

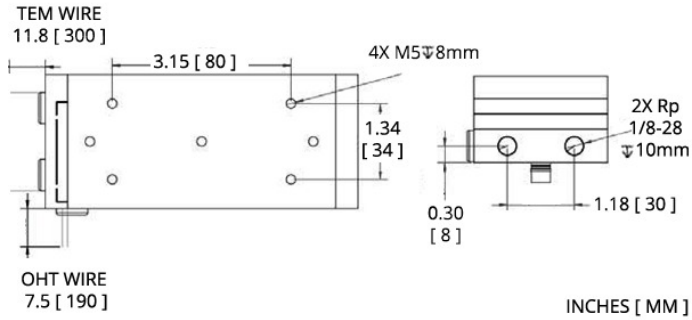
Over-Temp Thermostat (Hot and Cold Side Heat Sink)

Weight

Panel Mounting

Direct - Conduction
Liquid - Forced Convection
-40°C to 62°C
24.0 VDC nominal / 28.0 VDC maximum
4.1 A running / 4.7 A startup
98.4 Watts
10%
750 VDC
75°C ±5°C (hot side heat sink)
0.70 kg
Flush Mount

MOUNTING HOLE LOCATION



ELECTRICAL CONNECTIONS

TEM+ : Red
TEM - : Black

Wire Size: 20 AWG

The overheat protection (OHT) bimetal thermostat has a maximum current of 8 Amps. For systems 8 Amps or less, the thermostat can be connected directly in series with thermoelectric modules (TEMs). Otherwise connect the TEMs to the power source through a relay of suitable rating which state is controlled with the bimetal thermostat.

NOTES

¹Cold block requires insulation to minimize moisture buildup under dew point conditions.

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Revision: 00 Date: 06-01-2022

Print Date: 06-15-2022