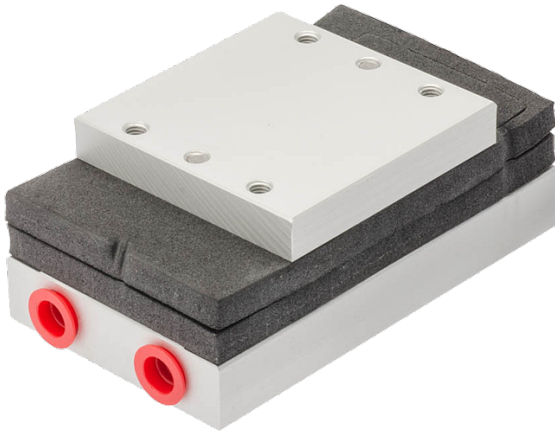


Liquid Series Thermoelectric Cooler Assembly

The DL-060-12-00 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 Q_c of 65 Watts when $\Delta T = 0$ and a maximum ΔT of 42 °C at $Q_c = 0$. 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.

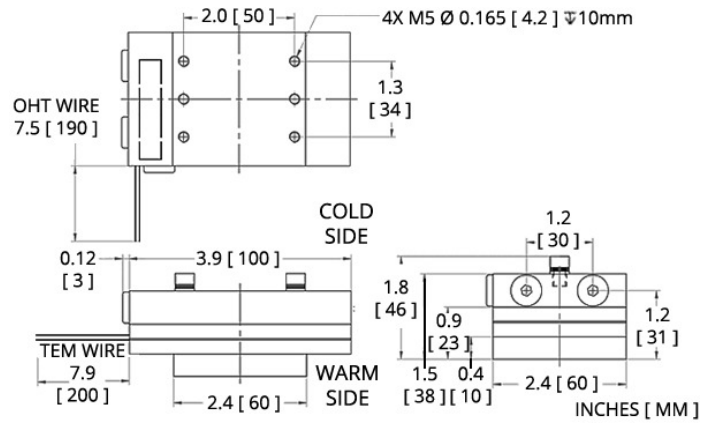


Features

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

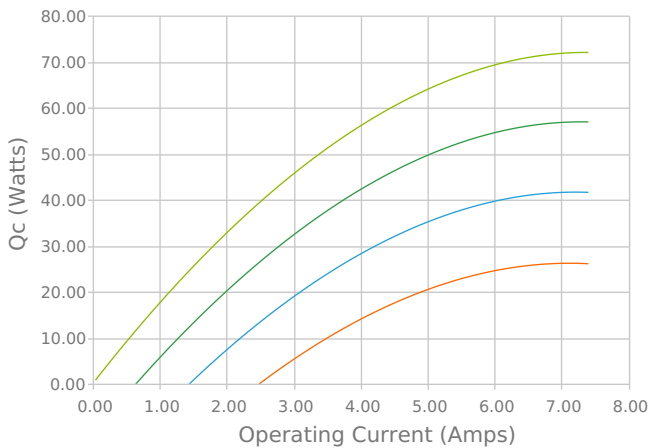
Applications

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

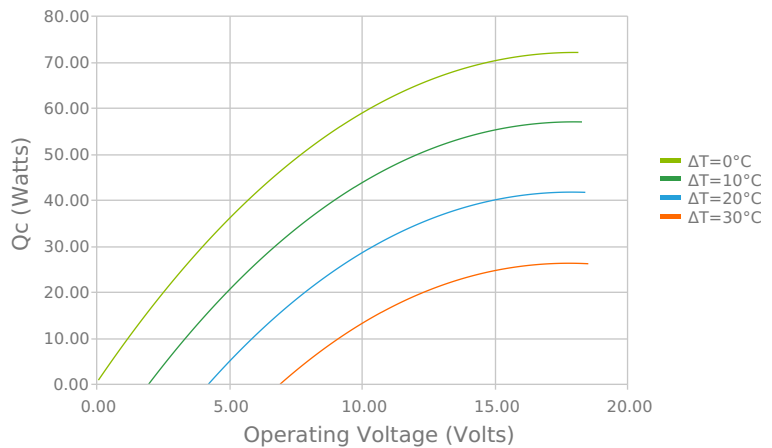


ELECTRICAL AND THERMAL PERFORMANCE

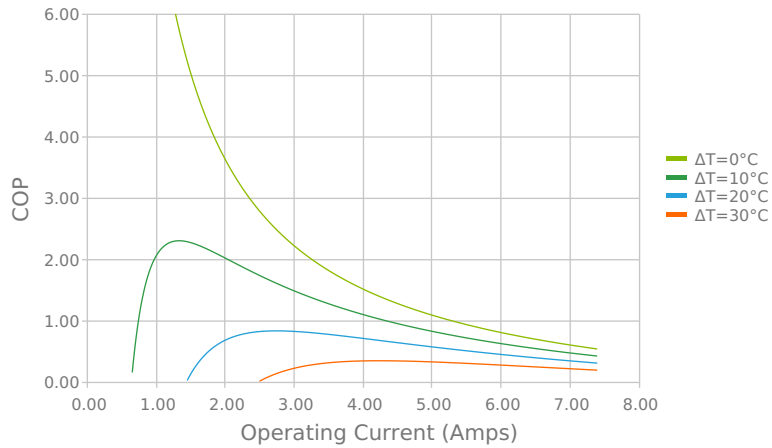
Heat Pumped at Cold Side (Q_c)
 $T_{\text{ambient}} = 35^\circ\text{C}$ | $T_{\text{control}} = 20^\circ\text{C}$



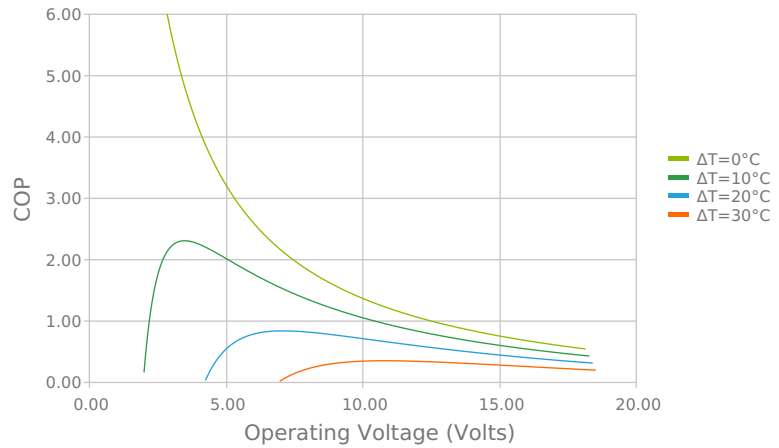
Heat Pumped at Cold Side (Q_c)
 $T_{\text{ambient}} = 35^\circ\text{C}$ | $T_{\text{control}} = 20^\circ\text{C}$



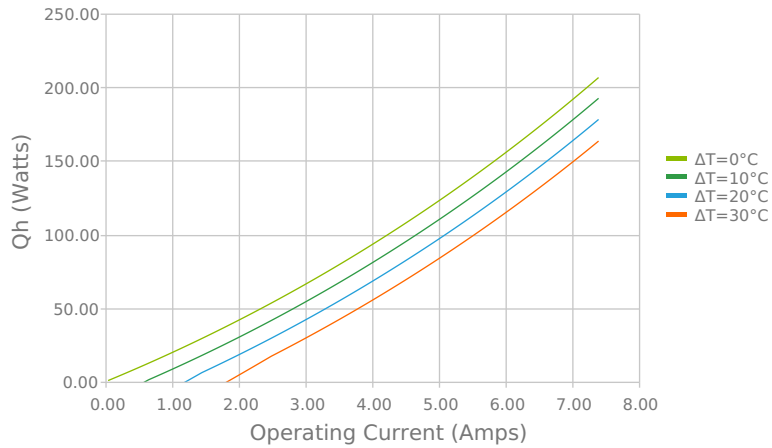
Coefficient of Performance (COP = Q_c/P_{in})
 $T_{ambient} = 35^{\circ}\text{C}$ | $T_{control} = 20^{\circ}\text{C}$



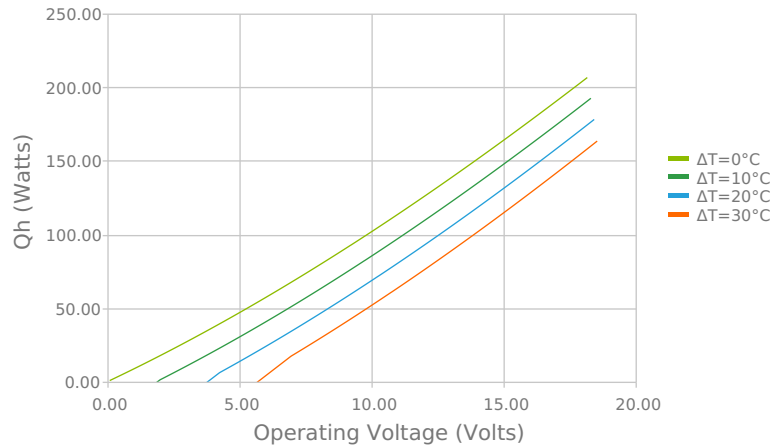
Coefficient of Performance (COP = Q_c/P_{in})
 $T_{ambient} = 35^{\circ}\text{C}$ | $T_{control} = 20^{\circ}\text{C}$



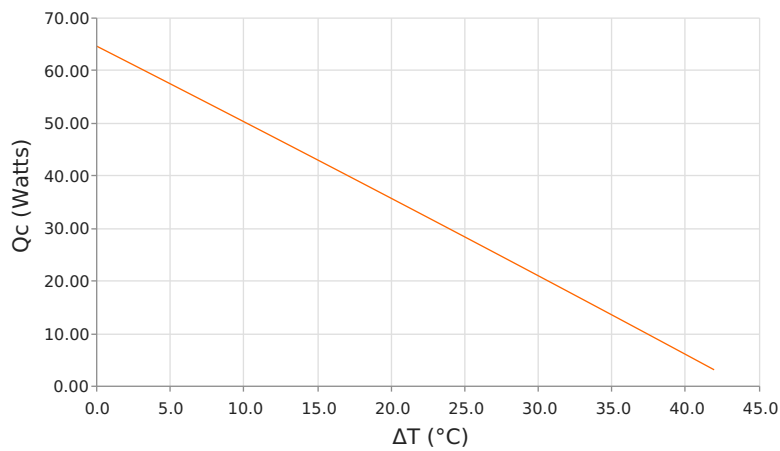
Total Heat Dissipated at Hot Side ($Q_h = Q_c + P_{in}$)
 $T_{ambient} = 35^{\circ}\text{C}$ | $T_{control} = 20^{\circ}\text{C}$



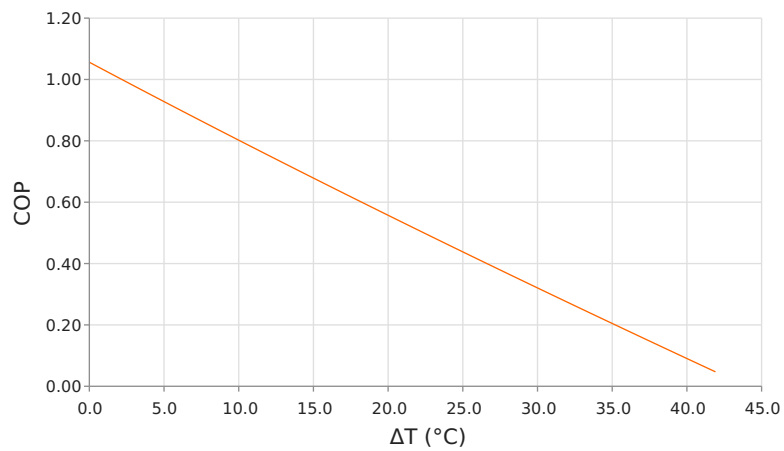
Total Heat Dissipated at Hot Side ($Q_h = Q_c + P_{in}$)
 $T_{ambient} = 35^{\circ}\text{C}$ | $T_{control} = 20^{\circ}\text{C}$

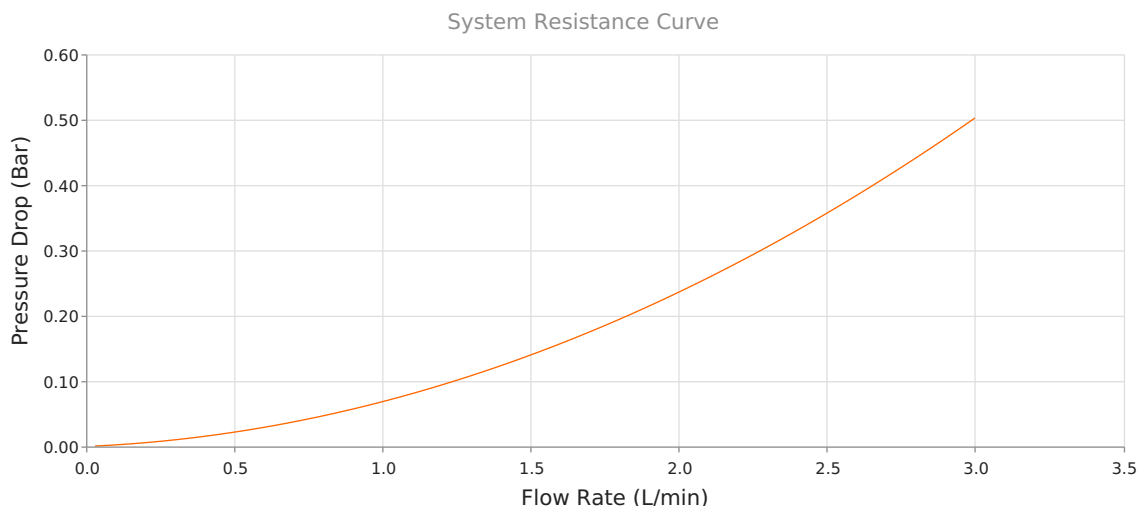


Heat Pumped at Cold Side (Q_c)
 $V_{operating} = 12.04$ Volts | $I_{operating} = 5.12$ Amps



Coefficient of Performance (COP = Q_c/P_{in})
 $V_{operating} = 12.04$ Volts | $I_{operating} = 5.12$ Amps





SPECIFICATIONS

Operating Temperature Range

Supply Voltage

Current Draw

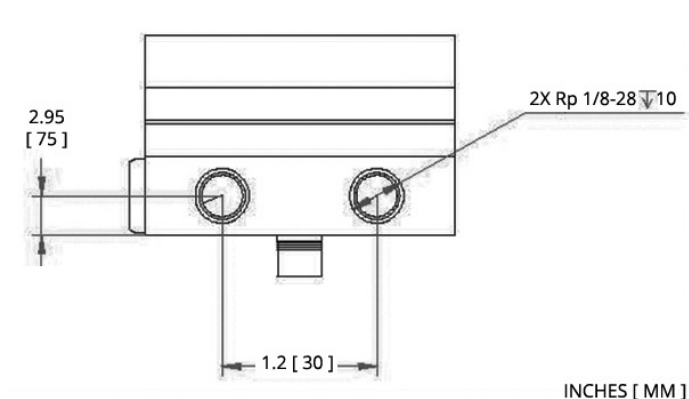
Power Supply

Performance Tolerance

Weight

-40°C to 62°C
12.0 VDC nominal / 15.0 VDC maximum
3.9 A running / 4.3 A startup
56.0 Watts
10%
0.40 kg

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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