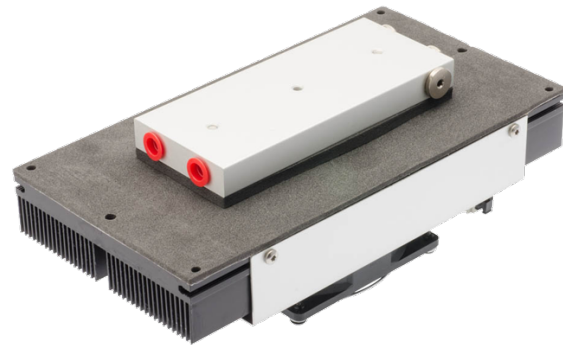


## Liquid Series Thermoelectric Cooler Assembly

The LA-075-24-02 thermoelectric cooler assembly offers dependable, compact performance by cooling objects via liquid to transfer heat. Heat is absorbed through a liquid heat exchanger and dissipated thru a high density heat sink equipped with an air ducted shroud and brand name fan. 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 71 Watts when  $\Delta T = 0$  and a maximum  $\Delta T$  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.

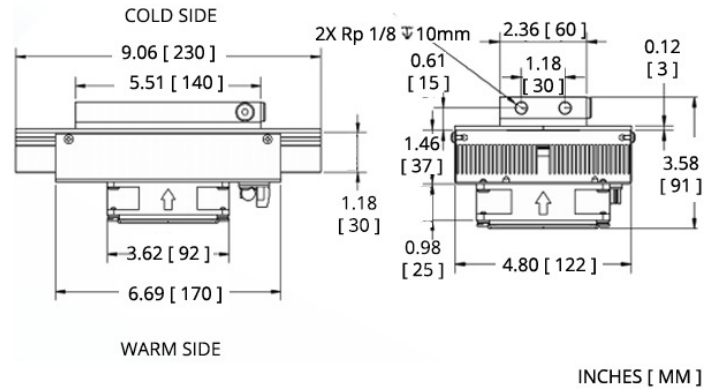


## Features

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

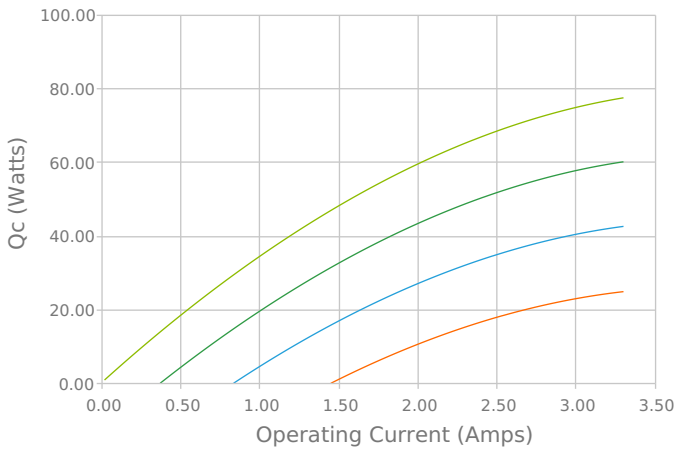
## Applications

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

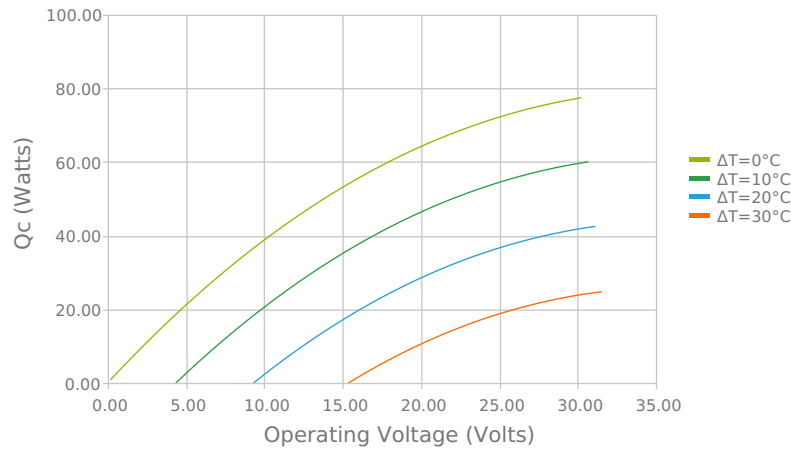


## Electrical and Thermal Performance

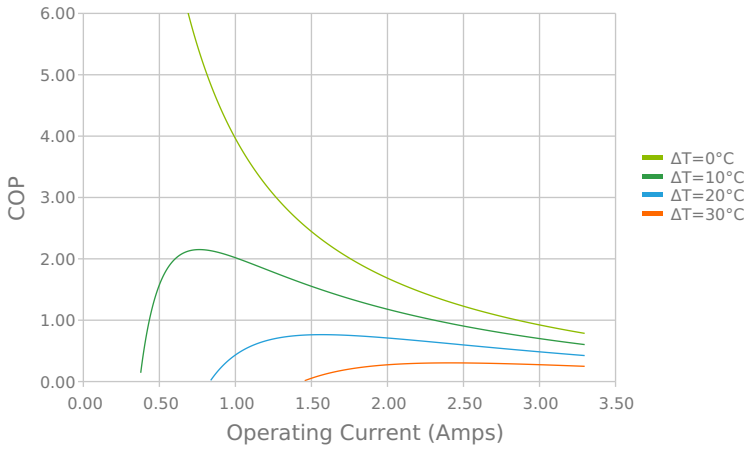
Heat Pumped at Cold Side ( $Q_c$ )  
Tambient = 35°C



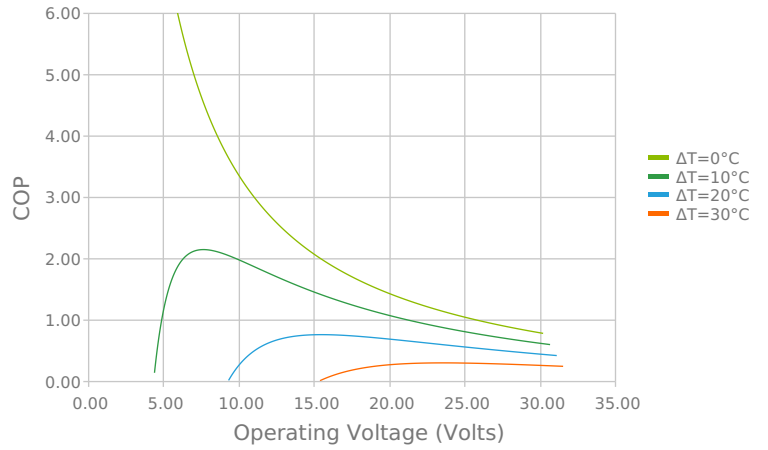
Heat Pumped at Cold Side ( $Q_c$ )  
Tambient = 35°C



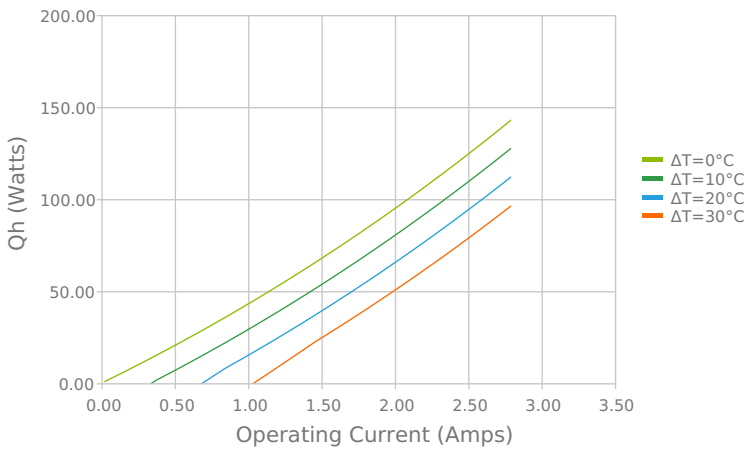
Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{ambient} = 35^{\circ}\text{C}$



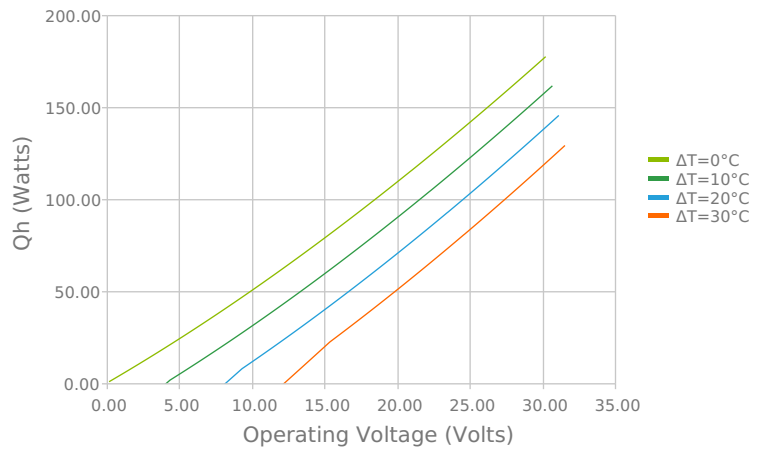
Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{ambient} = 35^{\circ}\text{C}$



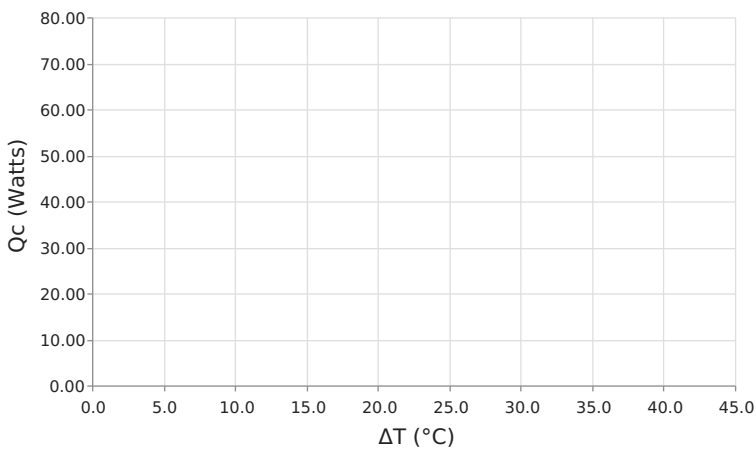
Total Heat Dissipated at Hot Side ( $Q_h=Q_c+P_{in}$ )  
 $T_{ambient} = 35^{\circ}\text{C}$



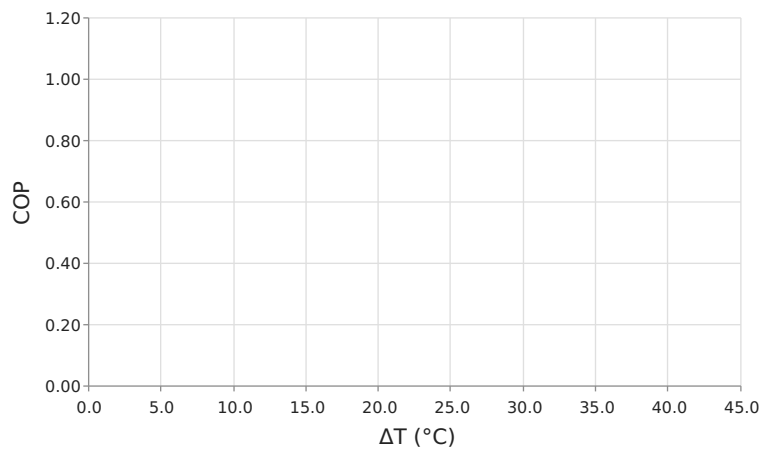
Total Heat Dissipated at Hot Side ( $Q_h=Q_c+P_{in}$ )  
 $T_{ambient} = 35^{\circ}\text{C}$

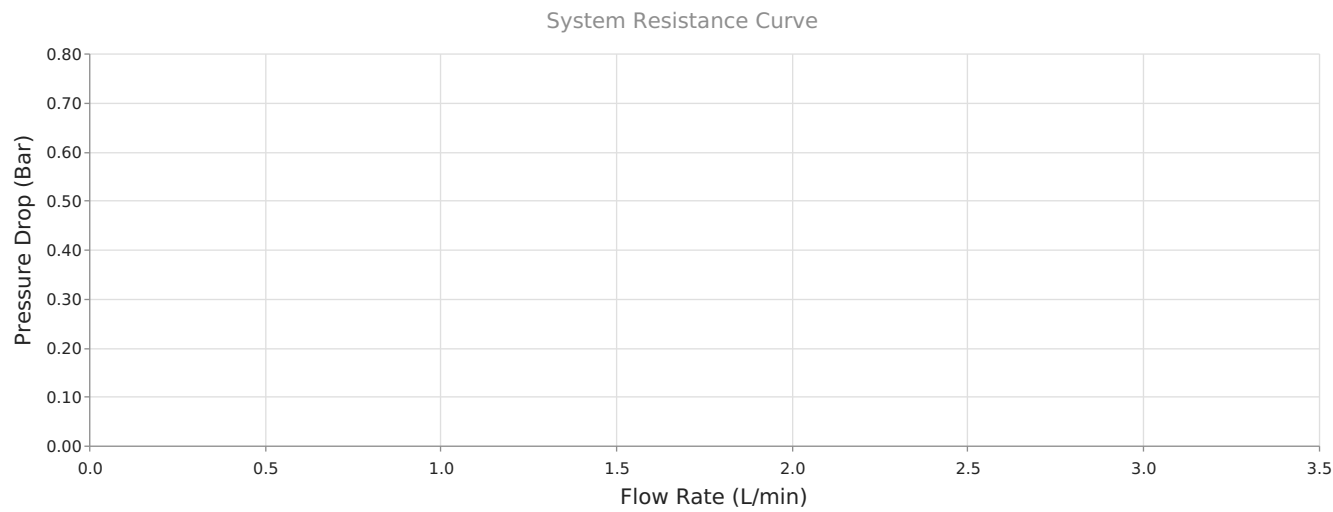


Heat Pumped at Cold Side ( $Q_c$ )  
 $V_{operating} = 24 \text{ Volts}$  |  $I_{operating} = 2.67 \text{ Amps}$



Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $V_{operating} = 24 \text{ Volts}$  |  $I_{operating} = 2.67 \text{ Amps}$

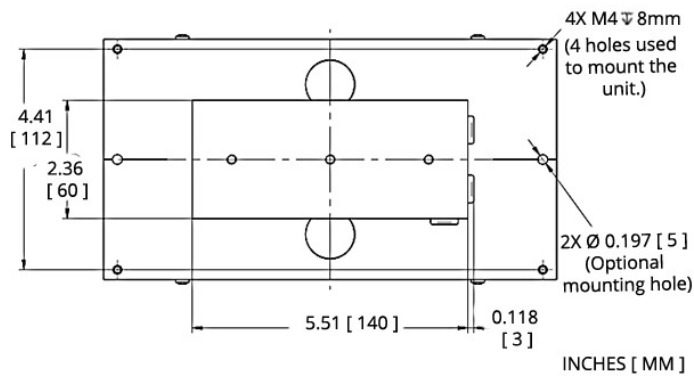




Specifications

Heat Transfer Mechanism, Cold Side	Liquid - Forced Convection
Heat Transfer Mechanism, Hot Side	Air - Forced Convection
Operating Temperature Range	-10°C to 49°C
Supply Voltage	24.0 VDC nominal / 30.0 VDC maximum
Current Draw	3.4 A running / 4.3 A startup
Power Supply	89.0 Watts
Performance Tolerance	10%
Hi-Pot Testing	750 VDC
Fan MTBF	50000 hours
Over-Temp Thermostat (Hot and Cold Side Heat Sink)	75°C ±5°C (hot side heat sink)
Weight	2.00 kg
Panel Mounting	Flush Mount

## Mounting Hole Location



# Electrical Connections

" + ": + TEM

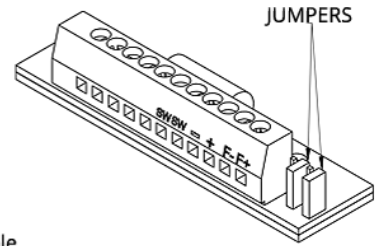
" - " : - TEM

" F+ ": + FAN(S)

" F- ": - FAN(S)

To use single supply:  
Lift the jumpers and rotate 90° to short-out the pin pairs.  
Connect the unit to "+" & "-".

Warning: Single supply not applicable in heating mode or with PWM-regulation.



## Notes

- |  |
|--|
| <sup>1</sup> For indoor use only   |
| <sup>2</sup> Turbulators are mounted inside liquid channels to create turbulent flow                 |
| <sup>3</sup> Cold block requires insulation to minimize moisture buildup under dew point conditions. |

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