

**PowerCool Series Thermoelectric Cooler Assembly**

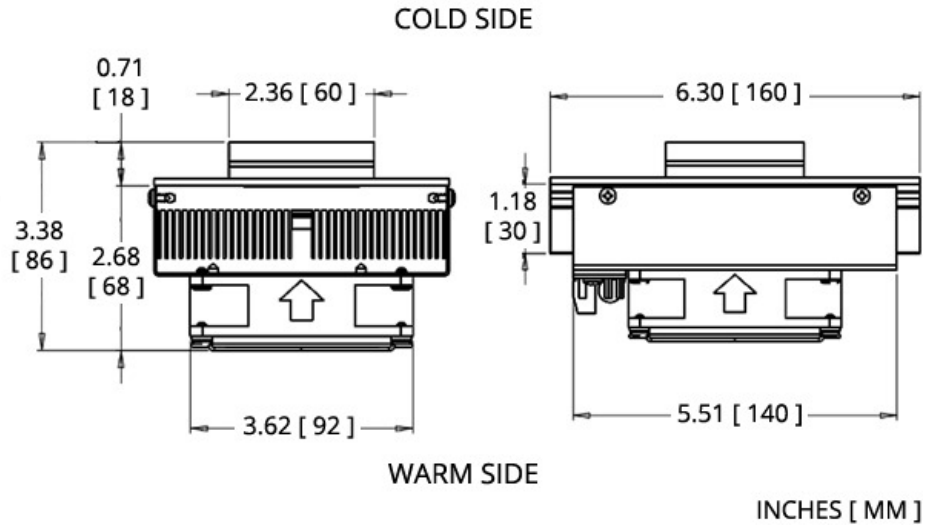
The DA-045-24-02 is a Direct-to-Air Thermoelectric Cooler Assembly that uses impingement flow to transfer heat. It offers dependable, compact performance by cooling objects via conduction. Heat is absorbed through a cold plate and dissipated thru a high density heat exchanger equipped with an air ducted shroud and brand name fan. It has a maximum Qc of 48 Watts when  $\Delta T = 0$  and a maximum  $\Delta T$  of 49 °C at Qc = 0.

**Features**

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

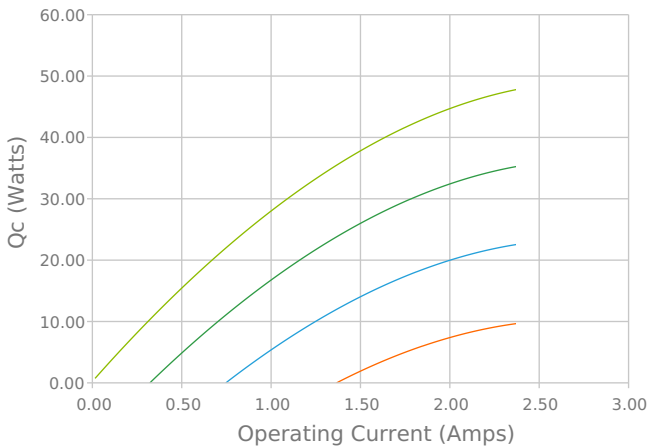
**Applications**

- Medical Diagnostic and Analytical Instrumentation
- Thermoelectric Coolers and Assemblies for Medical Applications
- Liquid Cooling Options for PET and SPECT Scanners
- Cooling for Centrifuges
- High-Performance Liquid Chromatography (HPLC)
- Heating and Cooling for Liquid Chromatography Systems

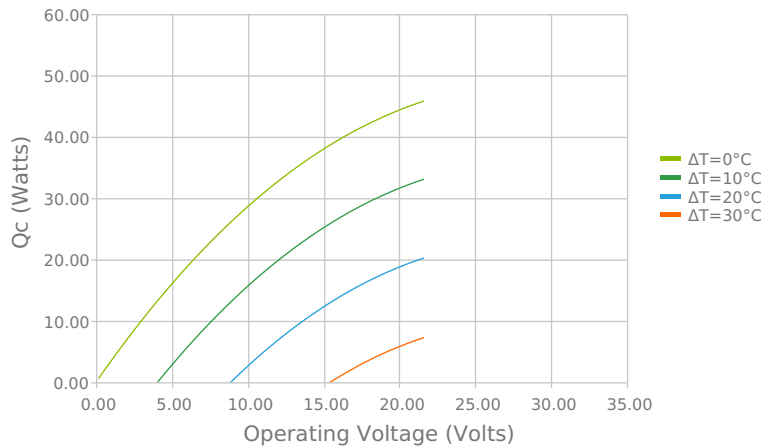


**ELECTRICAL AND THERMAL PERFORMANCE**

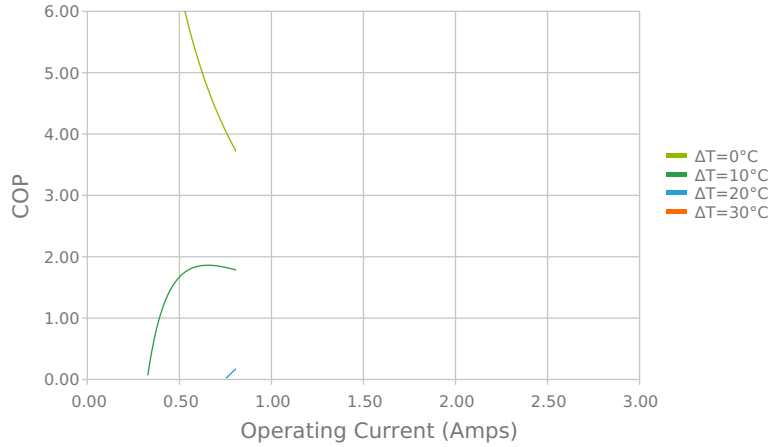
Heat Pumped at Cold Side (Qc)  
 Tambient = 35°C | Tcontrol = 20°C



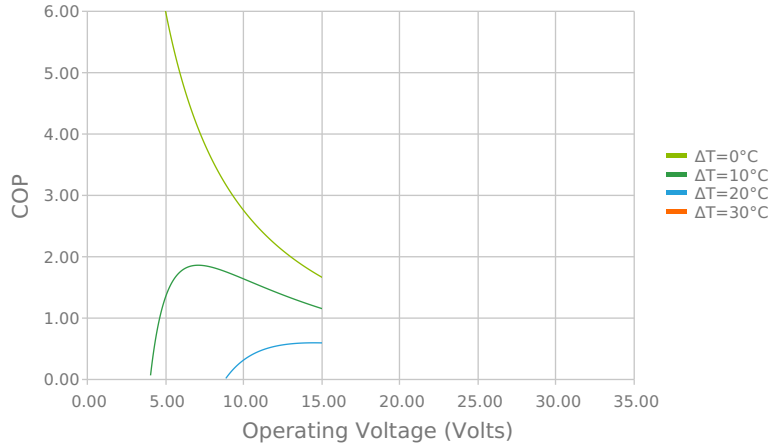
Heat Pumped at Cold Side (Qc)  
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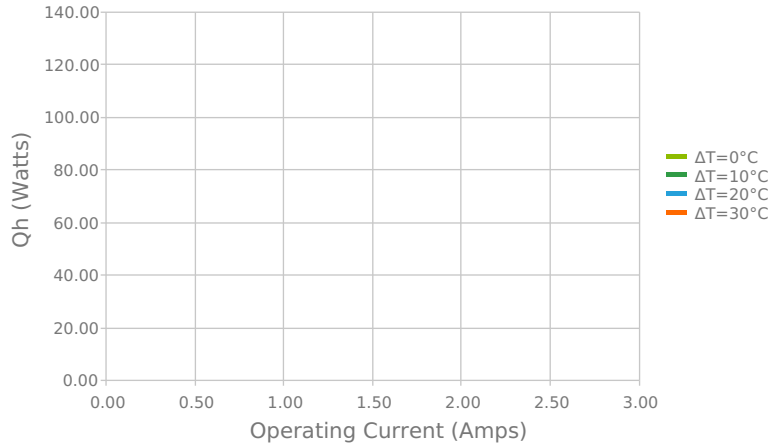
Coefficient of Performance (COP = Qc/Pin)  
 Tambient = 35°C | Tcontrol = 20°C



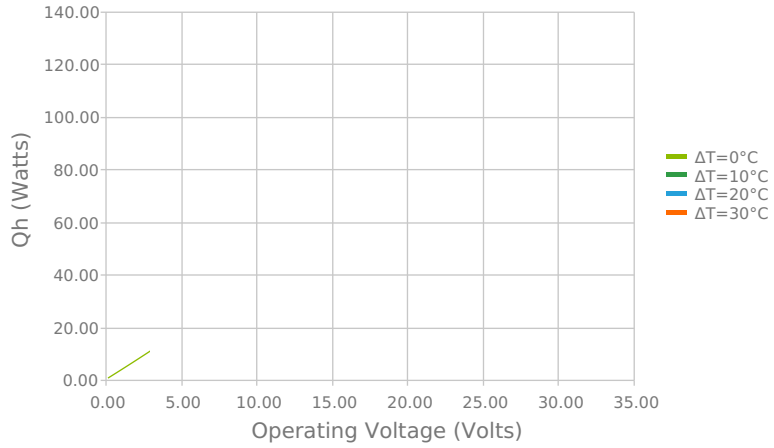
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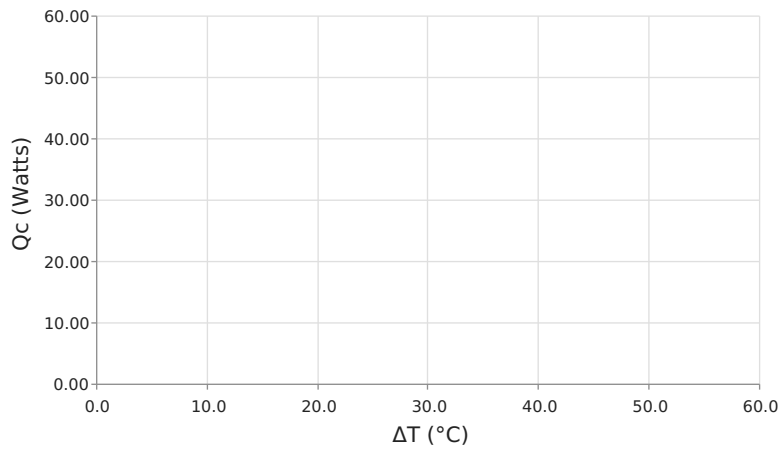
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
 Tambient = 35°C | Tcontrol = 20°C



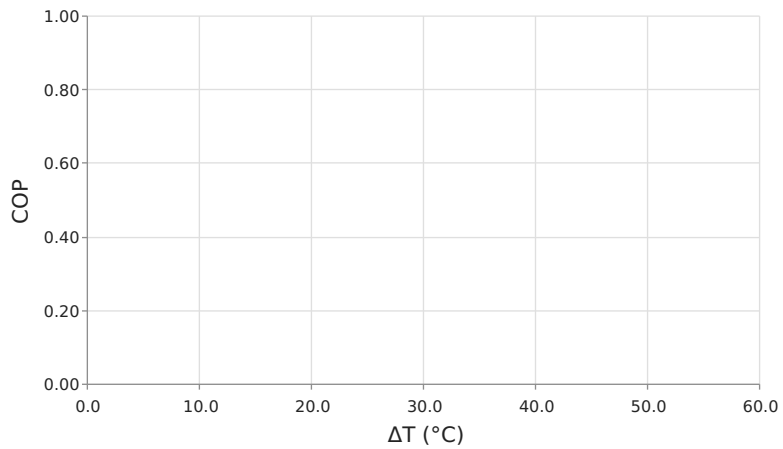
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
 Tambient = 35°C | Tcontrol = 20°C



Heat Pumped at Cold Side (Qc)  
 Voperating = 24.06 Volts | Ioperating = 2.34 Amps



Coefficient of Performance (COP = Qc/Pin)  
 Voperating = 24.06 Volts | Ioperating = 2.34 Amps

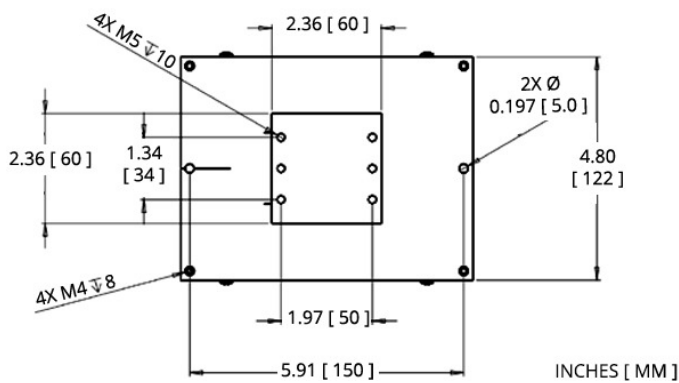


**SPECIFICATIONS**

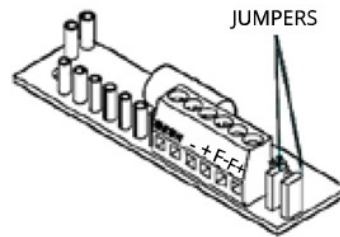
- Operating Temperature Range**
- Supply Voltage**
- Current Draw**
- Power Supply**
- Performance Tolerance**
- Fan MTBF**
- Weight**

-10°C to 46°C
24.0 VDC nominal / 30.0 VDC maximum
2.5 A running / 3.5 A startup
60.0 Watts
10%
50,000 hours
1.20 kg

**MOUNTING HOLE LOCATION**



**WIRING SCHEMATIC**



**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>Units are generally maintenance free, however occasionally it is recommended to clean the heat sinks and fans of debris. This is best done with compressed air.

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