

**PowerCool Series Thermoelectric Cooler Assembly**

The DA-024-12-02 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  $Q_c$  of 24 Watts when  $\Delta T = 0$  and a maximum  $\Delta T$  of 44 °C at  $Q_c = 0$ .

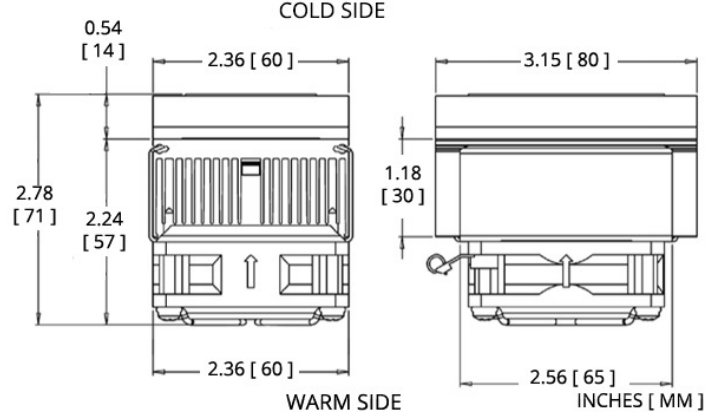


**Features**

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

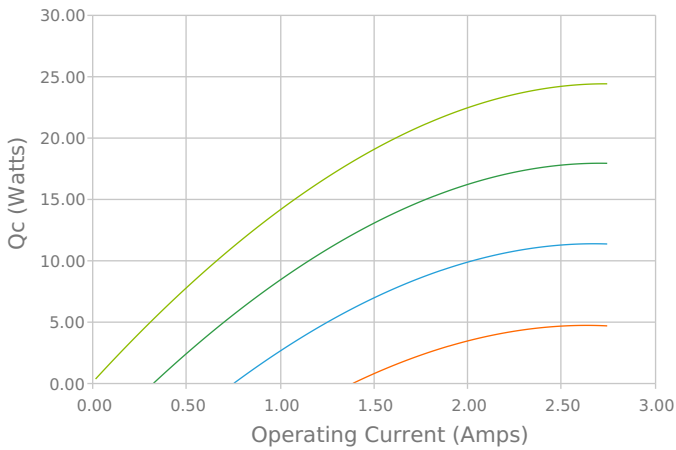
**Applications**

- 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

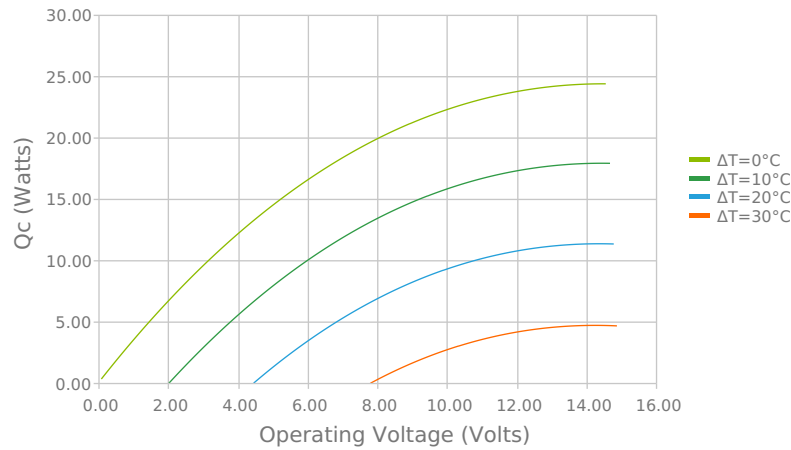


**ELECTRICAL AND THERMAL PERFORMANCE**

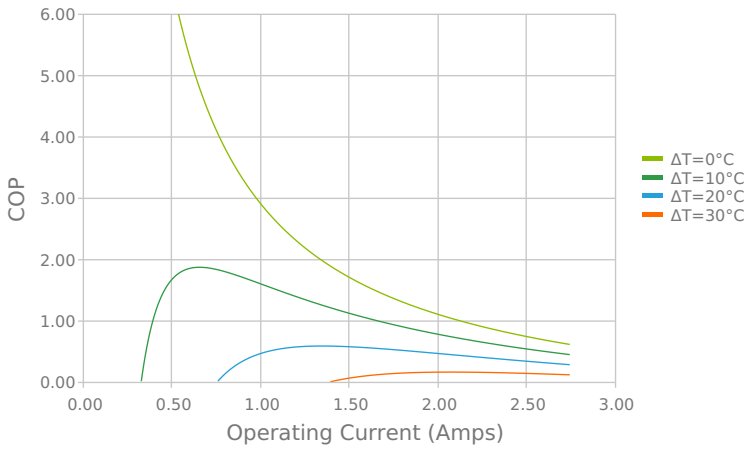
Heat Pumped at Cold Side ( $Q_c$ )  
 Tambient = 35°C | Tcontrol = 20°C



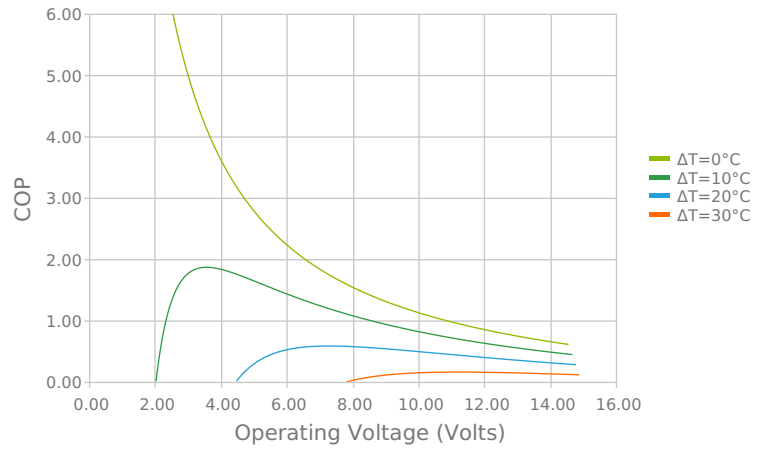
Heat Pumped at Cold Side ( $Q_c$ )  
 Tambient = 35°C | Tcontrol = 20°C



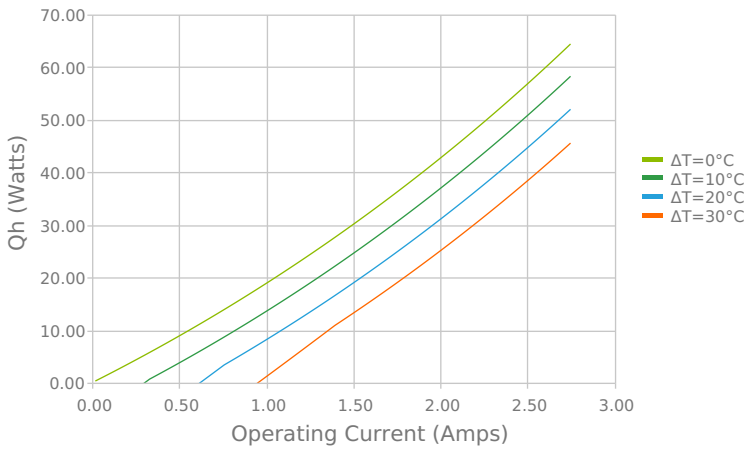
Coefficient of Performance (COP = Qc/Pin)  
 Tambient = 35°C | Tcontrol = 20°C



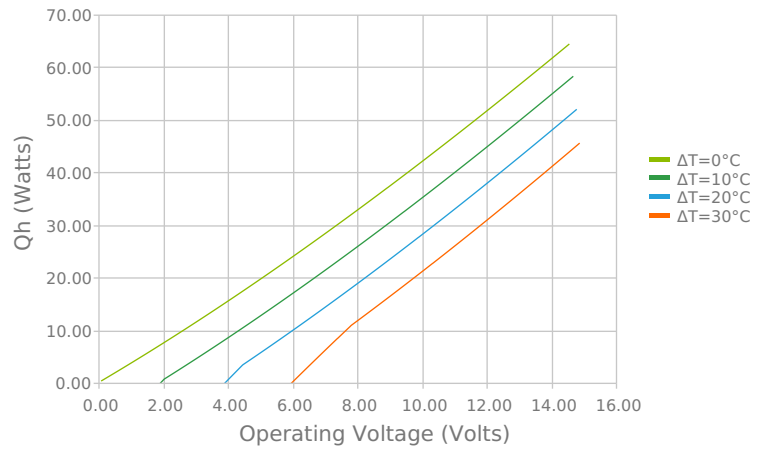
Coefficient of Performance (COP = Qc/Pin)  
 Tambient = 35°C | Tcontrol = 20°C



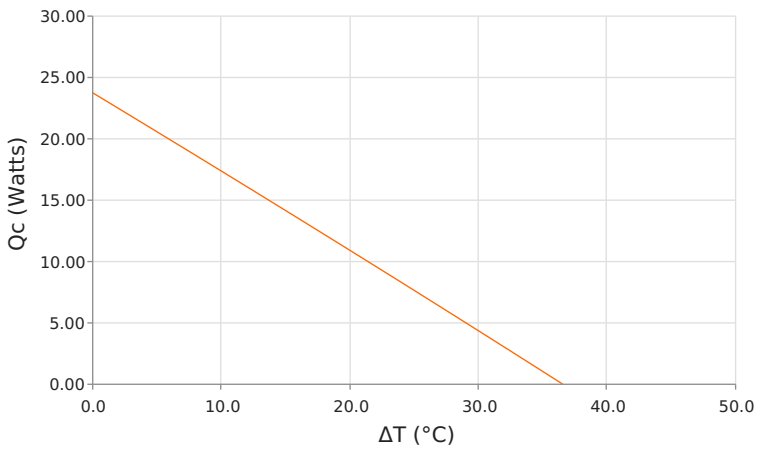
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
 Tambient = 35°C | Tcontrol = 20°C



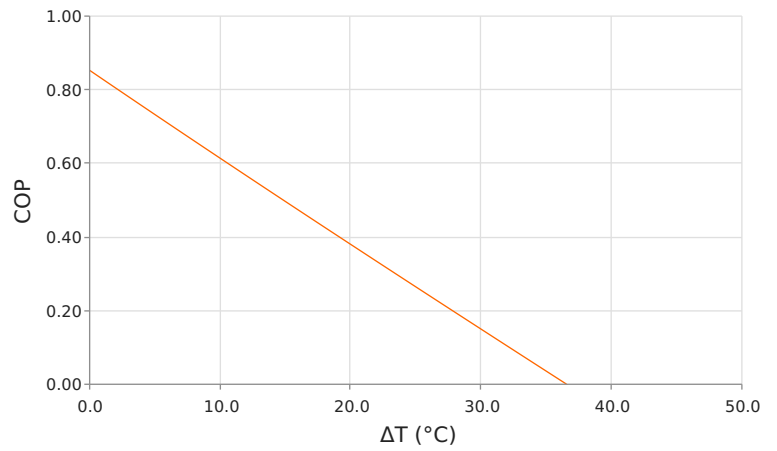
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
 Tambient = 35°C | Tcontrol = 20°C



Heat Pumped at Cold Side (Qc)  
 Voperating = 12.02 Volts | Ioperating = 2.33 Amps



Coefficient of Performance (COP = Qc/Pin)  
 Voperating = 12.02 Volts | Ioperating = 2.33 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**

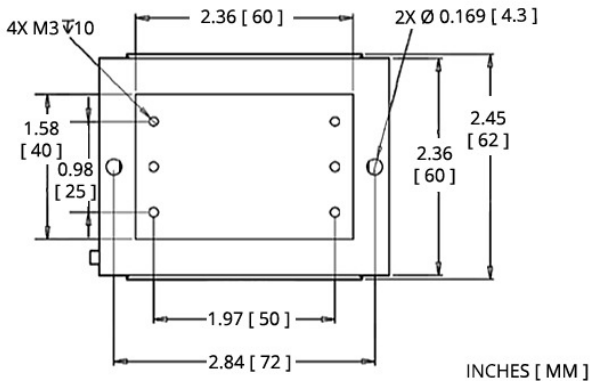
**Fan MTBF**

**Weight**

**Panel Mounting**

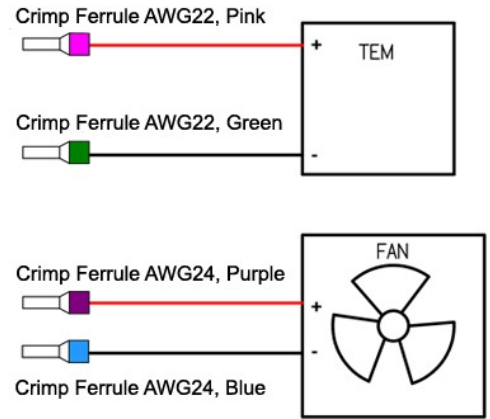
Direct - Conduction
Air - Forced Convection
-10°C to 48°C
12.0 VDC nominal / 15.0 VDC maximum
2.4 A running / 2.8 A startup
29.0 Watts
10%
No Testing
50,000 hours
0.30 kg
Flush Mount

**MOUNTING HOLE LOCATION**



**WIRING SCHEMATIC**

**WIRING DIAGRAM**



**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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