

## PowerCool Series Thermoelectric Cooler Assembly

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

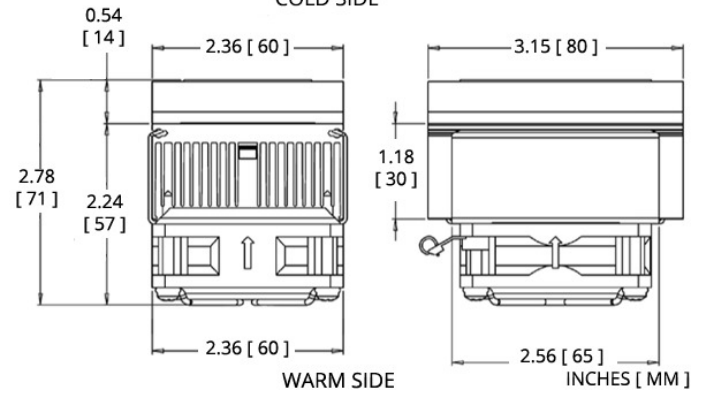


## Features

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

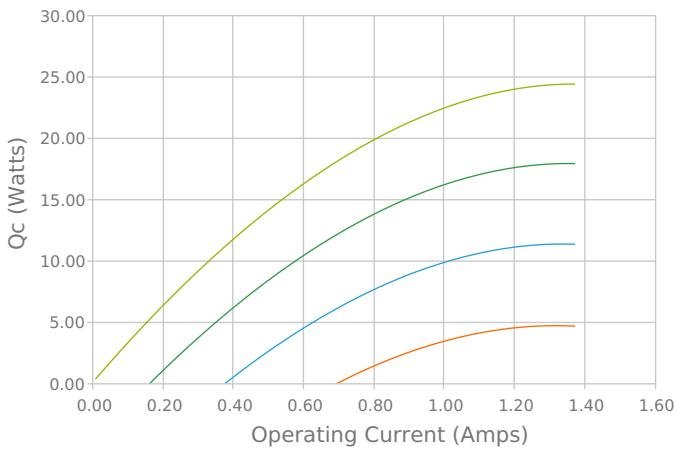
## Applications

- 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

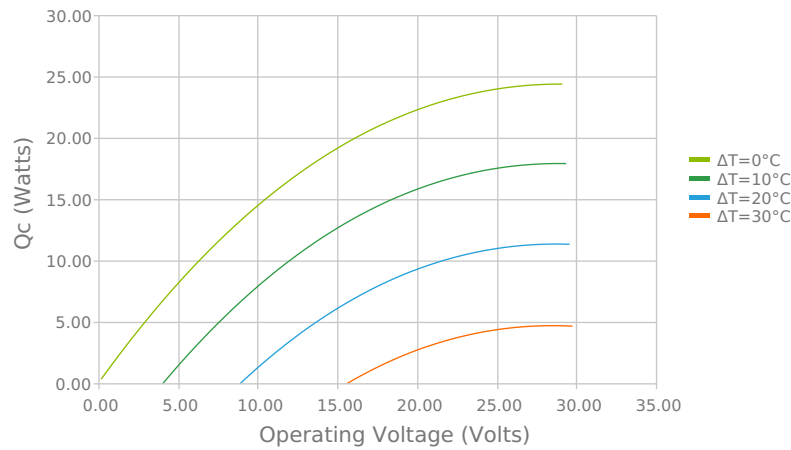


## Electrical and Thermal Performance

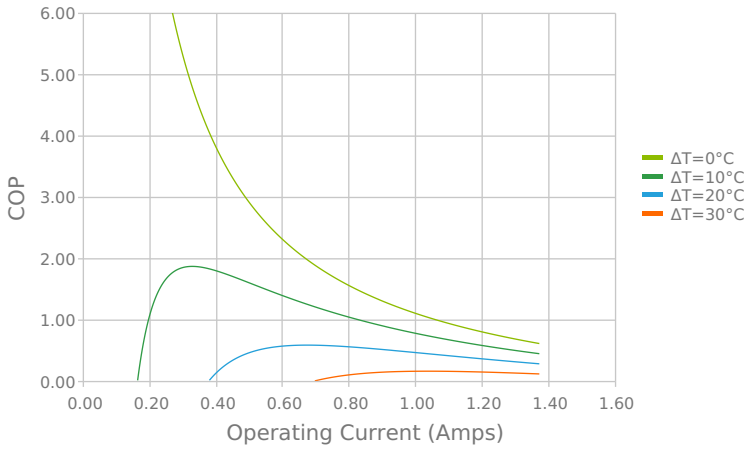
Heat Pumped at Cold Side ( $Q_c$ )  
Tambient = 35°C



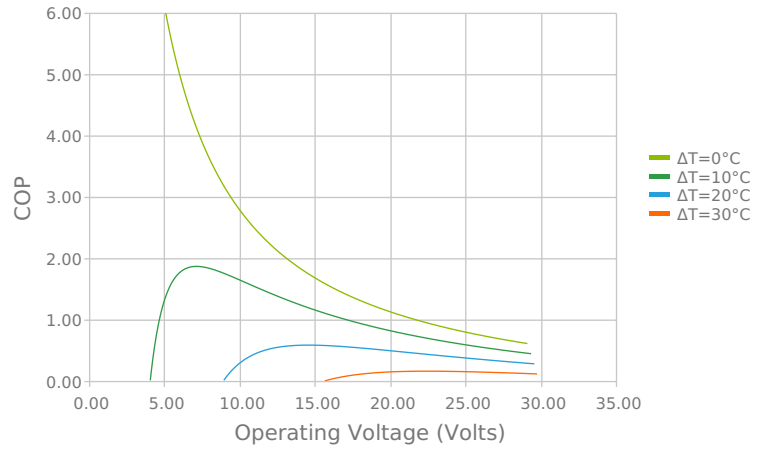
Heat Pumped at Cold Side ( $Q_c$ )  
Tambient = 35°C



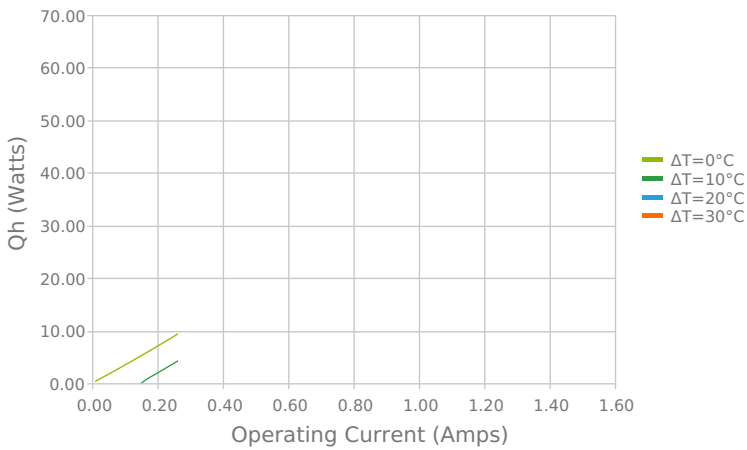
Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
Tambient = 35°C



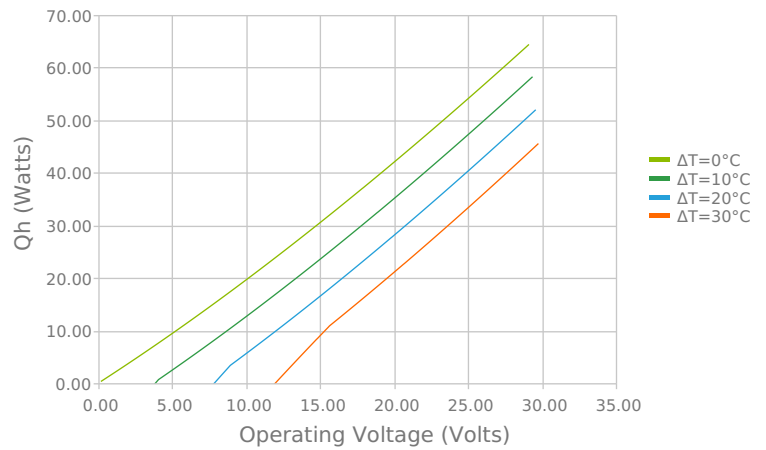
Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
Tambient = 35°C



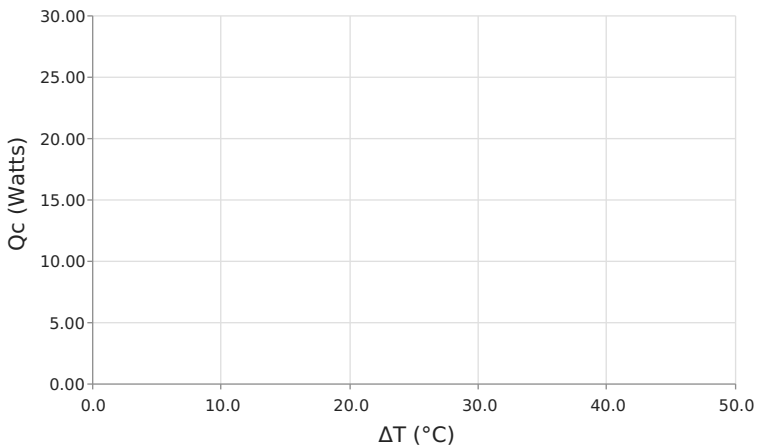
Total Heat Dissipated at Hot Side ( $Q_h=Q_c+P_{in}$ )  
Tambient = 35°C



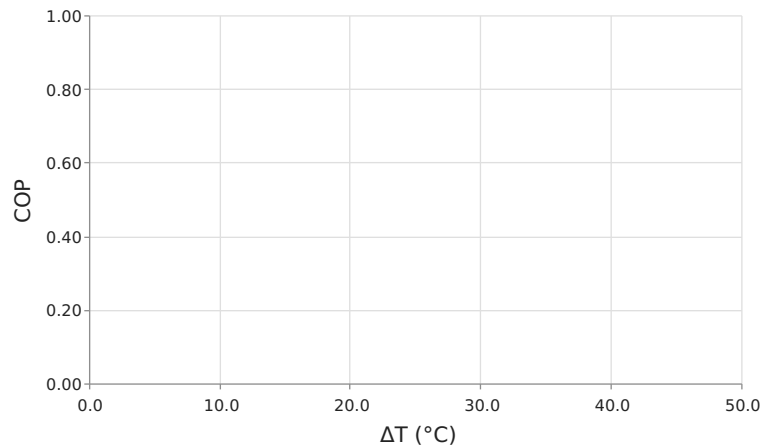
Total Heat Dissipated at Hot Side ( $Q_h=Q_c+P_{in}$ )  
Tambient = 35°C



Heat Pumped at Cold Side ( $Q_c$ )  
Voperating = 24 Volts | Ioperating = 1.16 Amps



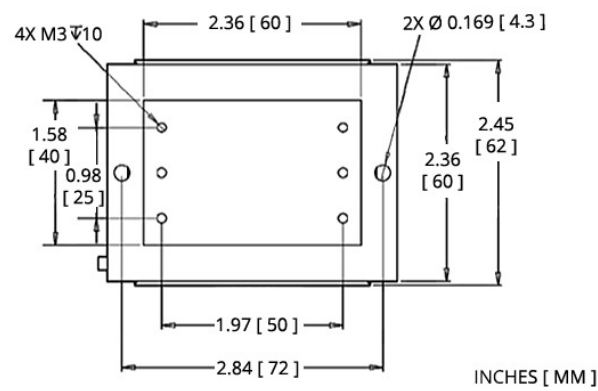
Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
Voperating = 24 Volts | Ioperating = 1.16 Amps



Specifications

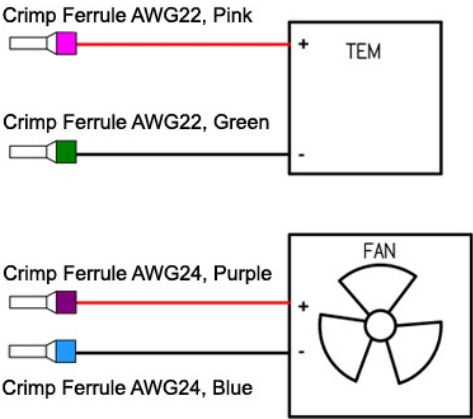
Heat Transfer Mechanism, Cold Side	Direct - Conduction
Heat Transfer Mechanism, Hot Side	Air - Forced Convection
Operating Temperature Range	-10°C to 48°C
Supply Voltage	24.0 VDC nominal / 29.5 VDC maximum
Current Draw	1.6 A running / 2.0 A startup
Power Supply	29.0 Watts
Performance Tolerance	10%
Hi-Pot Testing	No Testing
Fan MTBF	50000 hours
Weight	0.30 kg
Panel Mounting	Flush Mount

# Mounting Hole Location



# Wiring Schematic

WIRING DIAGRAM



## Notes

- <sup>1</sup>For indoor use only
- <sup>2</sup>it is recommended to clean the heat sinks and fans of debris. This is best done with compressed air.

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