

PowerCool Series Thermoelectric Cooler Assembly

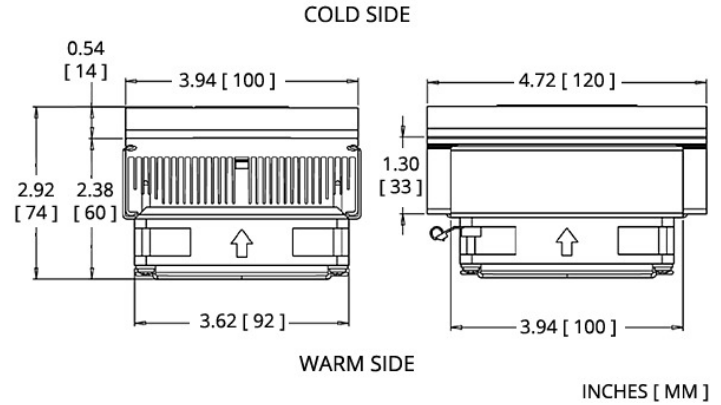
The DA-044-12-02 is a Direct-to-Air Thermoelectric Cooler Assembly that uses impingement flow to transfer heat. It offers dependable, compact performance by cooling objects via conduction. Heat is absorbed through a cold plate and dissipated thru a high density heat exchanger equipped with an air ducted shroud and brand name fan. It has a maximum Q_c of 42 Watts when $\Delta T = 0$ and a maximum ΔT of 41 °C at $Q_c = 0$.

Features

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

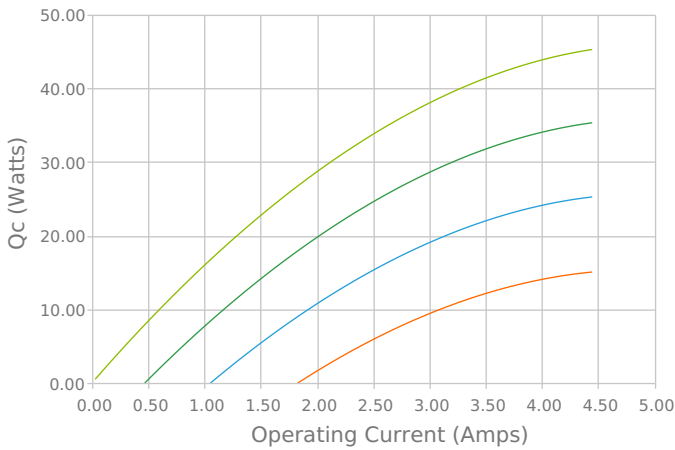
Applications

- 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

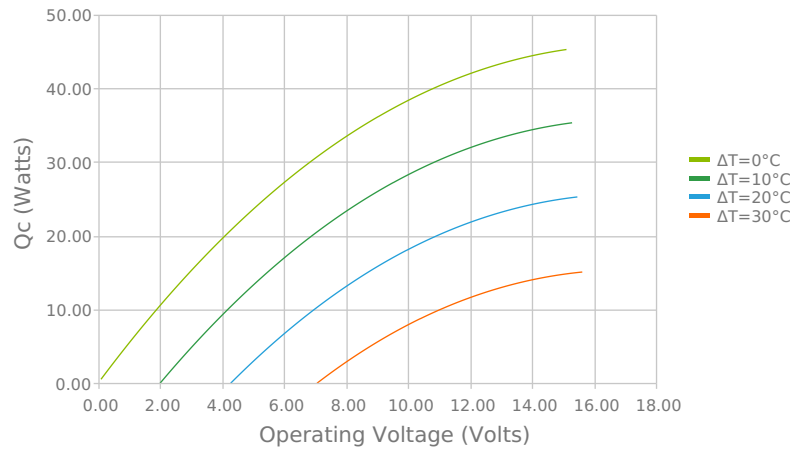


ELECTRICAL AND THERMAL PERFORMANCE

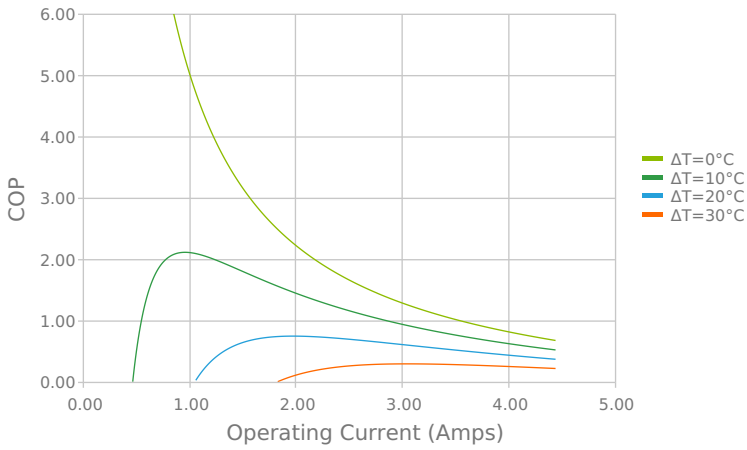
Heat Pumped at Cold Side (Q_c)
 Tambient = 35°C



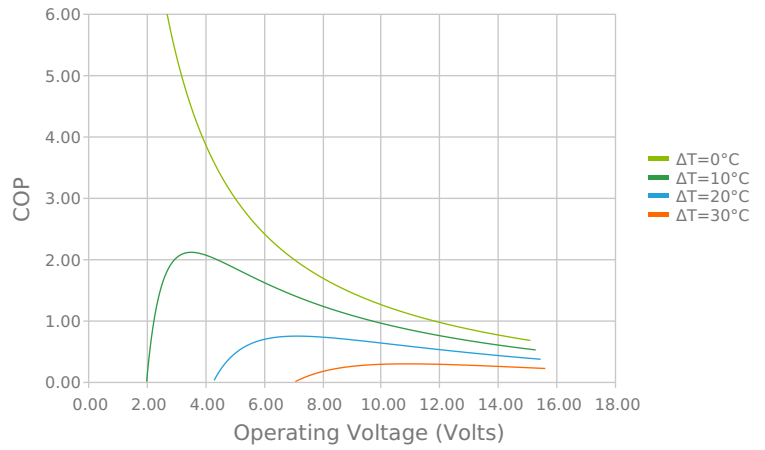
Heat Pumped at Cold Side (Q_c)
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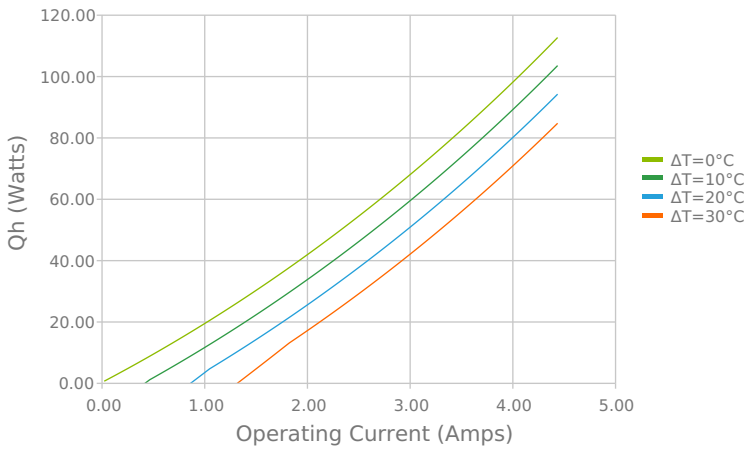
Coefficient of Performance (COP = Qc/Pin)
 Tambient = 35°C



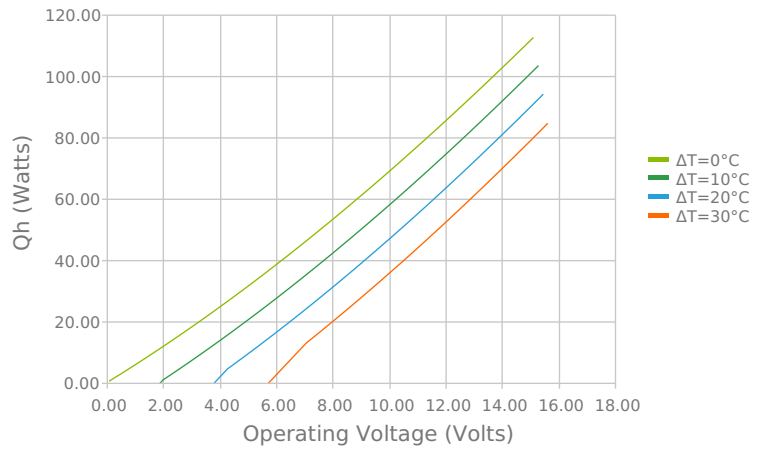
Coefficient of Performance (COP = Qc/Pin)
 Tambient = 35°C



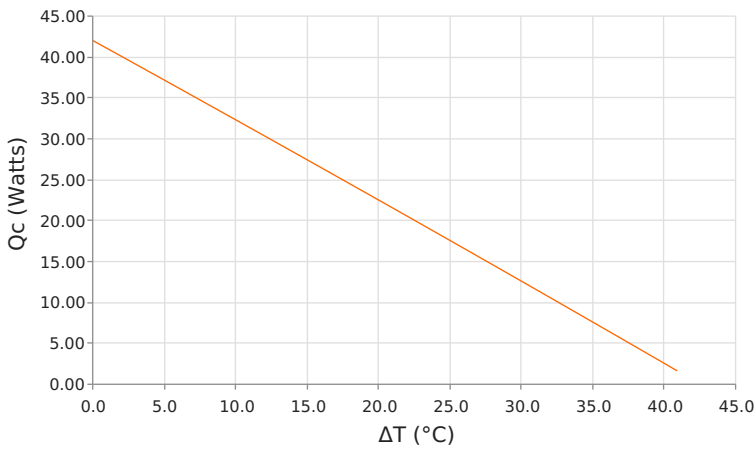
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Tambient = 35°C



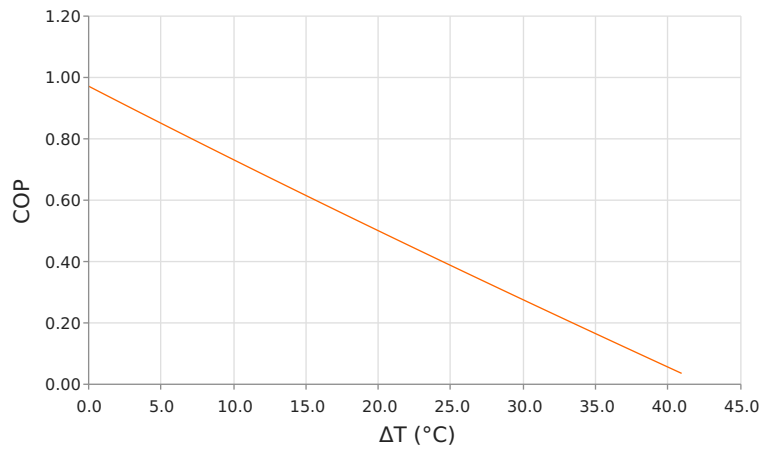
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Tambient = 35°C



Heat Pumped at Cold Side (Qc)
 Voperating = 12 Volts | Ioperating = 3.61 Amps



Coefficient of Performance (COP = Qc/Pin)
 Voperating = 12 Volts | Ioperating = 3.61 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

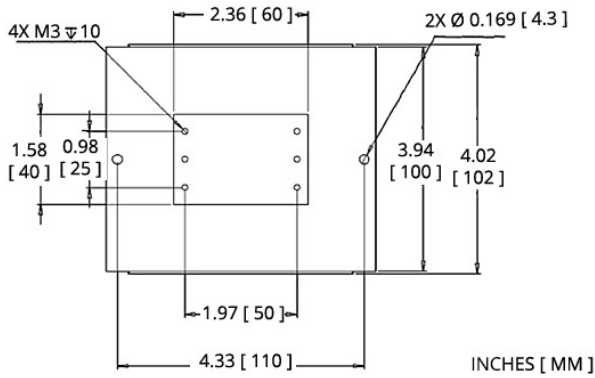
Fan MTBF

Weight

Panel Mounting

Direct - Conduction
Air - Forced Convection
-10°C to 46°C
12.0 VDC nominal / 15.0 VDC maximum
3.8 A running / 4.7 A startup
46.0 Watts
10%
No Testing
50000 hours
0.60 kg
Flush Mount

MOUNTING HOLE LOCATION



WIRING SCHEMATIC

ELECTRICAL CONNECTIONS:		
ITEM	Wire Color	Crimp Ferrule Color
TEM+	Red	White
TEM -	Black	White
FAN+	Red	Blue
FAN -	Black	Blue

NOTES

¹For indoor use only

²Units 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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