

PowerCool Series Thermoelectric Cooler Assembly

The DA-034-24-02 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 34 Watts when $\Delta T = 0$ and a maximum ΔT of 41 °C at $Q_c = 0$.

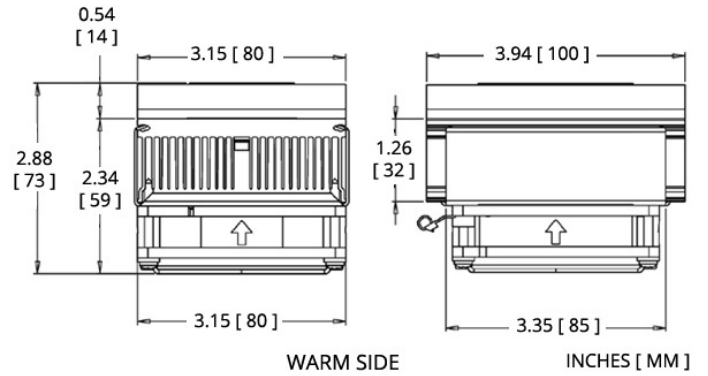


Features

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

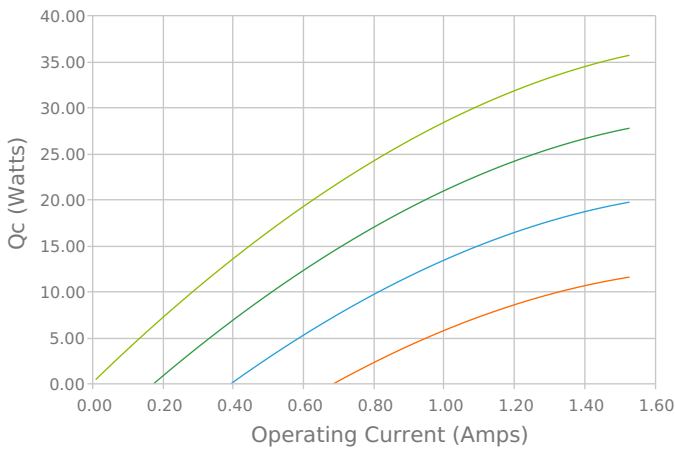
Applications

- 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

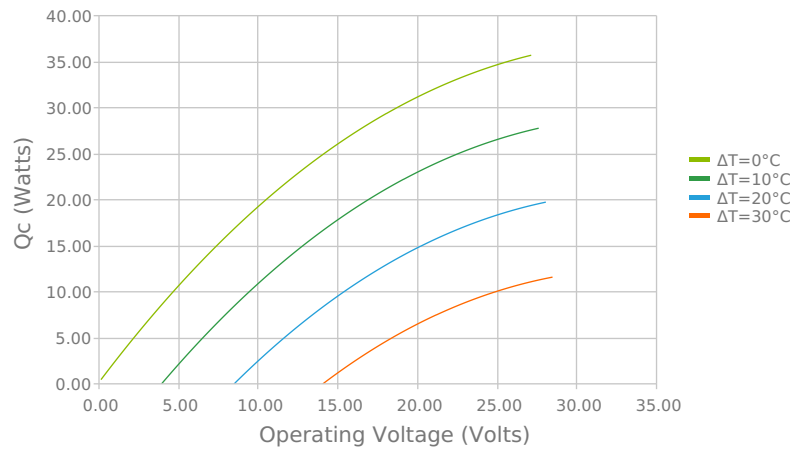


Electrical and Thermal Performance

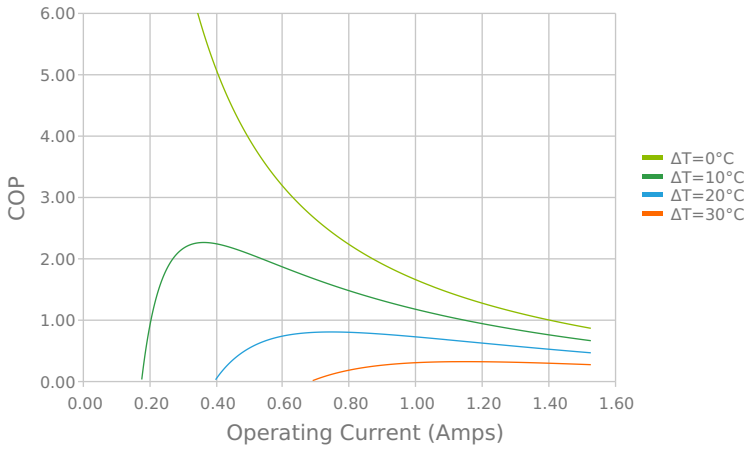
Heat Pumped at Cold Side (Q_c)
Tambient = 35°C



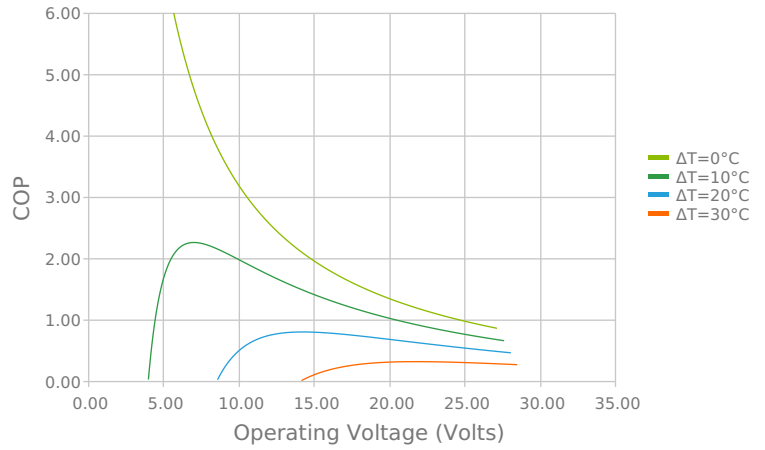
Heat Pumped at Cold Side (Q_c)
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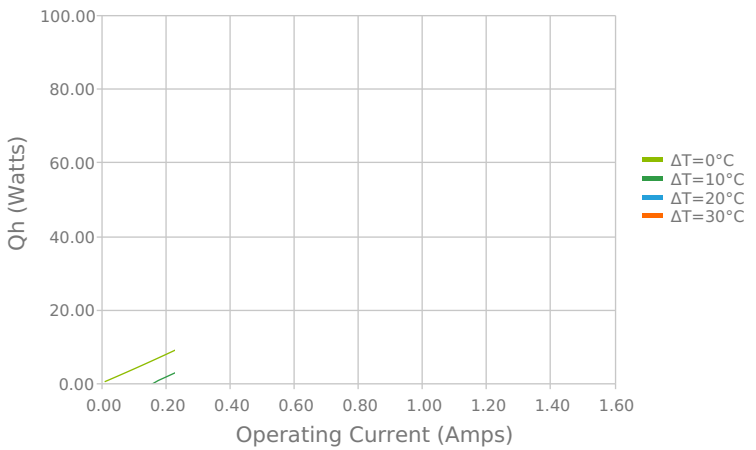
Coefficient of Performance (COP = Q_c/P_{in})
 $T_{ambient} = 35^{\circ}C$



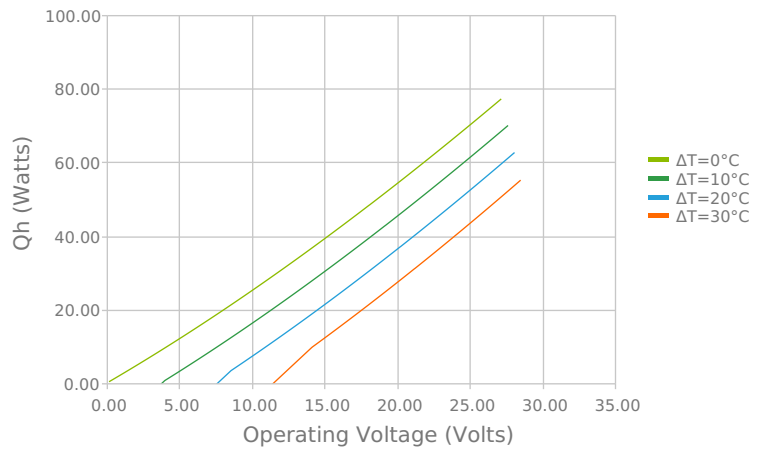
Coefficient of Performance (COP = Q_c/P_{in})
 $T_{ambient} = 35^{\circ}C$



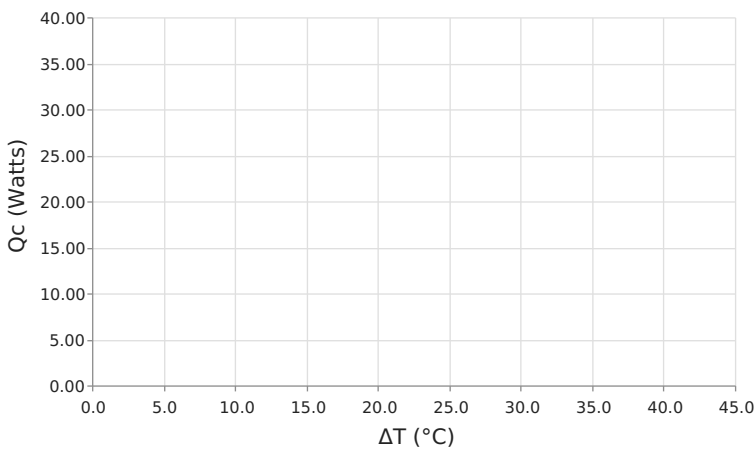
Total Heat Dissipated at Hot Side ($Q_h = Q_c + P_{in}$)
 $T_{ambient} = 35^{\circ}C$



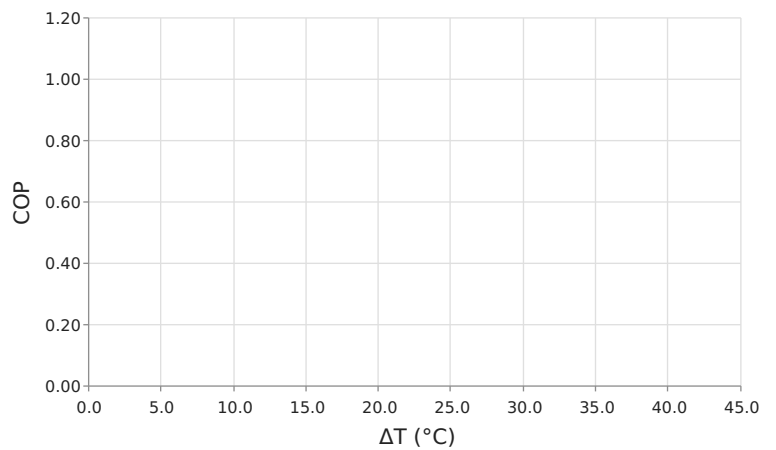
Total Heat Dissipated at Hot Side ($Q_h = Q_c + P_{in}$)
 $T_{ambient} = 35^{\circ}C$



Heat Pumped at Cold Side (Q_c)
 $V_{operating} = 24 \text{ Volts}$ | $I_{operating} = 1.37 \text{ Amps}$



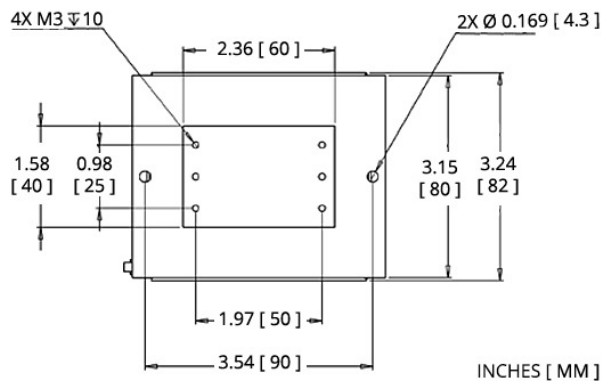
Coefficient of Performance (COP = Q_c/P_{in})
 $V_{operating} = 24 \text{ Volts}$ | $I_{operating} = 1.37 \text{ Amps}$



Specifications

Heat Transfer Mechanism, Cold Side	Direct - Conduction
Heat Transfer Mechanism, Hot Side	Air - Forced Convection
Operating Temperature Range	-10°C to 46°C
Supply Voltage	24.0 VDC nominal / 27.0 VDC maximum
Current Draw	1.9 A running / 2.6 A startup
Power Supply	46.0 Watts
Performance Tolerance	10%
Hi-Pot Testing	No Testing
Fan MTBF	50000 hours
Weight	0.45 kg
Panel Mounting	Flush Mount

Mounting Hole Location



Wiring Schematic

ELECTRICAL CONNECTIONS:

TEM+ : Pink
TEM - : Green
FAN+ : Purple
FAN - : Blue

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

Notes

¹For indoor use only

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Revision: 01 Date: 04-30-2024

Print Date: 05-12-2025