

PowerCool Series Thermoelectric Cooler Assembly

The DA-280-24-02 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 283 Watts when $\Delta T = 0$ and a maximum ΔT of 45 °C at $Q_c = 0$.

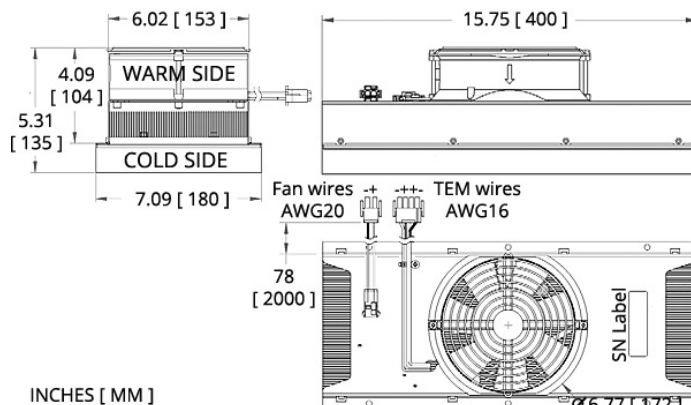


Features

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

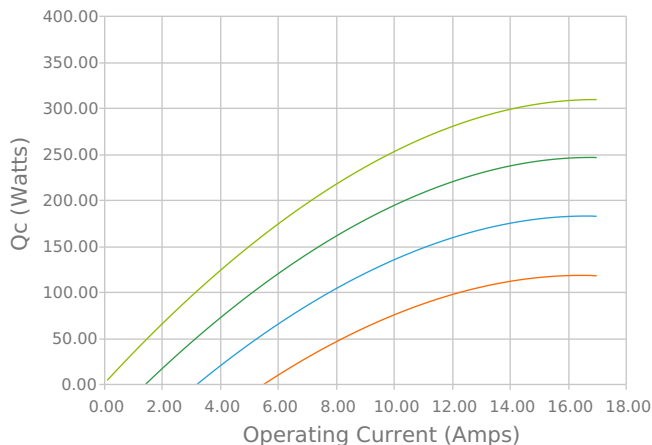
Applications

- 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

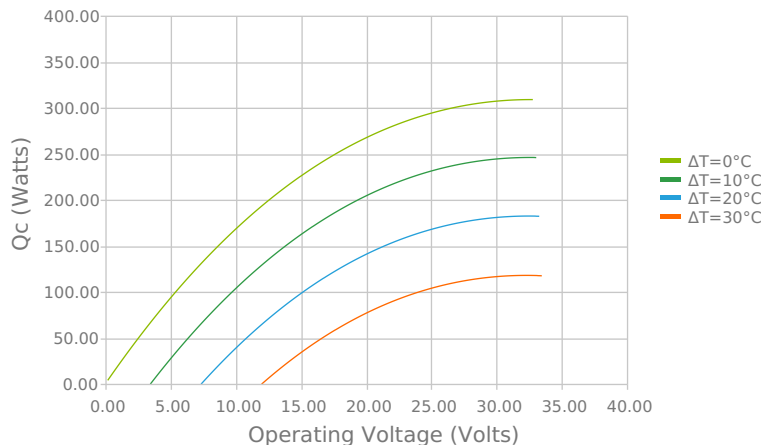


ELECTRICAL AND THERMAL PERFORMANCE

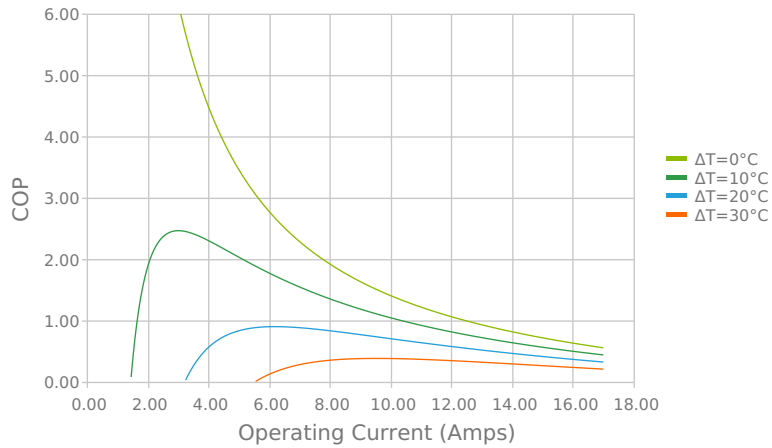
Heat Pumped at Cold Side (Q_c)
Tambient = 35°C | Tcontrol = 20°C



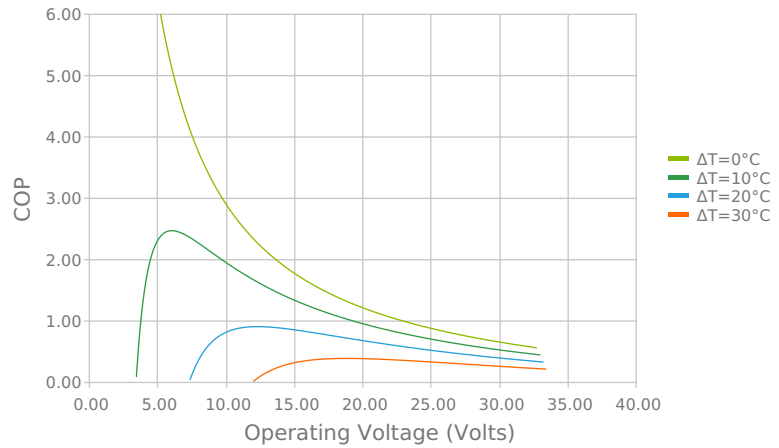
Heat Pumped at Cold Side (Q_c)
Tambient = 35°C | Tcontrol = 20°C



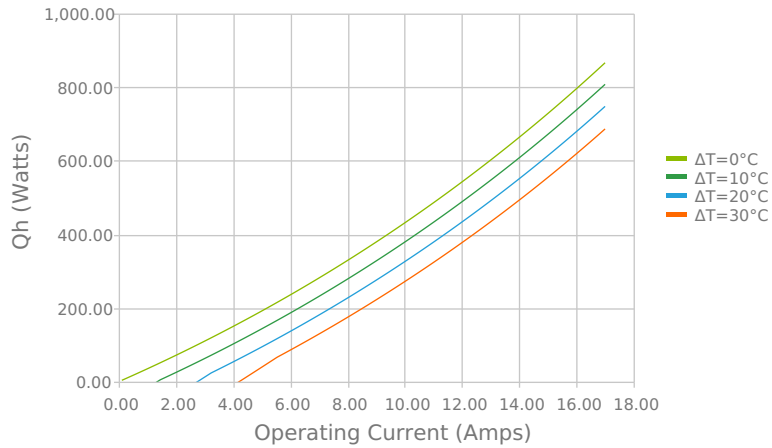
Coefficient of Performance (COP = Qc/Pin)
Tambient = 35°C | Tcontrol = 20°C



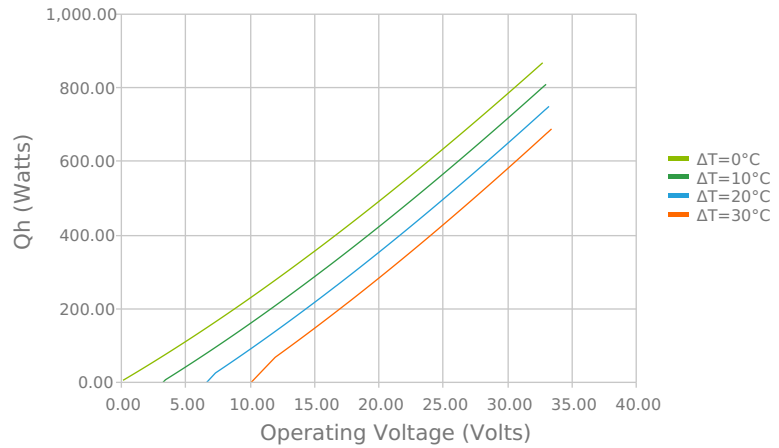
Coefficient of Performance (COP = Qc/Pin)
Tambient = 35°C | Tcontrol = 20°C



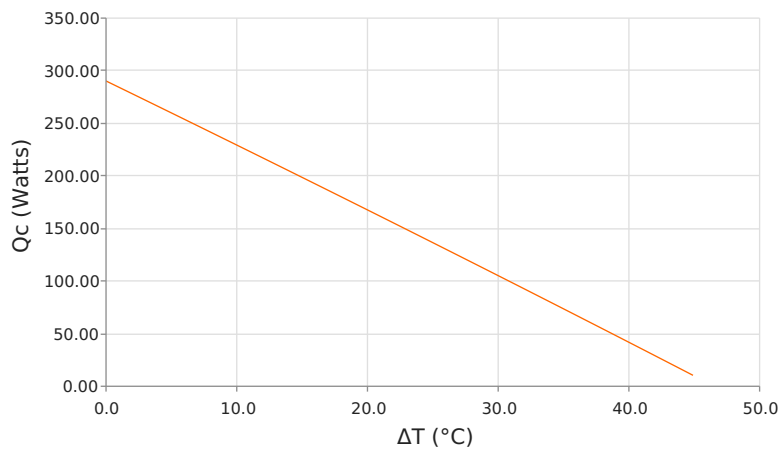
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Tambient = 35°C | Tcontrol = 20°C



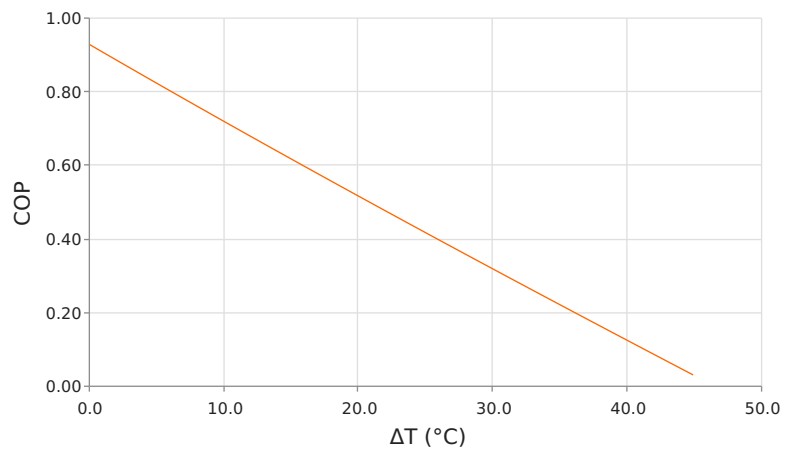
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Tambient = 35°C | Tcontrol = 20°C



Heat Pumped at Cold Side (Qc)
Voperating = 24.02 Volts | Ioperating = 13.01 Amps



Coefficient of Performance (COP = Qc/Pin)
Voperating = 24.02 Volts | Ioperating = 13.01 Amps



SPECIFICATIONS

Operating Temperature Range

Supply Voltage

Current Draw

Power Supply

Performance Tolerance

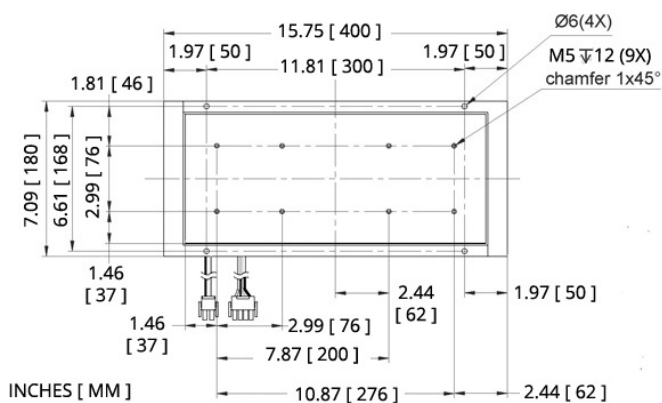
Fan MTBF

Sound Level (1 m distance)

Weight

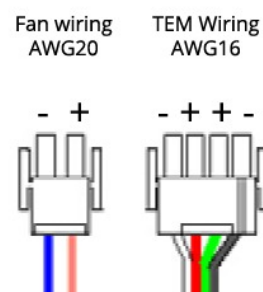
-20°C to 55°C
24.0 VDC nominal / 28.0 VDC maximum
12.3 A running / 14.8 A startup
295.0 Watts
10%
50,000 hours
60 dBA
6.12 kg

MOUNTING HOLE LOCATION



WIRING SCHEMATIC

ELECTRICAL CONNECTIONS:



Warning: Do not reverse current or use PWM-regulation on fan supply.

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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