PowerCool Series Thermoelectric Cooler Assembly

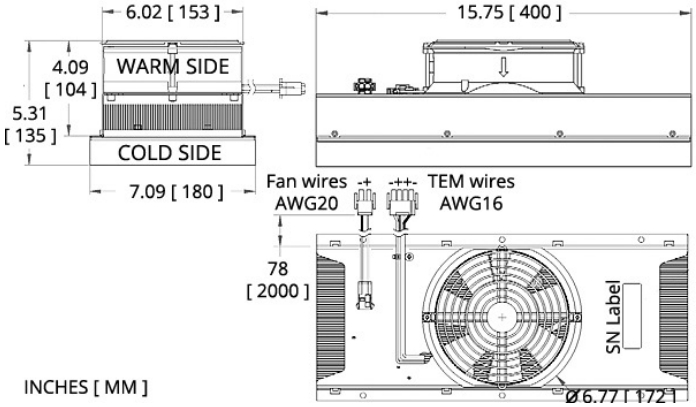
The DA-280-24-02 is a Direct-to-Air Thermoelectric Cooler Assembly that uses impingement flow to transfer heat. It offers dependable, compact performance by cooling objects via conduction. Heat is absorbed through a cold plate and dissipated thru a high density heat exchanger equipped with an air ducted shroud and brand name fan. It has a maximum Qc of 283 Watts when ΔT = 0 and a maximum ΔT of 45 °C at Qc = 0.

Features

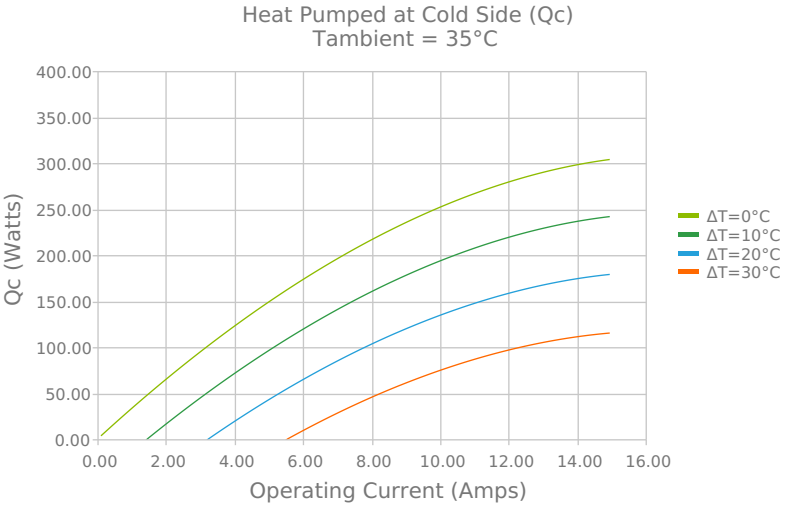
- Compact design
- Precise temperature control
- Reliable solid-state operation
- Low noise
- RoHS-compliant

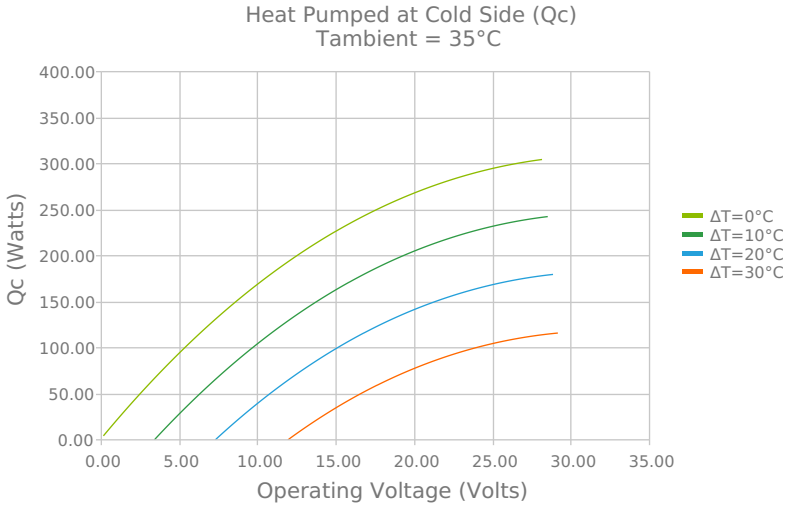
Applications

- 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

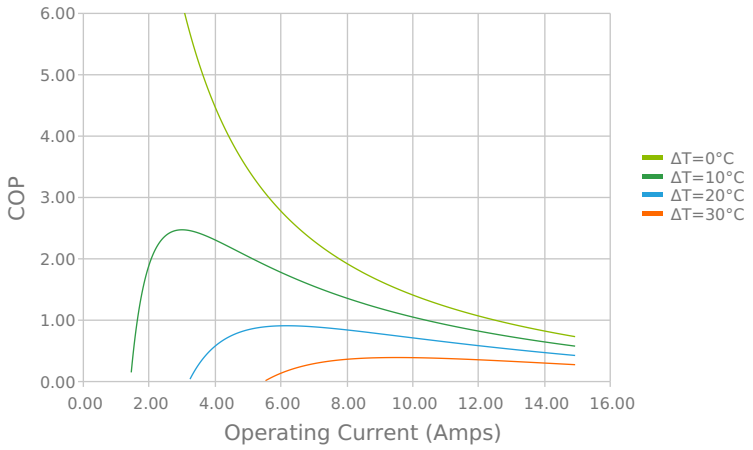


Electrical and Thermal Performance





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



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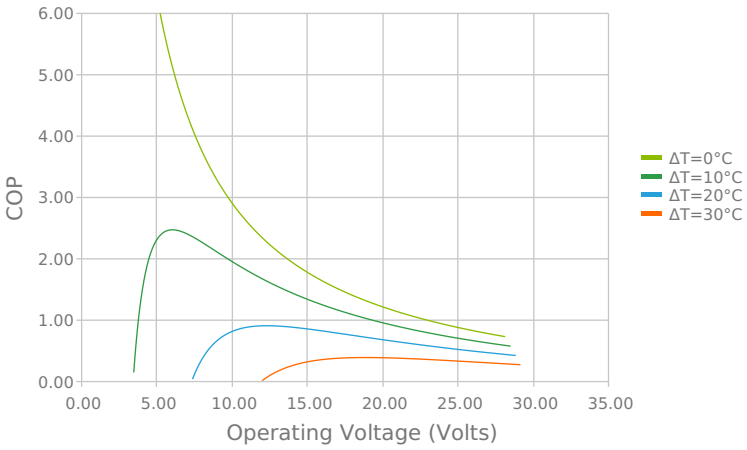
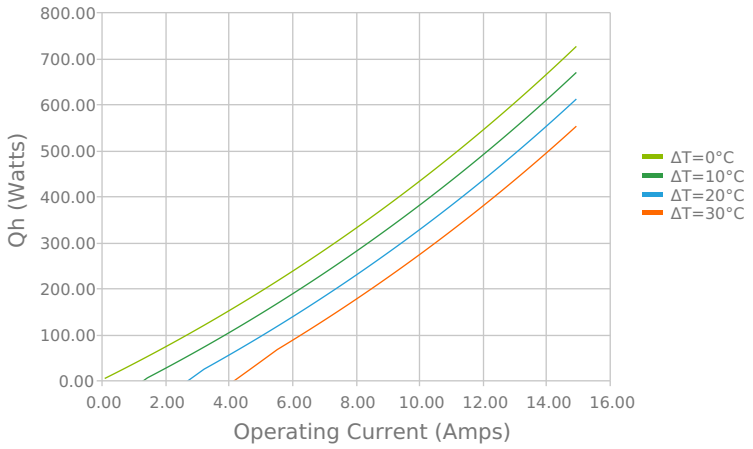


Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Tambient = 35°C



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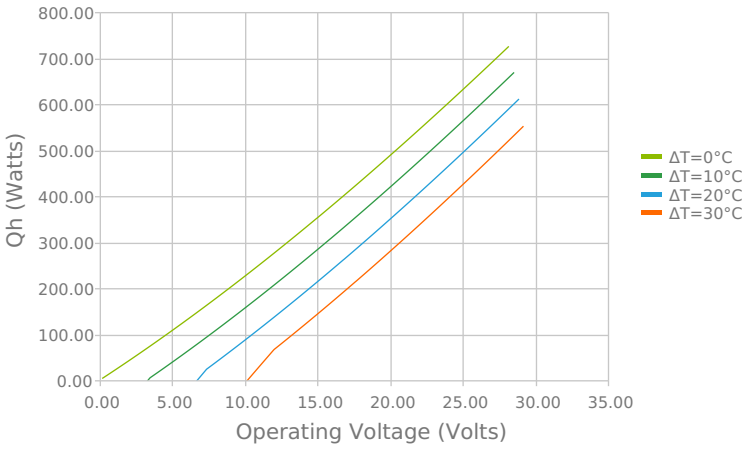
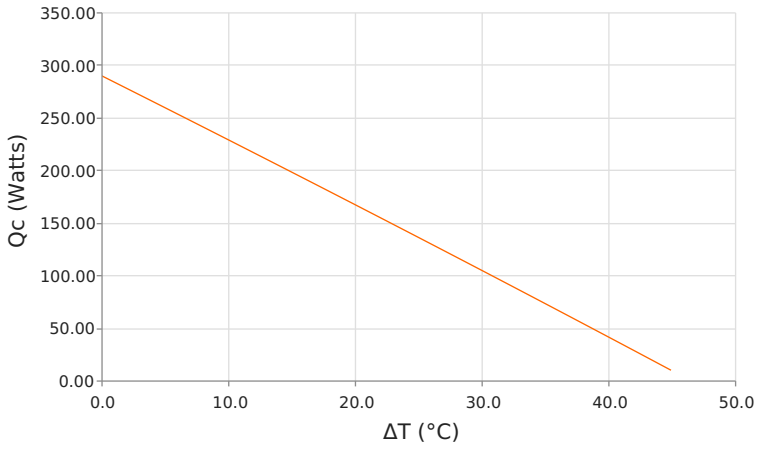
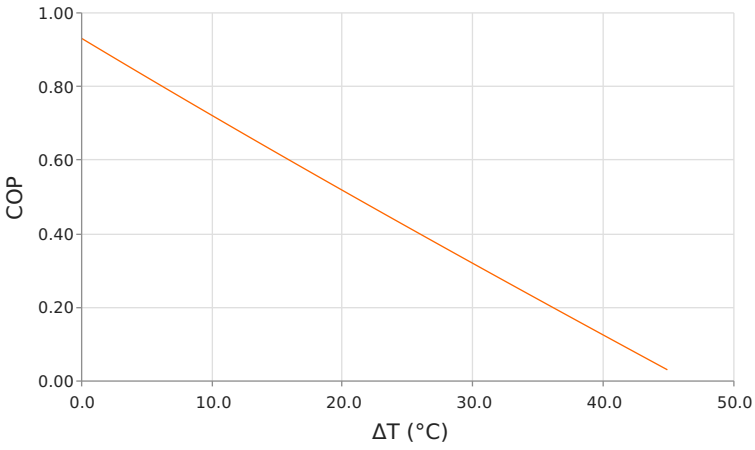


Heat Pumped at Cold Side (Qc)
Voperating = 24 Volts | Ioperating = 13 Amps



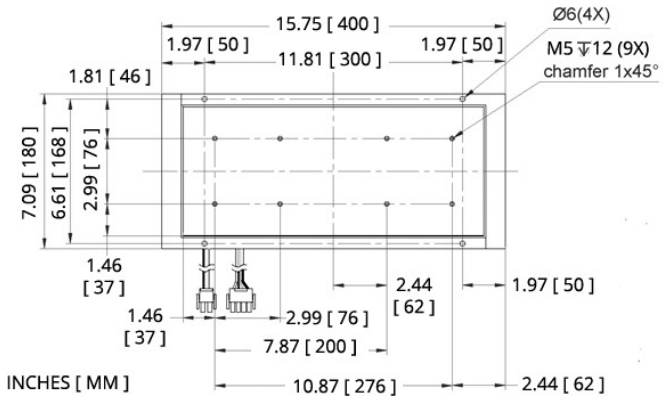
Coefficient of Performance (COP = Qc/Pin)
Voperating = 24 Volts | Ioperating = 13 Amps



Specifications

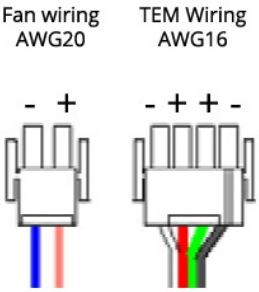
Heat Transfer Mechanism, Cold Side	Direct - Conduction
Heat Transfer Mechanism, Hot Side	Air - Forced Convection
Operating Temperature Range	-20°C to 55°C
Supply Voltage	24.0 VDC nominal / 28.0 VDC maximum
Current Draw	12.3 A running / 14.8 A startup
Power Supply	295.0 Watts
Performance Tolerance	10%
Hi-Pot Testing	No Testing
Fan MTBF	50000 hours
Over-Temp Thermostat (Hot Side Heat Sink)	75°C ± 5°C
Sound Level (1 m distance)	60 dBA
Weight	6.12 kg
Panel Mounting	Flush Mount

Mounting Hole Location



Wiring Schematic

ELECTRICAL CONNECTIONS:



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

Notes

[1]For indoor use only
[2]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.

Revision: 00 Date: 06-01-2022

Print Date: 05-12-2025