PowerCool Series AA-100-24-22
MFG Part Number: AA-100-24-22-00-00

PowerCool Series Thermoelectric Cooler Assembly

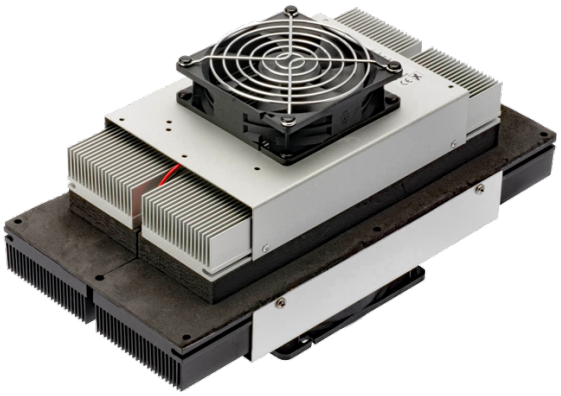
The AA-100-24-22 is an Air-to-Air Thermoelectric Cooler Assembly that uses impingement flow to transfer heat. It offers dependable, compact performance by cooling objects via convection. Heat is absorbed and dissipated through high density heat exchangers equipped with air ducted shrouds and brand name fans. The heat pumping action is created by thermoelectric modules, which are custom designed to achieve a high coefficient of performance (COP). It has a maximum Qc of 102 Watts when ΔT = 0 and a maximum ΔT of 45 °C at Qc = 0.

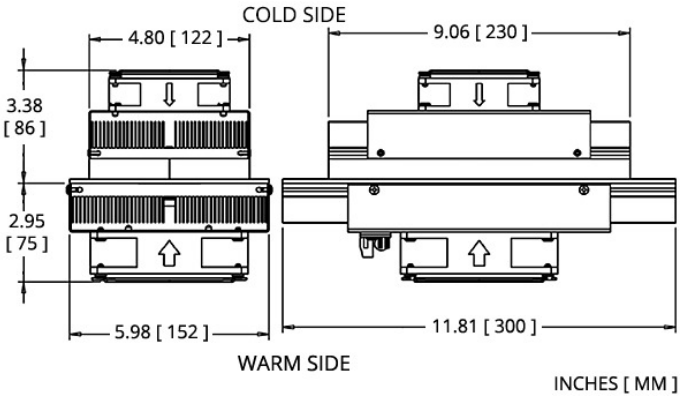
Features

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

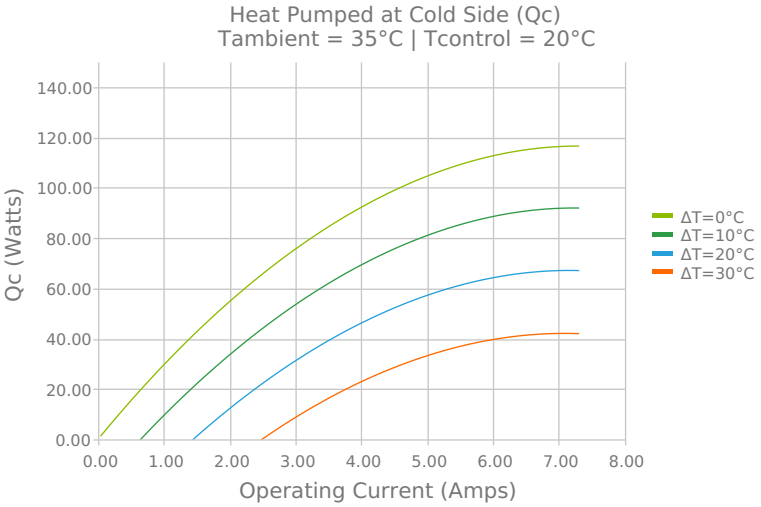
Applications

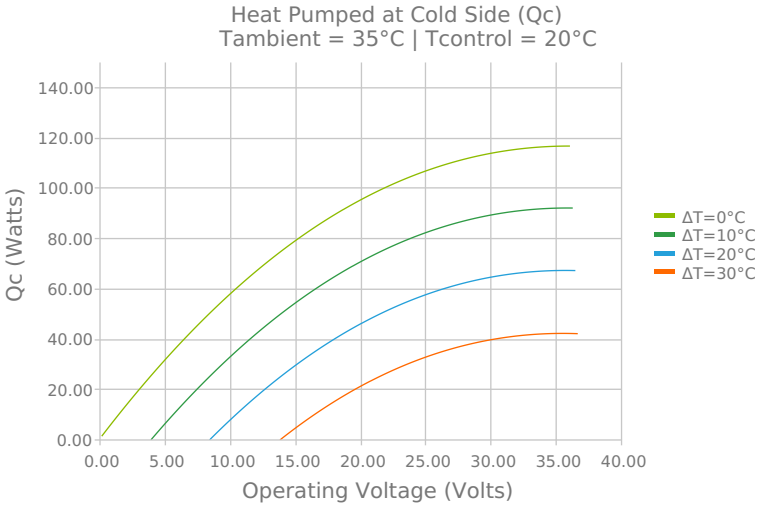
- Medical Diagnostic and Analytical Instrumentation
- Thermoelectric Coolers and Assemblies for Medical Applications
- Liquid Cooling Options for PET and SPECT Scanners
- Cooling for Centrifuges
- High-Performance Liquid Chromatography (HPLC)
- Heating and Cooling for Liquid Chromatography Systems



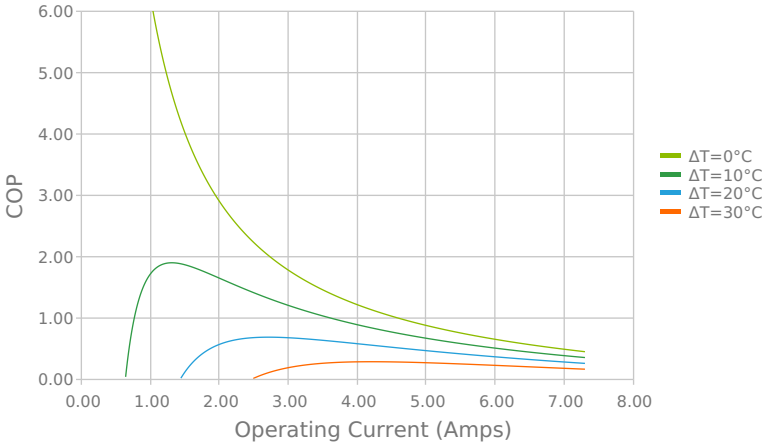


ELECTRICAL AND THERMAL PERFORMANCE

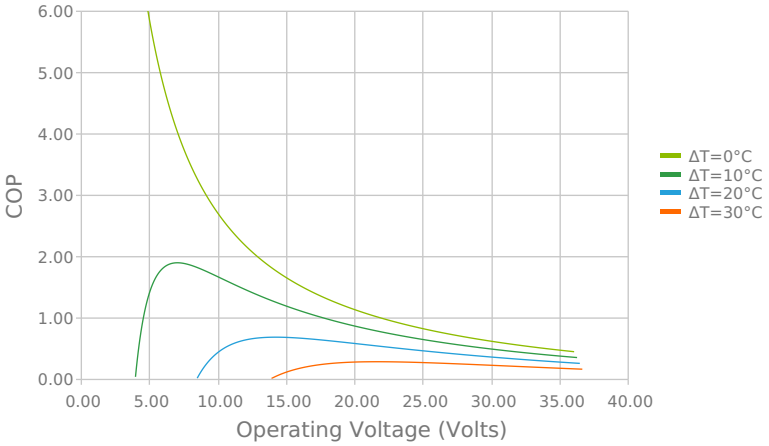




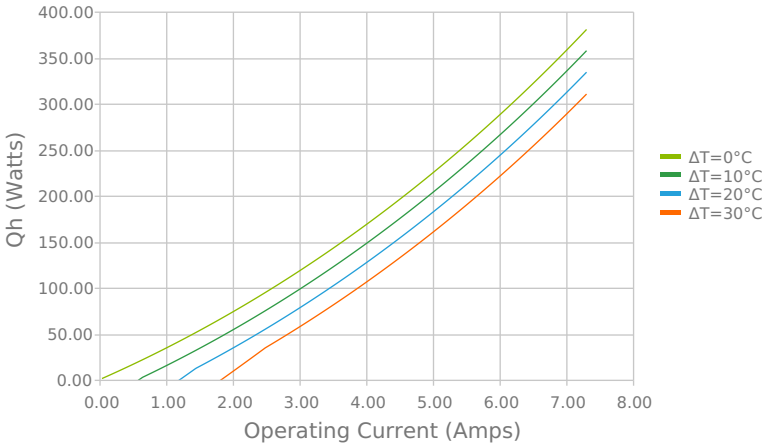
Coefficient of Performance (COP = Qc/Pin)
Tambient = 35°C | Tcontrol = 20°C



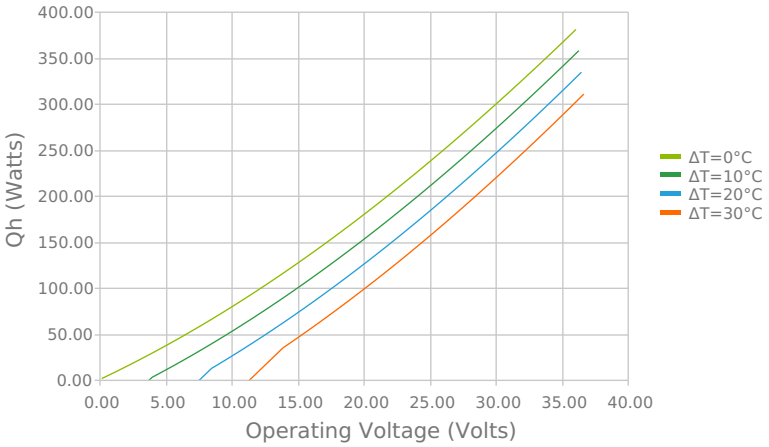
Coefficient of Performance (COP = Qc/Pin)
Tambient = 35°C | Tcontrol = 20°C



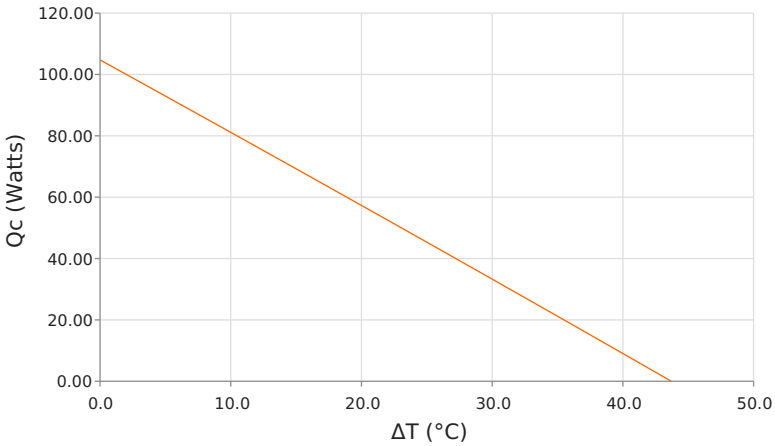
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Tambient = 35°C | Tcontrol = 20°C



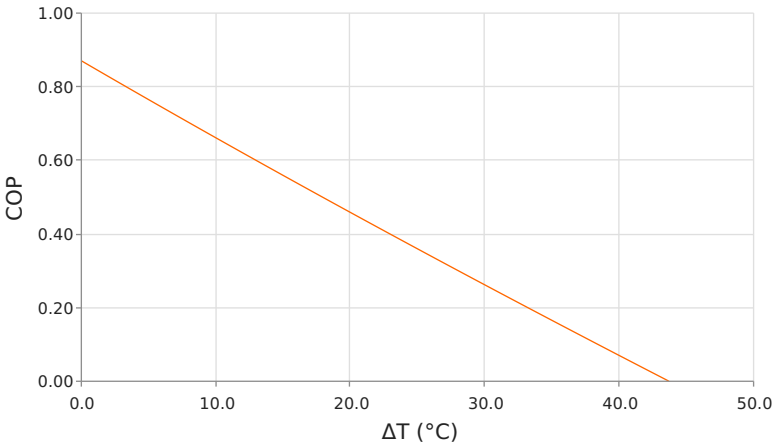
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Tambient = 35°C | Tcontrol = 20°C



Heat Pumped at Cold Side (Qc)
Voperating = 24.01 Volts | Ioperating = 5.01 Amps



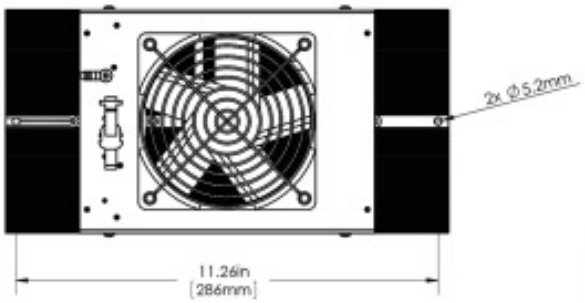
Coefficient of Performance (COP = Qc/Pin)
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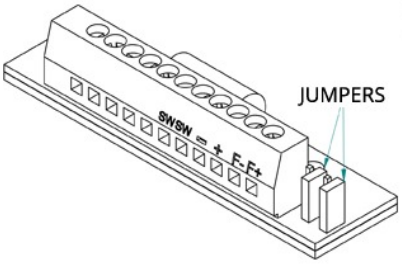
SPECIFICATIONS

Heat Transfer Mechanism, Cold Side	Air - Forced Convection
Heat Transfer Mechanism, Hot Side	Air - Forced Convection
Operating Temperature Range	-10°C to 50°C
Supply Voltage	24.0 VDC nominal / 30.0 VDC maximum
Current Draw	5.6 A running / 6.6 A startup
Power Supply	134.0 Watts
Performance Tolerance	10%
Hi-Pot Testing	750 VDC
Fan MTBF	40,000 hours
Over-Temp Thermostat (Hot and Cold Side Heat Sink)	75°C ± 5°C (hot side heat sink)
Weight	4.00 kg
Panel Mounting	Through

MOUNTING HOLE LOCATION



WIRING SCHEMATIC



ELECTRICAL CONNECTIONS:

" + ": + TEM
" - ": - TEM
" F+ ": + FAN(S)
" F- ": - FAN(S)

To use single supply:
Lift the jumpers and rotate 90° to short-out the pin pairs.
Connect the unit to " + " & " - ".

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

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.

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