SuperCool Series SAA-110-24-22
MFG Part Number: 387003324

SuperCool Series Thermoelectric Cooler Assembly

The SAA-110-24-22 Air-to-Air thermoelectric cooler assembly is a high performance thermoelectric based air conditioner. It is designed to temperature control small chambers used in medical diagnostics or sample storage compartments in analytical instrumentation. This unique, **patented** design offers a high performance hot side heat dissipation mechanism that convects heat more efficiently than conventional heat exchanger technologies. The design utilizes custom thermoelectric modules to maximize cooling capacity and premium grade fans to reduce noise. Moisture resistant insulation is used to keep condensation from penetrating into the thermoelectric module cavity. This unit operates at 24 VDC and is designed for indoor lab use environment. It has a maximum Qc of 110 Watts when ΔT = 0 and a maximum ΔT of 40 °C at Qc = 0.

US Patent US2016/0255746 A1

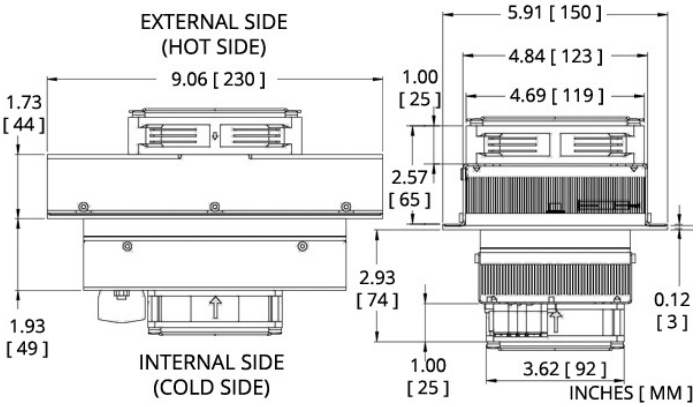
Features

- High performance
- Compact form factor
- Reliable solid-state operation
- RoHS-compliant

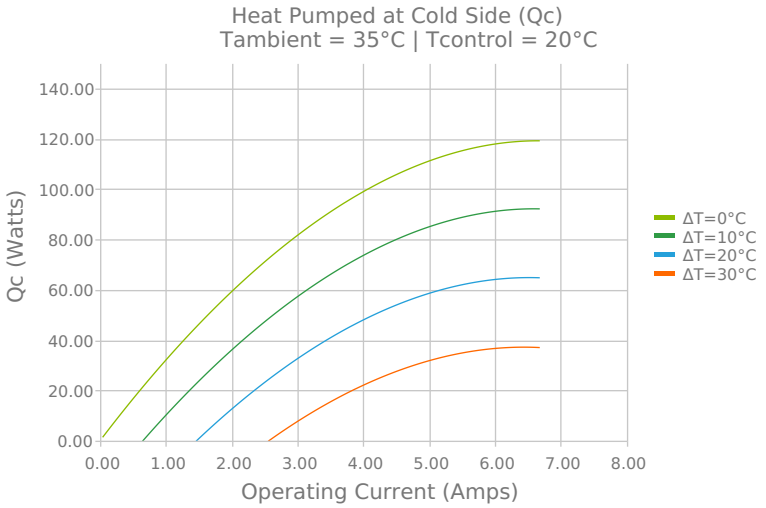
Applications

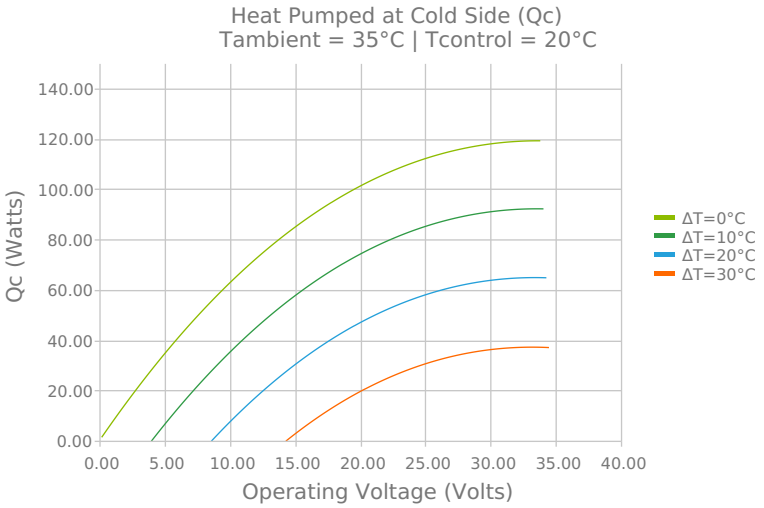
- Liquid Cooling Options for PET and SPECT Scanners
- Peltier Cooling for Refrigerated Centrifuges
- Heating and Cooling of Incubator Chambers
- Thermal Management Solutions for Beverage Cooling



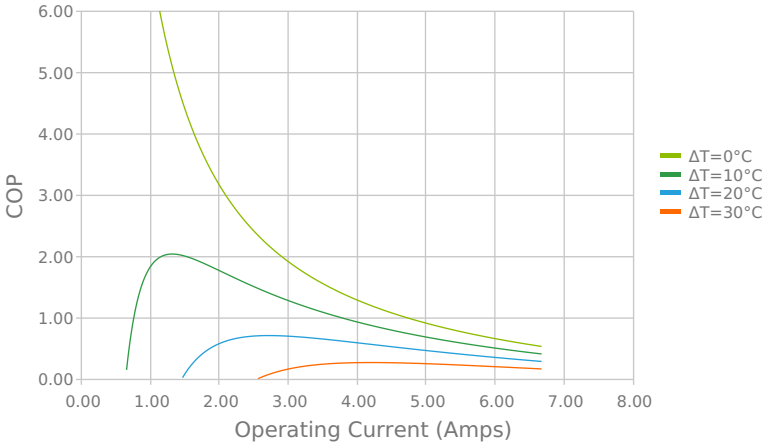


ELECTRICAL AND THERMAL PERFORMANCE

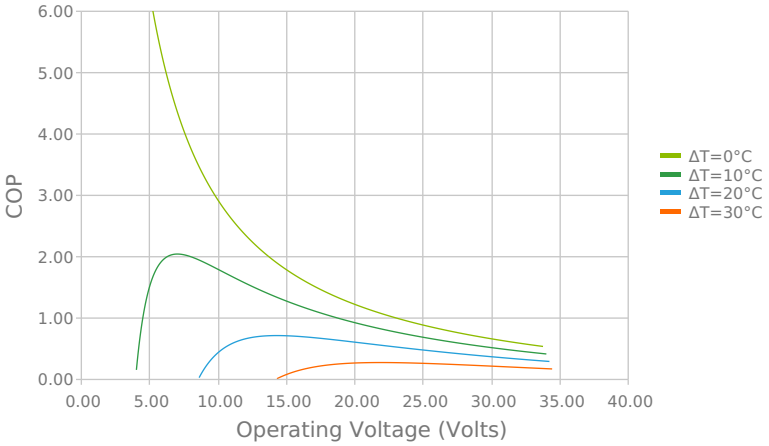




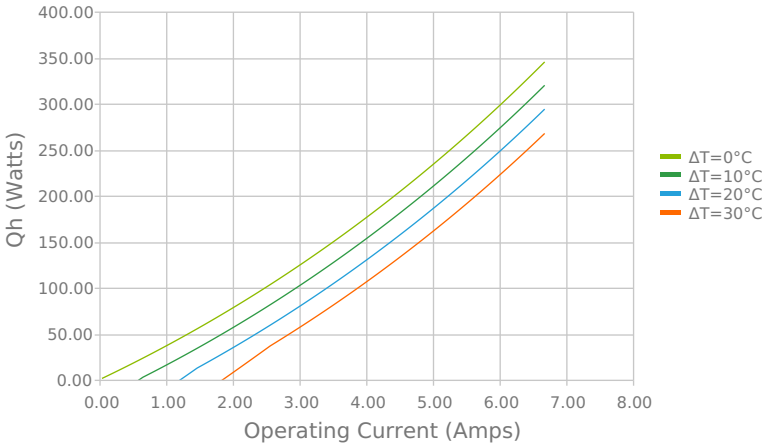
Coefficient of Performance (COP = Qc/Pin)
Tambient = 35°C | Tcontrol = 20°C



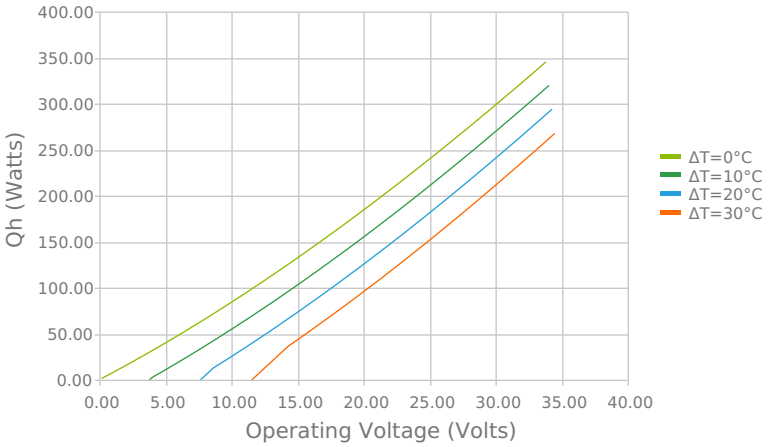
Coefficient of Performance (COP = Qc/Pin)
Tambient = 35°C | Tcontrol = 20°C



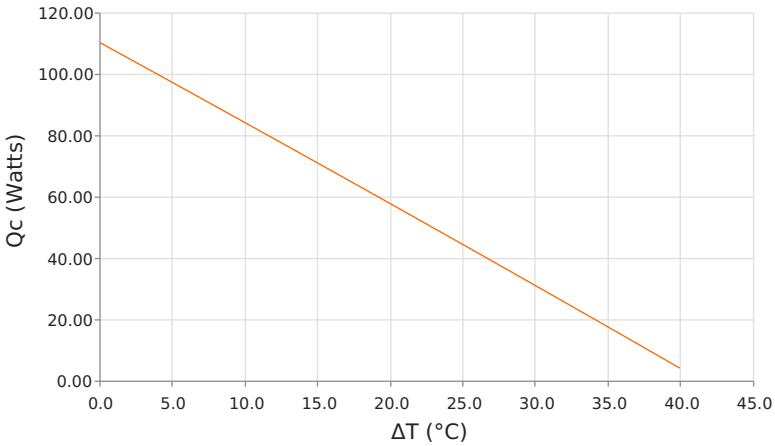
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Tambient = 35°C | Tcontrol = 20°C



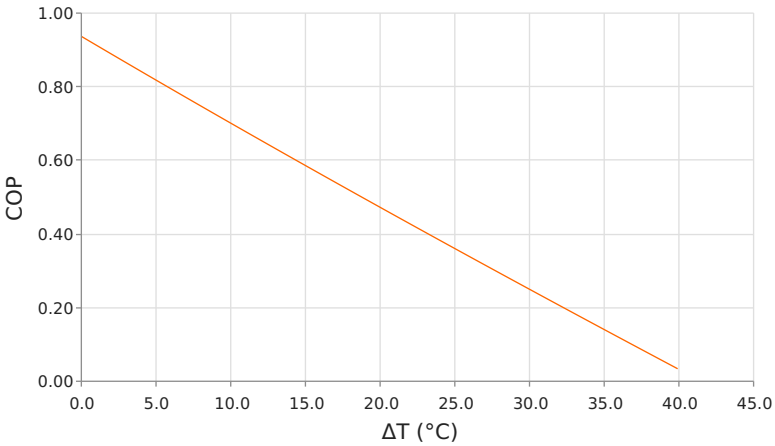
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Tambient = 35°C | Tcontrol = 20°C



Heat Pumped at Cold Side (Qc)
Voperating = 24.04 Volts | Ioperating = 4.93 Amps



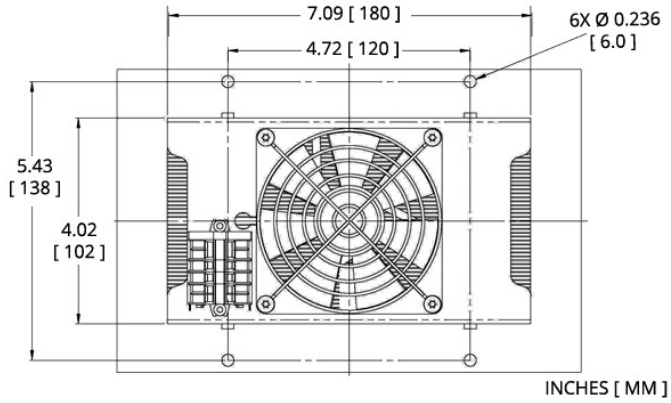
Coefficient of Performance (COP = Qc/Pin)
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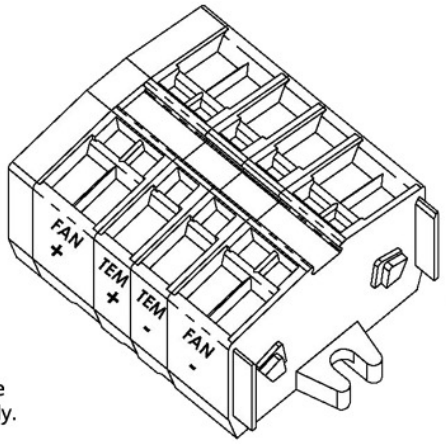
SPECIFICATIONS

Heat Transfer Mechanism, Cold Side	Air - Forced Convection
Heat Transfer Mechanism, Hot Side	Air - Forced Convection
Operating Temperature Range	-20°C to 60°C
Supply Voltage	24.0 VDC nominal / 30.0 VDC maximum
Current Draw	4.9 A running / 6.4 A startup
Power Supply	118.0 Watts
Performance Tolerance	10%
Hi-Pot Testing	750 VDC
Fan MTBF	40,000 hours
Over-Temp Thermostat (Hot and Cold Side Heat Sink)	without thermostat
Weight	2.70 kg
Panel Mounting	Through

MOUNTING HOLE LOCATION



WIRING SCHEMATIC



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.

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Revision: 00 Date: 06-01-2022

Print Date: 06-15-2022