PowerCool Series Thermoelectric Cooler Assembly

The DA-045-12-02 is a Direct-to-Air Thermoelectric Assembly (TEA) 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 through a high density heat exchanger equipped with an air ducted shroud and brand name fan. It has a maximum Qc of 42.4 Watts when ΔT = 0 and a maximum ΔT of 35 °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)

ELECTRICAL AND THERMAL PERFORMANCE

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

Heat Pumped at Cold Side (Qc) Tambient = 35°C | Tcontrol = 20°C
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MFG Part Number: DA-045-12-02-00-00

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

Operating Current (Amps)

Operating Voltage (Volts)

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

Heat Pumped at Cold Side (Qc)
Voperating = 12 Volts | Ioperating = 4.7 Amps

Coefficient of Performance (COP = Qc/Pin)
Voperating = 12 Volts | Ioperating = 4.7 Amps

ΔT (°C)

Qc (Watts)

COP

Qh (Watts)

COP

ΔT (°C)
SPECIFICATIONS

Operating Temperature Range
-10 °C to 46°C

Supply Voltage
12.0 VDC nominal / 15.0 VDC maximum

Current Draw
6.1 A running / 7.0 A startup

Power Supply
73.0 Watts

Performance Tolerance
10%

Fan MTBF
50,000 hours

Weight
1.20 kg

MOUNTING HOLE LOCATION

WIRING SCHEMATIC

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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