PowerCool Series Thermoelectric Cooler Assembly

The AA-019-12-22 is an Air-to-Air Thermoelectric Assembly (TEA) 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 $Q_c$ of 18.6 Watts when $\Delta T = 0$ and a maximum $\Delta T$ of 40 °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)

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**ELECTRICAL AND THERMAL PERFORMANCE**

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

**Operating Current (Amps)**

![Operating Current Graph](image)

**Operating Voltage (Volts)**

![Operating Voltage Graph](image)
SPECIFICATIONS

Operating Temperature Range
-10 °C to 52°C

Supply Voltage
12.0 VDC nominal / 15.0 VDC maximum

Current Draw
2.3 A running / 2.8 A startup

Power Supply
28.0 Watts

Performance Tolerance
10%

Fan MTBF
40,000 hours

Weight
0.32 kg

MOUNTING HOLE LOCATION

WIRING SCHEMATIC

ELECTRICAL CONNECTIONS:
- TEM+ : Pink
- TEM- : Green
- FAN+ : Purple
- FAN- : Blue

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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