The DA-020-12-02 is a thermoelectric based air conditioner designed to control small chambers used in analytical and medical diagnostic instruments. The unique design offers premium fans pushing air across high density heat sinks to minimize the number of air flow paths required to operate. The design utilizes custom thermoelectric modules to maximize cooling capacity with a high coefficient of performance. Moisture resistant insulation is used to keep condensation from penetrating the TEM cavity. The unit operates on DC and is designed for an indoor lab use environment. It has a maximum Qc of 17.3 Watts when ΔT = 0 and a maximum ΔT of 32 °C at Qc = 0.
Coefficient of Performance (COP = Qc/Pin)
Tambient = 35°C | Tcontrol = 20°C

Operating Current (Amps)
0.00 0.50 1.00 1.50 2.00 2.50 3.00
COP
0.00 1.00 2.00 3.00 4.00 5.00 6.00

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

Operating Voltage (Volts)
0.00 1.00 2.00 3.00 4.00 5.00 6.00
COP
0.00 1.00 2.00 3.00 4.00 5.00 6.00

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

Operating Current (Amps)
0.00 0.50 1.00 1.50 2.00 2.50 3.00
Qh (Watts)
0.00 10.0 20.0 30.0 40.0 50.0 60.0

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

Operating Voltage (Volts)
0.00 1.00 2.00 3.00 4.00 5.00 6.00
Qh (Watts)
0.00 10.0 20.0 30.0 40.0 50.0 60.0

Heat Pumped at Cold Side (Qc)
Voperating = 12 Volts | Ioperating = 2.3 Amps

ΔT (°C)
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0
Qc (Watts)
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0

Coefficient of Performance (COP = Qc/Pin)
Voperating = 12 Volts | Ioperating = 2.3 Amps

ΔT (°C)
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0
COP
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8
SPECIFICATIONS

Operating Temperature Range
-10 °C to 44°C

Supply Voltage
12.0 VDC nominal / 14.7 VDC maximum

Current Draw
2.7 A running / 3.2 A startup

Power Supply
33.0 Watts

Performance Tolerance
10%

Fan MTBF
40,000 hours

Weight
0.56 kg

MOUNTING HOLE LOCATION

WIRING SCHEMATIC

NOTES

1 For indoor use only
2 Thermal grease included

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