TTS
TARK THERMAL SOLUTIONS

Liquid Series LA-024-24-02
MFG Part Number: LA-024-24-02-00-00

Liquid Series Thermoelectric Cooler Assembly

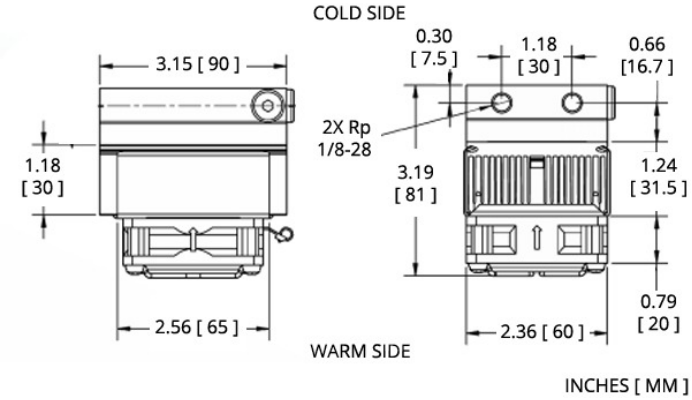
The LA-024-24-02 thermoelectric cooler assembly offers dependable, compact performance by cooling objects via liquid to transfer heat. Heat is absorbed through a liquid heat exchanger and dissipated thru a high density heat sink equipped with an air ducted shroud and brand name fan. The thermoelectric modules are custom designed to achieve a high coefficient of performance (COP) to minimize power consumption. It has a maximum Qc of 24 Watts when ΔT = 0 and a maximum ΔT of 42 °C at Qc = 0. The liquid heat exchanger is designed to accommodate distilled water with glycol. Corrosion resistant turbulators are enclosed inside channels to increase heat transfer. Mating port adaptors are sold separately.

Features

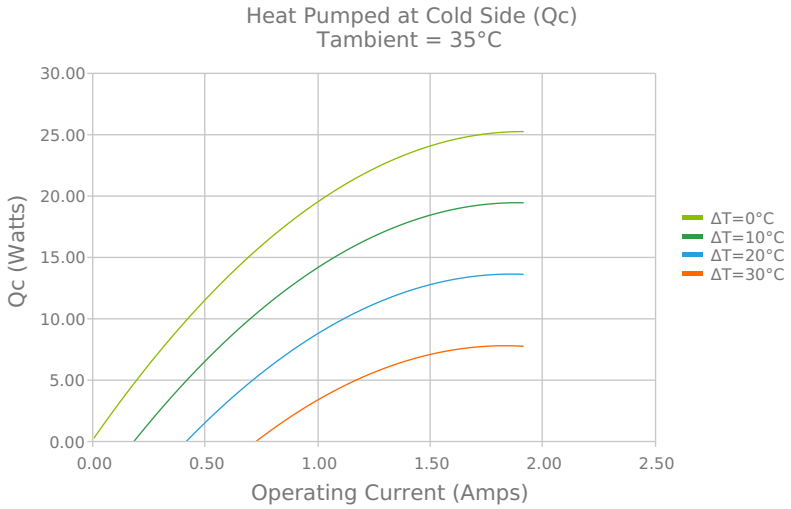
- Compact design
- Precise temperature control
- Reliable solid-state operation
- DC operation
- RoHS-compliant

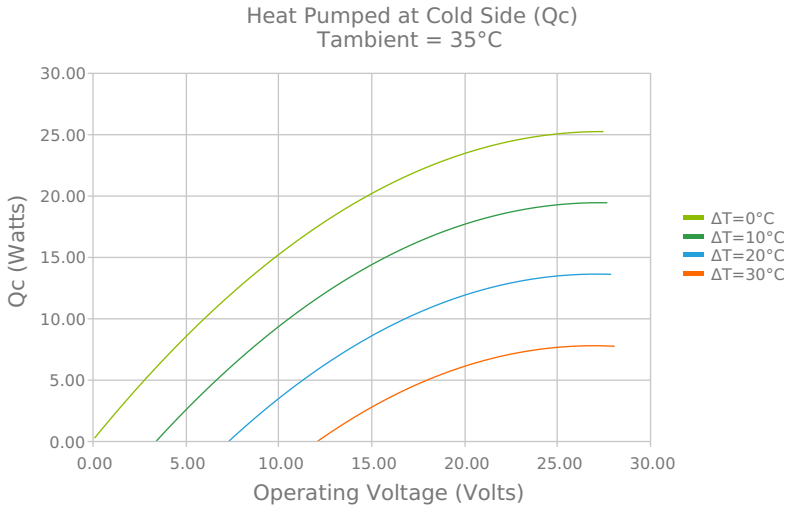
Applications

- Medical Diagnostics
- Industrial Lasers
- Medical Lasers
- Analytical Instrumentation

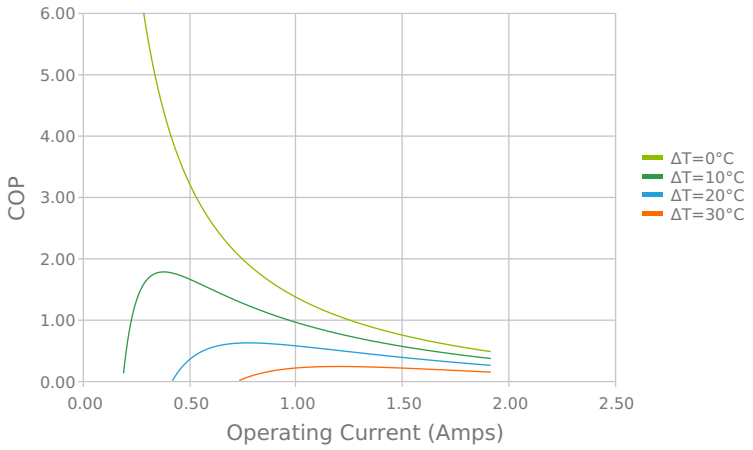


Electrical and Thermal Performance





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



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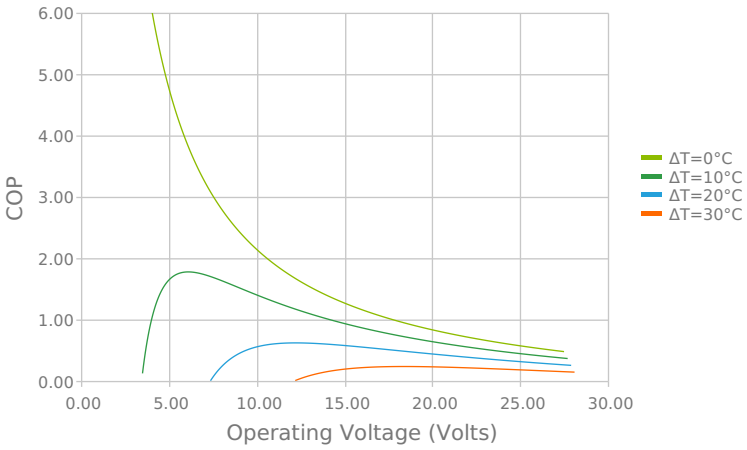
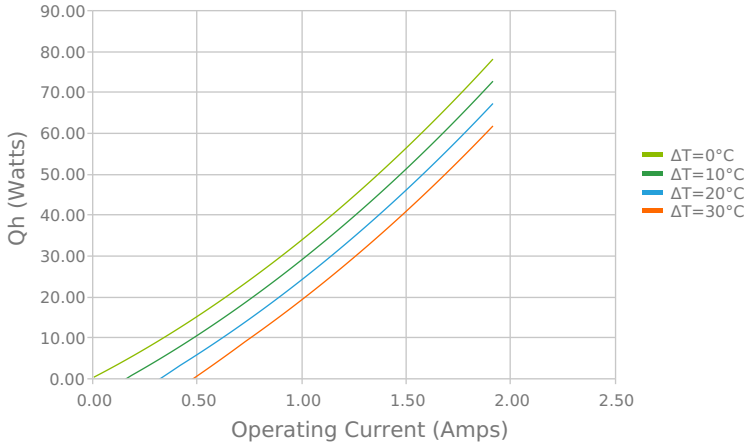


Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Tambient = 35°C



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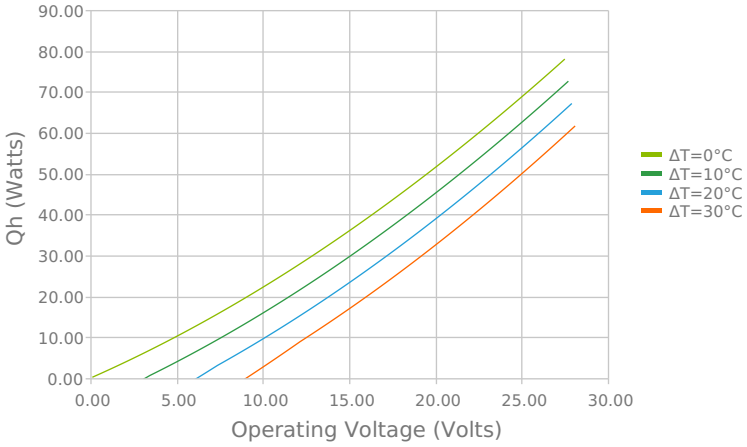
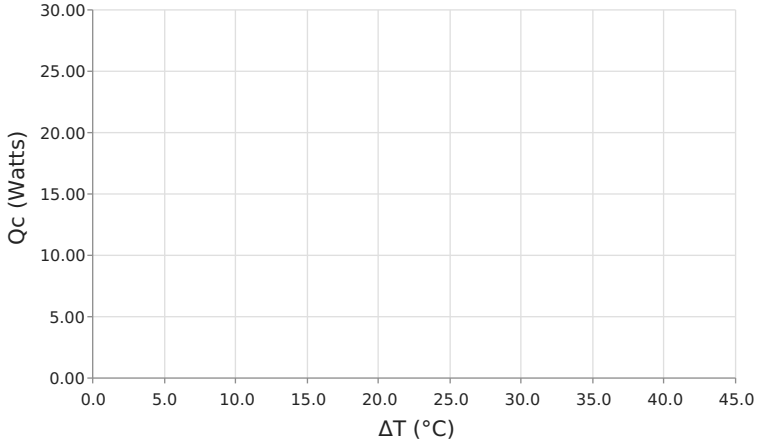


Heat Pumped at Cold Side (Qc)
Voperating = 24 Volts | Ioperating = 1.68 Amps



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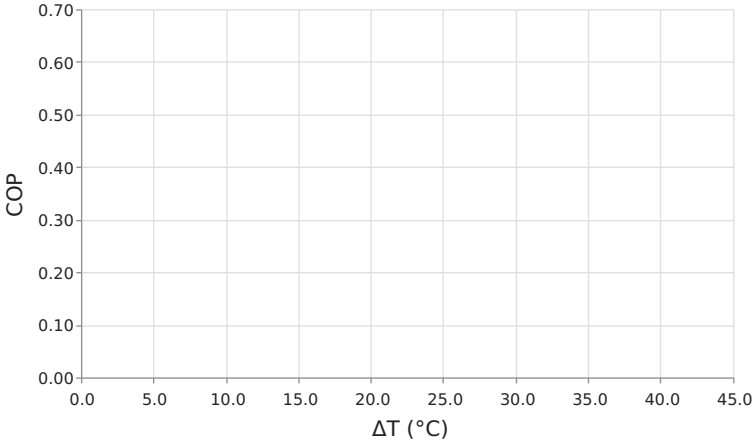
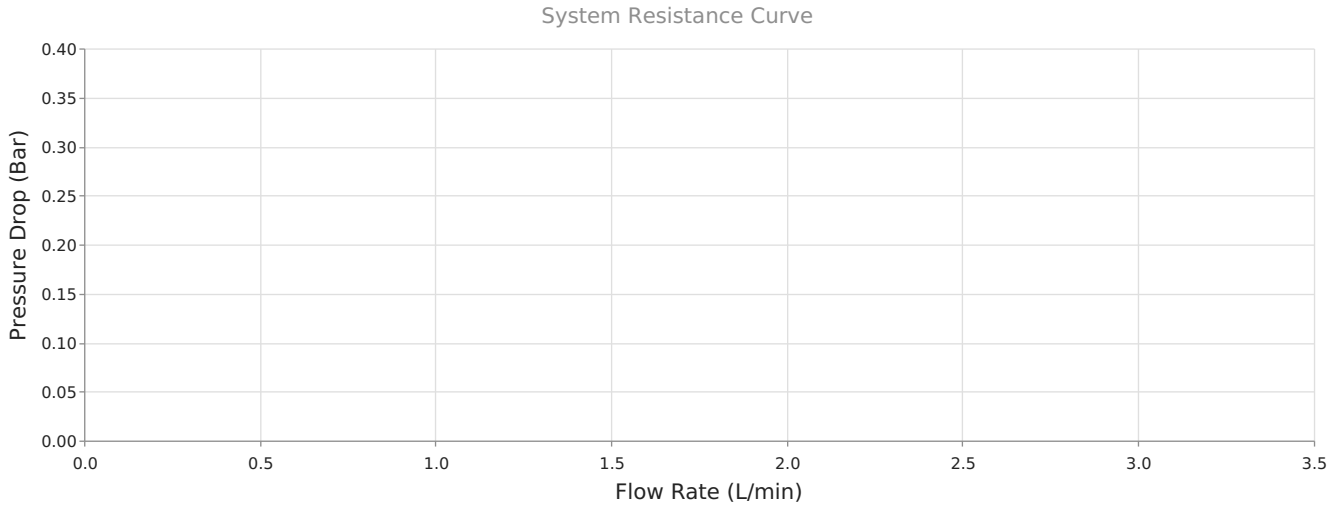
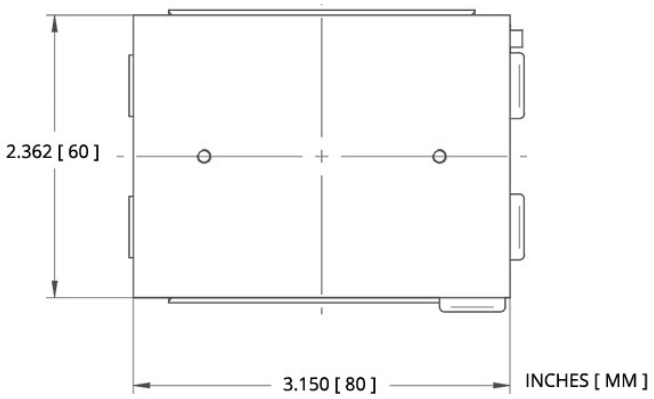




Specifications

Heat Transfer Mechanism, Cold Side	Liquid - Forced Convection
Heat Transfer Mechanism, Hot Side	Air - Forced Convection
Operating Temperature Range	-10°C to 48°C
Supply Voltage	24.0 VDC nominal / 30.0 VDC maximum
Current Draw	1.4 A running / 1.7 A startup
Power Supply	34.0 Watts
Performance Tolerance	10%
Hi-Pot Testing	No Testing
Fan MTBF	50000 hours
Weight	0.50 kg
Panel Mounting	Flush Mount

Mounting Hole Location



Electrical Connections

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

Notes

[1]For indoor use only
[2]Turbulators are mounted inside liquid channels to create turbulent flow
[3]Cold block requires insulation to minimize moisture buildup under dew point conditions.

Revision: 01 Date: 06-08-2023

Print Date: 05-12-2025