

## Liquid-to-Liquid Thermoelectric Assembly



### Thermoelectric cooling unit for medical and industrial laser applications

The Liquid-to-Liquid Series thermoelectric assembly (TEA) offers dependable, compact performance by cooling objects via liquid to transfer heat. Heat is absorbed through one liquid heat exchanger and dissipated thru a second liquid heat exchanger. The thermoelectric modules are custom designed to achieve a high coefficient of performance (COP) to minimize power consumption. This product series is available in a wide range of cooling capacities and voltages. Custom configurations are available, however, MOQ applies.

Heat exchangers are 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 form factor
- Reliable solid-state operation
- Precise temperature control
- Bi-metal thermostat for overheat protection
- RoHS compliant

### APPLICATIONS

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

Americas: +1.919.597.7300

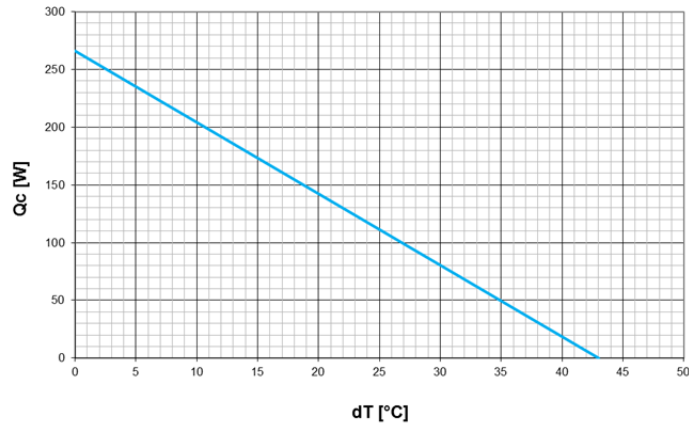
Europe: +46.31.420530

Asia: +86.755.2714.1166

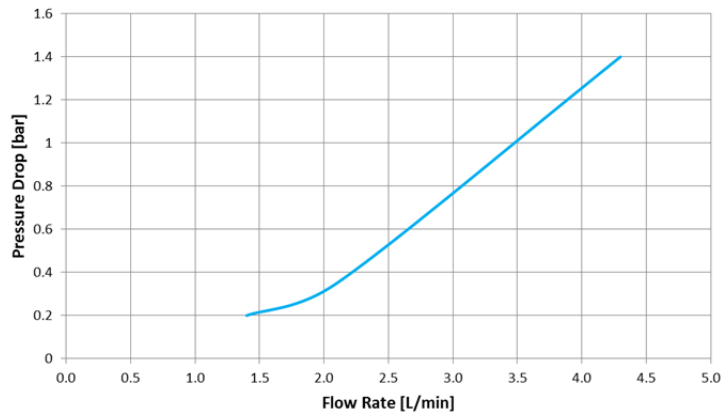
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[www.lairdtech.com](http://www.lairdtech.com)

**Qc vs dT**



**Flow Rate vs Pressure Drop**



**SPECIFICATIONS**

**TECHNICAL**

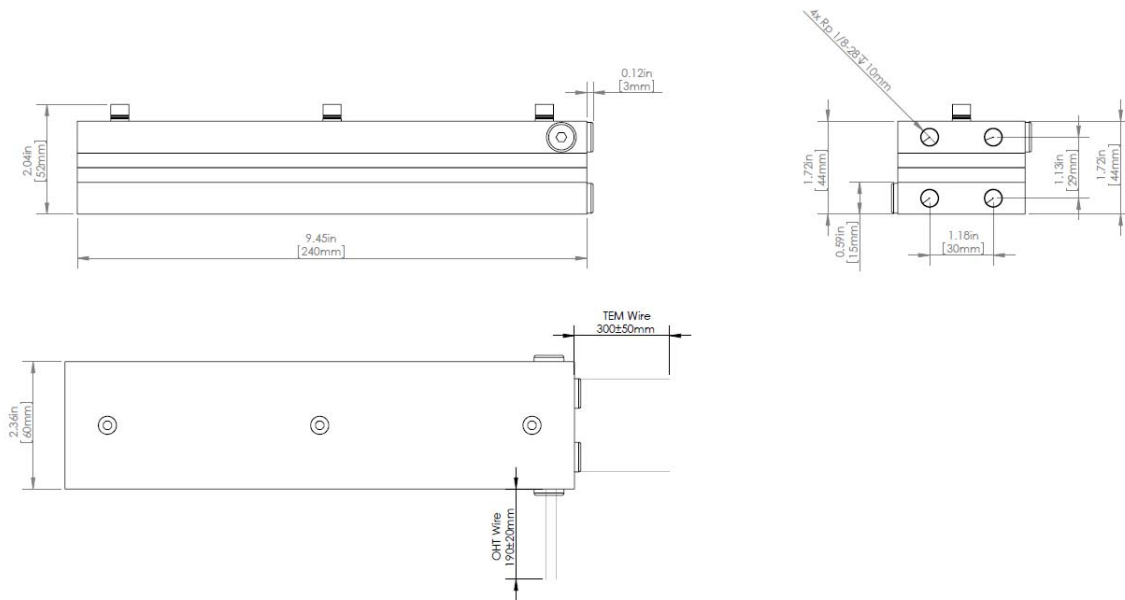
Technology	Thermoelectric modules, liquid cooling, closed loop (non-mixing), filterless, non-refrigerant
Cooling at $\Delta T = 0^{\circ}\text{C}$	266W (907 Btu/h)
Voltage (nominal / maximum) <sup>1</sup>	24/28 VDC
COP (Coefficient of Performance)	71%
Grounding (all voltages)	Positive or negative
Current draw, $\pm 10\%$ (nominal / startup)	7.9/8.5 A
Weight	1.4 kg (3.1 lbs)
Connector type (on unit / mating side)	TEM: Leads, 18 AWG, Red/Black OHT: Leads,

**ENVIRONMENTAL**

Temperature range	-40°C to +62°C (-40°F to +143°F)
Hi-pot testing	750 VDC
Over temp Thermostat	75°C $\pm$ 5°C (167°F $\pm$ 41°F) on hot side heat sink

1) Max ripple 5%

**MECHANICAL DRAWING**



For overheating protection, the cooler is equipped with a bimetal thermostat. The maximum rating for the thermostat is 8 A. For systems with 8 A or less, the thermostat can be connected directly in series with the thermoelectric modules (TEMs). Otherwise, connect the TEMs to the power source through a relay of suitable rating which state is controlled with the bimetal thermostat.

Note: Cold side heat exchanger requires insulation to minimize moisture buildup under dew point conditions.

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- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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## JONHON

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Разъемы специального, военного и аэрокосмического назначения:

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«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

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