

## Affinity® Thermal Control Products from Lydall

Lydall Affinity® thermal control solutions are designed and built to your manufacturing specifications, and are focused on reducing energy consumption. High-performance refrigerated and non-refrigerated chillers, and heating systems in compact, modular and user-friendly designs, deliver process temperature ranges of -80°C to +200°C.

Innovative, modular design.

Reliable performance.

Flexible applications.

# Thermoelectric Chiller *for Plasma Etch Processes*

*As chip feature size and complexity continue to grow, process parameters will require tighter control and reduced process impact to meet ever evolving technology demands.*

Lydall Industrial Thermal Solutions is proud to **announce a new line of products** to enable future process requirements capable of tighter temperature stability control, which significantly reduces process variability from wafer-to-wafer.

### System Features

- Thermoelectric (TE) technology delivers 5x temperature control/stability
- Fast, proactive temperature control to thermal load changes
- 10X less power required than equivalent refrigerated chiller for typical etch process
- Over 3X smaller size and weight
- Over 2X improved MTBF, only two moving parts: pump and cooling fan

### Customer Benefits

- +/- 0.03°C @ constant load; +/- 0.2°C @ 500 W cyclic load
- Eliminates first wafer effect and greatly improves wafer-to-wafer process repeatability
- Over \$4,500 annual savings; 4.2KW annual power savings and lowest CoO
- 19" Rack mount; 3 or 6 Bay Cabinet reduces fab footprint many times over
- System reliability > 61,750 MTBF hrs based upon installed base



Now you have a choice.

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

# Thermoelectric *Chiller*

## System Performance Characteristics

Model Nomenclature	TR1200
Part #	36463
MET Listed	Yes
CE Marked	Yes
Semi S2 Compliant	Yes
Cooling Capacity	1200 watts @ 25 °C (77° F)
Process Temperature Range	-10° C to + 80° C
Process Fluid – Standard	Galden HT
Process Fluid - Options	Fluorinert, Novec 7000 series
Process Flow and Pressure	4 gpm @ 33 psi; 100 psi maximum (15.1 lpm @ 2.3 bar; 6.9 bar max)
Process Temperature Stability	+/- .03° C
In-Line Process Heater	N/A
Heat Dissipation	Water Cooled
Facility Water Requirements	1 - 2 gpm @ 10 - 35° C
Facility Water Connections	1/2" Swagelok
Ambient Temperature Range	4° - 30° C (40 - 86 oF)
Dimensions	19"L x 8.7"H x 24" W
Weight	75 lbs
Voltage	200 – 240 Volt, 1 phase, 50/60 Hz
Total Amperage	7 amps
Maximum Fuse Disconnect	15 amps
Communication Options	Analog, GPIB, RS 485, CHX & RS 232, Labview DeviceNet, LON Works
Pump/Reservoir	Expansion Tank
Coolant Loop	N/A



Now you have a choice.

New Hampshire: 1-603-539-3600

Germany: 49-8709-926-10

Texas: 1-512-442-2832

Singapore: 65-6841-6283

California: 1-510- 249-9100

Taiwan: 886-3-578-1585

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