

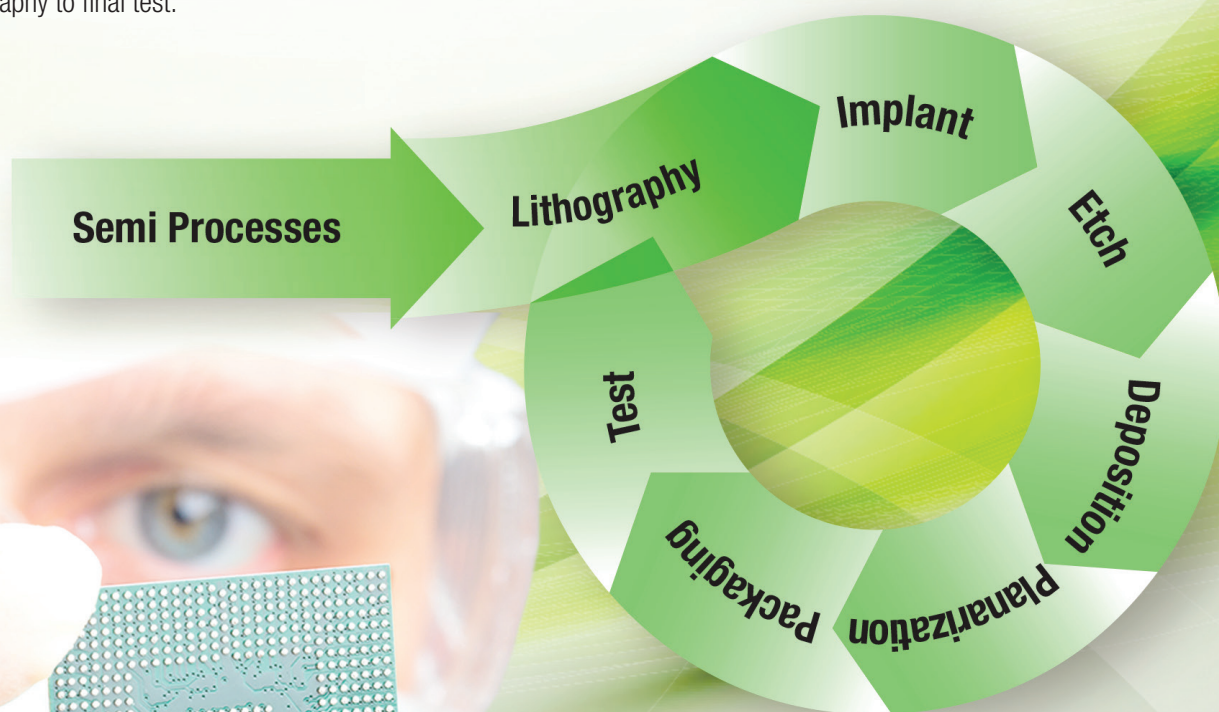
A large, detailed microchip is visible in the top left corner, showing intricate circuit patterns. The background is a gradient of green and yellow, with a circular graphic element in the center.

Thermo Scientific Recirculating Chillers,
Heat Exchangers and Custom Solutions

Supporting your Semi Processes

From front end to back end

Whether it is lithography, implant, etch, deposition, planarization, packaging or semiconductor testing, Thermo Scientific™ recirculating chillers and heat exchangers support your entire process from front end to back end. With over 30 years of temperature control expertise in the Semiconductor industry, we offer standard, and specially customized products, temperature control technical expertise, and a global service footprint to help meet your demanding Semi processes from lithography to final test.

A close-up image of a person's hand holding a small, square microchip. The chip has a grid of pins and a central square area. The person's face is partially visible in the background, looking at the chip.

Thermo
SCIENTIFIC



**Thermo Scientific™
Merlin™
Recirculating Chiller**

**Thermo Scientific™
ThermoFlex™
Recirculating Chiller**



**Thermo Scientific™
Custom Capabilities**

Thermo Scientific Product	ThermoFlex Chillers										
Model	ThermoFlex 900 ¹	ThermoFlex 1400 ¹	ThermoFlex 2500 ¹	ThermoFlex 3500 ¹	ThermoFlex 5000 ¹	ThermoFlex 7500 ¹	ThermoFlex 10000 ¹	ThermoFlex 15000 ¹	ThermoFlex 20000 ¹	ThermoFlex 24000 ¹	
Cooling Capacity 60 Hz	900 W	1,400 W	2,500 W	3,500 W	5,000 W	7,500 W	10,000 W	15,000 W	20,000 W	24,000 W	
Cooling Capacity 50 Hz	750 W	1,170 W	2,200 W	3,050 W	4,400 W	6,425 W	8,500 W	12,525 W	16,700 W	21,000 W	
Heater Capacity (up to)	N/A	2,300 W	2,300 W	2,300 W	2,300 W	6,100 W	6,100 W	N/A	N/A	23,400 W	
Temperature Range	5 °C to 40 °C	5 °C to 90 °C	5 °C to 90 °C	5 °C to 90 °C	5 °C to 90 °C	5 °C to 90 °C	5 °C to 90 °C	5 °C to 40 °C	5 °C to 40 °C	-5 °C to 50 °C	
Temperature Stability	± 0.1 °C	± 0.1 °C	± 0.1 °C	± 0.1 °C	± 0.1 °C	± 0.1 °C	± 0.1 °C	± 0.1 °C	± 0.1 °C	± 0.1 °C	
Condenser; Air or Water Cooled	Air Cooled	Air or Water Cooled	Air or Water Cooled	Air or Water Cooled	Air or Water Cooled	Air and Water Cooled	Air or Water Cooled	Air or Water Cooled	Air or Water Cooled	Air or Water Cooled	
Anti Drain Back	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Auto Refill	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Flow Control With Readout	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Pump Performance 60 Hz	4.0 gpm @ 60 psid (15.1 lpm @ 4.1 bar)			15 gpm @ 57 psid (56.8 lpm @ 3.9 bar)			20 gpm @ 60 psid (75.7 lpm @ 4.1 bar)				
Pump Performance 50 Hz	3.3 gpm @ 60 psid (12.5 lpm @ 4.1 bar)			15 gpm @ 34 psid (56.8 lpm @ 2.3 bar)			20 gpm @ 35 psid (75.7 lpm @ 2.4 bar)				
Fluid Filtration	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
DI Support	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Fluorinert Compatible	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Communications	Digital / Analog	Digital / Analog	Digital / Analog	Digital / Analog	Digital / Analog	Digital / Analog	Digital / Analog	Digital / Analog	Digital / Analog	Digital / Analog	
Global Voltage ⁴	✓	✓	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	
Power Options	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	
Compliance	CE, CSA	CE, CSA	Semi S2, CE, CSA	Semi S2, CE, CSA	Semi S2, CE, CSA	Semi S2, CE, CSA	Semi S2, CE, CSA	CE, CSA	CE, CSA	CE, CSA	

¹ Specifications obtained at sea level using water as the recirculating fluid, at a +20°C process set point, +25°C ambient condition, at nominal operating voltage. Cooling capacity based on chillers with P2 pumps with no back-pressure. Specifications subject to change. Multiple pump options are available; other pumps will affect cooling capacity performance.

² Specifications obtained at sea level using 50/50 ethylene glycol/water mixture as the recirculating fluid at a +20°C process set point, +20°C ambient condition, at nominal operating voltage. Other fluids, process temperatures, ambient temperatures, altitude or operating voltages will affect performance. Specifications subject to change. Cooling capacity based on unit with PD1 pumps with no back-pressure. Other pumps will affect cooling capacity performance.

³ Specifications obtained using water as the recirculating fluid with a 10 °C process to facility water temperature delta. Different facility water temperatures will result in different cooling capacities. Specifications subject to change.

⁴ Select the appropriate frequency and voltage to enable operation anywhere in the world.

⁵ Specifications obtained at sea level using water as the recirculating fluid, at a 20 °C process setpoint, 20 °C ambient condition, at nominal operating voltage. Other fluids, process temperatures, ambient temperatures, altitude or operating voltages will affect performance.”

Key Features:

- Unique engineered thermal control solutions for your specific applications
 - *Specialized temperature stability technology: up to +/- .001 °C*
 - *Stainless Steel availability to minimize corrosion*
 - *Low pulsations*
 - *Low noise*
- Experienced in the use of HFE (fluorinated) specialty fluids
- Full SEMI compliance available including:
 - SEMI S2/S8/S14/F47
 - CSA/UL
 - CE
 - RoHS
 - WEEE



Merlin Chillers					ThermoChill Chillers			System Water to Water Heat Exchangers				SWX 100 Water to Water Heat Exchanger	Custom
Merlin M25 ²	Merlin M33 ²	Merlin M75 ²	Merlin M150 ²		ThermoChill I	ThermoChill II	ThermoChill III	System I	System II	System III	System IV		
741 W	1,142 W	2,156 W	4832 W		700 W ⁵	1,000 W ⁵	2,000 W ⁵	14,000 W ³	34,000 W ³	70,000 W ³	100,000 W ³	100,000 W ³	0 to 300,000 W
N/A	1,142 W	2,156 W	4,282 W		600 W ⁵	900 W ⁵	1,900 W ⁵	14,000 W ³	34,000 W ³	70,000 W ³	100,000 W ³	100,000 W ³	0 to 300,000 W
N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	22.5 kW
-15 °C to 35 °C	-15 °C to 35 °C	-15 °C to 35 °C	-15 °C to 35 °C		-10 °C to 30 °C	-10 °C to 30 °C	-10 °C to 30 °C	5 °C to 35 °C	5 °C to 35 °C	5 °C to 45 °C	5 °C to 40 °C	10 °C to 40 °C	-95 to 300 °C
± 0.1 °C	± 0.1 °C	± 0.1 °C	0.15 °C "		± 0.1 °C	± 0.1 °C	± 0.5 °C	± 1.0 °C	± 1.0 °C	± 1.0 °C	± 1.0 °C	± 1.0 °C	± 0.001 °C
Air Cooled	Air Cooled	Air Cooled	Air Cooled		Air Cooled	Air Cooled	Air Cooled	N/A	N/A	N/A	N/A	N/A	Air or Water Cooled
N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓
N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	✓	✓	✓	✓
N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓
1.4 gpm @ 60 psi (5.3 lpm @ 4.1 bar)	3 gpm @ 60 psi (11.4 lpm @ 4.1 bar)				1.4 gpm @ 60 psi (5.3 lpm @ 4.1 bar)	3.6 gpm @ 60 psi (13.6 lpm @ 4.1 bar)		3 gpm @ 60 psi (11.4 lpm @ 4.1 bar)	6 gpm @ 60 psi (22.7 lpm @ 4.1 bar)	12 gpm @ 30 psi (45.4 lpm @ 2.1 bar)	50 gpm @ 60 psi (189.3 lpm @ 4.1 bar)	37 gpm @ 100 psi (140 lpm @ 6.9 bar)	As Specified
N/A	2.5 gpm @ 60 psi (9.5 lpm @ 4.1 bar)				1.2 gpm @ 60 psi (4.5 lpm @ 4.1 bar)	2.5 gpm @ 60 psi (9.4 lpm @ 4.1 bar)		2.5 gpm @ 42 psi (9.4 lpm @ 2.9 bar)	5 gpm @ 42 psi (18.8 lpm @ 2.9 bar)	10 gpm @ 20 psi (37.7 lpm @ 1.4 bar)	41.5 gpm @ 42.1 psi (157 lpm @ 2.9 bar)	37 gpm @ 100 psi (140 lpm @ 6.9 bar)	As Specified
✓	✓	✓	✓		N/A	N/A	N/A	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓		N/A	N/A	N/A	✓	✓	✓	✓	✓	✓
N/A	N/A	✓	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
Digital	Digital	Digital	Digital		RS232	RS232	RS232	N/A	N/A	N/A	N/A	Analog	Digital / Analog
N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
115V 60Hz	Multiple	Multiple	Multiple		Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	380-460 50/60 three phase	Multiple
CE	CE	CE	CE		CE, UL	CE, UL	CE, UL	CE	CE	CE	CE	Semi S2, CE	Semi S2, CE, CSA, UL



Protect your investment.

Your process depends on consistent performance through dependable

products. From startup and inspection to full refurbishment, we provide complete global service solutions to match your needs, backed by factory certified repairs and maintenance.

Thermo Fisher Scientific Temperature Control Global Footprint

Providing a global service network of Direct and Authorized Service professionals to support our customers worldwide with:

- Regional Call Centers
- Regional Service Centers
- Regional Dealer Networks



Supported Thermo Scientific Products Include:

- Steelhead
- Endura SYS III
- DIMax, DIMax II
- HTD
- ThermoChill System
- MX500/900
- HX 150/300
- CFT
- ThermoFlex
- SWX
- All Neslab brands

We support some other manufacturers equipment as well.

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and set up your free evaluation.

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