

thermoscientific



## Thermo Scientific Polar Series Cooling/Heating Recirculating Chillers

Dynamic, reliable, efficient



**ThermoFisher**  
SCIENTIFIC

# The Ideal Fit

Temperature control products for a wide range of applications



As an innovative leader in temperature control, we have the expertise to enable you to optimize your liquid cooling and heating applications while increasing productivity and reducing operating costs. With over 50 years of industry leading service and countless successful installations around the world, we collaborate with you to provide product and applications expertise to meet the most demanding temperature control requirements. From bio-tech and pharmaceutical to printing and semiconductor applications, world class companies and industry leaders continue to make Thermo Scientific temperature control products their first choice.

Select the product that is right for your application from the most comprehensive portfolio of temperature control solutions that deliver scalable product offerings ranging from bench top research to large process manufacturing. Our new and innovative products – developed from customer feedback – represent a giant leap forward in performance, configurability and technology and provide unparalleled advantages including:

**A Flexible Choice:** We have options to help you configure a flexible, cost-effective temperature control system that suits your specific requirements.

**Innovation:** Our research and development team is focused on designing innovative products based on your feedback.

**Global Service and Support:** With our extensive global footprint, as well as, service and support capabilities, we can support you anywhere in the world.



# Thermo Scientific Accel 250 LC and Accel 500 LC

Designed with you in mind



**Dynamic:** Designed to provide temperature control with the flexibility needed for demanding applications and performance requirements, while fitting into your laboratory with minimal requirements for energy.

**Reliable:** Built for the high quality and reliability you demand, using proven refrigeration components and manufacturing methods to ensure a robust product that you can depend on for years of operation.

**Efficient:** Compact, powerful cooling/heating recirculating chillers not only perform to specifications but do so with minimal footprint, efficient use of energy, and little disruption to your quiet laboratory, with less than a 58 dBA rating.

The Polar series is ideal for closed-and open-looped applications up to 500 watts. Each easy-to-use chiller offers a wide range of cooling for quick ramp-up and cool-down of your application. Set your desired temperature with models featuring custom temperature control capabilities.

#### **Typical Applications:**

- Chemical Reaction Control
- Separations
- Life Science Instrumentation
- Mass Spectroscopy
- Molecular Spectroscopy
- Atomic Spectroscopy
- Surface Science
- Materials Characterization
- Laboratory Automation
- General Laboratory Instrumentation

# Thermo Scientific Polar Series Cooling/Heating Recirculating Chillers

- Intuitive HMI interface with digital control and readout for easy navigation.
- Small internal reservoir and high cooling capacities translate into fast temperature ramp times.
- Ergonomic design fill, drain and control from the front. No need to reposition the machine to fill or drain.
- Small footprint allows you to place multiple units right next to each other.
- Additional Features:
  - Overflow tube
  - Extremely quiet operation – less than 58 dBA
- Available Options:
  - Pump options available for increased pressure and flow for demanding applications
  - USB port for serial communication
  - Low liquid level warning and alarm



All user interface points are located on the front of the unit for quick and easy handling.

## Front Panel System Control

All user interface points are located on the front of the unit for quick and easy handling.



Cover protects against inadvertent dislodging of the fill tube.



All units include funnel accessory for easy filling.



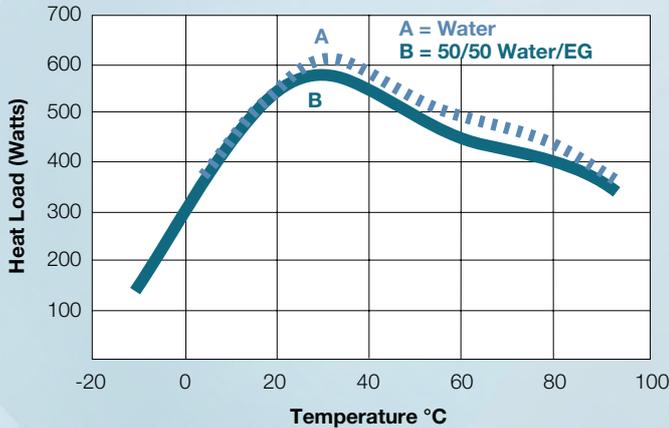
Site tube on the front of the unit allows for quick indication of the fluid level.



Flexible fill tube on the front panel enables unit to be drained quickly.

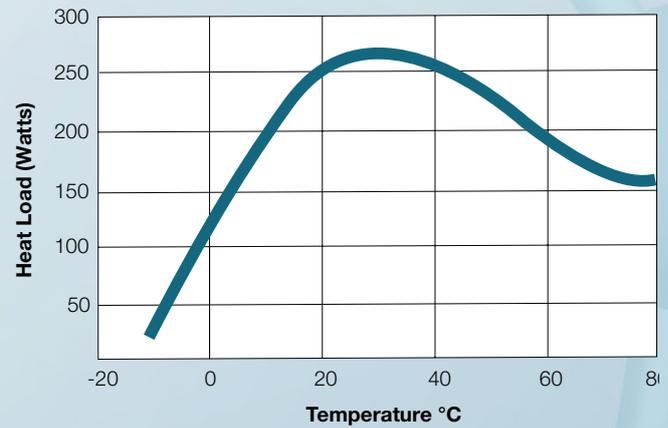
# Performance Curves

**Cooling Capacity Accel 500  
Heat Load Capacity<sup>1,2</sup>**



1. Accel 500 specifications obtained at sea level at a 20°C process setpoint, 20°C ambient condition, at nominal operating voltage. Other fluids, process temperatures, ambient temperatures, altitude or operating voltage will affect performance.
2. LT/HT chiller results obtained using medium pump speed.

**Cooling Capacity Accel 250  
Heat Load Capacity<sup>3</sup>**



3. Accel 250 specifications obtained at sea level using water (above 5°C) and 50/50 Water/EG (<5°C) 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 voltage will affect performance.

## Specifications

	Accel 250 LC	Accel 500 LC	Accel 500 LT	Accel 500 LT/HT
Working Temperature Range	-10°C to +80°C (+14°F to +176°F)	-10°C to +80°C (+14°F to +176°F)	-25°C to +80°C (-13°F to +176°F)	-25°C to +95°C (-13°F to +203°F)
Cooling Capacity at 20° C	250 W / 853 BTU	500 W / 1706 BTU		
Force Pump Maximum Flow Maximum Pressure	15 lpm (3.96 gpm) 805 mbar (11.7 psi)		—	
Force-Suction Pump Maximum Flow Maximum Pressure	21 lpm (5.5 gpm) 805 mbar (11.7 psi)			
Heating Capacity at 20° C 230 V / 50 Hz 115 V / 60 Hz 220 V / 60 Hz 100/50-60 Hz and 220/60 Hz (not available 500 LT/HT)	2.0 kW / 6829 BTU 1.2 kW / 4097 BTU 1.8 kW / 6146 BTU 0.9 kW / 3073 BTU			
Temperature Stability	±0.1°C			
Reservoir Volume	2.8 liters (0.74 gallons)			
Unit Weight	30 kg (66 lb)			
Physical Dimensions (H x W x D)	24.8 x 9.1 x 19.2 in (62.0 x 23.2 x 48.7 cm)			
Compliance	CE/RoHS/UL			
Warranty	2 Years			

Specifications obtained at sea level using water (above +5°C) and 50/50 EG/Water (<5°C) 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 voltage will affect performance. Cooling capacity based on units with force pump at max flow. Other pumps and flow rates will affect cooling capacity performance. Pump specifications are nominal values of ±10%. Specifications are for reference only and are subject to change.

## Ordering Information

Product	Cat. No.			
	115V / 60 Hz	100 V / 50-60 Hz	220-230 V / 50 Hz	220 V / 60 Hz
<b>Accel 250 LC Cooling/Heating Recirculating Chiller</b>				
Force Pump with USB & Low Level Switch	223312800	223312600	223312100	223312900
Force / Suction Pump with USB & Low Level Switch	223412800	223412600	223412100	223412900
<b>Accel 500 LC Cooling/Heating Recirculating Chiller</b>				
Force Pump with USB & Low Level Switch	223322800	223322600	223322100	223322900
Force / Suction Pump with USB & Low Level Switch	223422800	223422600	223422100	223422900
<b>Accel 500 LT Cooling/Heating Recirculating Chiller</b>				
Force / Suction Pump with USB & Low Level Switch	223432800	223432600	223432100	223432900
<b>Accel 500 LT/HT Cooling/Heating Recirculating Chiller</b>				
Force / Suction Pump with USB & Low Level Switch	223432801	—	223432101	—
<b>Accessories</b>				
USB Interface Cable (1.8 m)			1600033	
Trolley with Locking Casters			1600122	
Magnetic Condenser Air Filter			096270	
Supply and Return Tubing - Non-Insulated			1600146	
Supply and Return Tubing - Insulated			1600147	
Insulated Flex SS Tubing w/M16x1 Threaded Fittings (0.5 m)			3330292	
Insulated Flex SS Tubing w/M16x1 Threaded Fittings (1.0 m)			3330293	
Insulated Flex SS Tubing w/M16x1 Threaded Fittings (1.5 m)			3330294	

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