

**Typical Applications**

*Chemical Reaction Control*

*Separations*

*Life Science Instrumentation*

*Mass Spectroscopy*

*Molecular Spectroscopy*

*Atomic Spectroscopy*

*Surface Science*

*Materials Characterization*

*Laboratory Automation*

*General Laboratory Instrumentation*



**New! Thermo Scientific Polar Series**  
Cooling/Heating Recirculating Chillers

**dynamic,**  
reliable and efficient

**Thermo**  
SCIENTIFIC



## Introducing the **NEW Thermo Scientific Accel 250 LC and Accel 500 LC**

**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 full range cooling for quick ramp-up and cool-down of your application.

### **Designed with you in mind:**

- The internal reservoir optimizes chiller performance.
- The compact design maximizes work space and increases efficiency in the laboratory.
- Built-in energy-saving feature which limits power consumption for efficient operation.
- Includes external circulation plumbing with 8mm and 12mm hose barbs and clamps

# The Perfect Fit

Temperature control  
products for  
any application



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 Perfect Fit:** Whatever your application or your budget, you can configure the most 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, service and support are readily available by phone or the web.

# Thermo Scientific Polar Series

## Cooling/Heating Recirculating Chillers

**Intuitive HMI interface** with digital control and readout for easy navigation

**Small internal reservoir** and cooling capacities translate into fast temperature ramp times

**System control** allows easy operation and fill-and-drain procedure

Easily accessible from the front panel so there is no need to reposition the machine to fill or drain

**Air-cooled refrigeration** system 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 sensor to warn and alarm user of low level condition



#### Specifications

##### Working Temperature Range

##### Cooling Capacity at +20°C

##### Force

Maximum Flow

Maximum Pressure

##### Force / Suction Pump

Maximum Flow

Maximum Pressure

##### Heating Capacity at +20°C

230 V / 50 Hz

115 V / 60 Hz

220 V / 60 Hz

100 V / 50-60 Hz

##### Temperature Stability

##### Reservoir Volume

##### Unit Weight

##### Physical Dimensions

(H x W x D)

##### Compliance

##### Warranty

*Specifications obtained at sea level using water (above +5°C) and ambient condition, at nominal operating voltage. Other fluids, properties, and conditions may vary. Cooling capacity based on units with force pump at max flow. Other nominal values of ±10%. 100 V / 50-60 Hz units are de-rated by 10% and are subject to change.*

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**

Available in  
June 2011

**Accel 250 LC | Accel 500 LC | Accel 500 LT**

-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)
250 W / 853 BTU	500 W / 1706 BTU	500 W / 1706 BTU
15 lpm (3.96 gpm)	15 lpm (3.96 gpm)	—
300 mbar (4.4 psi)	300 mbar (4.4 psi)	—
	21 lpm (5.5 gpm)	
	805 mbar (11.7 psi)	
	2 kW / 6829 BTU	
	1.2 kW / 4097 BTU	
	1.8kW / 6146 BTU	
	.9kW / 3073 BTU	
	±0.1°C	
	2.8 liters (0.74 gallons)	
	30 kg (66 lb)	
	24.8 x 9.1 x 19.2 in (62.0 x 23.2 x 48.7 cm)	
	CE/RoHS/UL	
	2 years	

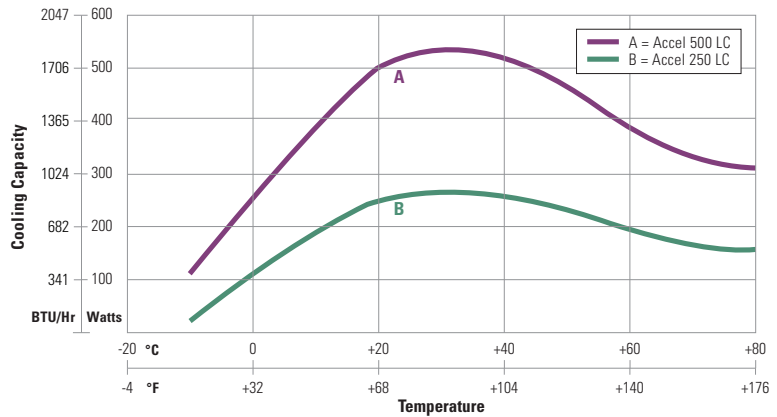
Use distilled water (<5°C) as the recirculating fluid at a +20°C process setpoint, +20°C process temperatures, ambient temperatures, altitude or operating voltage will affect performance. Pump specifications are for reference only and may vary ±15% for maximum pressure and maximum flow. Specifications are for reference only and



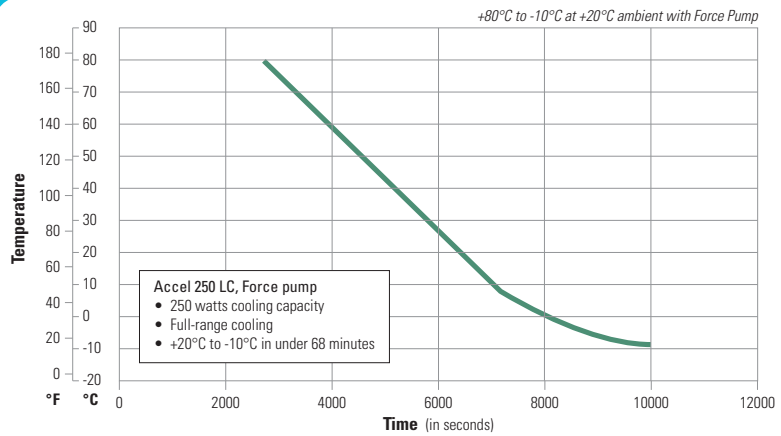
Flexible fill tube on the front panel enables unit to be drained quickly

# performance curves

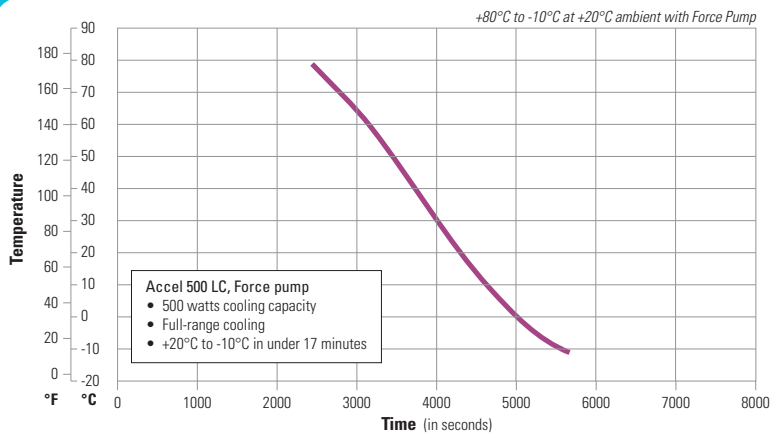
## Cooling Capacity



## Time to Temperature



## Time to Temperature



## Ordering Information

Accel 250 LC Cooling/Heating Recirculating Chiller	115 V / 60 Hz	100 V / 50-60 Hz	220-230 V / 50 Hz	220 V / 60 Hz
Force Pump	223111800	223111600	223111100	223111900
Force Pump with Low Level Switch	221311800	221311600	221311100	221311900
Force Pump with USB	223112800	223112600	223112100	223112900
Force Pump with USB & Low Level Switch	221312800	221312600	221312100	221312900
Force / Suction Pump	223211800	223211600	223211100	223211900
Force / Suction Pump with Low Level Switch	221411800	221411600	221411100	221411900
Force / Suction Pump with USB	223212800	223212600	223212100	223212900
Force / Suction Pump with USB & Low Level Switch	221412800	221412600	221412100	221412900

Accel 500 LC Cooling/Heating Recirculating Chiller	115 V / 60 Hz	100 V / 50-60 Hz	220-230 V / 50 Hz	220 V / 60 Hz
Force Pump	223121800	223121600	223121100	223121900
Force Pump with Low Level Switch	221321800	221321600	221321100	221321900
Force Pump with USB	223122800	223122600	223122100	223122900
Force Pump with USB & Low Level Switch	221322800	221322600	221322100	221322900
Force / Suction Pump	223221800	223221600	223221100	223221900
Force / Suction Pump with Low Level Switch	221421800	221421600	221421100	221421900
Force / Suction Pump with USB	223222800	223222600	223222100	223222900
Force / Suction Pump with USB & Low Level Switch	221422800	221422600	221422100	221422900

Accel 500 LT Cooling/Heating Recirculating Chiller*	115 V / 60 Hz	100 V / 50-60 Hz	220-230 V / 50 Hz	220 V / 60 Hz
Force / Suction Pump with USB & Low Level Switch	223432900	223432600	223432100	223432800

\*Available in June 2011

Accessories	Part Number
Trolley with Locking Casters	1600122
Magnetic Condenser Air Filter	096270
Supply and Return Tubing – Non-Insulated	1600146
Supply and Return Tubing – Insulated	1600147

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