

Section 2 General Information

Description and Intended Use

The Thermo Scientific Accel Series of Cooling/Heating Recirculating Chillers are designed to provide a continuous supply of fluid at a constant temperature and flow rate to an external system. The chiller consists of an air-cooled refrigeration system, heat exchanger, recirculating pump, polyethylene reservoir, and a microprocessor controller.

All chillers have a low liquid level protection device.

Chillers are designed for continuous operation and for indoor use on a work bench or table top only, not floor standing. Use the chiller in accordance with all the procedures and requirements stated in this manual.

Specifications

Process Fluid Temperature Range

Temperature Stability

Cooling Capacity¹

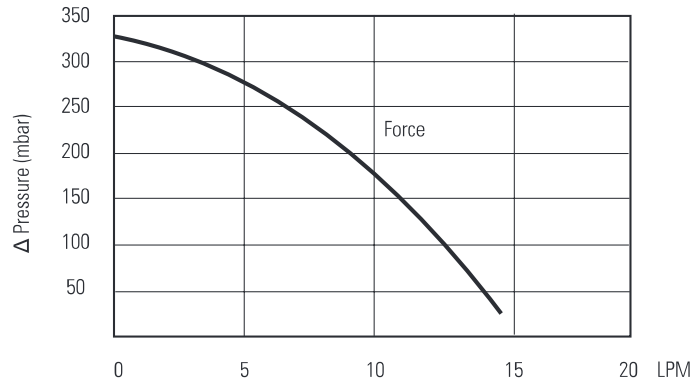
	Accel 250 LC/Accel 500 LC	Accel 500 LT	Accel 500 LT/HT
Process Fluid Temperature Range	-10°C to +80°C +14°F to +176°F	-25°C to +80°C -13°F to +176°F	-25°C to +95°C -13°F to +203°F
Temperature Stability	±0.1°C	±0.1°C	±0.1°C
Cooling Capacity ¹			
Heater Capacity at 20°C 50Hz/60Hz	2.0 / 1.2 Kilowatts	2.0 / 1.2 Kilowatts	2.0 / 1.2 Kilowatts
Nominal Weight kg/lb	30 / 66	30 / 66	30 / 66
Pumping Type ² (see next page for curves)	Force / Force-Suction	Force / Force-Suction	Force / Force-Suction
Maximum Flow Rate lpm gpm	15 / 21 4.0 / 5.5	15 / 21 4.0 / 5.5	15 / 21 4.0 / 5.5
Maximum Pressure mbar psi	300 / 805 4.4 / 11.7	300 / 805 4.4 / 11.7	300 / 805 4.4 / 11.7
Reservoir Volume liters/gallons	2.8 / 0.7	2.8 / 0.7	2.8 / 0.7
Serial Interface	USB	USB	USB

1. 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.

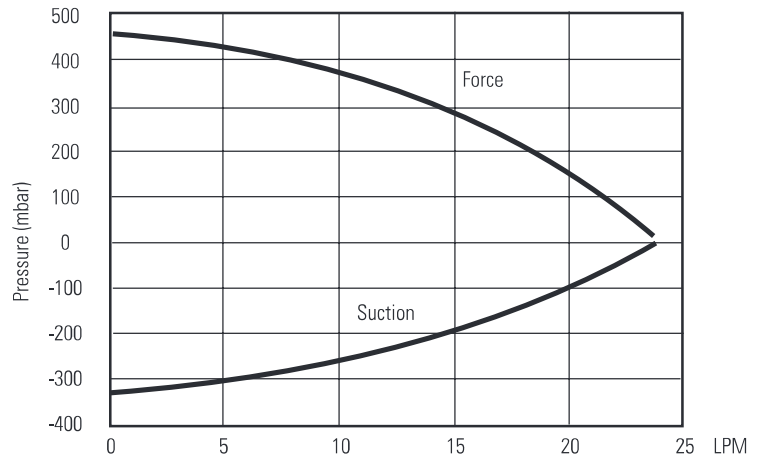
2. Nominal values ±10%. Depends on chiller's pump type, force only or force/suction. Derate 100V/50Hz chillers ~15% for maximum pressure and maximum flow.

• Thermo Fisher Scientific reserves the right to change specifications without notice.

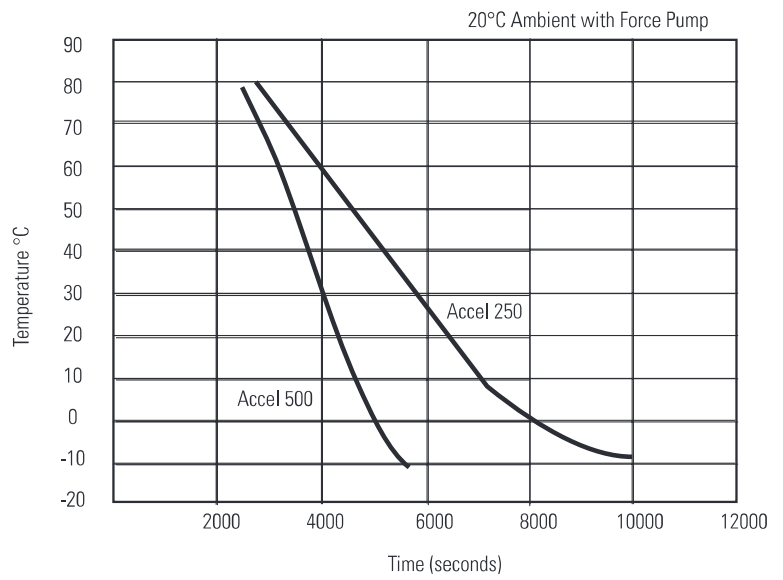
FP1 Pumping Capacity



FP2 Pumping Capacity



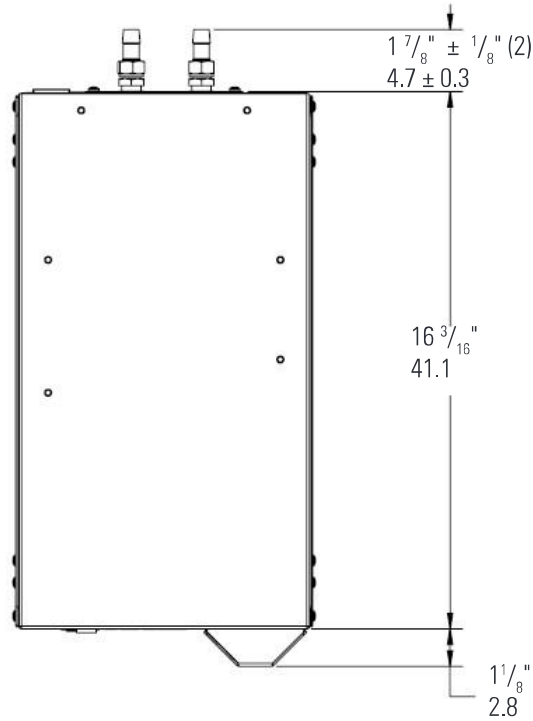
Time to Temperature



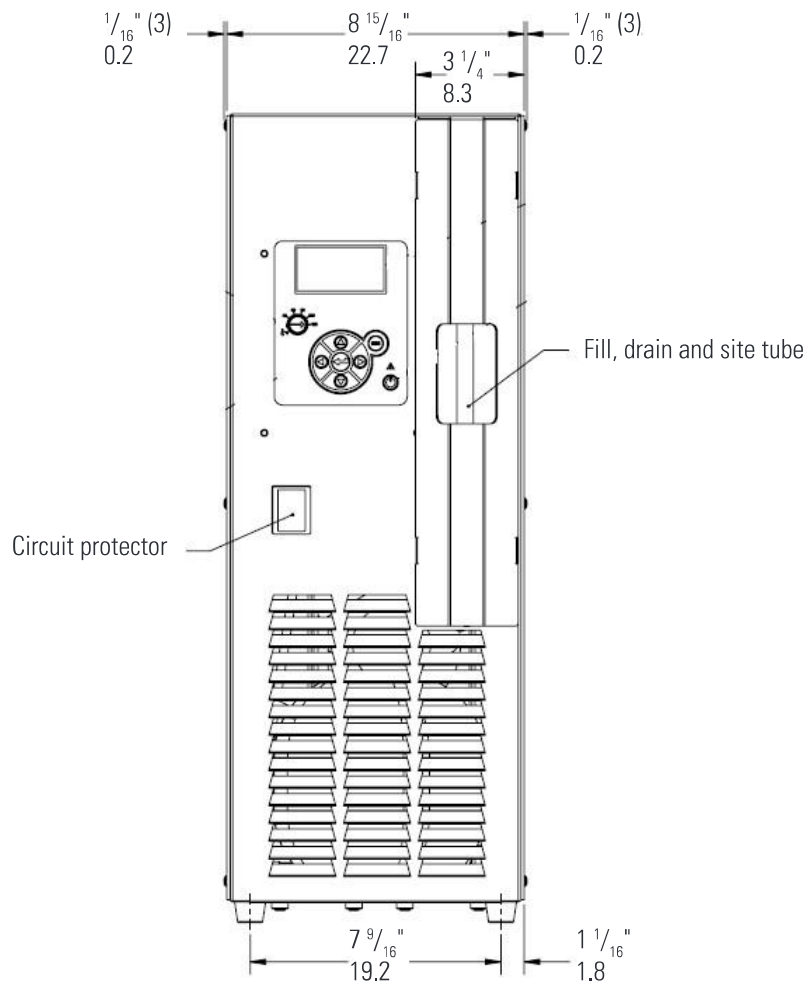
Dimensions
(inches/centimeters)

H x W x D
24.8 x 9.1 x 19.2 in
(62.0 x 23.2 x 48.7 cm)

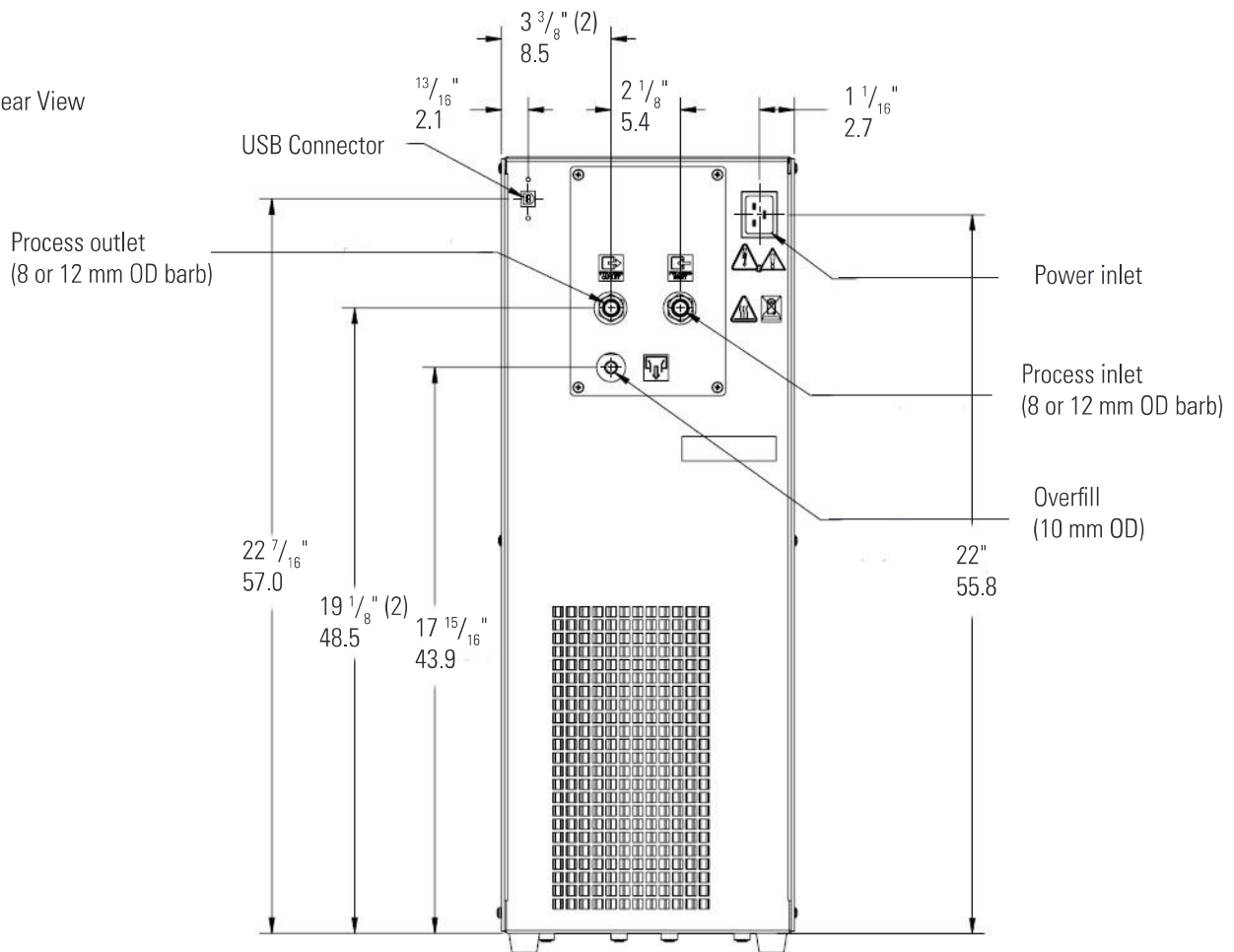
Top View



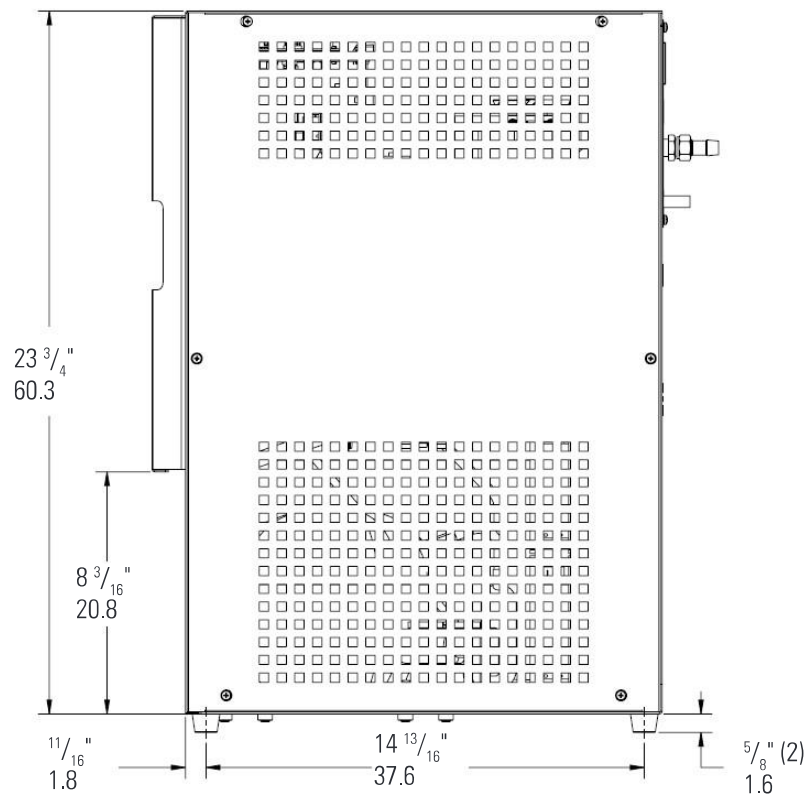
Front View



Rear View



Side View



Equipment Ratings

Compliance	CE
Ambient Temperature Range	10°C to 40°C (50°F to 104°F)
Maximum Relative Humidity (Non Condensing)*	0% to 80% at 31°C (88°F)
Operating Altitude*	Sea Level to 2000 meters (6560 feet)
Overvoltage Category	II
Pollution Degree	2
Degree of Protection	IP 20
Sound Power Level	less than 58 dBA
Refrigerant	6.7 ounces R134A

*Limited by ambient temperature, elevation & operating temperature. Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 35°C Elevation above sea level requires reduction of 1°C/1000m on maximum ambient and 2%/1000m reduction in rated capacity.

The following power options are available:

Volts/Hertz/Phase	Amps ²	Total Wattage	Plug Type
115/60/1	12	1345	N5-15
100/50-60/1	12	1150	N5-15
220- 230/50/1	12	2395	Country Specific
220/60/1	12	2395	Country Specific

1. VAC over the range \pm 10%

2. Maximum amp draw

3. Refer to chiller's nameplate for additional information

Approved Fluids

5°C to 95°C — Distilled Water or Deionized Water (up to 3 MΩ-cm)

Normal tap water leads to calcareous deposits necessitating frequent chiller decalcification. Calcium tends to deposit itself on the heating element. The heating capacity is reduced and service life shortened.

-25°C to 80 °C — 50/50 Water with Laboratory Grade Ethylene Glycol

Refer to Section 3 for additional information.

Wetted Materials

Viton	Stainless Steel 316
EPDM	Stainless Steel 304
Ryton	Ryton
Ultem	
Vectra	