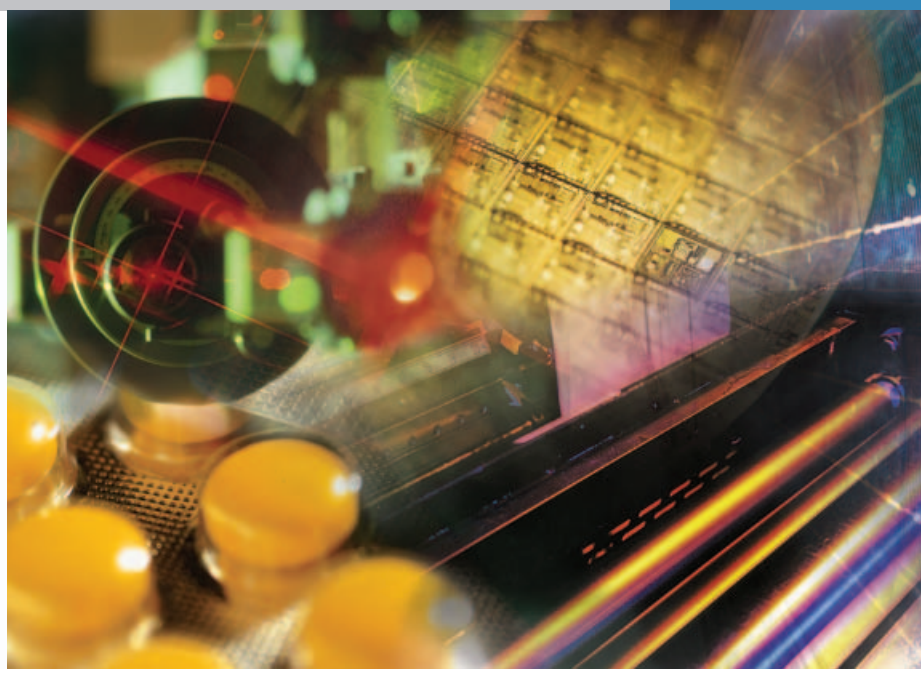
Product Specifications

Versatile, dependable chillers provide years of cooling capability for critical applications that require large process cooling. Cooling capacities up to 20000 watts.

Thermo Scientific NESLAB ThermoFlex

Recirculating Chillers



Ideal for diverse applications within the following markets

- Aerospace
- Industrial
- Laser
- Medical
- Printing
- Semiconductor

Innovative Platform

The Thermo Scientific NESLAB ThermoFlex platform was developed with customer input from concept to design. The result is an easy-to-use, easy-to-maintain high performance chiller platform configurable to the most demanding applications.

Flexible Configuration

- Air-cooled and water-cooled condensers
- Multiple pumping options
- Easy to use controller
- Broad range of available options and accessories

Ease of Use

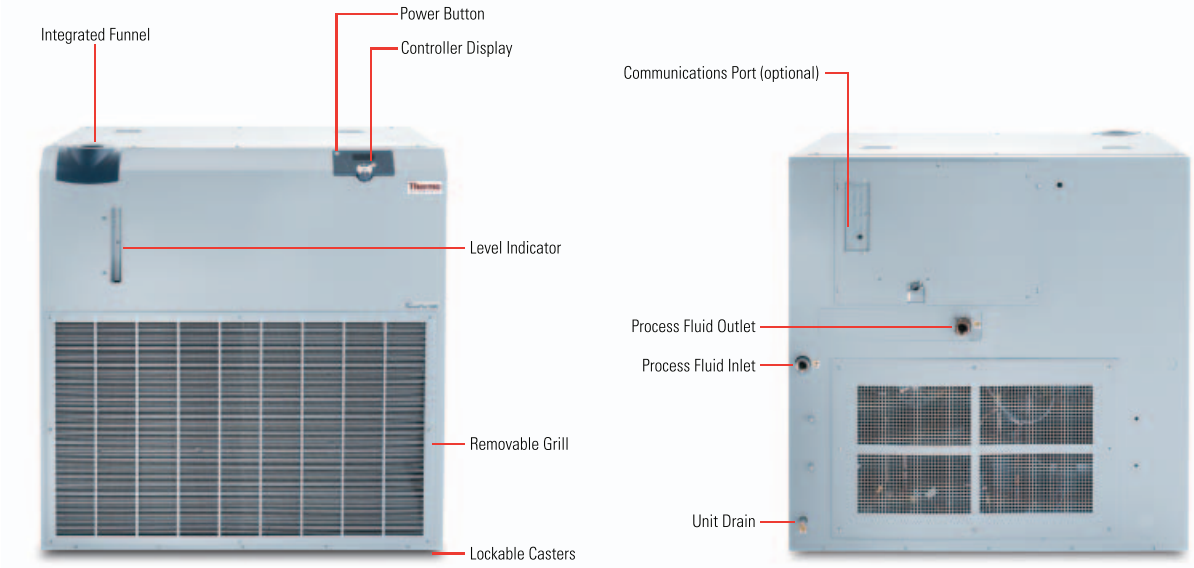
- An intuitive user interface for ease of operation
- Water filters that can be changed while unit is in operation
- Quick start guide for seamless start-up in minutes

Configurable Design

- Wide range of available cooling capacities
- Variety of available options
- Installation flexibility

Innovative Design

Features common to Thermo Scientific NESLAB ThermoFlex models



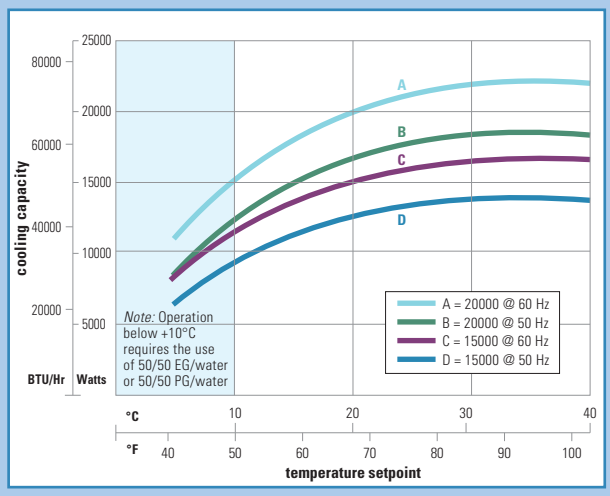
Options

Options include:

Feature	Benefit
Anti Drainback	Prevents fluid from flowing back to the reservoir when the chiller is installed below the application.
Auto Refill	Allows for automatic refilling from a customer-supplied water source to ensure the proper fluid level is maintained.
DI Water	Partial flow internal DI cartridge minimizes footprint and provides fluid resistivity between 1 and 3 mOhm.
Flow Control with Flow Readout	The flow control valve allows the user to adjust the flow to the application. The flow readout allows for monitoring the flow rate to the application via controller readout.
RS232 & RS485 Digital/Analog Communication	Provides analog and digital communication for remote operation, monitoring and data logging. Includes a remote sensor port which allows for remote temperature control of an application when used with remote sensor (available as an accessory).
Air-Cooled Condenser	Uses ambient-temperature room air to remove application heat.
Water-Cooled Condenser	Uses facility water to remove application heat.

Cooling Capacity

Cooling Capacity for NESLAB ThermoFlex 15000/20000



Cooling capacity based on units with P3 pumps set at 10 gpm. Other pumps and flow rates will affect cooling capacity performance. Specifications subject to change.

Patented full flow filter ensures clean fluid to protect your application and maximize recirculation system life.

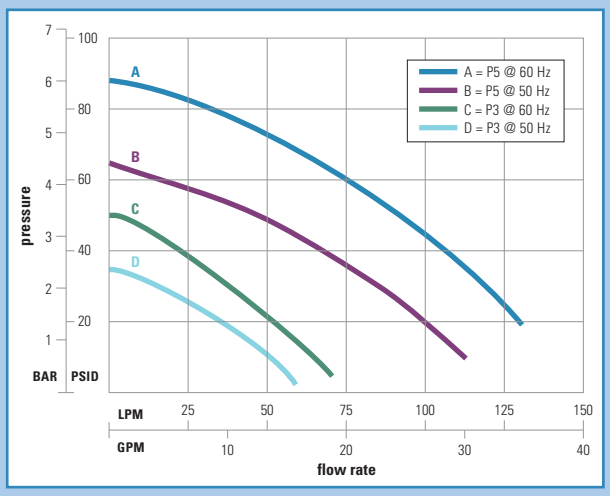
Thermo Scientific NESLAB ThermoFlex

	NESLAB ThermoFlex 15000	NESLAB ThermoFlex 20000
Standard Temperature Range	+5°C to +40°C (+41°F to +104°F)	+5°C to +40°C (+41°F to +104°F)
Ambient Temperature Range	+10°C to +40°C (+50°F to +104°F)	+10°C to +40°C (+50°F to +104°F)
Temperature Stability	±0.1°C	±0.1°C
Standard Cooling Capacity		
60 Hz at +20°C	15000 W / 51228 BTU	20000 W / 68304 BTU
50 Hz at +20°C	12525 W / 42775 BTU	16700 W / 57043 BTU
Reservoir Volume	17.9 liters (4.75 gallons)	17.9 liters (4.75 gallons)
Refrigerant	R407C	R407C
Physical Dimensions (H x W x D)	124.4 x 118.1 x 78.6 cm (49.0 x 46.5 x 30.9 in)	124.4 x 118.1 x 78.6 cm (49.0 x 46.5 x 30.9 in)
P3 — Centrifugal Pump		
60 Hz	10 gpm @ 32 psid/ 37.9 lpm @ 2.2 bar	10 gpm @ 32 psid/ 37.9 lpm @ 2.2 bar
50 Hz	10 gpm @ 20 psid/ 37.9 lpm @ 1.4 bar	10 gpm @ 20 psid/ 37.9 lpm @ 1.4 bar
P5 — Centrifugal Pump		
60 Hz	20 gpm @ 60 psid/ 75.7 lpm @ 4.1bar	20 gpm @ 60 psid/ 75.7 lpm @ 4.1bar
50 Hz	20 gpm @ 35 psid/ 75.7 lpm @2.4 bar	20 gpm @ 35 psid/ 75.7 lpm @2.4 bar
Unit Weight		
Air-Cooled	249.5 kg (550 lb)	249.5 kg (550 lb)
Water-Cooled	231.3 kg (510 lb)	231.3 kg (510 lb)
Voltage Options		
208-230V/60Hz/3	Available	Available
460V/60Hz/3 & 400V/50Hz/3	Available	Available
Standard Compliance *(Note: compliance listings are pending)*	C SA US	C SA US

Specifications obtained at sea level using water as the recirculating fluid at a +20°C process setpoint, +25°C ambient condition, at nominal operating voltage. Other fluids, process temperatures, ambient temperatures, altitude, or operating voltages will affect performance. Cooling capacity based on units with P3 pumps set at 10 gpm. Other pumps and flow rates will affect cooling capacity performance. Pressure values are the differential between the inlet and the outlet of the unit. Specifications subject to change.

Patented integrated funnel design allows for spill proof filling.

Pumping Capacity for Pump Options P3 & P5



Pressure values are the differential between the inlet and the outlet of the unit.

About Thermo Fisher Scientific

Thermo Fisher Scientific (NYSE: TMO) is the world leader in serving science, enabling our customers to make the world healthier, cleaner and safer. With annual revenues of $10 billion, we have more than 30,000 employees and serve over 350,000 customers within pharmaceutical and biotech companies, hospitals and clinical diagnostic labs, universities, research institutions and government agencies, as well as environmental and industrial processing settings. Serving our customers through two premier brands, Thermo Scientific and Fisher Scientific, we help solve analytical challenges from routine testing to complex research and discovery. Thermo Scientific offers customers a complete range of high-end analytical instruments as well as laboratory equipment, software, services, consumables and reagents to enable integrated laboratory workflow solutions. Fisher Scientific provides a complete portfolio of laboratory equipment, chemicals, supplies and services used in healthcare, scientific research, safety and education. Together, we offer the most convenient purchasing options to customers and continuously advance our technologies to accelerate the pace of scientific discovery, enhance value for customers and fuel growth for shareholders and employees alike. Visit www.thermofisher.com.

For more information about Thermo Scientific NESLAB recirculating chillers, visit www.thermo.com/thermoflex, or see our comprehensive range of temperature control equipment at www.thermo.com/tcprocess.

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DSTCTFlex150200 0210

Hendler-Johnston

CLIENT SIGN OFF

CLIENT:	Thermo Fisher Scientific — Hayley Lacasse
DATE:	February 25, 2010
PROJECT TITLE:	ThermoFlex, high-capacity recirculating chillers v.G
PROJECT NUMBER:	10-7983

Please review this proof, mark the appropriate box and sign below.
Project cannot proceed without an authorizing signature.

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