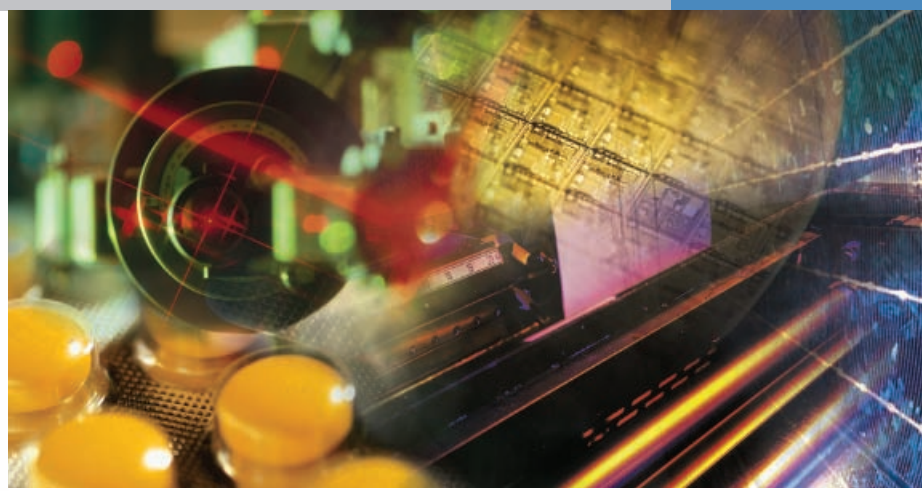
Product Specifications

Reliable, easy-to-use chillers optimized for diverse applications. Cooling capacities up to 10000 watts.

Thermo Scientific NESLAB ThermoFlex

Recirculating Chillers



Ideal for diverse applications within the following markets:

- Analytical
- Biotech
- Industrial
- Laser
- Medical
- Metrology
- Packaging
- Pharmaceutical
- Printing
- Research
- Semiconductor
- University

Innovative Platform

The new 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.

Superior Performance

- Improved cooling capacity
- Increased reliability
- Ease of maintenance

Ease of Use

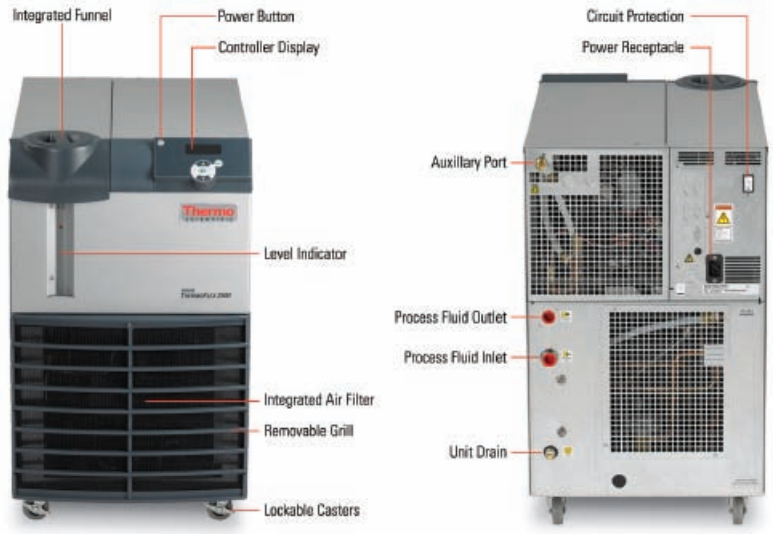
- An intuitive user interface for ease of operation
- Air and water filters that can be changed while unit is in operation
- Innovative, patented packaging for rapid installation
- Quick start guide for seamless start-up in minutes

Configurable Design

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

Innovative Design

Features common to Thermo Scientific NESLAB ThermoFlex recirculating chillers



Options

Options include:

Feature	Benefit
Pressure Relief	The pressure relief valve allows the user to set the maximum fluid pressure to meet the application requirements and is available as an internal or external option.
Pressure Relief with Flow Readout	The pressure relief valve allows the user to set the maximum fluid pressure to meet the application requirements. The flow readout allows the user to monitor the flow rate to the application and set flow alarms via the controller.
Flow Control with Flow Readout	The flow control valve allows the user to adjust the flow to the application. The flow readout allows the user to monitor the flow rate to the application and set flow alarms via the controller.
Auto Refill	Allows for automatic refilling from a customer-supplied water source to ensure the proper fluid level is maintained.
Anti Drainback	Prevents fluid from flowing back to the reservoir when the chiller is installed below the application.
DI Water	Partial flow internal DI cartridge minimizes footprint and provides fluid resistivity between 1 and 3 megOhm.
RS232 & RS485 Digital Communication	Provides digital communication for remote operation, monitoring and data logging.
Analog I/O	Provides analog communication for remote operation and monitoring. Includes a remote sensor port which allows for remote temperature control of an application when used with a remote sensor (available as an accessory).
Global Voltage	Allows the user to select the appropriate frequency and voltage to enable operation anywhere in the world.
Air-Cooled Condenser	Uses ambient-temperature room air to remove application heat.
Water-Cooled Condenser	Uses facility water to remove application heat.
SEMI S2 Compliance	Compliant with S2-0703, S8-0705, S14-0704, F47-0706.
Deluxe Controller	LCD controller offers the ultimate in ease of use with graphical display and text. Multi-position level sensor enables user to easily monitor the fluid level on the display.
DI Control and Readout*	Allows the user to both set and readout the DI level between 1 and 3 megOhm using the controller.
High Temperature*	Allows for operation from +5°C to +90°C.

**Available with the deluxe controller option.*

Controller Options

Standard Controller

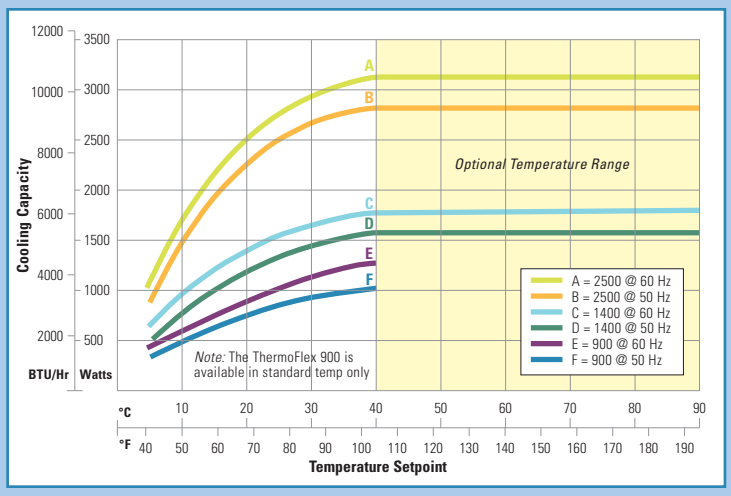
- Single line LED Display
- Temperature alarms
- Pressure alarms
- Flow alarms (optional)

Deluxe Controller

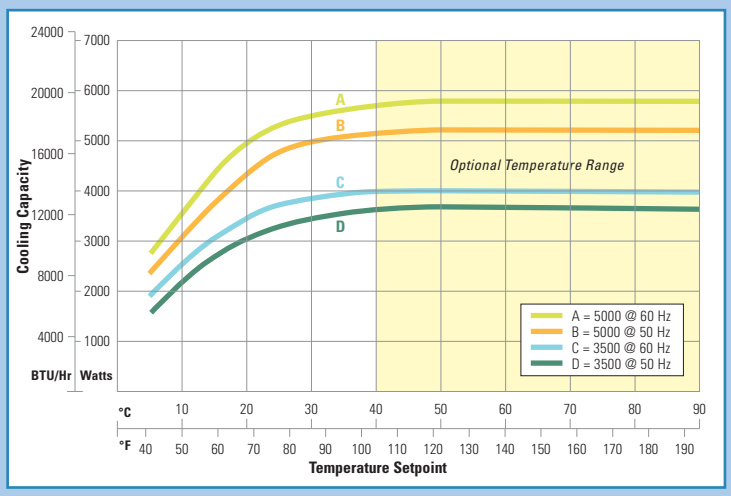
- Multi-line LCD Display
- Full alphanumeric display
- Temperature alarms
- Pressure alarms
- Fluid level readout
- Flow alarms (optional)
- DI control & readout (optional)

Cooling Capacity

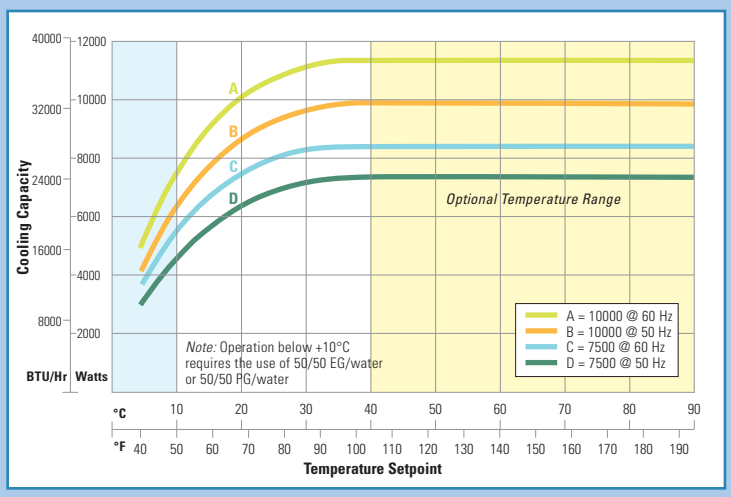
Cooling Capacity for NESLAB ThermoFlex 900, 1400 & 2500



Cooling Capacity for NESLAB ThermoFlex 3500 & 5000



Cooling Capacity for NESLAB ThermoFlex 7500 & 10000



Cooling capacity based on units with P2 pumps with no backpressure.
Other pumps will affect cooling capacity performance.

See back page for pumping capacity.

Thermo Scientific NESLAB ThermoFlex Recirculating Chillers

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

Easily removable condenser grill and air filter allow for quick and simple cleaning to optimize chiller performance and maximize component life.

Patented integrated funnel design allows for spill proof filling.

	NESLAB ThermoFlex 900	NESLAB ThermoFlex 1400	NESLAB ThermoFlex 2500
Standard Temperature Range	+5°C to +40°C (+41°F to +104°F)	+5°C to +40°C (+41°F to +104°F)	+5°C to +40°C (+41°F to +104°F)
Optional Temperature Range	—	+5°C to +90°C (+41°F to +194°F)	+5°C to +90°C (+41°F to +194°F)
Ambient Temperature Range	+10°C to +40°C (+50°F to +104°F)	+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	±0.1°C
Standard Cooling Capacity			
60 Hz at +20°C	900 W / 3074 BTU	1400 W / 4781 BTU	2500 W / 8538 BTU
50 Hz at +20°C	750 W / 2561 BTU	1170 W / 3996 BTU	2200 W / 7513 BTU
Reservoir Volume	1.9 gallons (7.2 liters)	1.9 gallons (7.2 liters)	1.9 gallons (7.2 liters)
Refrigerant	R134A	R134A	R134A
Physical Dimensions (H x W x D)			
Air-Cooled	27.3 x 14.2 x 24.6 in (69.2 x 36.0 x 62.4 cm)	27.3 x 14.2 x 24.6 in (69.2 x 36.0 x 62.4 cm)	29.0 x 17.2 x 26.5 in (73.6 x 43.6 x 67.3 cm)
Water-Cooled	—	27.3 x 14.2 x 24.6 in (69.2 x 36.0 x 62.4 cm)	29.0 x 17.2 x 26.5 in (73.6 x 43.6 x 67.3 cm)
P1 — Positive Displacement Pump			
60 Hz	2.1 gpm @ 60 psig (7.9 lpm @ 4.1 bar)	2.1 gpm @ 60 psig (7.9 lpm @ 4.1 bar)	2.1 gpm @ 60 psig (7.9 lpm @ 4.1 bar)
50 Hz	1.7 gpm @ 60 psig (6.4 lpm @ 4.1 bar)	1.7 gpm @ 60 psig (6.4 lpm @ 4.1 bar)	1.7 gpm @ 60 psig (6.4 lpm @ 4.1 bar)
P2 — Positive Displacement Pump			
60 Hz	4.0 gpm @ 60 psig (15.1 lpm @ 4.1 bar)	4.0 gpm @ 60 psig (15.1 lpm @ 4.1 bar)	4.0 gpm @ 60 psig (15.1 lpm @ 4.1 bar)
50 Hz	3.3 gpm @ 60 psig (12.5 lpm @ 4.1 bar)	3.3 gpm @ 60 psig (12.5 lpm @ 4.1 bar)	3.3 gpm @ 60 psig (12.5 lpm @ 4.1 bar)
T1 — Turbine Pump**			
60 Hz	3.5 gpm @ 60 psid (13.2 lpm @ 4.1 bar)	3.5 gpm @ 60 psid (13.2 lpm @ 4.1 bar)	3.5 gpm @ 60 psid (13.2 lpm @ 4.1 bar)
50 Hz	2.5 gpm @ 60 psid (9.5 lpm @ 4.1 bar)	2.5 gpm @ 60 psid (9.5 lpm @ 4.1 bar)	2.5 gpm @ 60 psid (9.5 lpm @ 4.1 bar)
P3 — Centrifugal Pump**			
60 Hz	—	—	—
50 Hz	—	—	—
P4 — Centrifugal Pump**			
60 Hz	—	—	—
50 Hz	—	—	—
P5 — Centrifugal Pump**			
60 Hz	—	—	—
50 Hz	—	—	—
Unit Weight (for pump type P2 only)	130.5 lb (59.2 kg)	130.5 lb (59.2 kg)	175.5 lb (79.6 kg)
Voltage Options			
115 V/60 Hz & 100 V/50 Hz[1,2]	Available	Available	—
100 V/60 Hz & 100 V/50 Hz[1,2]	Available	Available	—
208-230 V/60 Hz & 200 V/50 Hz[1,2]	Available	Available	Available
230 V/50 Hz[1]	Available	Available	Available
200-230 V/50-60 Hz Global Voltage[1,2]	Available	Available	Available
208-230 V/60 Hz/3 phase[1,2]	—	—	—
400 V/50 Hz/3 phase[1]	—	—	—
400-460 V/50-60 Hz/3 phase Global Voltage[1,2]	—	—	—
Standard Compliance (for all ThermoFlex recirculating chillers)	CE, CSA US 105974_C_000		[1] *CE compliant* [2] *CSA compliant*

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 P2 pumps with no backpressure. Other pumps will affect cooling capacity performance. Specifications subject to change.

***Pressure values for centrifugal and turbine pumps are differential pressures between the inlet and the outlet of the unit.*



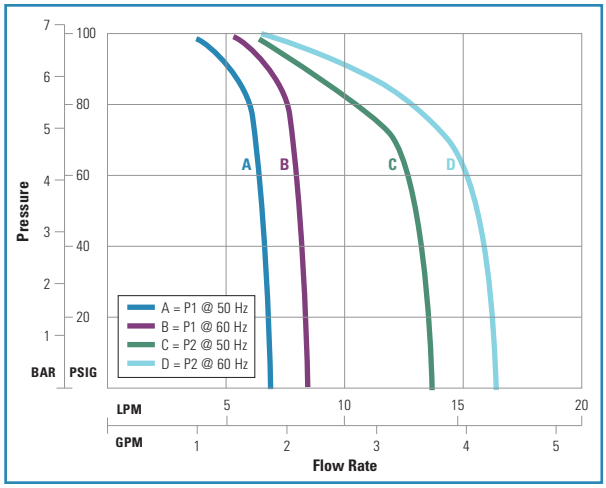

	NESLAB ThermoFlex 3500	NESLAB ThermoFlex 5000	NESLAB ThermoFlex 7500	NESLAB ThermoFlex 10000
Standard Temperature Range	+5°C to +40°C (+41°F to +104°F)	+5°C to +40°C (+41°F to +104°F)	+5°C to +40°C (+41°F to +104°F)	+5°C to +40°C (+41°F to +104°F)
Optional Temperature Range	+5°C to +90°C (+41°F to +194°F)	+5°C to +90°C (+41°F to +194°F)	+5°C to +90°C (+41°F to +194°F)	+5°C to +90°C (+41°F to +194°F)
Ambient Temperature Range	+10°C to +40°C (+50°F to +104°F)	+10°C to +40°C (+50°F to +104°F)	+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	±0.1°C	±0.1°C
Standard Cooling Capacity				
60 Hz at +20°C	3500 W / 11953 BTU	5000 W / 17076 BTU	7500 W / 25575 BTU	10000 W / 34100 BTU
50 Hz at +20°C	3050 W / 10416 BTU	4400 W / 15027 BTU	6425 W / 21910 BTU	8500 W / 28985 BTU
Reservoir Volume	1.9 gallons (7.2 liters)	1.9 gallons (7.2 liters)	4.75 gallons (17.9 liters)	4.75 gallons (17.9 liters)
Refrigerant	R407C	R407C	R407C	R407C
Physical Dimensions (H x W x D)				
Air-Cooled	38.9 x 19.3 x 30.9 in (98.7 x 48.8 x 78.4 cm)	38.9 x 19.3 x 30.9 in (98.7 x 48.8 x 78.4 cm)	52.3 x 25.2 x 33.8 in (132.7 x 63.9 x 85.6 cm)	52.3 x 25.2 x 33.8 in (132.7 x 63.9 x 85.6 cm)
Water-Cooled	38.9 x 19.3 x 30.9 in (98.7 x 48.8 x 78.4 cm)	38.9 x 19.3 x 30.9 in (98.7 x 48.8 x 78.4 cm)	45.9 x 25.2 x 33.8 in (116.6 x 63.9 x 85.6 cm)	45.9 x 25.2 x 33.8 in (116.6 x 63.9 x 85.6 cm)
P1 — Positive Displacement Pump				
60 Hz	2.1 gpm @ 60 psig (7.9 lpm @ 4.1 bar)	—	—	—
50 Hz	1.7 gpm @ 60 psig (6.4 lpm @ 4.1 bar)	—	—	—
P2 — Positive Displacement Pump				
60 Hz	4.0 gpm @ 60 psig (15.1 lpm @ 4.1 bar)	4.0 gpm @ 60 psig (15.1 lpm @ 4.1 bar)	4.0 gpm @ 60 psig (15.1 lpm @ 4.1 bar)	4.0 gpm @ 60 psig (15.1 lpm @ 4.1 bar)
50 Hz	3.3 gpm @ 60 psig (12.5 lpm @ 4.1 bar)	3.3 gpm @ 60 psig (12.5 lpm @ 4.1 bar)	3.3 gpm @ 60 psig (12.5 lpm @ 4.1 bar)	3.3 gpm @ 60 psig (12.5 lpm @ 4.1 bar)
T1 — Turbine Pump**				
60 Hz	3.5 gpm @ 60 psid (13.2 lpm @ 4.1 bar)	3.5 gpm @ 60 psid (13.2 lpm @ 4.1 bar)	—	—
50 Hz	2.5 gpm @ 60 psid (9.5 lpm @ 4.1 bar)	2.5 gpm @ 60 psid (9.5 lpm @ 4.1 bar)	—	—
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)	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)	10 gpm @ 20 psid (37.9 lpm @ 1.4 bar)	10 gpm @ 20 psid (37.9 lpm @ 1.4 bar)
P4 — Centrifugal Pump**				
60 Hz	15 gpm @ 57 psid (56.8 lpm @ 3.9 bar)	15 gpm @ 57 psid (56.8 lpm @ 3.9 bar)	—	—
50 Hz	15 gpm @ 34 psid (56.8 lpm @ 2.3 bar)	15 gpm @ 34 psid (56.8 lpm @ 2.3 bar)	—	—
P5 — Centrifugal Pump**				
60 Hz	—	—	20 gpm @ 60 psid (75.7 lpm @ 4.1 bar)	20 gpm @ 60 psid (75.7 lpm @ 4.1 bar)
50 Hz	—	—	20 gpm @ 35 psid (75.7 lpm @ 2.4 bar)	20 gpm @ 35 psid (75.7 lpm @ 2.4 bar)
Unit Weight (for pump type P2 only)	264 lb (120 kg)	264 lb (120 kg)	356 lb (161.5 kg)	356 lb (161.5 kg)
Voltage Options				
115 V/60 Hz & 100 V/50 Hz[1,2]	—	—	—	—
100 V/60 Hz & 100 V/50 Hz[1,2]	—	—	—	—
208-230 V/60 Hz & 200 V/50 Hz[1,2]	Available	Available	—	—
230 V/50 Hz[1]	Available	Available	—	—
200-230 V/50-60 Hz Global Voltage[1,2]	Available	Available	—	—
208-230 V/60 Hz/3 phase[1,2]	—	—	Available	Available
400 V/50 Hz/3 phase[1]	—	—	Available	Available
400-460 V/50-60 Hz/3 phase Global Voltage[1,2]	—	—	Available	Available
Standard Compliance (for all ThermoFlex recirculating chillers)	CE, CSA US 105974_C_000		[1] *CE compliant* [2] *CSA compliant*	

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 P2 pumps with no backpressure. Other pumps will affect cooling capacity performance. Specifications subject to change.

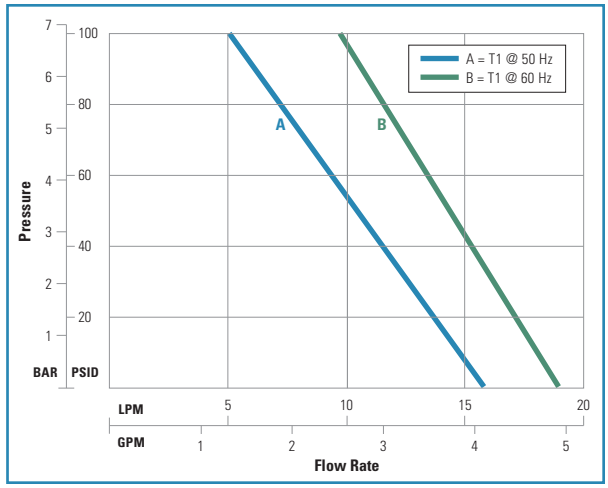
***Pressure values for centrifugal and turbine pumps are differential pressures between the inlet and the outlet of the unit.*

Pumping Capacity

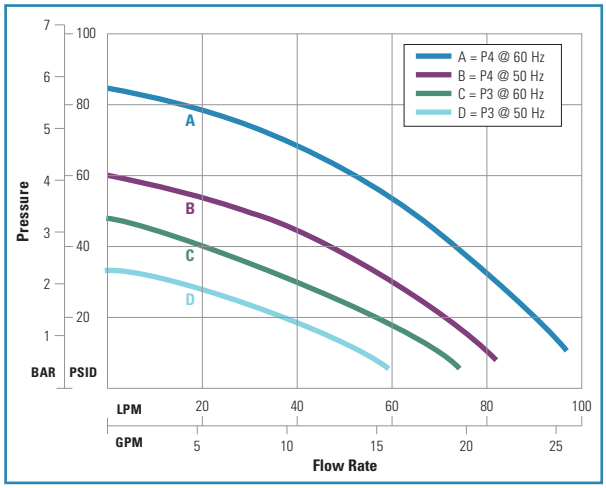
Pumping Capacity for Positive Displacement Pump Options (P1 & P2)



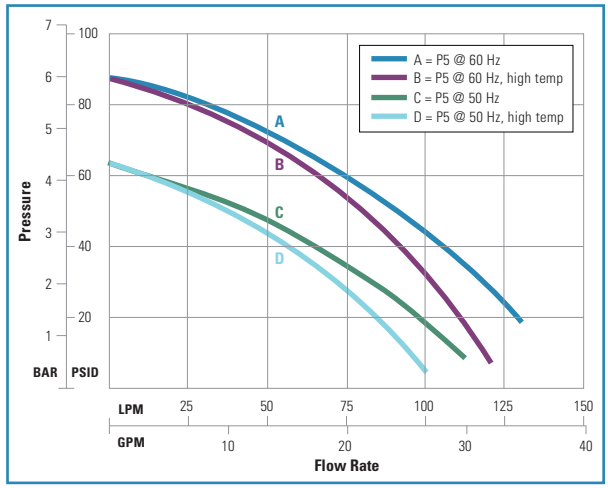
Pumping Capacity for Turbine Pump Option (T1)*



Pumping Capacity for Centrifugal Pump Options (P3 & P4)*



Pumping Capacity for Centrifugal Pump Option (P5)*



**Pressure values for turbine and centrifugal pumps are differential pressures between the inlet and the outlet of the unit.*
Cooling capacity based on units with P2 pumps with no backpressure. Other pumps will affect cooling capacity performance.

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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