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

# Thermo Scientific NESLAB ThermoFlex

**Recirculating Chillers** 



#### **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

Thermo s c i e n t i f i c

## Ideal for diverse applications within the following markets:

• Analytical

Industrial

Medical

• Metrology

Biotech

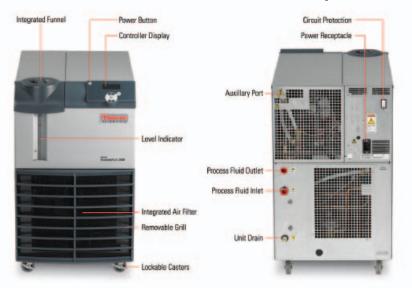
Laser

- Packaging
  - Pharmaceutical
    - Printing
    - Research

    - Semiconductor
  - University

# **Innovative Design**

#### Features common to Thermo Scientific NESLAB ThermoFlex recirculating chillers



#### **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 maintains 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.



#### **Standard Controller**

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



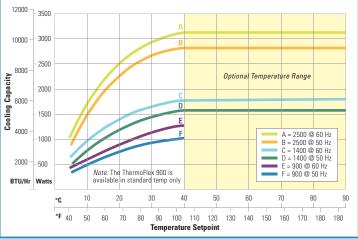
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#### **Deluxe Controller**

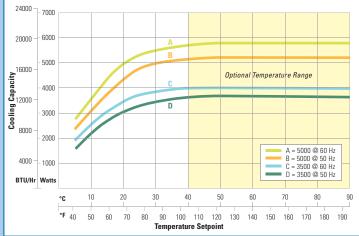
- Multi-line LCD Display
- Full alphanumeric display
- Temperature alarms
- Pressure alarms
- Fluid level readout
- Flow alarms (optional)
- DI control & readout (optional)

## **Cooling Capacity**

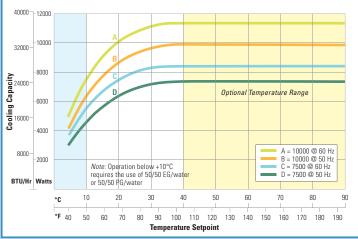
#### Cooling Capacity for NESLAB ThermoFlex 900, 1400 & 2500



#### Cooling Capacity for NESLAB ThermoFlex 3500 & 5000







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





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.



Integrated funnel design allows for spill proof filling.

### Thermo Scientific NESLAB ThermoFlex Recirculating Chillers

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	0 0	3 5	State of the local division of the local div
	NESLAB ThermoFlex 900	NESLAB ThermoFlex 1400	NESLAB ThermoFlex 2500
Standard Temperature Range	+5°C to +40°C	+5°C to +40°C	+5°C to +40°C
• •	(+41°F to +104°F)	(+41°F to +104°F)	(+41°F to +104°F)
ptional Temperature Range	—	+5°C to +90°C	+5°C to +90°C
Ambient Temperature Range	+10°C to +40°C	(+41°F to +194°F) +10°C to +40°C	(+41°F to +194°F) +10°C to +40°C
unbient temperature hange	(+50°F to +104°F)	(+50°F to +104°F)	(+50°F to +104°F)
emperature Stability	±0.1°C	±0.1°C	±0.1°C
tandard Cooling Capacity			
0 Hz at +20°C	900 W / 3074 BTU	1400 W / 4781 BTU	2500 W / 8538 BTU
0 Hz at +20°C Reservoir Volume	750 W / 2561 BTU 1.9 gallons (7.2 liters)	1170 W / 3996 BTU	2200 W / 7513 BTU
lefrigerant	R134A	1.9 gallons (7.2 liters) R134A	1.9 gallons (7.2 liters) R134A
hysical Dimensions (H x W x D)			
Air-Cooled	27.3 x 14.2 x 24.6 in	27.3 x 14.2 x 24.6 in	29.0 x 17.2 x 26.5 in
	(69.2 x 36.0 x 62.4 cm)	(69.2 x 36.0 x 62.4 cm)	(73.6 x 43.6 x 67.3 cm)
Vater-Cooled	—	27.3 x 14.2 x 24.6 in	29.0 x 17.2 x 26.5 in
P1 — Positive Displacement Pump		(69.2 x 36.0 x 62.4 cm)	(73.6 x 43.6 x 67.3 cm)
0 Hz	2.1 gpm @ 60 psig	2.1 gpm @ 60 psig	2.1 gpm @ 60 psig
	(7.9 lpm @ 4.1 bar)	(7.9 lpm @ 4.1 bar)	(7.9 lpm @ 4.1 bar)
0 Hz	1.7 gpm @ 60 psig	1.7 gpm @ 60 psig	1.7 gpm @ 60 psig
2 — Positive Displacement Pump	(6.4 lpm @ 4.1 bar)	(6.4 lpm @ 4.1 bar)	(6.4 lpm @ 4.1 bar)
50 Hz	4.0 gpm @ 60 psig	4.0 gpm @ 60 psig	4.0 gpm @ 60 psig
	(15.1 lpm @ 4.1 bar)	(15.1 lpm @ 4.1 bar)	(15.1 lpm @ 4.1 bar)
50 Hz	3.3 gpm @ 60 psig	3.3 gpm @ 60 psig	3.3 gpm @ 60 psig
	(12.5 lpm @ 4.1 bar)	(12.5 lpm @ 4.1 bar)	(12.5 lpm @ 4.1 bar)
<b>'1 — Turbine Pump**</b> 0 Hz	3.5 gpm @ 60 psid	3.5 gpm @ 60 psid	3.5 gpm @ 60 psid
0.112	(13.2 lpm @ 4.1 bar)	(13.2 lpm @ 4.1 bar)	(13.2 lpm @ 4.1 bar)
io Hz	2.5 gpm @ 60 psid	2.5 gpm @ 60 psid	2.5 gpm @ 60 psid
	(9.5 lpm @ 4.1 bar)	(9.5 lpm @ 4.1 bar)	(9.5 lpm @ 4.1 bar)
<b>P3 — Centrifugal Pump**</b> 50 Hz			
0112	—	—	—
0 Hz	_	_	_
P4 — Centrifugal Pump**			
io Hz	—	—	—
50 Hz	_	_	_
25 — Centrifugal Pump**			
io Hz	_	_	_
io Hz	—	—	—
Init Weight (for pump type P2 only)	130.5 lb (59.2 kg)	130.5 lb (59.2 kg)	175.5 lb (79.6 kg)
<b>/oltage Options</b>	Available	Available	
15 V/60 Hz & 100 V/50 Hz <sup>1,2</sup> 00 V/60 Hz & 100 V/50 Hz <sup>1,2</sup>	Available Available	Available Available	
08-230 V/60 Hz & 200 V/50 Hz <sup>1,2</sup>	Available	Available	Available
230 V/50 Hz <sup>1</sup>	Available	Available	Available
200-230 V/50-60 Hz Global Voltage <sup>1,2</sup>	Available	Available	Available
208-230 V/60 Hz/3 phase <sup>1,2</sup>	—	_	_
100 V/50 Hz/3 phase <sup>1</sup> 160 V/60 Hz/3 & 400 V/50 Hz/3 <sup>1,2</sup>		_	
Standard Compliance		<sup>1</sup> CE compliant	
(for all ThermeElex regireulating chillers)		<sup>2</sup> CSΔ compliant	

(for all ThermoFlex recirculating chillers)

**CE** <u>C</u> <u>US 105974\_C\_000</u>

<sup>1</sup>CE compliant <sup>2</sup>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.

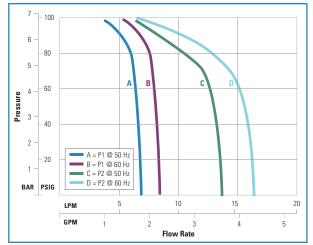
Heather Temperature Range         Heat PE (± +194°F)         (+41°F to +194°F)         (+41°F to +194°F)         (+41°F to +194°F)           Ambient Temperature Stability         ±01°C         ±				ALL INC.	
ThermoPice 3800         ThermoPice 7500         ThermoPice 7500         ThermoPice 7500           Standard Temperature Range         4% to +00%         (-41% to +104%)         (-41% to +104%) </th <th></th> <th></th> <th></th> <th>V</th> <th>-</th>				V	-
ThermoPice 3800         ThermoPice 7500         ThermoPice 7500         ThermoPice 7500           Standard Temperature Range         4% to +00%         (-41% to +104%)         (-41% to +104%) </th <th></th> <th>No. of Concession, Name</th> <th>IT POINT IN THE</th> <th>1.0</th> <th></th>		No. of Concession, Name	IT POINT IN THE	1.0	
ThermoPice 3800         ThermoPice 7500         ThermoPice 7500         ThermoPice 7500           Standard Temperature Range         4% to +00%         (-41% to +104%)         (-41% to +104%) </th <th></th> <th>-</th> <th>-</th> <th>Construction of the local division of the lo</th> <th>CONTRACTOR OF TAXABLE PARTY.</th>		-	-	Construction of the local division of the lo	CONTRACTOR OF TAXABLE PARTY.
ThermoPice 3800         ThermoPice 7500         ThermoPice 7500         ThermoPice 7500           Standard Temperature Range         4% to +00%         (-41% to +104%)         (-41% to +104%) </th <th></th> <th>1</th> <th>1</th> <th></th> <th></th>		1	1		
ThermoPice 3800         ThermoPice 7500         ThermoPice 7500         ThermoPice 7500           Standard Temperature Range         4% to +00%         (-41% to +104%)         (-41% to +104%) </th <th></th> <th>Name</th> <th>Prove</th> <th></th> <th></th>		Name	Prove		
ThermoPice 3800         ThermoPice 7500         ThermoPice 7500         ThermoPice 7500           Standard Temperature Range         4% to +00%         (-41% to +104%)         (-41% to +104%) </th <th></th> <th></th> <th></th> <th>State of the local division of the</th> <th></th>				State of the local division of the	
ThermoPice 3800         ThermoPice 7500         ThermoPice 7500         ThermoPice 7500           Standard Temperature Range         4% to +00%         (-41% to +104%)         (-41% to +104%) </th <th></th> <th></th> <th></th> <th></th> <th></th>					
ThermoPice 3800         ThermoPice 7500         ThermoPice 7500         ThermoPice 7500           Standard Temperature Range         4% to +00%         (-41% to +104%)         (-41% to +104%) </th <th></th> <th>6 6</th> <th>0 0</th> <th><del></del></th> <th>6 6</th>		6 6	0 0	<del></del>	6 6
Standard Temperature Range         4%°C to -40°C         +4%°C to -40°C         +40°C         +40					
Interferentiation         Interferentiation         Interferentiation         Interferentiation         Interferentiation           Ambient Temperature Range         +0°C to +10°C         +10°C to +10°C	Standard Temperature Range				
Optional Temperature Range         +5°C to +30°C         +6°C to +30°C         +6°C to +40°C         +60°C         +60°C to +40°C         +60°C         +	Standard Temperature nange				
Ambient Temperature Bange         +10°C to +40°C         ±0.1°C         ±0.	Optional Temperature Range				+5°C to +90°C
(+50°F to ±104°F)         (+50°F to ±104°F)         (+50°F to ±104°F)         (+50°F to ±104°F)           Standard Cooling Capacity         90.1°C         ±0.1°C					
Temperature Stability         40.1°C         40.1°C         40.1°C         40.1°C           60 Hz at -20°C         3500 W / 11935 BTU         5000 W / 11007 BTU         7500 W / 2557 BTU         10000 W / 3100 BTU           50 Hz at -20°C         3050 W / 11937 BTU         6402 W / 15027 BTU         6475 W / 21910 BTU         6800 W / 28985 BTU           Reservoir Volume         19 galtons (1 / 2 liters)         14 / 3 galtons (1 / 2 liters)         4 / 5 galtons (1 / 2 liters)         4 / 7 / 7 galtons (1 / 2 liters)         4 / 7 / 7 galtons (1 / 2 liters)         4 / 7 / 7 galtons (1 / 2 liters)         4 / 7 / 7 galtons (1 / 2 liters)         4 / 7 / 7 galtons (1 / 2 liters)         4 / 7 / 7 galtons (1 / 2 liters)         4 / 7 / 7 galtons (2 / 2 liters)         3 / 7 / 7 / 7 / 7 / 7 / 7 / 7 / 7 / 7 /	Ambient Temperature Range				
Similar Cooling Capacity 50 Hz at -20°C         3500 W / 11935 BTU         5000 W / 17076 BTU         7500 W / 2557 BTU         10000 W / 34100 BTU           90 Hz at -20°C         3050 W / 1016 BTU         4400 W / 15027 BTU         6425 W / 21910 BTU         6500 W / 28956 BTU           Reservoir Volume         1.9 gallons (7.2 liters)         1.9 gallons (7.2 liters)         1.4 5 gallons (17.3 liters)         A 75 gallons (17.3 liters)           Refrigerant         R407C         R407C         R407C         R407C         R407C           Physical Dimensions (H × W x D)         38.9 x 19.3 x 30.9 in         58.9 x 19.3 x 30.9 in         152.3 x 25.2 x 33.8 in         102.7 x 63.9 x 85.6 cm)           Water Cooled         38.9 x 19.3 x 30.9 in         39.8 y 19.3 x 30.9 in         45.9 x 75.2 x 33.8 in         116.5 x 63.9 x 85.6 cm)           PT — Positive Displacement Pump         (1.7 gm@ 60 psig         —         —         —         —           60 Hz         (7.3 lpm @ 4.1 bar)         (1.5 lpm @ 4.1 bar)           50 Hz         3.3 gpm @ 60 psig         4.0 gpm @ 60 psig         3.3 gpm @ 60 psig         .3 gpm @ 60 ps	Temperature Stability				
80 Hz at 20°C       3500 W / 11058 BTU       5000 W / 17076 BTU       7500 W / 2575 BTU       10000 W / 34100 BTU         Reservit Yolume       1.9 gallons (7.2 liters)       1.9 gallons (7.2 liters)       4.75 gallons (17.9 liters)       4.75 gallons (17.9 liters)         Reservit Yolume       1.9 gallons (7.2 liters)       1.9 gallons (7.2 liters)       4.75 gallons (17.9 liters)       4.75 gallons (17.9 liters)         Alr-Coolad       38.9 x 19.3 x 30.9 in       58.9 x 19.3 x 30.9 in       52.3 x 25.2 x 33.8 in       52.3 x 25.2 x 33.8 in         Mater-Coolad       38.9 x 19.3 x 30.9 in       38.9 x 19.3 x 30.9 in       45.9 x 25.2 x 33.8 in       45.9 x 25.2 x 33.8 in         PI — Positive Displacement Pump       60 Hz       1.7 gnm @ 40 psig       —       —       —         60 Hz       1.7 gnm @ 40 psig       —       —       —       —       —       —         7.9 Imm @ 41 barl       1.7 gnm @ 60 psig       4.0 gpm @ 60 psig       4.0 gpm @ 60 psig       3.3 gmm @ 60 psig       3.5 gpm @ 60 psid       3.7 gpm @ 2.2 psid       3.7 gpm @ 2.2 psid       3.7 gpm @ 2.2 psid       3.7 g		10.1 0	10.1 0	±0.1 0	10.1 0
Beservoir Volume         1.9 gallons (7.2 liters)         1.9 gallons (7.2 liters)         4.75 gallons (17.9 liters)         A75 gallons (17.9 liters)           Refrigerant         R407C         R407C <td< td=""><td>60 Hz at +20°C</td><td></td><td></td><td></td><td></td></td<>	60 Hz at +20°C				
Refrigerant         R407C				,	
Physical Dimensions (H x W x D)         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 65.6 cm)         112.7 x 63.9 x 65.6 cm)           Water-Cooled         38.9 x 19.3 x 30.9 in (98.7 x 48.8 x 78.4 cm)         (98.7 x 48.8 x 78.4 cm)         (132.7 x 63.9 x 65.6 cm)         112.7 x 63.9 x 65.6 cm)           PT — Positive Displacement Pump 60 Hz         2.1 gpm @ 00 psig (12.5 lpm @ 4.1 bar)         —         —         —         —           50 Hz         1.7 gpm @ 00 psig (15.1 lpm @ 4.1 bar)         —         —         —         —         —           72 — 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)         (15.1 lpm @ 4.1 bar)         (15.1 lpm @ 4.1 bar)         (15.1 lpm @ 4.1 bar)         (12.5 lpm			<u> </u>	<b>U</b>	
Air-Cooled       38 9 x 19.3 x 30.9 in (98.7 x 48 x 78 4 cm)       38 9 x 19.3 x 30.9 in (92.7 x 63 y x 48 x 78 4 cm)       52.3 x 25.2 x 33.8 in (132.7 x 63 9 x 46.6 cm)         Water-Cooled       38.9 x 19.3 x 30.9 in (97.7 x 48 x 78 4 cm)       52.3 x 25.2 x 33.8 in (116.6 x 63 9 x 45.6 cm)       152 x 75.2 x 33.8 in (116.6 x 63 9 x 45.6 cm)         P - Positive Displacement Pump 60 Hz       2.1 gpm @ 60 psig (1.7 gpm @ 60 psig (1.6 4 lpm @ 4.1 bar)       -       -         50 Hz       1.7 gpm @ 60 psig (1.5 1 lpm @ 4.1 bar)       -       -       -         72 - Positive Displacement Pump 60 Hz       4.0 gpm @ 60 psig (1.5 1 lpm @ 4.1 bar)       4.0 gpm @ 60 psig (1.5 1 lpm @ 4.1 bar)       4.0 gpm @ 60 psig (1.5 1 lpm @ 4.1 bar)       -         71 - Turbine Pump**       0 gpm @ 60 psig (1.2 1 lpm @ 4.1 bar)       3.3 gpm @ 60 psig (1.2 1 lpm @ 4.1 bar)       -       -         60 Hz       3.5 gpm @ 60 psig (1.2 1 lpm @ 4.1 bar)       1.5 1 lpm @ 4.1 bar)       (12 1 lpm @ 4.1 bar)       112 lpm @ 4.1 bar)         71 - Turbine Pump**       0       3.5 gpm @ 60 psid (1.2 2 lpm @ 4.1 bar)       -       -       -         60 Hz       2.5 gpm @ 60 psid (1.2 2 lpm @ 4.1 bar)       1.5 gpm @ 2.2 bar)       10 gpm @ 2.2 bar)		N4U/6	n4U/6	n4U/U	N4U/6
(987 x 488 x 784 cm)         (987 x 488 x 784 cm)         (132 x 483 x 58 6 cm)         (132 x 483 x 58 6 cm)         (132 x 483 x 58 6 cm)         (136 x 53 x 55 6 cm)         (116 6 x 63 9 x 65 6 cm)           Verte-Cooled         389 x 19 x 30 9 in         389 x 19 x 30 9 in         459 x 52 x 23 8 in         (116 6 x 63 9 x 65 6 cm)         (116 6 x 63 9 x 65 0 cm)         (116 6 x 61 9 x 61 0 cm)         (116 1 cm 6 4 1 har)         (116 1 cm 6 4	•	38.9 x 19.3 x 30.9 in	38.9 x 19.3 x 30.9 in	52 3 x 25 2 x 33 8 in	52.3 x 25.2 x 33.8 in
(98.7 x 48.8 x 78.4 cm)         (98.7 x 48.8 x 78.4 cm)         (116.6 x 63.9 x 85.6 cm)           PI — Positive Displacement Pump		(98.7 x 48.8 x 78.4 cm)	(98.7 x 48.8 x 78.4 cm)		
P1 — Positive Displacement Pump         2.1 gpm @ 60 psig             60 Hz         (7.9 lpm @ 4.1 bar)              50 Hz         1.7 gpm @ 60 psig              64 lpm @ 4.1 bar)               72 — Positive Displacement Pump         4.0 gpm @ 60 psig         4.0 gpm @ 60 psig         4.0 gpm @ 60 psig         3.3 gpm @ 60 psig         (12.5 lpm @ 4.1 bar)         (12.5	Water-Cooled				
60 Hz 21 gpm @ 60 psig		(98.7 x 48.8 x 78.4 cm)	(98.7 x 48.8 x 78.4 cm)	(116.6 x 63.9 x 85.6 cm)	(116.6 x 63.9 x 85.6 cm)
(7.9  g m @ 4.1 bar)         50 Hz       1.7 gpm @ 60 psig (6.4  pm @ 4.1 bar) <b>P2</b> — Positive Displacement Pump 60 Hz       4.0 gpm @ 60 psig (15.1  pm @ 4.1 bar)       4.0 gpm @ 60 psig (15.1  pm @ 4.1 bar)       4.0 gpm @ 60 psig (15.1  pm @ 4.1 bar)       4.0 gpm @ 60 psig (15.1  pm @ 4.1 bar)       4.0 gpm @ 60 psig (15.1  pm @ 4.1 bar)       4.0 gpm @ 60 psig (12.5  pm @ 4.1 bar)       4.0 gpm @ 60 psig (12.5  pm @ 4.1 bar)       15.1  pm @ 4.1 bar)       (15.1  pm @ 4.1 bar)       (15.1  pm @ 4.1 bar)       (15.1  pm @ 4.1 bar)       (12.5  pm @ 4.1 bar)       (13.9  pm @ 2.2 bar)       (13.9  pm @ 2.2 bar)		2.1 app @ 60 prig			
50 Hz       17 gpm @ 00 psig (6.4 lpm @ 4.1 bar)       —       … </td <td>00 HZ</td> <td></td> <td>—</td> <td>—</td> <td>—</td>	00 HZ		—	—	—
P2 — Positive Displacement Pump         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)         (12.5 lpm @ 4.1 bar)         (13.7 lpm @ 2.2 bar)         (13.7 lpm @ 2.4 bar)         (14.5 lpm @ 2.4 bar)         (14.5 lpm @ 2.4 bar)         (14.5 lpm @ 2.4 b	50 Hz	1.7 gpm @ 60 psig	_	—	_
60 Hz 4.0 gpm @ 60 psig (15.1 lpm @ 4.1 bar) (12.5 lpm @ 4.1 bar) (13.2 lpm @ 4.1 bar) (14.2 lpm @ 4.1 bar) (15.1		(6.4 lpm @ 4.1 bar)			
(15.1 lpm @ 4.1 bar)         50 Hz       3.3 gpm @ 60 psig       3.3 gpm @ 60 psig       (12.5 lpm @ 4.1 bar)       (12.5 lpm @ 4.1 bar)         71 — Turbine Pump**       0       12.5 lpm @ 4.1 bar)       (12.5 lpm @ 4.1 bar)       (12.5 lpm @ 4.1 bar)         60 Hz       3.5 gpm @ 60 psid       3.5 gpm @ 60 psid       -       -         51 Hz       2.5 gpm @ 60 psid       2.5 gpm @ 60 psid       -       -         60 Hz       (13.2 lpm @ 4.1 bar)       (13.2 lpm @ 4.1 bar)       -       -         50 Hz       2.5 gpm @ 60 psid       2.5 gpm @ 60 psid       -       -       -         60 Hz       10 gpm @ 3.2 psid       10 gpm @ 2.2 bar)         50 Hz       10 gpm @ 2.0 psid       10 gpm @ 2.2 bar)       (37.9 lpm @ 2.2 bar)       (37.9 lpm @ 2.2 bar)       (37.9 lpm @ 2.2 bar)         50 Hz       10 gpm @ 3.2 psid       10 gpm @ 3.2 psid       10 gpm @ 3.2 psid       10 gpm @ 2.0 psid       10 gpm @ 2.0 psid       10 gpm @ 2.2 bar)         50 Hz       15 gpm @ 3.4 psid       -       -       -       -       -       -         60 Hz       15 gpm @ 3.4 psid       -       -		10 ann @ 60 naig	10 apm @ 60 paig	1.0 apm @ 60 paig	10 apm @ 60 poig
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)         TI — Turbine Pump**       50 Hz       3.5 gpm @ 60 psid (13.2 lpm @ 4.1 bar)           60 Hz       3.5 gpm @ 60 psid (13.2 lpm @ 4.1 bar)            50 Hz       2.5 gpm @ 60 psid (3.2 lpm @ 4.1 bar)            50 Hz       2.5 gpm @ 60 psid (3.9 lpm @ 2.2 bar)            60 Hz       10 gpm @ 32 psid (37.9 lpm @ 2.2 bar)       10 gpm @ 32 psid (37.9 lpm @ 2.2 bar)       10 gpm @ 2.2 bar)          50 Hz       10 gpm @ 2.0 psid (37.9 lpm @ 2.4 bar)       10 gpm @ 2.0 psid (37.9 lpm @ 1.4 bar)       10 gpm @ 2.0 psid (37.9 lpm @ 1.4 bar)          60 Hz       15 gpm @ 57 psid (56.8 lpm @ 3.9 bar)             50 Hz       15 gpm @ 34 psid (56.8 lpm @ 2.3 bar)             60 Hz       15 gpm @ 34 psid (56.8 lpm @ 2.3 bar)             50 Hz                60 Hz <td< td=""><td>00 HZ</td><td></td><td></td><td></td><td></td></td<>	00 HZ				
T1 — Turbine Pump**         60 Hz       3.5 gpm @ 60 psid            50 Hz       2.5 gpm @ 60 psid       2.5 gpm @ 60 psid           50 Hz       2.5 gpm @ 60 psid       2.5 gpm @ 60 psid           60 Hz       (9.5 lpm @ 4.1 bar)       (9.5 lpm @ 4.1 bar)           60 Hz       10 gpm @ 32 psid       10 gpm @ 32 psid       10 gpm @ 2.2 bar)       (37.9 lpm @ 1.4 bar)       (37.9 lpm @ 2.2 bar)       (56.8 lpm @ 3.9 bar)       (75.7 lpm @ 4.1 bar)       (75.7 lpm @ 2.4 bar)       (75.7	50 Hz		3.3 gpm @ 60 psig	3.3 gpm @ 60 psig	3.3 gpm @ 60 psig
60 Hz 3.5 gpm @ 60 psid (1.2 lpm @ 4.1 bar) (1.3 lpm @ 4.1 bar) 50 Hz 2.5 gpm @ 60 psid 2.5 gpm @ 60 psid		(12.5 lpm @ 4.1 bar)	(12.5 lpm @ 4.1 bar)	(12.5 lpm @ 4.1 bar)	(12.5 lpm @ 4.1 bar)
(13.2 lpm @ 4.1 bar)       (13.2 lpm @ 4.1 bar)         50 Hz       2.5 gpm @ 60 psid (9.5 lpm @ 4.1 bar)       —         P3 — Centrifugal Pump**       (9.5 lpm @ 4.1 bar)       (9.5 lpm @ 2.0 spid)       10 gpm @ 32 psid       10 gpm @ 32 psid         60 Hz       10 gpm @ 2.0 spid       10 gpm @ 2.2 bar)       (37.9 lpm @ 1.4 bar)<		2 E ann @ CO naid	0 E ann @ C0 noid		
50 Hz       2.5 gpm @ 60 psid       2.5 gpm @ 60 psid       —       …	00 HZ				—
P3 — Centrifugal Pump**       10 gpm @ 32 psid       37.9 lpm @ 2.2 bar)       (37.9 lpm @ 1.4 bar)	50 Hz			_	_
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 @ 2.2 bar)       10 gpm @ 2.2 bar)         50 Hz       10 gpm @ 20 psid (37.9 lpm @ 1.4 bar)       10 gpm @ 2.2 bar)       10 gpm @ 2.2 bar)       10 gpm @ 2.2 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 @ 7.2 bar)       (56.8 lpm @ 3.9 bar)       -       -         50 Hz       15 gpm @ 7.2 bar)       (56.8 lpm @ 3.9 bar)       -       -         50 Hz       15 gpm @ 3.4 psid       15 gpm @ 3.4 psid       -       -         60 Hz       15 gpm @ 2.3 bar)       (56.8 lpm @ 2.3 bar)       -       -         Volspan @ 4.1 bar)       (75.7 lpm @ 4.1 bar)         50 Hz       -       -       20 gpm @ 60 psid       (75.7 lpm @ 2.4 bar)       20 gpm @ 35 psid       (75.7 lpm @ 2.4 bar)       (75.7 lpm @ 2.4 bar)       (75.7 lpm @ 2.4 bar)       20 gpm @ 35 psid       (75.7 lpm @ 2.4 bar)       20 gpm @ 35 psid       (75.7 lpm @ 2.4 bar)       20 gpm @ 35 psid       (75.7 lpm @ 2.4 bar)       20 gpm @ 35 psi		(9.5 lpm @ 4.1 bar)	(9.5 lpm @ 4.1 bar)		
(37.9 lpm @ 2.2 bar)         50 Hz       10 gpm @ 20 psid         F4 — Centrifugal Pump**       (37.9 lpm @ 1.4 bar)         F4 — Centrifugal Pump**       15 gpm @ 57 psid       -       -       -         60 Hz       15 gpm @ 3.9 bar)       (56.8 lpm @ 3.9 bar)       -       -         50 Hz       15 gpm @ 34 psid       15 gpm @ 34 psid       -       -       -         60 Hz       15 gpm @ 34 psid       15 gpm @ 34 psid       -       -       -       -         75.7 lpm @ 4.1 bar)       (56.8 lpm @ 2.3 bar)       (56.8 lpm @ 2.4 bar)       (75.7 lpm @ 4.1 bar)       (75.7 lpm @ 2.4 bar)       (75.7 lpm @	<b>3</b>	10 @ 00i-l	10 @ 00id	10 mm @ 00 mil	10 @ 00
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**       15 gpm @ 57 psid (56.8 lpm @ 3.9 bar)       15 gpm @ 57 psid (56.8 lpm @ 3.9 bar)           50 Hz       15 gpm @ 3.4 psid (56.8 lpm @ 2.3 bar)       15 gpm @ 34 psid (56.8 lpm @ 2.3 bar)           95 — Centrifugal Pump**         20 gpm @ 60 psid (75.7 lpm @ 4.1 bar)       20 gpm @ 60 psid (75.7 lpm @ 4.1 bar)       20 gpm @ 60 psid (75.7 lpm @ 4.1 bar)       20 gpm @ 35 psid (75.7 lpm @ 2.4	OU HZ				
(37.9 lpm @ 1.4 bar)         P4 — Centrifugal Pump**       15 gpm @ 57 psid       —       —         60 Hz       15 gpm @ 3.9 bar)       (56.8 lpm @ 3.9 bar)       —       —         50 Hz       15 gpm @ 3.4 psid       15 gpm @ 3.9 par)       —       —         50 Hz       15 gpm @ 3.4 psid       15 gpm @ 2.3 bar)       —       —         P5 — Centrifugal Pump**       (56.8 lpm @ 2.3 bar)       (56.8 lpm @ 2.3 bar)       Z0 gpm @ 60 psid       Z0 gpm @ 60 psid       Z0 gpm @ 60 psid       (75.7 lpm @ 4.1 bar)       Z0 gpm @ 35 psid       Z0 Z0 Gpm @ 35 psid	50 Hz				
60 Hz       15 gpm @ 57 psid (56.8 lpm @ 3.9 bar)       15 gpm @ 3.9 bar)					
(56.8 lpm @ 3.9 bar)       (56.8 lpm @ 3.9 bar)       (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)       20 gpm @ 20 gpm @ 35 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)       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 <sup>1.2</sup> 208 230 V/50 Hz & 200 V/50 Hz <sup>1.2</sup> 208 -230 V/50 Hz & 200 V/50 Hz <sup>1.2</sup> Available       Available           200 230 V/50 Hz & 200 V/50 Hz <sup>1.2</sup> Available       Available           200 -230 V/50 Hz /3 phase <sup>1.2</sup> -       -            208 -230 V/50 Hz /3 phase <sup>1.2</sup> -       -       Available       Available		45 @ 57 14	45 @ 57		
50 Hz       15 gpm @ 34 psid (56.8 lpm @ 2.3 bar)       15 gpm @ 34 psid (56.8 lpm @ 2.3 bar) <b>P5</b> Centrifugal Pump**        20 gpm @ 60 psid (75.7 lpm @ 4.1 bar)       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)         Voltage Options         115 V/60 Hz & 100 V/50 Hz <sup>1.2</sup> 100 V/60 Hz & 100 V/50 Hz <sup>1.2</sup> 208-230 V/60 Hz & 200 V/50 Hz <sup>1.2</sup> Available           200 -230 V/50 -60 Hz Global Voltage <sup>1.2</sup> Available       Available          200-230 V/50 -60 Hz Global Voltage <sup>1.2</sup> Available           208-230 V/60 Hz/3 phase <sup>1.2</sup> 200-230 V/50-60 Hz Global Voltage <sup>1.2</sup> Available       Available           208-230 V/60 Hz/3 phase <sup>1.2</sup> 200-230 V/50-60 Hz Global Voltage <sup>1.2</sup> Available       Av	6U Hz			—	_
(56.8 lpm @ 2.3 bar)         P5 — Centrifugal Pump**         60 Hz         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)         Voltage Options         115 V/60 Hz & 100 V/50 Hz <sup>1.2</sup> —       —         100 V/60 Hz & 100 V/50 Hz <sup>1.2</sup> —       —       —       —         208-230 V/60 Hz & 200 V/50 Hz <sup>1.2</sup> —       —       —       —       —         200-230 V/50-60 Hz & 100 V/50 Hz <sup>1.2</sup> —       —       —       —       —       —         200-230 V/50 Hz <sup>1.2</sup> —       —       —       —       —       —       —       —       —       20       200 V/50 Hz <sup>1.2</sup> —       —       —       —       —       20       200 V/50 Hz <sup>1.2</sup> —       —       —       —       20       200 V/50 Hz <sup>1.2</sup> —       —       —       —       —       —       200-230 V/50-60 Hz Global Voltage <sup>1.2</sup>	50 Hz			_	_
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)         Voltage Options             115 V/60 Hz & 100 V/50 Hz <sup>1.2</sup> 100 V/60 Hz & 100 V/50 Hz <sup>1.2</sup> 208-230 V/60 Hz & 200 V/50 Hz <sup>1.2</sup> Available           200-230 V/50-60 Hz Global Voltage <sup>1.2</sup> Available       Available          200-230 V/50-60 Hz Global Voltage <sup>1.2</sup> Available       Available           200-230 V/50 Hz/3 phase <sup>1.2</sup> 200-230 V/50 Hz/3 phase <sup>1.2</sup> 200-230 V/50 Hz/3 phase <sup>1.2</sup> </td <td></td> <td></td> <td></td> <td></td> <td></td>					
100       V/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 <sup>1.2</sup> 100       V/60 Hz & 100 V/50 Hz <sup>1.2</sup> 208-230       V/60 Hz & 200 V/50 Hz <sup>1.2</sup> 208-230       V/50 Hz <sup>1.2</sup> Available       Available           200-230       V/50 Hz <sup>1.2</sup> Available       Available           200-230       V/50-60 Hz Global Voltage <sup>1.2</sup> Available       Available           200-230       V/50-60 Hz Global Voltage <sup>1.2</sup> Available       Available           208-230       V/60 Hz/3 phase <sup>1.2</sup> 200-230       V/50-60 Hz Global Voltage <sup>1.2</sup> Available       Available       Available <td></td> <td></td> <td></td> <td></td> <td></td>					
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	60 Hz	—	—		
(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 <sup>1.2</sup> —       —       —       —         100 V/60 Hz & 100 V/50 Hz <sup>1.2</sup> —       —       —       —       —         208-230 V/60 Hz & 200 V/50 Hz <sup>1.2</sup> Available       Available       —       —       —         208-230 V/60 Hz & 200 V/50 Hz <sup>1.2</sup> Available       Available       —       —       —         200-230 V/50 Hz <sup>1</sup> Available       Available       —       —       —         200-230 V/50-60 Hz Global Voltage <sup>1.2</sup> Available       Available       —       —         208-230 V/60 Hz/3 phase <sup>1.2</sup> —       —       —       —       —         208-230 V/60 Hz/3 phase <sup>1.2</sup> —       —       —       —       —         208-230 V/60 Hz/3 phase <sup>1.2</sup> —       —       —       —       —         208-230 V/60 Hz/3 phase <sup>1.2</sup> —       —       —       —       —         208-230 V/60 Hz/3 phase <sup>1.2</sup> —       —       —       Available       Available      <	50 Hz		_		
Voltage Options					
115 V/60 Hz & 100 V/50 Hz <sup>1,2</sup> —       —       —       —       —       —       —       —       —       —       —       …       <	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)
100 V/60 Hz & 100 V/50 Hz <sup>1,2</sup> 208-230 V/60 Hz & 200 V/50 Hz <sup>1,2</sup> Available       Available           200 - 230 V/50 Hz <sup>1</sup> Available       Available           200 - 230 V/50 Hz <sup>1</sup> Available       Available           200 - 230 V/50 Hz Global Voltage <sup>1,2</sup> Available       Available           208 - 230 V/50 Hz /3 phase <sup>1,2</sup> Available           208 - 230 V/60 Hz /3 phase <sup>1,2</sup> Available       Available           208 - 230 V/60 Hz /3 phase <sup>1,2</sup> Available       Available       Available         400 V/50 Hz /3 phase <sup>1</sup> Available       Available       Available         460 V/60 Hz /3 & 400 V/50 Hz /3 <sup>1,2</sup> Available       Available         Standard Compliance       C       C       1CE compliant       1CE compliant	Voltage Options				
208-230 V/60 Hz & 200 V/50 Hz <sup>1.2</sup> Available       Available       —       —         230 V/50 Hz <sup>1</sup> Available       Available       —       —         200-230 V/50-60 Hz Global Voltage <sup>1.2</sup> Available       Available       —       —         208-230 V/60 Hz/3 phase <sup>1.2</sup> Available       Available       —       —         208-230 V/60 Hz/3 phase <sup>1.2</sup> —       —       Available       Available         400 V/50 Hz/3 phase <sup>1</sup> —       —       Available       Available         400 V/50 Hz/3 s 400 V/50 Hz/3 <sup>1.2</sup> —       —       Available       Available         460 V/60 Hz/3 & 400 V/50 Hz/3 <sup>1.2</sup> —       —       Available       Available         Standard Compliance       ICE compliant       1CE compliant       1       1		_			
230 V/50 Hz1         Available         Available         —         —           200-230 V/50-60 Hz Global Voltage <sup>1,2</sup> Available         Available         —         … <td>208-230 V/60 Hz &amp; 200 V/50 Hz<sup>1,2</sup></td> <td>Available</td> <td>Available</td> <td></td> <td></td>	208-230 V/60 Hz & 200 V/50 Hz <sup>1,2</sup>	Available	Available		
208-230 V/60 Hz/3 phase <sup>1.2</sup> —         —         Available         Available           400 V/50 Hz/3 phase <sup>1</sup> —         —         Available         Available           400 V/50 Hz/3 phase <sup>1</sup> —         —         Available         Available           460 V/60 Hz/3 & 400 V/50 Hz/3 <sup>1.2</sup> —         —         Available         Available           Standard Compliance         ICE compliant         1CE compliant         ICE compliant	230 V/50 Hz <sup>1</sup>	Available	Available		
400 V/50 Hz/3 phase <sup>1</sup> —         —         Available         Available           460 V/60 Hz/3 & 400 V/50 Hz/3 <sup>1,2</sup> —         —         Available         Available           Standard Compliance         CC         C         1°CE compliant         1°CE compliant	200-230 V/50-60 Hz Global Voltage <sup>1,2</sup>				
460 V/60 Hz/3 & 400 V/50 Hz/3 <sup>1,2</sup> —         Available         Available           Standard Compliance         C C         In CE compliant         In CE compliant			_		
Standard Compliance					
		4.4			
	(for all ThermoFlex recirculating chillers)		2004 compliant		

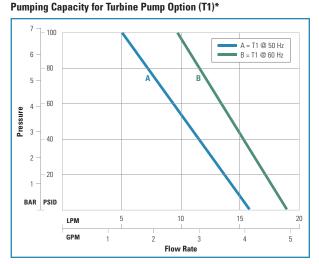
Specifications obtained at sea level using water as the recirculating fluid, at a +20°C process setpoint, +25°C ambient condition, at nominal operating voltage.

Other fluids, process temperatures, ambient temperatures, altitude or operating voltages will affect performance. Cooling capacity based on units with

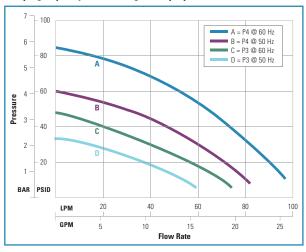
P2 pumps with no backpressure. Other pumps will affect cooling capacity performance. Specifications subject to change. \*\*Pressure values for centrifugal and turbine pumps are differential pressures between the inlet and the outlet of the unit.



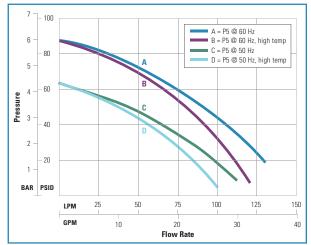












\*Pressure values for turbine and centrifugal pumps are differential pressures between the inlet and the outlet of the unit. Cooling capacity based on units with P2 pumps with no backpressure. Other pumps will affect cooling capacity performance

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