

## Typical Applications

Analytical

Biotech

Industrial

Laser

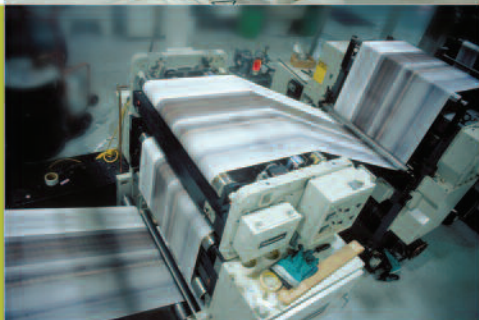
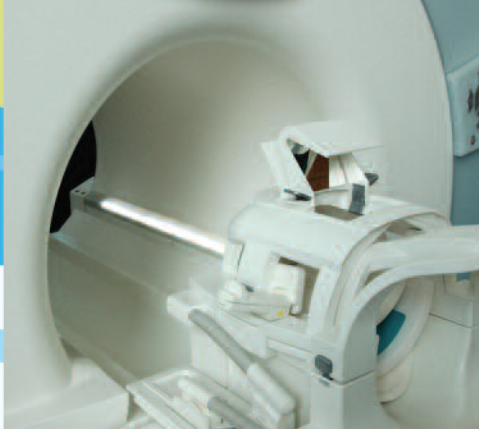
Metrology

Pharmaceutical

Packaging

Printing

Research



Thermo Scientific  
ThermoFlex Series Recirculating Chillers

configurable,  
innovative, performance

# The Ideal Choice

## Temperature control products for your application

As an innovative leader in temperature control, **we have the expertise to enable our customers to optimize liquid cooling and heating applications.** With over 50 years of 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 biotech and pharmaceutical to printing and semiconductor, companies around the world, continue to make Thermo Scientific temperature control products the ideal choice.

**Select the product that is right for your application** from a 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 leap forward in performance, configurability and technology that provide the following advantages:

**The Ideal Choice:** Whatever your application or your budget, you can configure a 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 ThermoFlex Series recirculating chillers

**Configurable Design:** Choose from a wide range of cooling capacities and options to create the perfect fit for your application.

**Innovative Platform:** Developed with your input from concept to design. The result is an easy-to-use, easy-to-maintain high performance chiller configurable to the most demanding applications.

**Excellent Performance:** Optimized cooling capacity and reliability for your critical application needs.

## Choose your controller

Feature	Standard	Deluxe <sup>1</sup>
LCD Multi-line display		●
LED Single-line display	●	
Alphanumeric display		●
Temperature alarms	●	●
Pressure alarms	●	●
Flow alarms	●	●
Fluid level readout		●

<sup>1</sup> Deluxe controller is available on the ThermoFlex 900 - 10000 models only.

See last page for  
list of accessories!

## Choose your features

Feature	Benefit	Availability
<b>Pressure Relief<sup>4</sup></b>	The internal pressure relief valve allows you to limit the maximum fluid pressure to meet the application requirements.	900 to 10000
<b>Pressure Relief with Flow Readout<sup>4</sup></b>	The pressure relief valve allows you to limit the maximum fluid pressure to meet the application requirements. The flow readout allows you to monitor the flow rate to the application and set flow alarms via the controller.	900 to 10000
<b>Flow Control with Flow Readout</b>	The flow control valve allows you to adjust the flow to the application. Monitor flow rate to application and set flow alarms via controller.	All models
<b>Global Voltage</b>	Select the appropriate frequency and voltage to enable operation anywhere in the world.	900 to 10000
<b>SEMI S2 Compliance</b>	Compliant with S2-0703, S8-0705, S14-0704, F47-0706. Includes EMO capability/LOTO circuit breaker (GFCI available on standard temperature range).	900 to 10000
<b>Water-Cooled Condenser</b>	Reduces heat rejection into your workspace by using facility water.	1400-24000
<b>Air-Cooled Condenser</b>	Simplified installation (no facility water required).	All models
<b>Anti Drainback</b>	Prevents fluid from flowing back to the reservoir when the chiller is installed below the application.	All models
<b>Auto Refill</b>	Automatic refilling from a facility-supplied water source to ensure the proper fluid level is maintained.	All models
<b>DI Water<sup>2</sup></b>	Partial flow internal DI (De-ionized water support) cartridge minimizes footprint and provides fluid resistivity between 1 - 3 MΩ - cm.	All models
<b>DIC Water<sup>3</sup></b>	Partial flow internal DI cartridge minimizes footprint and provides fluid resistivity between 1-3 M-cm with DI level control/monitoring on deluxe controller.	900 -10000
<b>RS232 &amp; RS485 Digital/Analog Communication</b>	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).	All models

<sup>2</sup> Basic controller only

<sup>3</sup> Deluxe controller and Standard Temperature range only

<sup>4</sup> P1, P2, and T1 pumps only



# 900 to 2500 watts of cooling

## 900 to 2500 series



Specifications	ThermoFlex 900		ThermoFlex 1400	ThermoFlex 2500
Standard Setpoint Temperature Range	5 °C to 40 °C (41 °F to 104 °F)			
Optional Setpoint Temperature Range	—	5 °C to 90 °C (41 °F to 194 °F)		
Ambient Temperature Range	10 °C to 40 °C (50 °F to 104 °F)			
Temperature Stability	±0.1 °C			
Standard Cooling Capacity	900 W / 3074 BTU 60 Hz at 20°C 50 Hz at 20°C	1400 W / 4781 BTU 1170 W / 3996 BTU	2500 W / 8538 BTU 2200 W / 7513 BTU	
Reservoir Volume	7.2 Liters (1.9 gallons)			
Refrigerant	R134A			
Physical Dimensions (H x W x D)	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)	
Air-Cooled				
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	2.1 gpm @ 60 psig (7.9 lpm @ 4.1 bar)			
60 Hz				
50 Hz	1.7 gpm @ 60 psig (6.4 lpm @ 4.1 bar)			
P2 — Positive Displacement Pump	4.0 gpm @ 60 psig (15.1 lpm @ 4.1 bar)			
60 Hz				
50 Hz	3.3 gpm @ 60 psig (12.5 lpm @ 4.1 bar)			
T1 — Turbine Pump*	3.5 gpm @ 60 psid (13.2 lpm @ 4.1 bar)			
60 Hz				
50 Hz	2.5 gpm @ 60 psid (9.5 lpm @ 4.1 bar)			
Chiller Weight (with P2 pump)	130.5 lb (59.2 kg)			175.5 lb (79.6 kg)
Voltage Options	Available Available Available Available Available			— — Available Available Available
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> 230 V/50 Hz <sup>1</sup> 200-230 V/50-60 Hz Global Voltage <sup>1,2</sup>				
Compliance	<div>CE</div> <div>UL</div> <div>CSA</div> <div>1CE compliant</div> <div>2CSA compliant</div>			

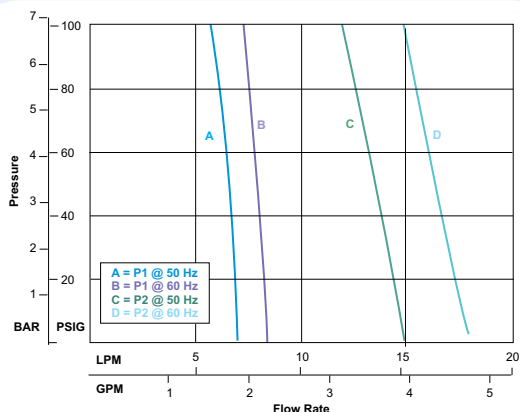
Specifications obtained at sea level using water as the recirculating fluid, at a +20°C process setpoint, +25°C ambient condition, at nominal operating voltage. Other fluids, process temperatures, ambient temperatures, altitude or operating voltages will affect performance. Specifications subject to change.

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

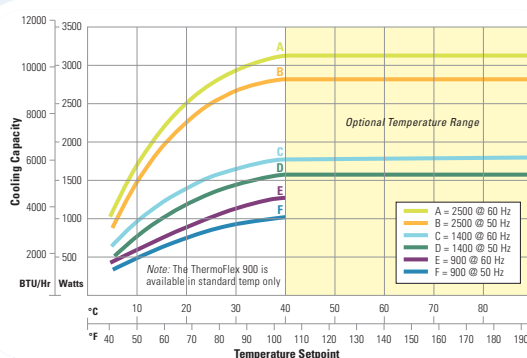
# pumping capacity

# cooling capacity

P1 & P2 Pump

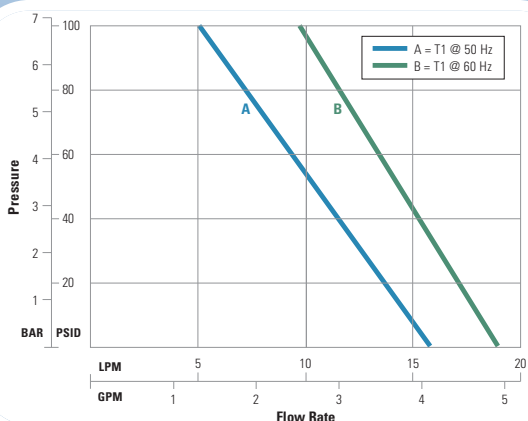


ThermoFlex 900, 1400 & 2500



Cooling capacity based on chillers with P2 pumps set at 10 gpm. Other pumps and flow rates will affect cooling capacity performance.

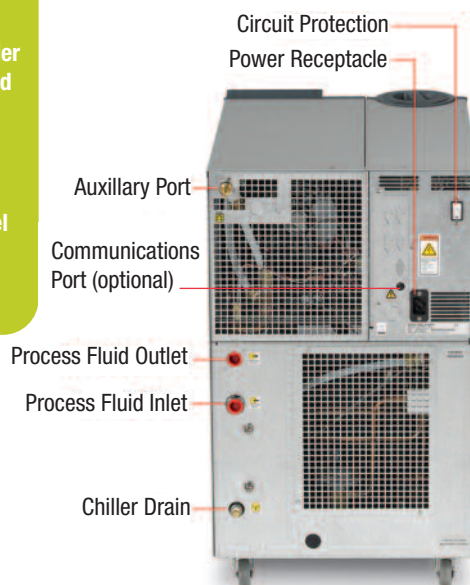
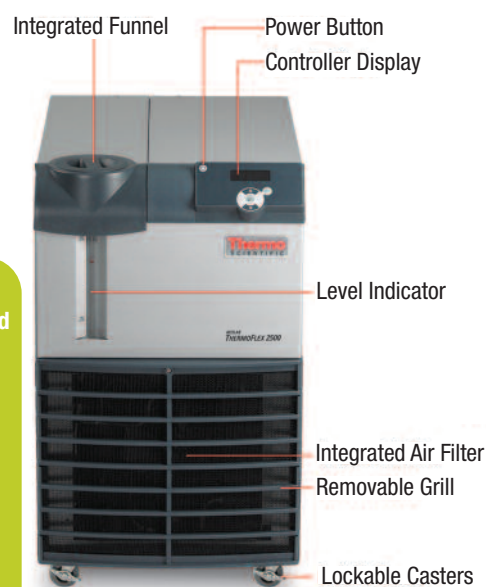
T1 Pump



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 for easy filling.



# 3500 to 10000 watts of cooling

3500 to 10000 series

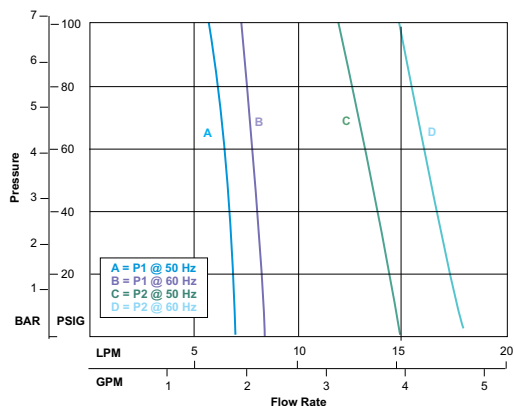


Specifications	ThermoFlex 3500		ThermoFlex 5000	ThermoFlex 7500	ThermoFlex 10000
Standard Temperature Range	5 °C to 40 °C (41 °F to 104 °F)				
Optional Temperature Range	5 °C to 90 °C (41 °F to 194 °F)				
Ambient Temperature Range	10 °C to 40 °C (50 °F to 104 °F)				
Temperature Stability	±0.1 °C				
Standard Cooling Capacity 60 Hz at 20°C 50 Hz at 20°C	3500 W / 11953 BTU 3050 W / 10416 BTU	5000 W / 17076 BTU 4400 W / 15027 BTU	7500 W / 25575 BTU 6425 W / 21910 BTU	10000 W / 34100 BTU 8500 W / 28985 BTU	
Reservoir Volume	7.2 Liters (1.9 gallons)			17.9 Liters (4.8 gallons)	
Refrigerant	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)			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)			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)				
50 Hz	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)			— — — —	
50 Hz	2.5 gpm @ 60 psid (9.5 lpm @ 4.1 bar)				
T5 — Turbine Pump* 60 Hz	— — — —			7.3 gpm @ 60 psid (27.6 lpm @ 4.1 bar)	
50 Hz				6.2 gpm @ 60 psid (23.5 lpm @ 4.1 bar)	
P3 — Centrifugal Pump* 60 Hz	10 gpm @ 32 psid (37.9 lpm @ 2.2 bar)				
50 Hz	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)			— — — —	
50 Hz	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)	
50 Hz				20 gpm @ 35 psid (75.7 lpm @ 2.4 bar)	
Chiller Weight (with P2 pump)	264 lb (120 kg)			356 lb (161.5 kg)	
Voltage Options 208-230 V/60 Hz & 200 V/50 Hz <sup>1,2</sup> 230 V/50 Hz <sup>1</sup> 200-230 V/50-60 Hz Global Voltage <sup>1,2</sup> 208-230 V/60 Hz/3 phase & 200V/50 Hz <sup>1,2</sup> 400 V/50 Hz/3 phase 460 V/60 Hz/3 phase & 400 V/50 Hz/3 phase <sup>1,2</sup>	Available Available Available — — —			— — — Available Available Available	
Compliance T5 Pump CSA compliance pending	CE			<sup>1</sup> CE compliant <sup>2</sup> CSA compliant	

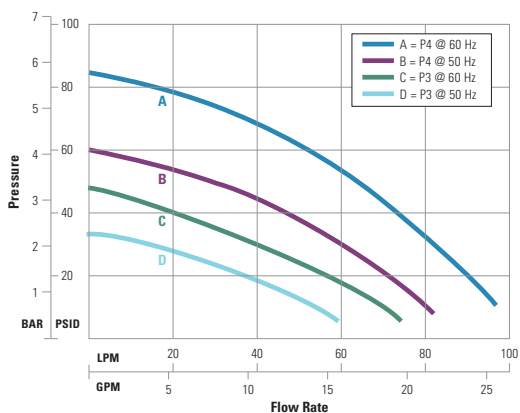
Specifications obtained at sea level using water as the recirculating fluid, at a +20°C process setpoint, +25°C ambient condition, at nominal operating voltage. Cooling capacity based on chillers with P2 pumps with no backpressure. Other pumps will affect cooling capacity performance. Specifications subject to change.  
<sup>\*</sup>Pressure values for centrifugal and turbine pumps are differential pressures between the inlet and the outlet of the chiller.

# pumping capacity

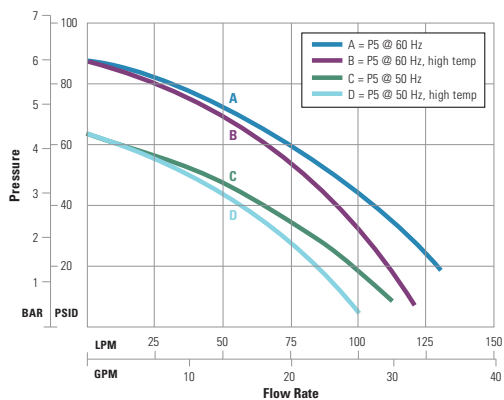
P1 & P2 Pump



P3 & P4 Pump

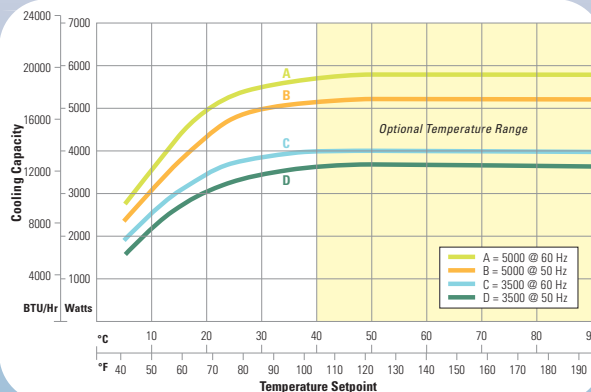


P5 Pump



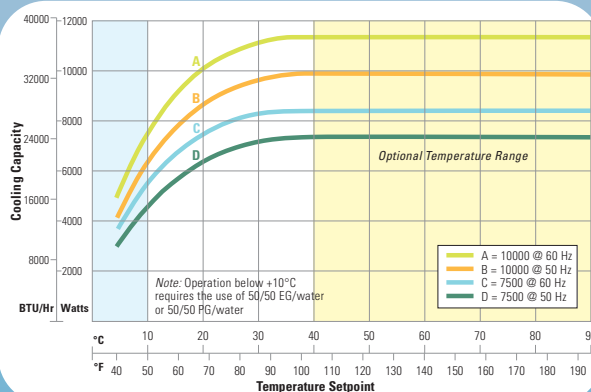
# cooling capacity

ThermoFlex 3500 & 5000



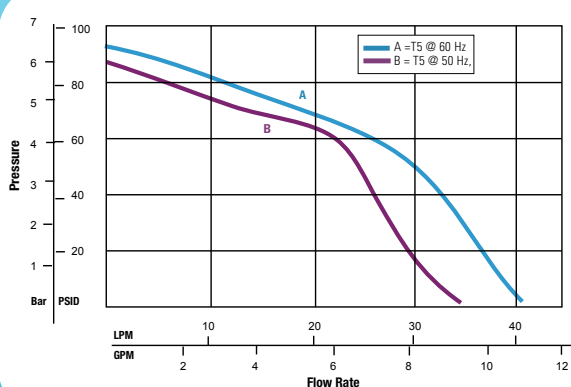
Cooling capacity based on chillers with P2 pumps with no backpressure. Other pumps will affect cooling capacity performance.

ThermoFlex 7500 & 10000





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

T5 Pump



15000 to 24000  
watts of cooling



Specifications	ThermoFlex 15000	ThermoFlex 20000	ThermoFlex 24000
<b>Standard Temperature Range</b>	5 °C to 40 °C (41 °F to 104 °F)		
<b>Ambient Temperature Range</b>	10 °C to 40 °C (50 °F to 104 °F)		
<b>Temperature Stability</b>	±0.1 °C		
<b>Standard Cooling Capacity</b> 60 Hz at 20°C 50 Hz at 20°C	15000 W / 51228 BTU 12525 W / 42775 BTU	20000 W / 68304 BTU 16700 W / 57043 BTU	24000 W / 81964 BTU 21000 W / 71719 BTU
<b>Reservoir Volume</b>	17.9 liters (4.75 gallons)		
<b>Refrigerant</b>	R407C		
<b>Physical Dimensions</b> (H x W x D) Air-Cooled	49.0 x 46.5 x 30.9 in (124.4 x 118.1 x 78.6 cm)		58.6 x 46.5 x 30.9 in (148.9 x 118.1 x 78.6 cm)
Water-Cooled	49.0 x 46.5 x 30.9 in (124.4 x 118.1 x 78.6 cm)		
<b>P3 — Centrifugal Pump*</b> 60 Hz	10 gpm @ 32 psid (37.9 lpm @ 2.2 bar)		
50 Hz	10 gpm @ 20 psid (37.9 lpm @ 1.4 bar)		
<b>P5 — Centrifugal Pump*</b> 60 Hz	20 gpm @ 60 psid (75.7 lpm @ 4.1 bar)		
50 Hz	20 gpm @ 35 psid (75.7 lpm @ 2.4 bar)		
<b>Chiller Weight</b> (with P3 pump)	550 lb (249.5 kg)		650 lb (294.8 kg)
<b>Voltage Options</b> 208-230 V/60 Hz/3 phase <sup>1,2</sup>  460 V/60 Hz/3 phase & 400 V/50 Hz/3 phase <sup>1,2</sup>	Available  Available		
<b>Compliance</b>	  <sup>1</sup> CE compliant <sup>2</sup> CSA compliant		

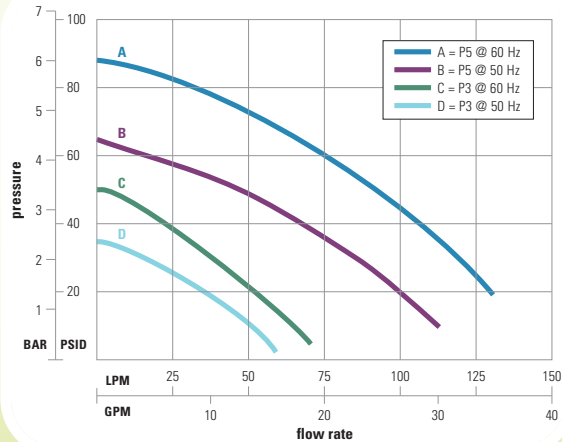
Specifications obtained at sea level using water as the recirculating fluid at a +20°C process setpoint, +25°C ambient condition, at nominal operating voltage. Other fluids, process temperatures, ambient temperatures, altitude, or operating voltages will affect performance. \*Pressure values for centrifugal pumps are the differential between the inlet and the outlet of the chiller. Specifications subject to change.



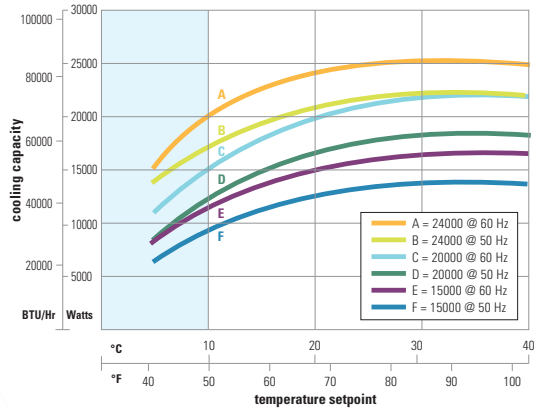
# pumping capacity

# cooling capacity

Pumping Capacity for Pump Options P3 & P5



ThermoFlex 15000/20000/24000



## Coming Soon! T9 Pump

60 Hz - 15 gpm @ 85 psid (56 lpm @ 5.9 bar)  
50 Hz - 15 gpm @ 75 psid (56 lpm @ 5.2 bar)

**Increased flow and pressure for your demanding applications!**

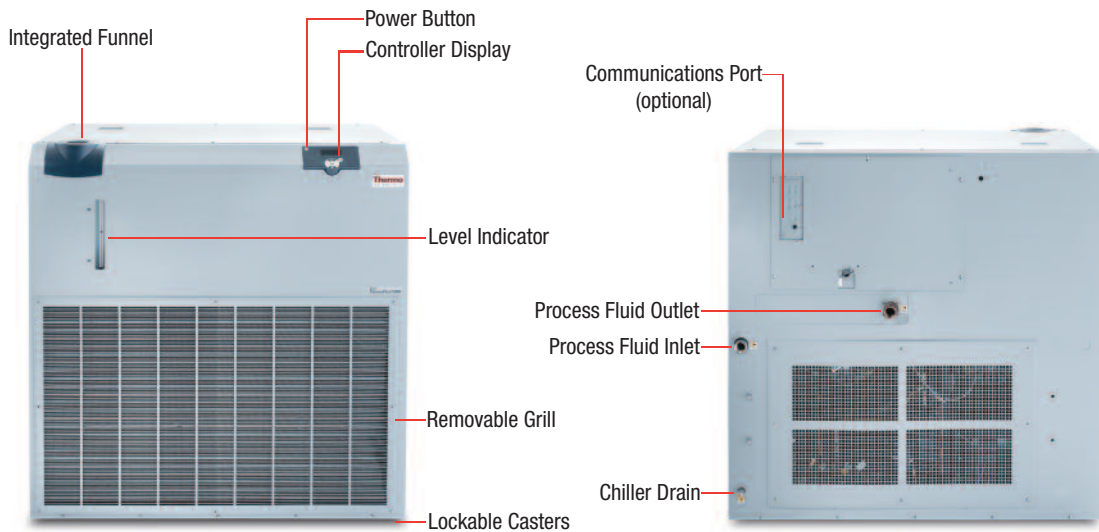
Cooling capacity based on chiller with P3 pumps with no backpressure.  
Other pumps will affect cooling capacity performance.

Note: Operation below +10°C requires the use of 50/50 EG/water or 50/50 PG/water

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 fill for easy filling.



Part Number	Accessories
<b>Seismic Tiedowns</b>	
<b>097374</b>	Seismic Tiedown Kit for ThermoFlex 900-2500
<b>095139</b>	Seismic Tiedown Kit for ThermoFlex 3500 - 5000
<b>096502</b>	Seismic Tiedown Kit for ThermoFlex 7500 - 10000
<b>Plumbing Packages</b>	
<b>599000000012</b>	50' of 1"ID Polybraid hose comes with 1" hose barbs, insulation and clamps. For use with the ThermoFlex 7500 - 24000 with the P3, P5 and T5 pumps
<b>599000000011</b>	25' of 1"ID Polybraid hose comes with 1" hose barbs, insulation and clamps. For use with the ThermoFlex 7500 - 24000 with the P3, P5 and T5 pumps
<b>611000000107</b>	10m Standard Temp Plumbing Package for all ThermoFlex 3500 - 5000 with P3, P4 pumps (3/4" NPT)
<b>611000000105</b>	50' High Temp Plumbing Package for all ThermoFlex 900 - 10000 with P1, P2 or T1 pumps (1/2" NPT)
<b>611000000104</b>	25' High Temp Plumbing Package for all ThermoFlex 900 - 10000 with P1, P2 or T1 pumps (1/2" NPT)
<b>611000000100</b>	50' Standard Temp Plumbing Package for all ThermoFlex 900 - 10000 with P1, P2 or T1 pumps (1/2" NPT)
<b>611000000004</b>	25' Standard Temp Plumbing Package for all ThermoFlex 900 - 10000 with P1, P2 or T1 pumps (1/2" NPT)
<b>Filter Bags</b>	
<b>598000000002</b>	2 ea. 35 micron replacement filter bags for ThermoFlex 900 - 5000
<b>598000000003</b>	2 ea. 100 micron replacement filter bags for ThermoFlex 900 - 5000
<b>598000000004</b>	2 ea. 100 micron replacement filter bags and 1 ea. Front grill/filter for ThermoFlex 900 - 1400
<b>598000000005</b>	2 ea. 35 micron replacement filter bags and 1 ea. Front grill/filter for ThermoFlex 900 - 1400
<b>598000000006</b>	2 ea. 100 micron replacement filter bags and 1 ea. Front grill/filter for ThermoFlex 2500
<b>598000000007</b>	2 ea. 35 micron replacement filter bags and 1 ea. Front grill/filter for ThermoFlex 2500
<b>598000000008</b>	2 ea. 100 micron replacement filter bags and 1 ea. Front grill/filter for ThermoFlex 3500 - 5000
<b>598000000009</b>	2 ea. 35 micron replacement filter bags and 1 ea. Front grill/filter for ThermoFlex 3500 - 5000
<b>598000000013</b>	2 ea. 35 micron replacement filter bags and 1 ea. Front grill/filter for ThermoFlex 7500 - 10000
<b>598000000014</b>	2 ea. 100 micron replacement filter bags and 1 ea. Front grill/filter for ThermoFlex 7500 - 10000
<b>611000000101</b>	2 ea. 35 micron replacement filter bags for ThermoFlex 7500 - 24000
<b>611000000102</b>	2 ea. 100 micron replacement filter bags for ThermoFlex 7500 - 24000
<b>598000000015</b>	2 ea. 250 micron replacement filter bags for ThermoFlex 7500 - 24000
<b>Fittings</b>	
<b>598000000011</b>	2 ea. 1/2" MPT to 3/8" ID brass hose barbs. For use with ThermoFlex 900 - 10000 with P1, P2 or T1 pumps (1/2" NPT)
<b>External Pressure Reducers</b>	
<b>342000000025</b>	External Pressure Reducer for use with ThermoFlex 900 - 10000 with P1, P2 or T1 pumps (1/2" NPT)
<b>342000000026</b>	External Pressure Reducer for use with ThermoFlex 3500 - 5000 with P3 or P4 pumps. (3/4" NPT)
<b>342000000027</b>	External Pressure Reducer for use with ThermoFlex 7500 - 24000 with P3, P5, T5 and T9 pumps (1" NPT)
<b>External Flow Control Kits</b>	
<b>611000000106</b>	External Flow Control Kit for use with ThermoFlex 900 - 10000 with P1, P2 or T1 pumps (1/2" NPT)
<b>342000000028</b>	External Flow Control Kit for use with ThermoFlex 3500 - 5000 with P3 or P4 pumps. (3/4" NPT)
<b>342000000029</b>	External Flow Control Kit for use with ThermoFlex 7500 - 24000 with P3, P5, T5 and T9 pumps (1" NPT)
<b>Communication Cable</b>	
<b>426000000044</b>	25' RS232/RS485 Communication Cable Assembly. Fits all chillers with RS232/RS485 with digital communication option
<b>Software</b>	
<b>422000000004</b>	NEScom control/monitoring PC software

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