



Temperature control

# Delivering excellence with every degree

Thermo Scientific™ TSC Series™  
Recirculating Chillers

# Application versatility

TSC series recirculating chillers support a variety of applications, from lab benches to large manufacturing processes.

- Analytical
- Biotech
- Industrial
- Battery
- Laser
- Metrology
- Pharmaceutical
- Packaging
- Printing
- Research
- Semiconductor



## Thermo Scientific TSC Series low GWP Recirculating Chillers

**Outstanding performance and support, better energy efficient.**

The TSC series chillers are designed to limit the environmental impact of industrial processes. Now, your chiller can help you minimize the water and energy consumption associated with your process as well as help protect the future of the planet with low-GWP refrigerants. Let the TSC series of chillers help you meet your sustainability goals with performance you can rely on.

# Quality cooling for modern manufacturing



## Innovative platform:

Developed with your input and designed with a focus on what matters most to you. The result is a high-performance chiller that facilitates precision temperature control and is built to withstand the rigors of industrial manufacturing environments.

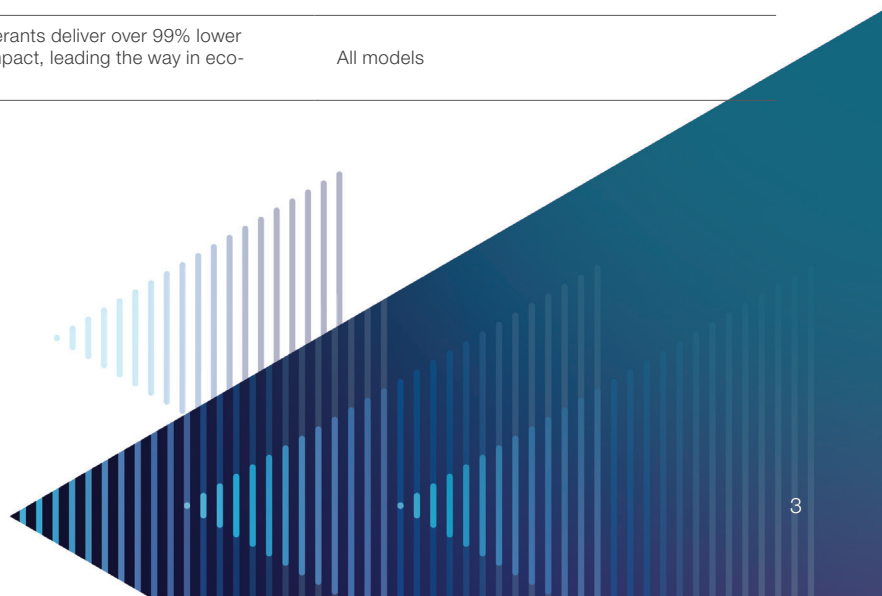
## Adaptable design:

Choose from a wide range of cooling capacities that offer options to tailor your temperature control unit that fits constrained spaces and to meet your specific application and installation requirements.

## Reliable and energy efficient:

Enabling exceptional temperature stability, energy efficiency and optimized specifications backed by a global service network and more than 50 years of temperature control expertise.

Feature	Benefit	Availability
Extended temperature set point range	Broader temperature range chillers that have a set point temperature range of -5°C up to +90°C with active heating capacity for fast temperature ramping.	All extended range models
Water-cooled condenser	Reduces heat rejection into your workspace by using facility water.	1600 to 24000
Air-cooled condenser	Simplified installation (no facility water required).	All models
RS232 & RS485 digital/analog communication	Offers analog and digital communication for remote operation, monitoring, and data logging. Includes a remote sensor port for remote temperature control. Data retrieval via USB stick or Thermo Fisher Connect Platform via OPC-UA™ standard.	All models
Controller and user-friendly interface	LCD multi-line alphanumeric display with intuitive UI.	All models
Pressure relief with flow readout	Allows you to limit the maximum fluid pressure and monitor the flow rate to the application.	All models with T1, T2, or T3 pumps
Flow control with flow readout	Adjust the flow to the application and monitor flow rate.	All models with C1, C2, or C3 pumps
Global voltage	Automatic frequency detection enables operation anywhere in the world.	All models
Compliance	Meets CE, RoHS, SEMI, GMP and ISO Standards. Cleanroom compatible.	All models
Sustainability	Low-GWP refrigerants deliver over 99% lower environmental impact, leading the way in eco-efficient cooling.	All models



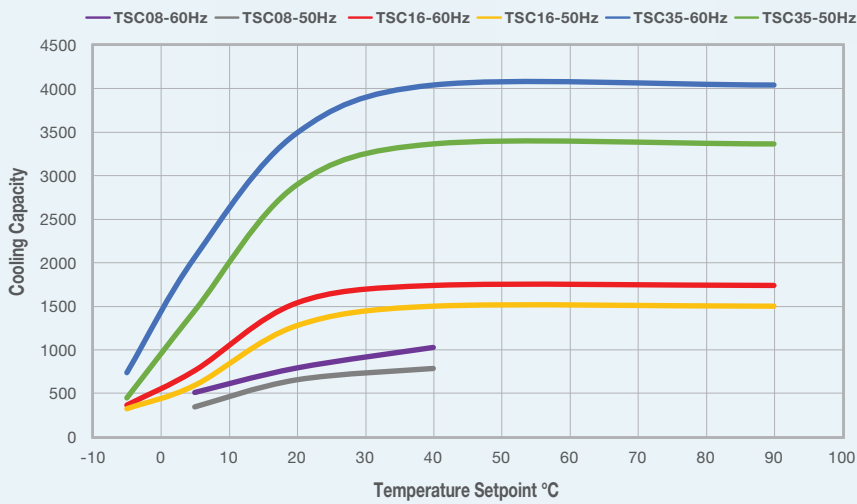
# Control every degree with precision, reliability and energy-conscious design

Discover exceptional precision, sustainability, and reliability with the Thermo Scientific TSC Series Recirculating Chillers. Our wide range of cooling capacities ensures that you can find a solution for your specific application needs, helping you achieve your goals with innovative technology and excellent performance.

## 800 to 3500 watts of cooling

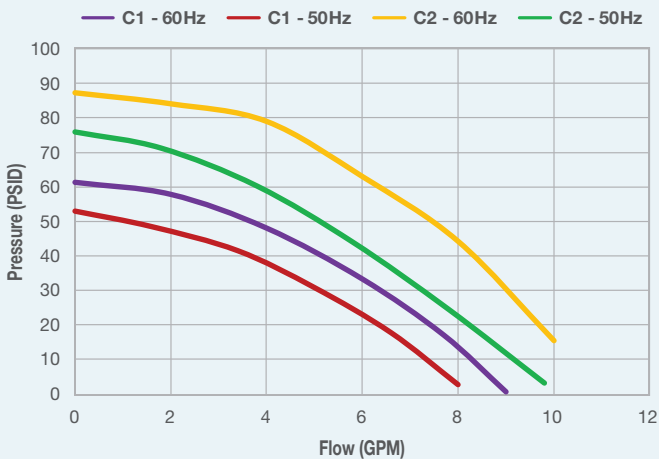
Specifications		TSC08	TSC16	TSC35
Process fluid setpoint temperature range		+5°C to +40°C / +41°F to +104°F		
Extended range setpoint temperature range		-5°C to +90°C / +23°F to +194°F		
Cooling capacity at 20°C setpoint	60 Hz	800 W	1550 W	3500 W
	50 Hz	660 W	1280 W	2900 W
Temperature stability		+/- 0.1 °C		
Indoor/outdoor usage		Indoor use only		
Ambient temperature rating		+50° F to +104° F (+10°C to +40°C)		
Application environment		Non-corrosive, non-flammable, non-explosive, good air ventilation		
Available pump options				
T1, Turbine	60 Hz	3.3GPM @ 60 psid (12.5lpm @ 4.14 bar)		
	50 Hz	2.3GPM @ 60 psid (8.7lpm @ 4.14 bar)		
C1, Centrifugal	60 Hz	-	4GPM @ 50 psid (15.2lpm @ 3.45 bar)	
	50 Hz	-	4GPM @ 38 psid (15.2lpm @ 2.62 bar)	
C2, Centrifugal	60 Hz	-	4GPM @ 80 psid (15.2lpm @ 5.52 bar)	
	50 Hz	-	4GPM @ 57 psid (15.2lpm @ 3.93 bar)	
Refrigerant type		R1234yf (GWP: 4)	R1234yf (GWP: 4)	R1234yf (GWP: 4)
Electrical options				
B: 115V/60Hz & 100V/50-60Hz		Available	Available	-
F: 208-230V/60 Hz & 220V/50Hz		-	Available	Available
Available heaters (extended range only)				
3 kW @ 230V		-	Available	Available
6 kW @ 230V/3-phase		-	-	-
22.5 kW @ 460V/3-Phase		-	-	-
Dimensions and construction				
Exterior dimensions (HxWxD)	Inches	30.1 x 16.7 x 26.1	30.5 x 14.2 x 32	30.5 x 14.2 x 32
	Centimeters	76.4 x 42.2 x 66.2	77.5 x 36.1 x 81.4	77.5 x 36.1 x 81.4
Reservoir volume	Gallons	2.9	1.5	1.5
	Liters	11	5.7	5.7
Condenser type		Air-cooled	Air-cooled or water cooled	
All-direction casters		Yes		
Unit weight		200 lbs	211 lbs	225 lbs
<ul style="list-style-type: none"> <li>Cooling capacity based on no pump back pressure. Heat input from the pump will result in a reduction in cooling capacity. The cooling capacity reduction will vary based on pump back pressure and flow. Refer to owner's manual.</li> <li>Pump values are nominal. Pumping capacity pressure values are the differential pressures between the inlet and the outlet of the chiller. Pump performance results were obtained with no restrictions on the return to the system or with any options installed.</li> <li>Specifications obtained at sea level using 35% propylene glycol and water as the recirculating fluid, at a 20°C process setpoint, 25°C ambient condition, at nominal operating voltage. Other application parameters, fluids, fluid temperatures, ambient temperatures, altitude or operating voltages will affect performance. Refer to owner's manual.</li> <li>Thermo Fisher Scientific reserves the right to change specifications without notice.</li> </ul>				

# TSC08-35 cooling capacity curve

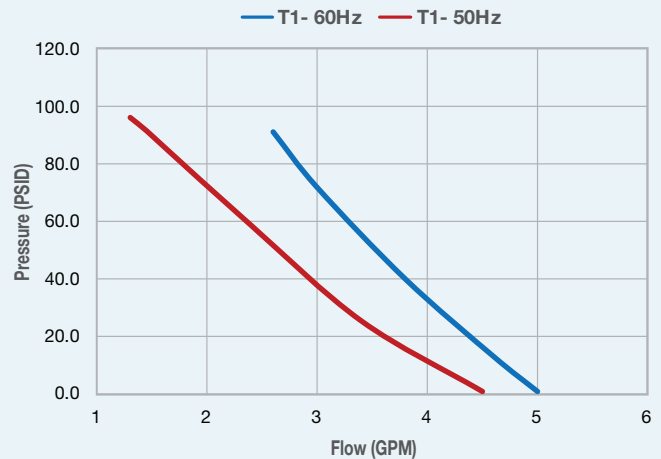


# TSC08-35 pump curve

C1, C2 Pumps



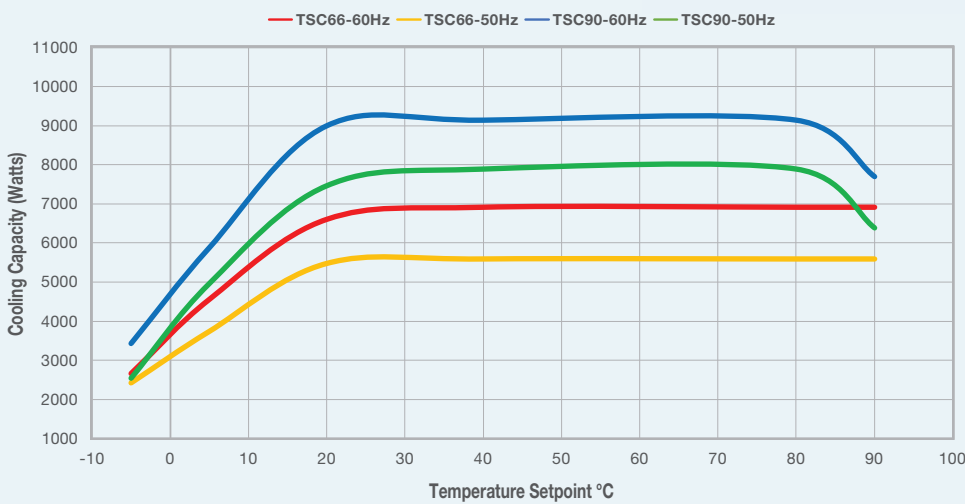
T1 Pump



# 6600 to 9000 watts of cooling

Specifications		TSC66	TSC90
Process fluid setpoint temperature range		+5°C to +40°C / +41°F to +104°F	
Extended range setpoint temperature range		-5°C to +90°C / +23°F to +194°F	
Cooling capacity at 20°C setpoint	60 Hz	6600 W	9000 W
	50 Hz	5470 W	7470 W
Temperature stability		+/- 0.1 °C	
Indoor/outdoor usage		Indoor use only	
Ambient temperature rating		+50° F to +104° F (+10°C to +40°C)	
Application environment		Non-corrosive, non-flammable, non-explosive, good air ventilation	
Available pump options			
T2, Turbine	60 Hz	5.0GPM @ 60 psid (18.9lpm @ 4.14 bar)	
	50 Hz	2.4GPM @ 60 psid (9.1lpm @ 4.14 bar)	
T3, Turbine	60 Hz	-	
	50 Hz	-	
C1, Centrifugal	60 Hz	4GPM @ 50 psid (15.2lpm @ 3.45 bar)	
	50 Hz	4GPM @ 38 psid (15.2lpm @ 2.62 bar)	
C2, Centrifugal	60 Hz	4GPM @ 80 psid (15.2lpm @ 5.52 bar)	
	50 Hz	4GPM @ 57 psid (15.2lpm @ 3.93 bar)	
C3, Centrifugal	60 Hz	-	
	50 Hz	-	
Refrigerant type		R454C (GWP: 148)	R454C (GWP: 148)
Electrical options			
F: 208-230V/60Hz & 220V/50Hz		Available	-
G: 208-230V/60Hz/3 & 200-220V/50Hz/3		-	Available
M: 460V/60Hz/3 & 400V/50Hz/3		-	Available
Available heaters (extended range only)			
3 kW @ 230V		Available	-
6 kW @ 230V/3-phase		-	Available
22.5 kW @ 460V/3-Phase		-	-
Dimensions and construction			
Exterior dimensions (HxWxD)	Inches	34.7 x 18 x 32.4	34.7 x 18 x 32.4
	Centimeters	88.1 x 45.8 x 82.2	88.1 x 45.8 x 82.2
Reservoir volume	Gallons	2.3	2.3
	Liters	8.7	8.7
Condenser type		Air-cooled or water-cooled	
All-direction casters		Yes	
Unit weight		310 lbs	325 lbs
<ul style="list-style-type: none"> <li>Cooling capacity based on no pump back pressure. Heat input from the pump will result in a reduction in cooling capacity. The cooling capacity reduction will vary based on pump back pressure and flow. Refer to owner's manual.</li> <li>Pump values are nominal. Pumping capacity pressure values are the differential pressures between the inlet and the outlet of the chiller. Pump performance results were obtained with no restrictions on the return to the system or with any options installed.</li> <li>Specifications obtained at sea level using 35% propylene glycol and water as the recirculating fluid, at a 20°C process setpoint, 25°C ambient condition, at nominal operating voltage. Other application parameters, fluids, fluid temperatures, ambient temperatures, altitude or operating voltages will affect performance. Refer to owner's manual.</li> <li>Thermo Fisher Scientific reserves the right to change specifications without notice.</li> </ul>			

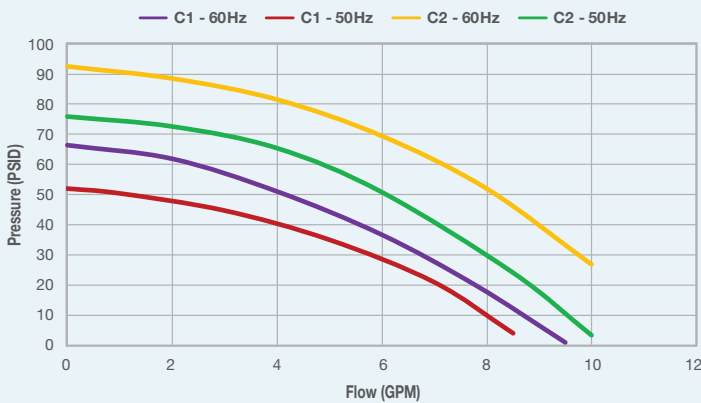
# TSC66-90 cooling capacity curve



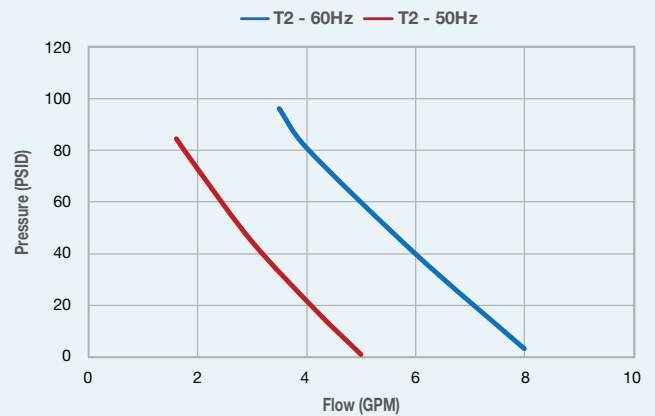
# TSC66-90 pump curve



## C1, C2 Pumps



## T2 Pump

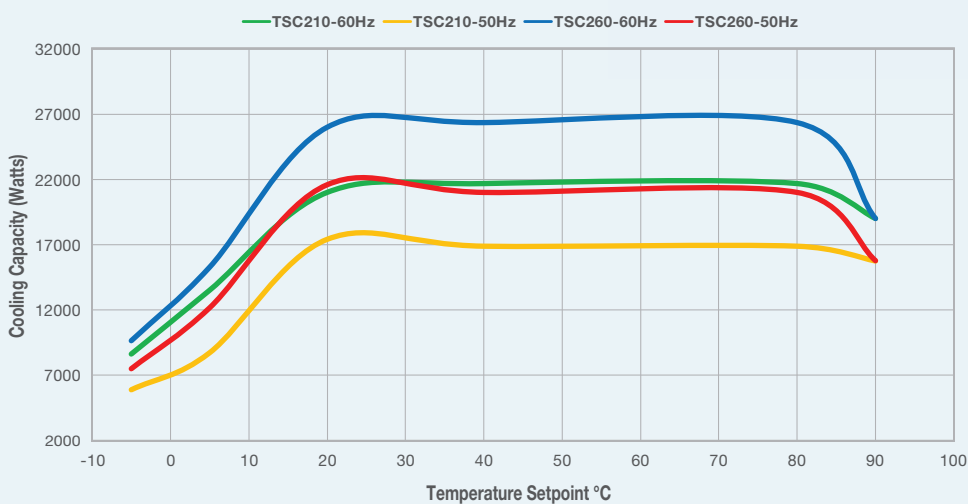


# 21,000 to 26,000 watts of cooling

Specifications		TSC210	TSC260
Process fluid setpoint temperature range		+5°C to +40°C / +41°F to +104°F	
Extended range setpoint temperature range		-5°C to +90°C / +23°F to +194°F	
Cooling capacity at 20°C setpoint	60 Hz	21000 W	26000 W
	50 Hz	17430 W	21580 W
Temperature stability		+/- 0.1 °C	
Indoor/outdoor usage		Indoor use only	
Ambient temperature rating		+50° F to +104° F (+10°C to +40°C)	
Application environment		Non-corrosive, non-flammable, non-explosive, good air ventilation	
Available pump options			
T3, Turbine	60 Hz	28GPM @ 50 psid (106.4lpm @ 3.45 bar)	
	50 Hz	18.5GPM @ 50 psid (70.3lpm @ 3.45 bar)	
C1, Centrifugal	60 Hz	4GPM @ 50 psid (15.2lpm @ 3.45 bar)	
	50 Hz	4GPM @ 38 psid (15.2lpm @ 2.62 bar)	
C2, Centrifugal	60 Hz	4GPM @ 80 psid (15.2lpm @ 5.52 bar)	
	50 Hz	4GPM @ 57 psid (15.2lpm @ 3.93 bar)	
C3, Centrifugal	60 Hz	15GPM @ 63 psid (57lpm @ 4.34 bar)	
	50 Hz	15GPM @ 43 psid (57lpm @ 2.96 bar)	
Refrigerant type		R454B (GWP: 466)	R454B (GWP: 466)
Electrical options			
G: 208-230V/60Hz/3 & 200-220V/50Hz/3		Available	Available
M: 460V/60Hz/3 & 400V/50Hz/3		Available	Available
Available heaters (extended range only)			
6 kW @ 230V/3-phase		Available	Available
22.5 kW @ 460V/3-Phase		Available	Available
Dimensions and construction			
Exterior dimensions (HxWxD)	Inches	53.1 x 36.5 x 34.6	56.7 x 36.5 x 34.6
	Centimeters	134.9 x 92.7 x 87.9	144.1 x 92.7 x 87.9
Reservoir volume	Gallons	14	14
	Liters	53	53
Condenser type		Air-cooled or water-cooled	
All-direction casters		Yes	
Unit weight		515 lbs	565 lbs
<ul style="list-style-type: none"> <li>Cooling capacity based on no pump back pressure. Heat input from the pump will result in a reduction in cooling capacity. The cooling capacity reduction will vary based on pump back pressure and flow. Refer to owner's manual.</li> <li>Pump values are nominal. Pumping capacity pressure values are the differential pressures between the inlet and the outlet of the chiller. Pump performance results were obtained with no restrictions on the return to the system or with any options installed.</li> <li>Specifications obtained at sea level using 35% propylene glycol and water as the recirculating fluid, at a 20°C process setpoint, 25°C ambient condition, at nominal operating voltage. Other application parameters, fluids, fluid temperatures, ambient temperatures, altitude or operating voltages will affect performance. Refer to owner's manual.</li> <li>Thermo Fisher Scientific reserves the right to change specifications without notice.</li> </ul>			



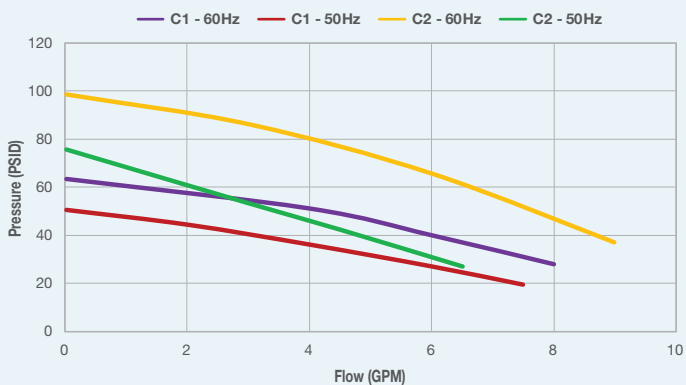
# TSC210-260 cooling capacity curve



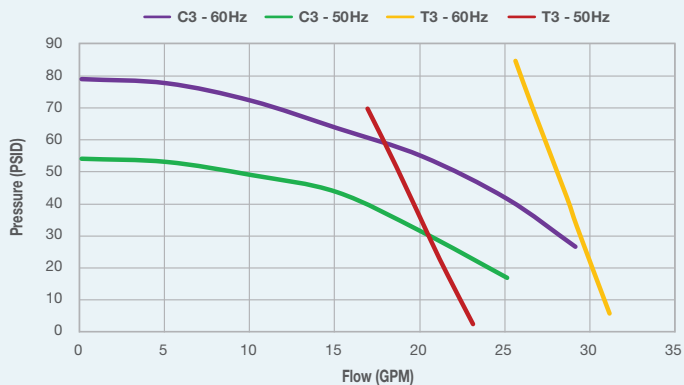
# TSC210-260 pump curve



## C1, C2 Pumps



## C3, T3 Pumps



# Accessories designed to increase system efficiency

TSC Series Recirculating Chillers can be customized and enhanced with a range of accessories designed to improve performance, simplify installation, and ensure reliable operation. Whether you are outfitting a benchtop chiller or installing a high-capacity system, these accessories help you configure your unit to match your specific workflow needs.

## Plumbing kits

Choose high-temperature or standard-temperature packages, available in 25-ft and 50-ft lengths. Each kit includes compatible hose barbs, clamps, and insulation to ensure leak-free, long-lasting connections.

### Options include:

- 1" Polybraided Hose Kits (25' or 50') – For high-capacity units (TSC210–TSC260)
- Brass adapters (½" MPT to 3/8" ID) for secure hose-to-unit connections
- External Pressure Reducer Kits (½" NPT or 1" NPT) to protect pumps and internal components by maintaining safe inlet pressure.
- External flow control kits (½" NPT or 1" NPT) to fine-tune coolant flow for turbine or centrifugal pump configurations

### Available accessories by TSC model

Contact your sales representative for pricing and ordering numbers.

TSC210	TSC210	TSC260	TSC210	TSC210	TSC210	TSC210
<b>Plumbing kits</b>						
High-temperature plumbing kits - 25 or 50 ft.						
Standard-temperature plumbing kits - 25 or 50 ft.						
					1 in. Polybraided hose kits - 25 or 50 ft.	
Hose barb kits - brass adapters (½ in. MPT to 3/8 in. ID) for secure hose-to-unit connections						
<b>External pressure reducer kits (EPR)</b>						
½ in. NPT					1 in. NPT	
<b>External flow control kits</b>						
½ in. NPT					1 in. NPT	
<b>Connectivity accessories</b>						
25 ft. RS232/RS485 communication cable assembly						
RS485-to-RS232 converter						





## Our service and support continues

When you invest in TSC Series Recirculating Chillers, you not only benefit from top-quality product performance, you can also enjoy world-class service solutions from the Unity™ Lab Services team. Our comprehensive service portfolio was designed to meet the needs of your lab.

- **Equipment service plans:** Our service plans help increase uptime and maintain peak performance.
- **On-demand services:** Our flexible services are available to access when you need them.
  - **Compliance services:** count on us to stay audit-ready with installation qualification and operational qualification.
  - **Preventive maintenance:** help extend the life of your equipment; typical procedures include overall general inspection and cleanup, replacement of worn parts, general performance testing, tuning, and more.

Keep focused on what matters. We've got your back.

To learn more, visit [thermofisher.com/unitylabservices](https://thermofisher.com/unitylabservices)





Embrace the future of  
temperature control

Find out more at [thermofisher.com/recirculatingchillers](https://thermofisher.com/recirculatingchillers)

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