Chillers and Coolers

PolyScience has the right equipment for virtually any end-user or OEM application.

PolyScience Chillers and Coolers have proven — over several decades and hundreds of thousands of Original Equipment Manufacturer (OEM) installations ranging from lasers to analytical equipment, reactors and manufacturing equipment — that they are the most reliable in the industry. We understand that precise temperature control can make or break a complex piece of machinery. Our Chillers and Coolers provide consistent performance day after day, year after year. And that means they are the smartest choice for clients all over the world.

- **Compact, Benchtop Chillers**
  Our powerful, low-temperature chillers are well matched for use with rotary evaporators, vacuum systems, spectrometers, and other analytical instrumentation. They also are available with a mobile cart accessory for convenient placement under a bench.

- **6000 Series Recirculating Chillers**
  Why run a fan at its highest speed and noise level when a fraction will do? Typical cooling fans have two speeds — full speed and off. PolyScience's patent-pending WhisperCool™ technology automatically adjusts the cooling fan speed to match the demand put on the system exactly — making these high performance Recirculating Chillers exceptionally quiet and environmentally friendly.

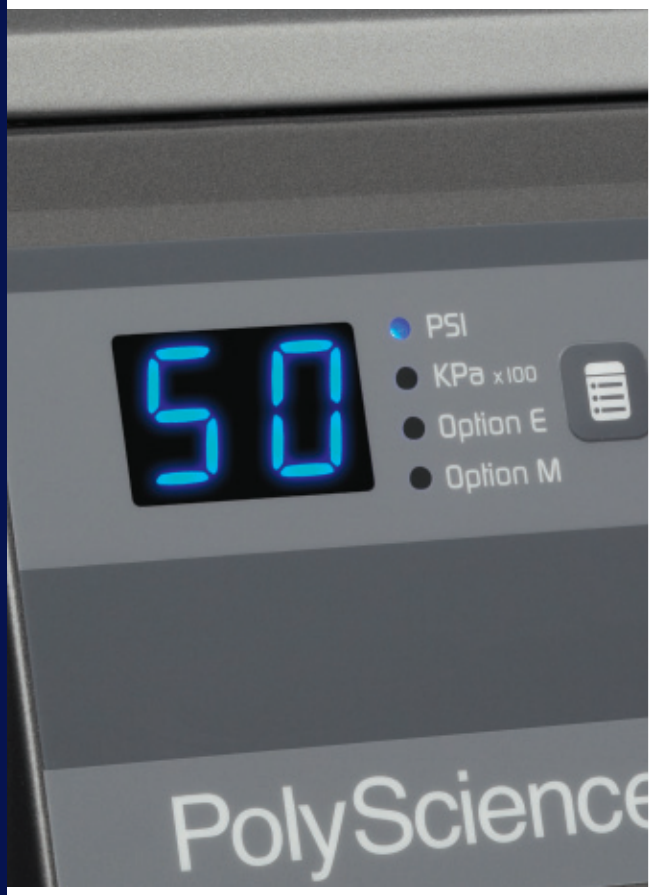
- **DuraChill™ Recirculating Chillers**
  Designed for high heat removal in demanding environments, our DuraChill™ Chillers provide robust and reliable temperature control for closed, external systems such as pilot plants, medical diagnostic equipment, metalworking lasers, and plastic molding machines. These chillers are suitable for most applications with their many options and accessories.

- **Recirculating Coolers (Non-Refrigerated)**
  Available in both Liquid-to-Air and Liquid-to-Liquid models, PolyScience Recirculating Coolers deliver extremely quiet and energy-efficient heat removal. They provide significant cooling for set-points above ambient, without the energy consumption of refrigerated chillers.

Chiller Selection Guide Based On Heat Removal (kW)

Cooling Range	.5 kW	1 kW	2 kW	3 kW	4 kW	5 kW	6 kW	8 kW	10 kW	30 kW	50 kW
Chillers (refrigerated)											
LS, LM, and MM Benchtop Models											
6000 Series Portable Models											
DuraChill™ Portable Models											
Coolers (non-refrigerated)											
Model 3370 Liquid-to-Air											
Model 4100 Liquid-to-Liquid											

PolyScience Recirculating Chillers and Recirculating Coolers provide stable, reliable and quiet temperature control over a broad range of cooling capacities for lasers, analytical instrumentation, biological experiments, and other temperature-sensitive equipment and applications.



Features:

- **Precise & reliable**
  Engineered and field-proven to deliver industry-leading performance, PolyScience Recirculating Chillers and Coolers provide dependable and efficient heat removal day in, day out, year after year.

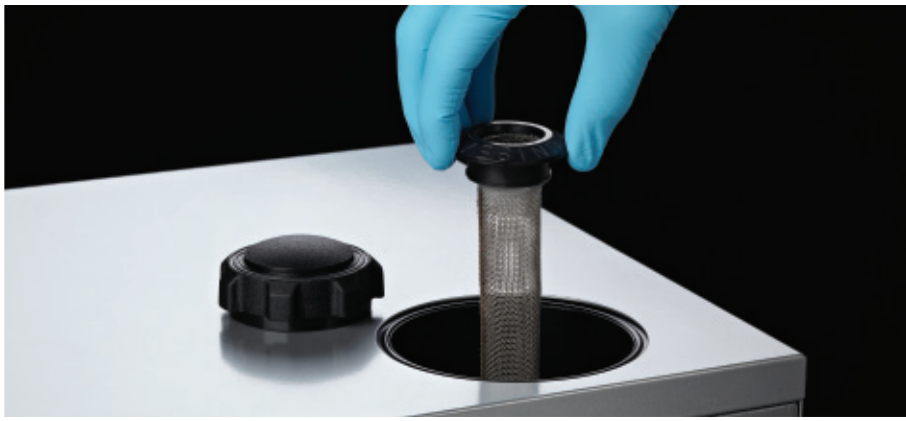
- **Easy to operate**
  Setting temperature and operational parameters is intuitive and straightforward.

- **Globally supported**
  PolyScience ensures responsive local support through our global distribution and service network that spans 6 continents and 70 countries.

- **Quiet**
  Our commitment to noise reduction in your working environment, including our patent-pending WhisperCool™ technology, helps make your cooling application exceptionally quiet and energy efficient.

- **Informative**
  Digital temperature display, digital pressure/flow rate display, and fluid level gauge let you check key process information with just a glance.

- **Secure**
  Local lockout prevents unauthorized set-point or operational changes. User-adjustable temperature limits prevent unintended set-point changes, warn you when process temperature rises too high or drops too low.



- **Low maintenance**
  Readily accessible, reusable fluid and air filters are easily removed for cleaning, helping simplify maintenance and ensuring energy efficiency.

- **Versatile**
  Whether your application calls for high flow at low pressure, low flow at high pressure, or something in between, PolyScience Recirculating Chillers can deliver. Each unit is available with multiple pump options ensuring a good fit for most process requirements.

- **Customizable**
  Broad selection of factory installed options – such as remote control, ambient temperature tracking, serial communication, and deionized water packages to name just a few – makes it easy to customize your PolyScience Chiller or Recirculating Cooler to your facility's and application's unique needs.

- **Cool Command™**
  Advanced refrigeration technology carefully monitors heat load to deliver the precise amount of cooling needed. The result? Exceptional temperature control – over the entire temperature range – as well as more reliable and energy-efficient cooling.

Chiller Selection Guide: Benchtop & 6000 Series

Benchtop Chillers

Portable 6000 Series Chillers

	Air-Cooled			Air-Cooled				
	MM	LM	LS	6200	6300	6500	6700	6100
Cooling Capacity @ 20°C[1]	460 W	560 W	1290 W	950 W	1430 W	1800 W	2350 W	2900 W
Temperature Range	-5° to +50°C	-10° to +30°C	-20° to +40°C	-10° to +40°C (-10° to +70°C with heater option)[2]				
Temperature Stability	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C
Maximum Pressure psi (bar)	14.5 (1.0)	14.5 (1.0)	14.5 (1.0)	100 (6.9)	100 (6.9)	100 (6.9)	100 (6.9)	100 (6.9)
Maximum Flow gpm (l/min)	3.5 (13.2)	3.5 (13.2)	3.9 (14.8)	4.1 (15.5)	4.1 (15.5)	4.1 (15.5)	4.1 (15.5)	4.1 (15.5)

1. Cooling Capacity based on 20°C (68°F) ambient temperature and a 50%/50% mix of ethylene glycol and distilled water as coolant.
2. Heater option extends cooling range to 50°C, provides heat up to 70°C.
3. Cooling capacity for 5.2 – 10.5 kw chillers based on 20°C (68°F) ambient temperature and a 50%/50% mix of ethylene glycol and distilled water as coolant. Cooling capacity for 16.3 – 33.5 kw chillers based on 35°C/95°F entering air, 49°C/120°F condensing temperature, and 10°C/50°F leaving water. Allowance made for heat gain from pump.
4. Cooling capacity for 3370 based on 11°C temperature differential between ambient air temperature and cooling fluid temperature.
5. Cooling capacity for 4100 given at 30°C using 20°C facility water.

Chiller Selection Guide: DuraChill™

Portable DuraChill™ Chillers[3] | Non-Refrigerated Coolers

	Air-Cooled	Air-Cooled	Air-Cooled	Air-Cooled	Air-Cooled	Air-Cooled	Water Cooled	Water Cooled	Air-Cooled	Water Cooled
	6860	DCA200	DCA300	DA500	DA750	DA1000	6960	DCW300	3370	4100
	5200 W	7000 W	10,500 W	16,384 W	22,361 W	33,436 W	6328 W	10,936 W	4000 W[4]	10,000 W[5]
	5° to 35°C	5° to 35°C	5° to 35°C	0° to 30°C	0° to 30°C	0° to 30°C	5° to 35°C	5° to 35°C	Ambient +5° to 70°C	Facility Water +10° to 60°C
	±0.5°C	±0.5°C	±0.5°C	±1.11°C	±1.11°C	±1.11°C	±0.5°C	±0.5°C	N/A	±0.4°C
	100 (6.9)	20.5 (1.41)	20.5 (1.41)	40 (2.8)	40 (2.8)	55 (3.8)	100 (6.9)	20.5 (1.41)	100 (6.9)	100 (6.9)
	3.5 (13.25)	12 (45.1)	12 (45.1)	50.2 (190)	50.2 (190)	64.7 (245)	3.5 (13.25)	12 (45.1)	5.4 (20.5)	3.5 (13.2)

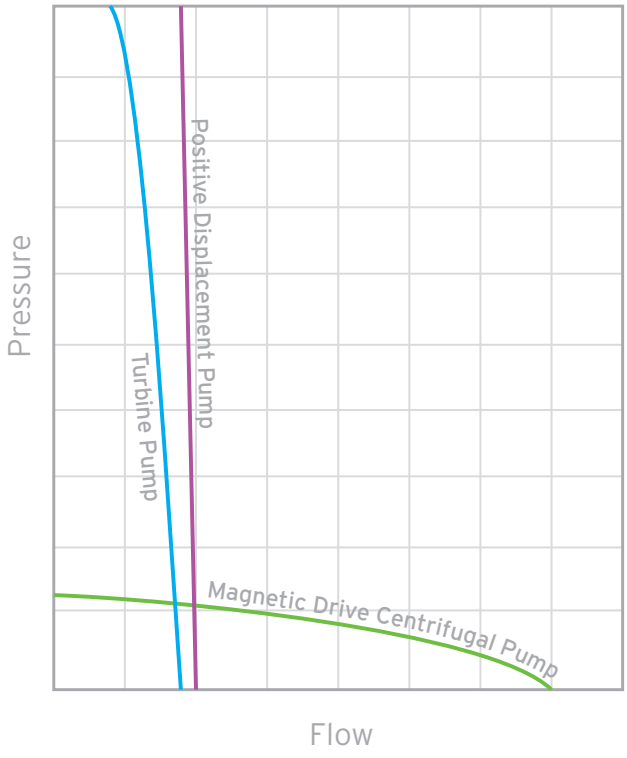
Specifications listed are for 60 Hz models. For specifications on 50 Hz models see Technical Specification pages 150 thru 153.
Benchtop Chillers, 6000 Series Chillers, DuraChillTM Chillers, and Non-Refrigerated Coolers may have the following wetted parts present: Polypropylene, nylon, SBR rubber, stainless steel, bronze, brass.

A Variety of Pump Options

Turbine:
Provide moderate flow but at higher pressures which make them well suited to applications that require higher pressure or experience a higher pressure drop. A robust design makes turbine pumps very reliable and more forgiving to impurities in the fluid stream.

Positive Displacement Pumps:
Have performance characteristics similar to turbine pumps and are suitable for high viscosity fluids, or pumping higher or further from the cooling product and the application.

Centrifugal Pumps (Magnetic Drive):
Offer higher relative flow rates at lower pressures and are suitable for applications that are in close proximity to the chiller or require lower pressure. Centrifugal pumps are more sensitive to pressure drops.



Benchtop Chillers – LS Series -20° to +40°C

Key Specifications

Working Temperature:	-20° to +40°C
Temperature Stability:	±0.1°C
Cooling Capacity:	Up to 1290 W @ 20°C
Reservoir Capacity:	0.7 gallons/2.65 liters
Overall Dimensions (L x W x H):	23.9 x 10 x 19" 60.7 x 25.4 x 48.3 cm

Features:

- Optimized for high performance at low temperatures
- Capable of cooling multiple rotary evaporators
- WhisperCool™ Environmental Control System
- Large, easy to read LED display
- Space-saving design
- Cooling at ambient temperatures as high as 35°C
- Low flow shutoff and alarm, high and low temperature alarms
- Simple setup, operation, and maintenance
- Choice of pumps
- Fluid level indicator

WhisperCool™

Front mounted fluid level gauge lets you quickly determine if coolant needs to be added to the reservoir.

See pages 109 through 112 for LS Series Chiller options and accessories.

Working Temperature Range		-20° to +40°C					
Temperature Stability		±0.1°C					
Pump Type		Centrifugal		Centrifugal		Turbine	
		M1 (60 Hz)	M2 (50 Hz)	MX (60 Hz)	MY (50 Hz)	M1 (60 Hz)	M2 (50 Hz)
Cooling Capacity[1] @ (W)	-20°C	230	230	260	240	150	140
	-10°C	435	435	475	460	345	330
	0°C	680	680	750	700	540	500
	+10°C	1030	1030	1130	1070	790	750
	+20°C	1160	1160	1290	1190	900	830
	+30°C	1380	1380	1460	1420	1020	990
	+40°C	1550	1545	1610	1580	1140	1105
Maximum Pressure psi (bar)		9.0 (0.6)	5.5 (0.4)	14.5 (1.0)	10.5 (0.7)	43.4 (3.0)	32 (2.2)
Maximum Flow gpm (l/min)		3.9 (14.8)	3.4 (12.9)	3.5 (13.2)	3.1 (11.7)	2.6 (9.8)	2.2 (8.3)
Part Number 120 VAC/60 Hz		LS51M11A110C		LS51MX1A110C		LS51TX1A110C	
Part Number 240 VAC/50 Hz		LS52M21A110E		LS52MY1A110E		LS52TY1A110E	

1. Cooling Capacity based on 20°C (68°F) ambient temperature and a 50%/50% mix of ethylene glycol and distilled water as coolant.
Electrical plugs for the part numbers listed are standard U.S. and European types. See page 128 for additional plug types and part numbers.
See pages 124 and 125 for considerations when choosing a chiller.

Economical Cooling for Rotary Evaporators

LS Series Chillers are capable of simultaneously cooling two or more benchtop rotary evaporators, and provide particularly efficient and economical cooling at temperatures between 0°C and +10°C. Their powerful heat removal capability, combined with a compact design, makes them ideal for any low temperature cooling application where bench space is limited. They can also be placed on a mobile cart accessory, below a bench.

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Benchtop Chillers – LM Series -10° to +30°C

Key Specifications

Working Temperature:	-10° to +30°C
Temperature Stability:	±0.1°C
Cooling Capacity:	Up to 560 W @ 20°C
Reservoir Capacity:	0.7 gallons/2.65 liters
Overall Dimensions (L x W x H):	20 x 10 x 17" 50.8 x 25.4 x 43.2 cm

Features:

- Optimized for high performance at low temperatures
- Ideal for benchtop rotary evaporators
- Large, easy to read LED display
- Space-saving design
- Cooling at ambient temperatures as high as 35°C
- Low flow shutoff and alarm, high and low temperature alarms
- Simple setup, operation, and maintenance
- Choice of pumps
- Fluid level indicator

C 155859 US

Large, easy to read temperature display lets you check operation at a glance.

Working Temperature Range		-10° to +30°C			
Temperature Stability		±0.1°C			
Pump Type		Centrifugal		Centrifugal	
		GX (60 Hz)	GY (50 Hz)	MX (60 Hz)	MY (50 Hz)
Cooling Capacity[1] @ (W)	-10°C	230	140	170	110
	0°C	350	250	250	170
	+10°C	470	390	340	280
	+20°C	560	520	420	390
	+30°C	650	600	540	500
Maximum Pressure psi (bar)		5.1 (0.35)	4.4 (0.3)	14.5 (1.0)	12.5 (0.9)
Maximum Flow gpm (l/min)		2.1 (7.9)	1.8 (6.8)	3.5 (13.2)	3.0 (11.4)
Part Number 120 VAC/60 Hz		LM61GX1A110C		LM61MX1A110C	
Part Number 240 VAC/50 Hz		LM62GY1A110E		LM62MY1A110E	

1. Cooling Capacity based on 20°C (68°F) ambient temperature and a 50%/50% mix of ethylene glycol and distilled water as coolant.

See pages 109 through 112 for LM Series Chiller options and accessories.
See pages 124 and 125 for considerations when choosing a chiller.
Electrical plugs for the part numbers listed are standard U.S. and European types. See page 128 for additional plug types and part numbers.

Benchtop Chillers – MM Series -5° to +50°C

Key Specifications

Working Temperature:	From -5° to +50°C
Temperature Stability:	±0.1°C
Cooling Capacity:	Up to 460 W @ 20°C
Reservoir Capacity:	0.7 gallons/2.65 liters
Overall Dimensions (L x W x H):	20 x 10 x 17" 50.8 x 25.4 x 43.2 cm

Features:

- Precise and stable temperature control at low temperatures
- Large, easy to read LED display
- Space-saving, benchtop design
- Cooling at ambient temperatures as high as 35°C
- Low flow shutoff and alarm, high and low temperature alarms
- Simple setup, operation, and maintenance
- Choice of pumps
- Fluid level indicator

C 155859 US

Reusable front-mounted air filter is easily accessible and provides energy efficient cooling.

Working Temperature Range		-5° to +50°C			
Temperature Stability		±0.1°C			
Pump Type		Centrifugal		Centrifugal	
		GX (60 Hz)	GY (50 Hz)	MX (60 Hz)	MY (50 Hz)
Cooling Capacity[1] @ (W)	-5°C	130	115	115	105
	0°C	215	190	195	175
	+10°C	320	290	305	270
	+20°C	460	410	435	390
	+40°C	520	470	505	450
	+50°C	550	495	535	480
Maximum Pressure psi (bar)		5.1 (0.4)	4.4 (0.3)	14.5 (1.0)	12.5 (0.9)
Maximum Flow gpm (l/min)		2.1 (7.9)	1.8 (6.8)	3.5 (13.2)	3.0 (11.4)
Part Number 120 VAC/60 Hz		MM71GX1A110C		MM71MX1A110C	
Part Number 240 VAC/50 Hz		MM72GY1A110E		MM72MY1A110E	

1. Cooling Capacity based on 20°C (68°F) ambient temperature and a 50%/50% mix of ethylene glycol and distilled water as coolant.

See pages 109 through 112 for MM Series Chiller options and accessories.
See pages 124 and 125 for considerations when choosing a chiller.
Electrical plugs for the part numbers listed are standard U.S. and European types. See page 128 for additional plug types and part numbers.

Portable Chillers – 6000 Series – ¼ to 1 HP

Key Specifications

Working Temperature:	-10° to +40°C, -10° to +70°C with heater option
Temperature Stability:	±0.1°C
Cooling Capacity:	Up to 2900 W @ 20°C
Reservoir Capacity:	1.1 gallons/4.2 liters
Overall Dimensions (L x W x H):	27.6 x 14.5 x 22.6" 70.2 x 36.8 x 57.5 cm

Features:

- Stable and reliable cooling for many common heat removal applications, including laser etching, AA furnaces, ICP, rotary evaporators, vacuum systems, reaction vessels, plasma etching, and condenser cooling
- Large, dual displays present temperature and pressure or flow rate simultaneously
- Compact, portable design takes up less floor space
- Cooling at ambient temperatures as high as 35°C
- Choice of pumps and compressor sizes
- User-adjustable temperature, pressure, and flow rate alarms
- Heater option extends cooling temperature to +50°C, provides the ability to apply heat up to 70°C; ideal for applications, such as lasers, that must be brought to a temperature above ambient before operation can begin
- External temperature tracking and communications capability (optional)
- Cool Command™, WhisperCool™ (3/4 and 1 HP models)

WhisperCool™

C 155859 US

Large digital readouts provide information on temperature as well as the process flow rate or pressure at a glance.

See pages 124 and 125 for considerations when choosing a chiller.

6000 Series Chillers with Turbine Pump

	6200 1/4 HP		6300 1/3 HP		6500 1/2 HP		6700 3/4 HP		6100 1 HP	
Temperature Range	-10° to +40°C (-10° to +70°C with heater option)									
Temperature Stability	±0.1°C									
Cooling Capacity[1] @ 0°C (W) +10°C +20°C	400 600 850	300 500 700	530 990 1400	485 935 1280	750 1150 1700	765 1140 1775	875 1550 2300	975 1500 2200	1000 1925 2900	1200 1900 2650
Maximum Pressure psi (bar)	100 (6.9)	83 (5.7)	100 (6.9)	83 (5.7)	100 (6.9)	83 (5.7)	100 (6.9)	83 (5.7)	100 (6.9)	83 (5.7)
Maximum Flow gpm (l/min)	3.5 (13.2)	2.9 (11)	3.5 (13.2)	2.9 (11)	3.5 (13.2)	2.9 (11)	3.5 (13.2)	2.9 (11)	3.5 (13.2)	2.9 (11)
Power Requirements (V/Hz)	120/60	240/50	120/60	240/50	120/60	240/50	208-230/60	240/50	208-230/60	240/50
Part Number 120 VAC/60 Hz	6260T11A110B		6360T11A120C		6560T11A120C		6760T21A130D		6160T21A130D	
Part Number 240 VAC/50 Hz	6250T21A130E		6350T21A130E		6550T21A130E		6750T21A130E		6150T21A130E	

6000 Series Chillers with Positive Displacement Pump

	6200 1/4 HP		6300 1/3 HP		6500 1/2 HP		6700 3/4 HP		6100 1 HP	
Temperature Range	-10° to +40°C (-10° to +70°C with heater option)									
Temperature Stability	±0.1°C									
Cooling Capacity[1] @ 0°C (W) +10°C +20°C	400 600 850	300 500 700	530 990 1400	485 935 1280	750 1150 1700	765 1140 1775	875 1550 2300	975 1500 2200	1000 1925 2900	1200 1900 2650
Maximum Pressure psi (bar)	100 (6.9)	83 (5.7)	100 (6.9)	83 (5.7)	100 (6.9)	83 (5.7)	100 (6.9)	83 (5.7)	100 (6.9)	83 (5.7)
Maximum Flow gpm (l/min)	1.0 (3.8)	0.95 (3.6)	1.0 (3.8)	0.95 (3.6)	1.0 (3.8)	0.95 (3.6)	3.5 (13.2)	2.9 (11)	3.5 (13.2)	2.9 (11)
Power Requirements (V/Hz)	120/60	240/50	120/60	240/50	120/60	240/50	208-230/60	240/50	208-230/60	240/50
Part Number 120 VAC/60 Hz	6260P11A110B		6360P11A1120C		6560P11A120C		6760P41A130D		6160P41A130D	
Part Number 240 VAC/50 Hz	6250P21A130E		6350P21A130E		6550P21A130E		6750P41A130E		6150P41A130E	

6000 Series Chillers with Magnetic Drive Centrifugal Pump

	6200 1/4 HP		6300 1/3 HP		6500 1/2 HP		6700 3/4 HP		6100 1 HP	
Temperature Range	-10° to +40°C (-10° to +70°C with heater option)									
Temperature Stability	±0.1°C									
Cooling Capacity[1] @ 0°C (W) +10°C +20°C	300 700 950	400 600 800	700 1000 1430	600 960 1180	850 1250 1800	765 1140 1775	975 1550 2350	1075 1600 2250	1100 1835 2900	1400 2050 2750
Maximum Pressure psi (bar)	10 (.69)	9.5 (0.66)	10 (.69)	9.5 (.66)	10 (.69)	9.5 (.66)	10 (.69)	9.5 (.66)	10 (.69)	9.5 (.66)
Maximum Flow gpm (l/min)	4.1 (15.5)	3.9 (14.7)	4.1 (15.5)	3.9 (14.7)	4.1 (15.5)	3.9 (14.7)	4.1 (15.5)	3.9 (14.7)	4.1 (15.5)	3.9 (14.7)
Power Requirements (V/Hz)	120/60	240/50	120/60	240/50	120/60	240/50	208-230/60	240/50	208-230/60	240/50
Part Number 120 VAC/60 Hz	6260M11A110B		6360M11A110B		6560M11A120C		6760M21A130D		6160M21A130D	
Part Number 240 VAC/50 Hz	6250M21A130E		6350M21A130E		6550M21A130E		6750M21A130E		6150M21A130E	

1. Cooling Capacity based on 20°C (68°F) ambient temperature and a 50%/50% mix of ethylene glycol and distilled water as coolant
See pages 109 through 112 for 6000 Series Chiller options and accessories.
Electrical plugs for the part numbers listed are standard U.S. and European types. See page 128 for additional plug types and part numbers.

Portable Chillers – DuraChill™ 6860 – 1.5 HP

Key Specifications

Working Temperature: +5° to 35°C

Temperature Stability: ±0.5°C

Cooling Capacity: Up to 6,328 W @ 20°C

Reservoir Capacity: 3.5 gallons/13.25 liters

Overall Dimensions (L x W x H): 30.5 x 19 x 26" 78 x 48 x 66 cm

Features:

- High capacity cooling for lasers, electron microscopes, and other laboratory applications
- Small footprint conserves floor space
- Displays temperature and pressure or flow rate simultaneously
- User-adjustable temperature, pressure, and flow rate alarms
- Simple operation and low maintenance
- Wide variety of options available

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Dual displays provide ready access to both temperature and process pressure/flow rate information.

	Air Cooled 1.5 HP		Water Cooled 1.5 HP	
Temperature Range	41° to 95°F/5° to 35°C			
Temperature Stability	±0.9°F/±0.5°C			
Power Requirements[1] (VAC/Hz/PH)	230/60/1	240/50/1	230/60/1	240/50/1
Cooling Capacity[2] @ 20°C (W/BTU)	5,200/17,732	4,576/15,604	6,328/21,578	5,569/18,990
Standard Pump	1/4 HP Positive Displacement			
Maximum Pressure psi (bar)	100 (6.9)	83 (5.7)	100 (6.9)	83 (5.7)
Maximum Flow gpm (l/min)	3.5 (13.2)	2.9 (11)	3.5 (13.25)	2.9 (11)
Part Number 230 VAC/60 Hz	6860P46A270D		6960P46A270D	
Part Number 240 VAC/50 Hz	6850P46A270E		6950P46A270E	

1. 220/50/3, 230/60/3, 460/60/3, and 380/50/3 also available.
2. Cooling capacity based on 20°C/68°F entering air and 20°C/68°F leaving water. Allowance made for heat gain from pump.

Electrical plugs for the part numbers listed are standard U.S. and European types. See page 128 for additional plug types and part numbers.

DuraChill™ Chillers are available with a wide selection of factory installed options. Contact us for help in selecting the chiller size and configuration that best meets your heat removal requirements. See pages 109 through 112 for DuraChill™ options and accessories.

Portable Chillers – DuraChill™ – 2 to 3 HP

Key Specifications

Working Temperature:	+5° to 35°C
Temperature Stability:	±0.5°C
Cooling Capacity:	Up to 10,936 W @ 20°C
Reservoir Capacity:	7 gallons/26.5 liters
Overall Dimensions (L x W x H):	30.5 x 37 x 42" 78 x 94 x 107 cm

Features:

- High capacity cooling for lasers, EDM equipment, injection molding, and other heat removal applications
- Displays temperature and pressure or flow rate simultaneously
- User-adjustable temperature, pressure, and flow rate alarms
- Easy to operate and maintain

CE

	Air Cooled 2.0 HP		Air Cooled 3.0 HP		Water Cooled 3.0 HP	
Temperature Range	41° to 95°F/5° to 35°C					
Temperature Stability	±0.9°F/±0.5°C					
Power Requirements[1] (VAC/Hz/PH)	240/60/3	220/50/3	240/60/3	220/50/3	240/60/3	220/50/3
Cooling Capacity[2] @ 20°C (W/BTU)	7,000/ 23,870	6,160/ 21,006	10,500/ 35,805	9,240/ 31,508	10, 936/ 37,292	9,624/ 32,817
Standard Pump	1/3 HP Centrifugal					
Maximum Pressure psi (bar)	20.5 (1.41)	17.1 (1.2)	20.5 (1.41)	17.1 (1.2)	20.5 (1.41)	17.1 (1.2)
Maximum Flow gpm (l/min)	12 (45.1)	10 (37.6)	12 (45.1)	10 (37.6)	12 (45.1)	10 (37.6)

1. 230/60/1, 460/60/3, 240/50/1, and 380/50/3 also available.
2. Cooling capacity based on 20°C/68°F entering air and 20°C/68°F leaving water. Allowance made for heat gain from pump.
DuraChill™ Chillers are available with a wide selection of factory installed options. Contact us for help in selecting the chiller size and configuration that best meets your heat removal requirements. See pages 109 through 112 for DuraChill™ options and accessories.

Portable Chiller – DuraChill™ – 5 to 10 HP

Key Specifications

Working Temperature: 0° to 30°C

Temperature Stability: ±1.11°C

Cooling Capacity: Up to 33,436 W @ 35°C Ambient

Features:

- High capacity cooling for plasma torch cutting, machine tool hydraulics, high powered lasers, and other high heat generating processes and equipment
- Displays temperature and pressure or flow rate simultaneously
- User-adjustable temperature, pressure, and flow rate alarms
- Easy to operate and maintain
- Wide variety of options available

	Air Cooled 5.0 HP		Air Cooled 7.5 HP		Air Cooled 10.0 HP	
Temperature Range	32° to 86°F/ 0° to 30°C					
Temperature Stability	±2.0°F/±1.11°C					
Power Requirements[1] (VAC/Hz/PH)	240/60/3	220/50/3	460/60/3	380/50/3	460/60/3	380/50/3
Cooling Capacity[2] @ 35°C ambient (W/BTU)	16,384/ 55,869	14,418/ 50,515	22,361/ 76,251	19,678/ 67,102	33,436/ 114,016	29,424/ 100,336
Standard Pump	1 HP Centrifugal				2 HP Centrifugal	
Maximum Pressure psi (bar)	40 (2.8)	33 (2.3)	40 (2.8)	33 (2.3)	55 (3.8)	46 (3.2)
Maximum Flow gpm (l/min)	50.2 (190)	42 (158)	50.2 (190)	42 (158)	64.7 (245)	53 (200)
Reservoir Capacity (gallons/liters)	16/60.5		45/170			
Overall Dimensions (L x W x H)	56 x 34.5 x 67" (142.2 x 88 x 170.2 cm)				77 x 34.5 x 68.2" (195.5 x 88 x 173.2 cm)	

1. 575/60/3 also available.
2. Cooling capacity based on 35°C/95°F entering air, 49°C/120°F condensing temperature, and 10°C/50°F leaving water. Allowance made for heat gain from pump.

DuraChill™ Chillers are available with a wide selection of factory installed options. Contact us for help in selecting the chiller size and configuration that best meets your heat removal requirements. See pages 109 through 112 for DuraChill™ options and accessories.

Recirculating Coolers – Model 3370 Liquid-to-Air Cooler

Key Specifications

Working Temperature Range:	Ambient +5 to 70°C
Maximum Fluid Temperature:	70°C
Cooling Capacity:	4000 W based on 11°C ΔT[1] (water)
Reservoir Capacity:	1.1 gallons/4.2 liters
Overall Dimensions (L x W x H):	20.5 x 15 x 22.3" 52 x 38.1 x 56.6 cm

Features:

- An economical cooling solution for applications where cooling fluid temperature is higher than ambient and temperature control is not required
- Quiet liquid-to-air cooling
- Positive displacement or turbine pump
- Built-in low liquid level indicator

Liquid-to-air cooling uses ambient air to cool your application. Heated process fluid is pumped through the 3370's fan-cooled heat exchanger and returned to the process.

Front-mounted gauge lets you check process pressure at a glance.

C 155859 US

Temperature Range	Ambient to 70°C			
Cooling Capacity @ 20°C (W)	500 based on 2°C ΔT[1] 1000 based on 4°C ΔT[1] 2000 based on 8°C ΔT[1] 3000 based on 10°C ΔT[1] 4000 based on 11°C ΔT[1]			
Power Requirements (V/Hz)	120/60	240/50	120/60	240/50
Pump	1/3 HP Positive Displacement		1/3 HP Turbine Pump	
Maximum Pressure psi (bar)	100 (6.9)	100 (6.9)	62 (4.3)	50 (3.4)
Maximum Flow gpm (l/min)	2.4 (9.1)	2 (7.6)	5.4 (20.5)	4.5 (17.1)
Part Number 120 VAC/60 Hz	3370P9A11B		3370TBA11B	
Part Number 240 VAC/50 Hz	3370P9A12E		3370TBA12E	

1. ΔT = Process water temperature – ambient air temperature

See pages 124 and 125 for considerations when choosing a chiller.

Electrical plugs for the part numbers listed are standard U.S. and European types. See page 128 for additional plug types and part numbers.

Recirculating Coolers – Model 4100 Liquid-to-Liquid Cooler

Key Specifications

Working Temperature Range:	Facility water +10° to 60°C
Maximum Process Temperature:	60°C
Temperature Stability:	±0.4°C
Cooling Capacity:	10,000 W based on 10°C ΔT[1]
Reservoir Capacity:	1.1 gallons/4.2 liters
Overall Dimensions (L x W x H):	27.6 x 14.5 x 22.6" 70.2 x 36.8 x 57.5 cm

Features:

- Protects precision equipment from facility water contaminants
- Quiet, energy efficient liquid-to-liquid heat removal
- Displays temperature and pressure or flow rate information
- Built-in temperature and low flow alarms

Liquid-to-liquid cooling uses your facility's water, pumped through the 4100, to remove heat from your application without risk of contamination. Heat removal capacity is dependent on the facility water temperature.

Larger capacities are available. Contact PolyScience Customer Service Department for more information.

Extra large digital readouts provide at a glance access to temperature as well as process pressure or flow rate information.

C 155859 US

Temperature Range	Facility water +10° to 60°C
Cooling Capacity (W/BTU)	15,000/52,855 based on 15°C ΔT[1] 10,000/34,100 based on 10°C ΔT[1] 4,500/5,345 based on 5°C ΔT[1]
Power Requirements (VAC/Hz)	200-240/ 50/60 (plug for 230V)
Standard Pump	Turbine Pump
Maximum Pressure psi (bar)	100 (6.9)
Maximum Flow gpm (l/min)	3.5 (13.2)
Part Number 200-240 VAC/50/60 Hz	4150T21A330D

1. ΔT = Process water temperature – facility water air temperature
Electrical plug for the part number listed is standard U.S. type. See page 128 for additional plug types and part numbers.
Specifications listed are for 60 Hz models. For specifications on 50 Hz models see Technical Specification pages 150 and 151.

Factory Installed Chiller Options

Description	Benchtop Chillers	6000 Series Chillers	Non-Refrigerated Coolers
Heater		O	
RS232 Communication	O	O	O
RS485 Communication		O	O
Remote On/Off (24 VDC)		O	O
Remote On/Off (Dry Contact)		O	O
External Temperature Tracking		O	O
Deionized Water Compatible		O	
Stainless Steel Reservoir		O	
No Reservoir		O	
External Water Filter	O	O	O
Reservoir Level Switch/Alarm		O	

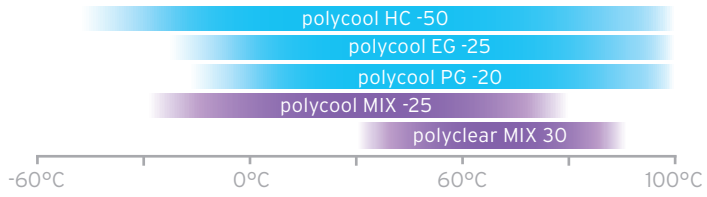
	Air-Cooled				Water-Cooled	
FACTORY INSTALLED OPTIONS: DURACHILL™ CHILLERS	1.5 HP 6800 Series	2 HP/3 HP DCA200/300	5 HP/7.5 HP DA500/750	10 HP DA1000	1.5 HP 6900 Series	3 HP DCW300
RS232 Communications Port	O	S	S	S	O	S
RS485 Communications Port	O	O	O	O	O	O
Remote On/Off (24 VDC)	O	O	O	O	O	O
Remote On/Off (Dry Contact)	O	S	S	S	O	S
Alarm Output (Dry Contact)	O	S	S	S	O	S
High or Low Ambient Tracking Package	O				O	
Deionized Water Compatibility Package	O	O	O	O	O	O
Process Fluid Shut-Off Valves		O	O	O		O
Low Fluid Level Shut-Off Switch	O	O	O	O	O	O
No Reservoir	O	O	O	O	O	O
Stainless Steel Reservoir	O	O	O	O	O	O
Process Heater	O	O	O	O	O	O
PUMPS						
0.75 HP Stainless Steel or Bronze Turbine	O	O			O	O
1.0 HP Stainless Steel Turbine	O				O	
1.5 HP Bronze Turbine		O	O			O
2.0 HP Bronze Turbine		O	O			O
3.0 HP Bronze Turbine		O	O	O		O
5.0 HP Bronze Turbine				O		
2.33 gpm Brass Positive Displacement	O				O	
3.5 gpm Brass Positive Displacement	S				S	
0.10 gpm GF Polypropylene Magnetic Drive Centrifugal	O				O	
0.75 HP Stainless Steel Centrifugal		S				S
1.0 HP Stainless Steel Centrifugal		O	S			O
2.0 HP Stainless Steel Centrifugal		O	O	S		O
3.0 HP Stainless Steel Centrifugal		O	O	O		O
No Pump	O	O	O	O	O	O

S = Standard O =Available As Option Additional options may be available.

These options should be ordered with your chiller. Most cannot be field-installed.
See page 127 for DuraChill™ Factory Installed Option descriptions.

Chiller Fluids

Fluid Type	Name	Description	Temperature Range	Benchtop Chillers	6000 Series Chiller	DuraChill™ Chillers	Non-Refrigerated Coolers	Quantity	Part Number
Cleaners	polyclean ALGAECIDE	Prevents growth of algae, keeps reservoir clean and odor-free. Concentrated: 8 oz (237 ml) treats approximately 200 gallons (757 liters)	n/a	•	•	•	•	8 oz (237 ml)	004-300040
								case = 12 x 8 oz (237 ml)	004-300041
Low Temperature Fluids	polycool HC -50	Excellent low-temperature performance without toxicity or risk to environment, equipment, or personnel. Provides low-temp properties of synthetic organic and silicone fluids with thermal properties of water-based glycols.	-50° to 100°C (-58° to 148°F)	•	•	•	•	1 gallon (3.8 L)	060330
	polycool EG -25	A common chiller antifreeze fluid. Lowers the freezing point of water to allow circulation at below freezing temperatures. Recommend mixing with distilled water for broadest temperature range.	-25° to 100°C (-13° to 212°F) when mixed 50%/50% with distilled water	•	•	•	•	1 gallon (3.8 L)	060340
	polycool PG -20	Propylene glycol is a safer alternative to ethylene glycol. Lowers freezing point of water to allow circulation at below freezing temperatures. Mix with distilled water for broadest temperature range.	-20° to 100°C (-4° to 212°F) when mixed 50%/50% with distilled water	•	•	•	•	1 gallon (3.8 L)	060320
Fluid Mixes	polycool MIX -25	Optimizes performance in refrigerated products; protects against freezing and algae growth.	-25° to 100°C (-13° to 212°F)	•	•	•	•	case = 5 x 1/2 gallon (1.9 L)	004-300060
	polyclear MIX 30	General purpose fluid for routine applications above 15°C; prevents algae growth.	15° to 90°C (59° to 194°F)		•		•	case = 5 x 1/2 gallon (1.9 L)	004-300062



Chiller Accessories

Description	L-Series Chillers	M-Series Chillers	6000 Series Chillers	DuraChill™ Chillers	MOdel 4100 Liquid-to-Liquid Coolers	Quantity	Part Number
TEMPERATURE MEASUREMENT							
Ambient Temperature Sensor			•	•	•	1 each	510-299
External PT100 Probe, 10' cable (3 m)			•	•	•	1 each	060101
External PT100 Probe, 25' cable (7.6 m)			•	•	•	1 each	060105
External PT100 Probe, 50' cable (15 m)			•	•	•	1 each	060110
FLUID FILTERS							
Filter Housing with bracket (Sediment Filters sold separately)			•	•		1 each	510-751
30 micron Sediment Filter (package of 2)			•	•		1 pack	775-848
20 micron Sediment Filter (package of 2)			•	•		1 pack	775-719
5 micron Sediment Filter (package of 2)			•	•		1 pack	775-846
50 micron Filter Kit with housing and bypass	•	•				1 each	510-520
50 micron Filter Kit with housing (no bypass)	•	•				1 each	510-519
MOBILITY							
Base with locking casters	•					1 each	505-169
BYPASS VALVE KITS							
External Pressure Reducer for chillers with Positive Displacement or Turbine pumps. Reduces chiller output to adjustable range of 10-45 psi (0.69-3.10 bar)			•			1 each	060302
External bypass for chillers with magnetic drive centrifugal pump. Connects to inlet and outlet, allowing bypass flow when application flow is stopped.			•			1 each	510-147
COMMUNICATION							
RS232 Retrofit Kit: Includes hardware, installation and operation instructions.			•			1 each	510-298







Chiller Accessories

Description	L-Series Chillers	M-Series Chillers	6000 Series Chillers	Model 4100 Liquid-to-Liquid Cooler	Model 3370 Liquid-to-Air Cooler	Quantity	Part Number
TUBING/INSULATION/CLAMPS/FITTINGS/MANIFOLDS							
Tubing. Select by temperature range. Order in continous length, multiples of 1 m (39").							
Buna N Tubing (synthetic rubber), 1/2" (13 mm) -40 to 120°C	•	•	•	•	•	1 m (39")	060308
Viton® Tubing, 1/2" (13 mm) -32 to 200°C	•	•	•	•	•	1 m (39")	060316
Viton® Tubing, 5/8" (16 mm) -32 to 200°C			•	•	•	1 m (39")	060317
Viton® Tubing, 3/4" (19 mm) -32 to 200°C			•	•	•	1 m (39")	060318
Viton® Tubing, 3/8" (10 mm) -32 to 200°C	•	•	•	•	•	1 m (39")	060319
Insulation for all 1/2" (13 mm) tubing above, 1 m (39") lengths only	•	•	•	•		1 m (39")	060311
Tube Clamp for 1/2" (13 mm), 5/8" (16 mm), 3/4" (18 mm) OD tubing	•	•	•	•	•	1 each	400-898
FITTINGS/ADAPTERS							
Fitting, 1/2" male NPT to 3/8" (9.5 mm), hose barb, brass, straight	•	•	•	•	•	1 each	776-196
Fitting, 1/2" male NPT to 3/8" (9.5 mm), hose barb, brass, elbow	•	•	•	•	•	1 each	775-047
Fitting, 1/2" male NPT x 5/8" (16 mm) hose barb, nylon, straight	•	•	•	•	•	1 each	300-131
Fitting, 1/2" male NPT x 1/2" (13 mm) hose barb, nylon, straight	•	•	•	•	•	1 each	300-096
Fitting, 1/2" male NPT to 3/4" (19 mm), hose barb, brass, straight	•	•	•	•	•	1 each	776-197
Fitting, 1/2" male NPT to M16x1 13 mm (1/2"), brass, straight	•	•	•	•	•	1 each	775-048
Manifold Kit, 2 ports with shutoffs	•	•	•	•	•	1 each	510-665
Manifold Kit, 4 ports with shutoffs	•	•	•	•	•	1 each	510-664

AIR FILTERS	Quantity	Part Number
For LM and MM Benchtop	1 each	750-798
For LS Benchtop	1 each	750-758
For 6000 Series, Model 3370, IP-100, IP-80	1 each	750-855
For 1.5 HP	1 each	750-387
For 2 and 3 HP	1 each	305-033
For 5 HP	1 each	400-598
For 7.5 HP	1 each	400-599
For 10 HP	1 each	750-264