

thermo scientific



Thermo Scientific Merlin Recirculating Chillers



**Powerful cooling in a reliable
and compact design**

ThermoFisher
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Thermo Scientific™ Merlin recirculating chillers are ideal for applications requiring heat removal across a wide temperature range. Offering three cooling capacities with a temperature range from -15°C to +35°C, the Merlin chiller platform provides powerful cooling options, including a reliable and compact design. With a wide variety of options—including a choice of pumps, communication packages, and Low Level/Low Flow indicators, Merlin recirculating chillers can be configured to meet a wide range of application requirements.

Reliable, extended temperature range chillers provide precise temperature control for critical application needs.

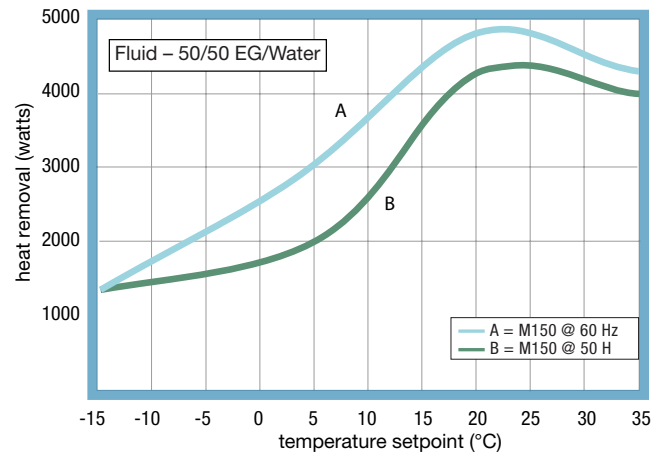
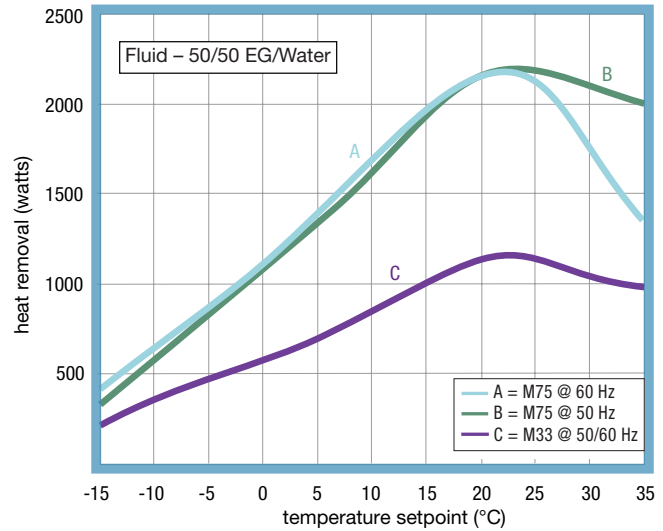
- Easy-to-use intuitive controller
- Translucent reservoir enables quick viewing of fluid level
- Removable grill allows for quick and easy preventive maintenance

Innovative Design

Feature	Benefit
Refrigeration system	Environmentally-friendly CFC-free refrigeration system for precise temperature control and optimum stability
Reservoir isolation valves	Eliminates reservoir overflow when pumping vertically
Fluid reservoir	Easily view the liquid level and fluid condition at a glance
Removable grill	Easy access for condenser cleaning maintains chiller performance
Integrated fluid pressure relief	Allows setting the maximum circulation pressure to protect the user's application (not available with CP55 pumps)
Easy access reservoir drain	Fast and easy access to quickly change fluids
Pressure gauge	Ensures the recirculation system is operating within the application requirements
Digital temperature controller	Provides intuitive controller with an easy-to-view display for simple operation
High/low temperature alarms	Allows user to configure the chiller operating parameters to protect valuable equipment
Compact design	Maximizes valuable floor space

Cooling Capacity

Cooling capacity based on a 50/50 ethylene glycol/water mixture. Cooling capacity based on units with PD1 pumps (M33 & M75) and PD2 pumps (M150) with no backpressure. Other pumps will affect cooling capacity performance.

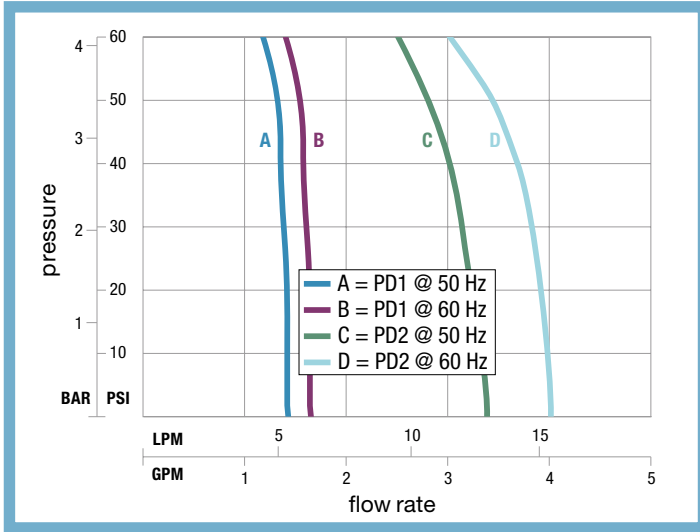


Options Include

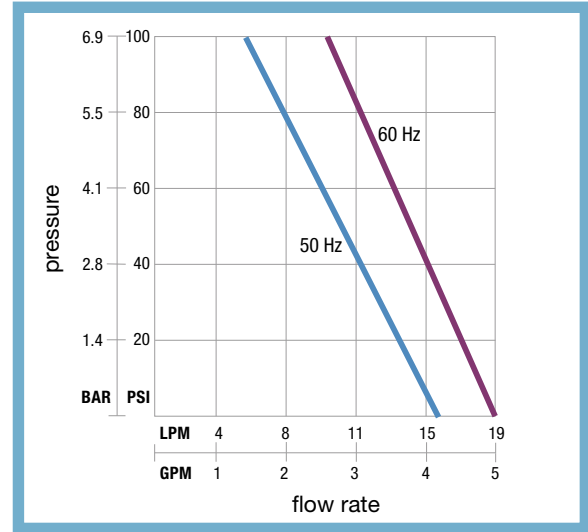
Feature	Benefit
Communication package: <ul style="list-style-type: none"> • RS232 • Remote start/stop • Status relay • Remote sensor port 	Digital communication for remote operation, monitoring and data logging
Low level/low flow safety package	Alerts when the reservoir level or fluid flow are too low, to ensure maximum up-time
NEScom software	Easily program and automate the temperature control process from a PC system
Plumbing package	Provides tubing, insulation and connections to optimize the user's application installation
Air filter kits	Protects chiller from harsh environments and allows for easy cleaning
Full filtration 5, 10, 25, 40 micron (full flow)	Reduces particulates down to the selected micron level to protect the application
Ethylene Glycol	Allows circulation to temperature down to -15°C in a 50/50 mixture with water

Pumping Capacity

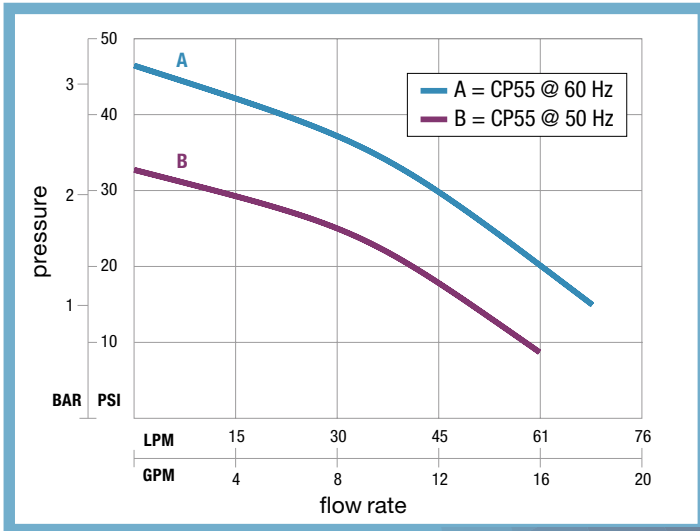
Pumping Capacity for PD1 and PD2 Pumps



Pumping Capacity for TI Pump



Pumping Capacity for CP55 Pump



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

Used for the following applications:

- Biotech
- Pharmaceutical
- Laser
- Laboratory
- Analytical instrumentation
- Printing
- Semiconductor
- Industrial
- Medical

Specifications

	Merlin M33	Merlin M75	Merlin M150
Setpoint Temperature Range	-15°C to +35°C (+5°F to +95°F)	-15°C to +35°C (+5°F to +95°F)	-15°C to +35°C (+5°F to +95°F)
Ambient Temperature Range	+10°C to +35°C (+50°F to +95°F)	+10°C to +35°C (+50°F to +95°F)	+10°C to +35°C (+50°F to +95°F)
Temperature Stability	±0.1°C	+/- 0.1°C	±0.15°C
Setpoint Cooling Capacity*			
60 Hz at +20°C	1142 W / 3897 BTU	2156 W / 7356 BTU	4832 W / 16487 BTU
50 Hz at +20°C	1142 W / 3897 BTU	2156 W / 7356 BTU	4282 W / 14610 BTU
Reservoir Volume	0.5 gallons (1.8 liters)	0.5 gallons (1.8 liters)	0.5 gallons (1.8 liters)
Refrigerant	R134A	R134A	R404A
Fluorinert™ Compatible Models Available	—	Y	—
Physical Dimensions (H x W x D)	23.5 x 12.6 x 20.9 in (59.7 x 32.1 x 53.0 cm)	26.1 x 16.3 x 24 in (66.4 x 41.3 x 61.0 cm)	30.4 x 21.3 x 29.3 in (77.2 x 54.0 x 74.3 cm)
PD1 — Positive Displacement Pump			
60 Hz	1.4 gpm @ 60 psi (5.3 lpm @ 4.2 bar)	—	—
50 Hz	1.2 gpm @ 60 psi (4.5 lpm @ 4.1 bar)	—	—
PD2 — Positive Displacement Pump			
60 Hz	3.0 gpm @ 60 psi (11.4 lpm @ 4.2 bar)	3.0 gpm @ 60 psi (11.4 lpm @ 4.2 bar)	3.0 gpm @ 60 psi (11.4 lpm @ 4.2 bar)
50 Hz	2.5 gpm @ 60 psi (9.5 lpm @ 4.2 bar)	2.5 gpm @ 60 psi (9.5 lpm @ 4.2 bar)	2.5 gpm @ 60 psi (9.5 lpm @ 4.2 bar)
T1 — Turbine Pump			
60 Hz	3.5 @ 60 psi 13.0 @ 4.2 bar	3.5 @ 60 psi 13.0 @ 4.2 bar	3.5 @ 60 psi 13.0 @ 4.2 bar
50 Hz	2.5 @ 60 psi 9.5 @ 4.2 bar	2.5 @ 60 psi 9.5 @ 4.2 bar	—
CP55 — Centrifugal Pump			
60 Hz	—	—	10.0 gpm @ 34 psi (37.9 lpm @ 2.3 bar)
50 Hz	—	—	10.0 gpm @ 22 psi (37.9 lpm @ 1.5 bar)
Unit Weight (by pump type)	PD1/PD2: 120 lb (54.5 kg) T1: 141 lbs (64 kg)	PD2: 176 lb (79.8 kg) T1: 200 lbs (91 kg)	PD2: 254 lb (115.2 kg) CP55: 275 lb (124.7 kg) T1: 310 lbs (141 kg)
Voltage Options			
115/60	Available	—	—
230 V/50 Hz	Available	Available	Available
200-230 V/60 Hz	Available	Available	—
208-230 V/60 Hz	—	—	Available
400 V/50 Hz/3 phase	—	—	Available

*Specifications obtained at sea level using 50/50 ethylene glycol/water mixture as the recirculating fluid at a +20°C process setpoint, +20°C ambient condition, at nominal operating voltage. Other fluids, process temperatures, ambient temperatures, altitude or operating voltages will affect performance. Specifications subject to change. Cooling capacity based on units with PD1 pumps (M33, & M75) and PD2 pumps (M150) with no backpressure. Other pumps will affect cooling capacity performance. M150 units with CP55 pumps have a height of 36.4 in (92.5 cm), and unit weight of 275 lb (124.7 kg).

Ordering Information

Product	Cat. No.
Merlin M33 (1,142 Watts 60 or 50 Hz)	
M33 LR 230/60 PD2 LL/LF RS232	263216044000
Merlin M75 (2,156 watts 60 or 50 Hz)	
M75 LR 230/60 PD2 LL/LF RS232	264216044000
M75 LR 230/50 PD2 LL/LF RS232	264225044000
M75 LR 230/60 T1	264216990001
M75 LR 230/50 T1	264225990001
M75 LR 208/60 PD2 <i>Fluorinert™ compatible</i>	264216040002
M75 LR 230/50 PD2 <i>Fluorinert™ compatible</i>	264225040002
Merlin M150 (4,832 Watts 60 Hz / 4,282 Watts 50 Hz)	
M150 LR 230/60 PD2 LL/LF RS232	266216044000
M150 LR 230/50 PD2 LL/LF RS232	266225044000
M150 LR 230/60 T1 RS232	266216992001
M150 LR 230/60 CP55 LL/LF RS232	266216024000
M150 LR 400/50 CP55 LL/LF RS232	266226024000

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