

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

## Thermo Scientific NESLAB Merlin Recirculating Chillers



### Ideal for diverse applications within the following markets

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



### Configurable Design

Thermo Scientific NESLAB Merlin recirculating chillers are ideal for applications requiring heat removal across a wide temperature range. Offering five cooling capacities with a temperature range from  $-15^{\circ}\text{C}$  to  $+35^{\circ}\text{C}$ , the Merlin chiller platform provides powerful cooling in 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.

### Feature-Packed Chiller

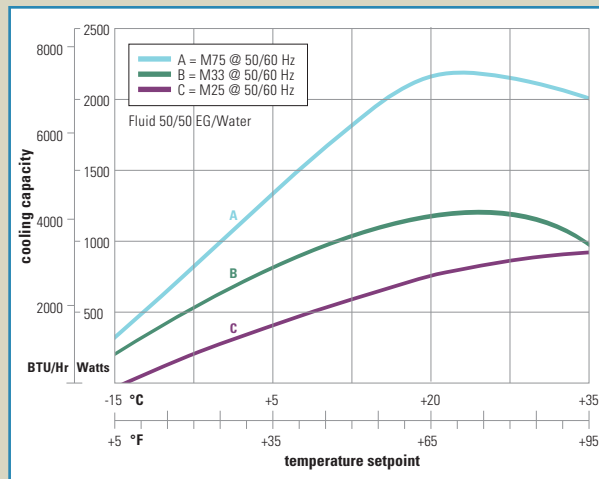
- Global compliance ensures the user that safety is our priority
- Easy to use intuitive controller
- Translucent reservoir enables quick viewing of fluid level
- Removable grille allows for quick and easy preventative maintenance

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	Enables the user to easily view the liquid level and fluid condition at a glance
Global compliance	Ensures the user that safety is our priority
Removable grille	Allows the user easy access to quickly clean the condenser to maximize chiller uptime
Integrated fluid pressure relief	Allows setting of fluid supply pressure to meet the user's specific application requirements
Easy access reservoir drain	Allows fast and easy access to quickly change fluids
Pressure gauge	Allows the user to ensure the recirculation system is operating within the application requirements
Digital temperature controller	Provides intuitive controller with an easy-to-view digital display for simple operation
High/low temperature alarms	Allows the user to configure the chiller operating parameters to protect valuable equipment
Compact design	Maximizes valuable floor space

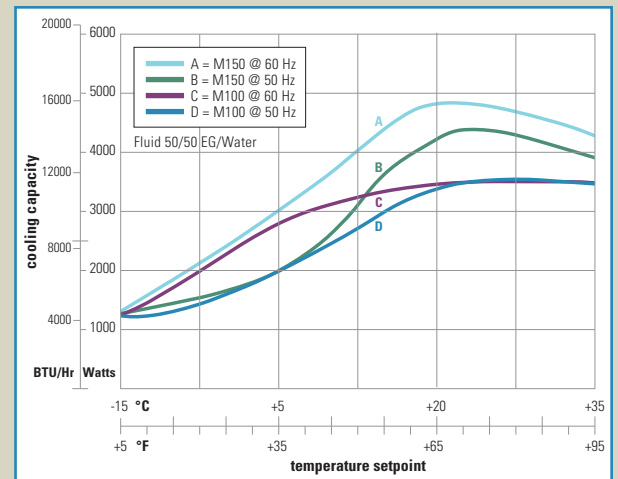
**Options include:**

Feature	Benefit
Communication package <ul style="list-style-type: none"> <li>• RS232 or RS485</li> <li>• Remote start/stop</li> <li>• Status relay</li> <li>• Remote sensor port</li> </ul>	Provides digital communication for remote operation, monitoring and data logging
Low level/low flow safety package	Alerts the user when the reservoir level or fluid flow are too low, to ensure maximum up time
NESLAB NEScom software	Allows the user to 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
External temperature gauge	Allows the user to monitor system operating temperature at any point in-line between the chiller and the application
External pressure gauge	Allows the user to monitor system pressure at any point in-line between the chiller and the application
Air filter kits	Protects the user's chiller from harsh environments and allows for easy cleaning
Deionized water package	Maintains a water resistivity level between 1 and 3 mOhm/cm <sup>2</sup> for cooling applications requiring ultra pure water
Fluid filtration 5, 10, 25, 40 micron (full flow)	Reduces particulates down to the selected micron level to protect the user's application
Ethylene Glycol	Allows circulation to temperature down to -15°C in a 50/50 mixture with water

**Cooling Capacity for NESLAB Merlin Recirculating Chillers**



**Cooling Capacity for NESLAB Merlin Recirculating Chillers**



*Cooling capacity based on a 50/50 ethylene glycol/water mixture. Cooling capacity based on units with PD1 pumps (M25, M33, & M75) and PD2 pumps (M100 & M150) with no backpressure. Other pumps will affect cooling capacity performance.*

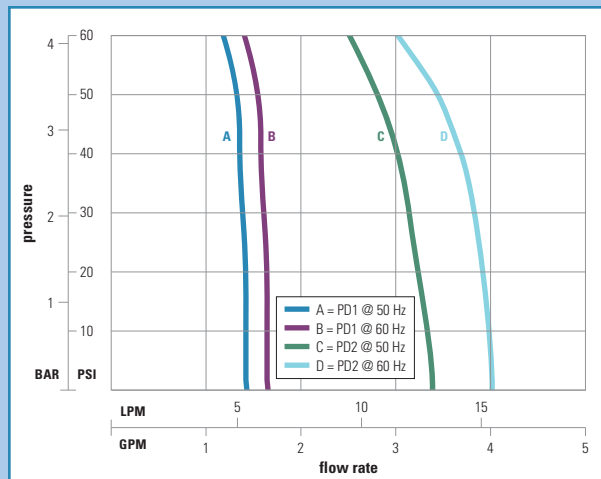
# Thermo Scientific NESLAB Merlin Recirculating Chillers



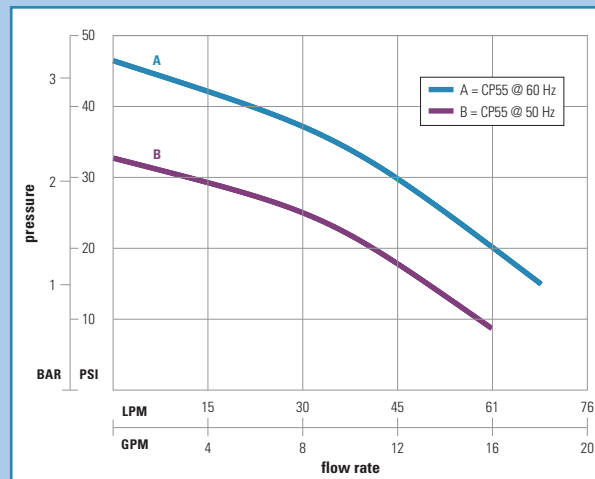
	NESLAB Merlin M25	NESLAB Merlin M33	NESLAB Merlin M75	NESLAB Merlin M100	NESLAB Merlin M150
<b>Setpoint Temperature Range</b>	-15°C to +35°C (+5°F to +95°F)	-15°C to +35°C (+5°F to +95°F)	-15°C to +35°C (+5°F to +95°F)	-15°C to +35°C (+5°F to +95°F)	-15°C to +35°C (+5°F to +95°F)
<b>Ambient Temperature Range</b>	+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)	+10°C to +35°C (+50°F to +95°F)	+10°C to +35°C (+50°F to +95°F)
<b>Temperature Stability</b>	±0.1°C	±0.1°C	±0.15°C	±0.15°C	±0.15°C
<b>Setpoint Cooling Capacity*</b>					
60 Hz at +20°C	741 W / 2528 BTU	1142 W / 3897 BTU	2156 W / 7356 BTU	3500 W / 11946 BTU	4832 W / 16487 BTU
50 Hz at +20°C	741 W / 2528 BTU	1142 W / 3897 BTU	2156 W / 7356 BTU	3500 W / 11946 BTU	4282 W / 14610 BTU
<b>Reservoir Volume</b>	0.5 gallons (1.8 liters)	0.5 gallons (1.8 liters)	0.5 gallons (1.8 liters)	0.5 gallons (1.8 liters)	0.5 gallons (1.8 liters)
<b>Refrigerant</b>	R134A	R134A	R134A	R404A	R404A
<b>Physical Dimensions†</b> (H x W x D)	23.5 x 12.6 x 20.9 in (59.7 x 32.1 x 53.0 cm)	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)	30.4 x 21.3 x 29.3 in (77.2 x 54.0 x 74.3 cm)
<b>PD1 — Positive Displacement Pump</b>					
60 Hz	1.4 gpm @ 60 psi (5.3 lpm @ 4.2 bar)	1.4 gpm @ 60 psi (5.3 lpm @ 4.2 bar)	1.4 gpm @ 60 psi (5.3 lpm @ 4.2 bar)	—	—
50 Hz	1.2 gpm @ 60 psi (4.5 lpm @ 4.2 bar)	1.2 gpm @ 60 psi (4.5 lpm @ 4.2 bar)	1.2 gpm @ 60 psi (4.5 lpm @ 4.2 bar)	—	—
<b>PD2 — Positive Displacement Pump</b>					
60Hz	—	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)	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)	2.5 gpm @ 60 psi (9.5 lpm @ 4.2 bar)
<b>CP55 — Centrifugal Pump</b>					
60Hz	—	—	—	10.0 gpm @ 34 psi (37.9 lpm @ 2.3 psi)	10.0 gpm @ 34 psi (37.9 lpm @ 2.3 psi)
50 Hz	—	—	—	10.0 gpm @ 22 psi (37.9 lpm @ 1.7 bar)	10.0 gpm @ 22 psi (37.9 lpm @ 1.7 bar)
<b>Unit Weight</b> (by pump type)	PD1: 118 lb (53.5 kg)	PD1: 120 lb (54.5 kg) PD2: 120 lb (54.5 kg)	PD1: 176 lb (79.8 kg) PD2: 176 lb (79.8 kg)	PD2: 254 lb (115.2 kg) CP55: 275 lb (124.7 kg)	PD2: 254 lb (115.2 kg) CP55: 275 lb (124.7 kg)
<b>Voltage Options</b>					
115 V/60 Hz‡	Available	Available	—	—	—
230 V/50 Hz	Available	Available	Available	Available	Available
200-230 V/60 Hz‡	—	Available	Available	—	—
208-230 V/60 Hz‡	—	—	—	Available	Available
400 V/50 Hz/3 phase	—	—	—	Available	Available
<b>Standard Compliance</b> (for all Merlin recirculating chillers)					

\*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 (M25, M33, & M75) and PD2 pumps (M100 & M150) with no backpressure. Other pumps will affect cooling capacity performance.  
 †M100 and M150 units with CP55 pumps have a height of 36.4 in (92.5 cm), and unit weight of 275 lb (124.7 kg).  
 ‡Unit is UL rated

**Pumping Capacity for PD1 and PD2 pumps**



**Pumping Capacity for CP55 pump**



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

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**For more information about Thermo Scientific NESLAB recirculating chillers, see our comprehensive range of temperature control equipment at [www.thermo.com/tcprocess](http://www.thermo.com/tcprocess).**

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**North America:** USA/Canada tollfree: +1 (800) 258-0830;  
USA: +1 (603) 436-9444 or [info.tc.us@thermofisher.com](mailto:info.tc.us@thermofisher.com)  
**Europe:** Benelux: +31 (0) 76 579 55 55 or [info.tc.nl@thermofisher.com](mailto:info.tc.nl@thermofisher.com);  
France: +33 (0) 1 60 92 48 00 or [info.tc.fr@thermofisher.com](mailto:info.tc.fr@thermofisher.com);  
Germany: +49 (0) 721 4 09 44 44 or [info.tc.de@thermofisher.com](mailto:info.tc.de@thermofisher.com);  
United Kingdom: +44 (0) 1785 82 52 00 or [info.tc.uk@thermofisher.com](mailto:info.tc.uk@thermofisher.com)  
**Asia:** China: +86 (21) 68 65 45 88 or [info.tc.china@thermofisher.com](mailto:info.tc.china@thermofisher.com);  
India: +91 (22) 27 78 11 01 or [info.tc.in@thermofisher.com](mailto:info.tc.in@thermofisher.com)

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