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Thermo Scientific NESLAB Merlin Recirculating Chillers

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°C to +35°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

Ideal for diverse applications within the following markets

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

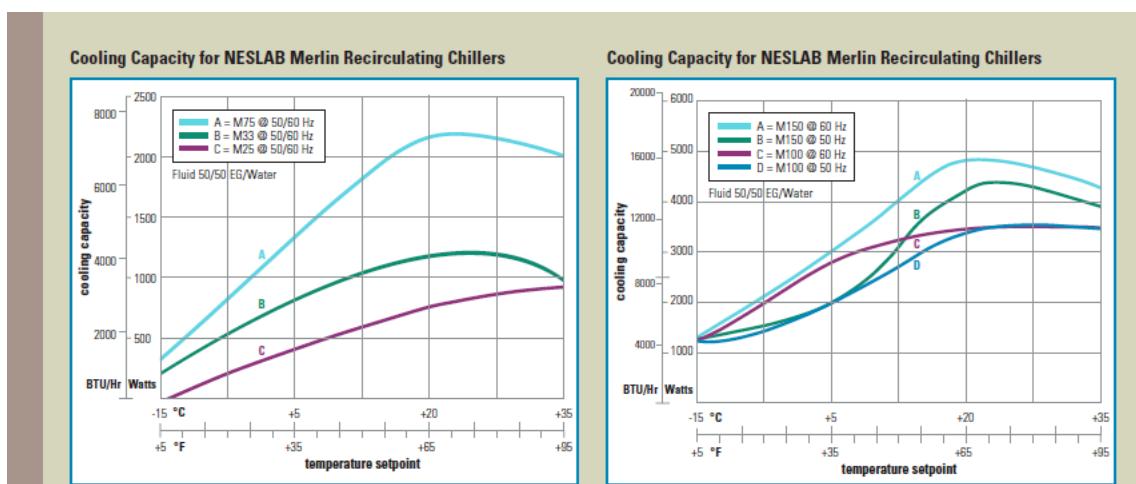
Feature	Benefit
Refrigeration system	Environmentally friendly CFC-free refrigeration system for precise temperature control and optimum stability
Reservoir isolation valves	Eliminates reservoir overflow when pumping vertically
Fluid reservoir	Enables the user to easily view the liquid level and fluid 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 • RS232 or RS485 • Remote start/stop • Status relay • Remote sensor port	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/cm2 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
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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
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)	-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)	+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	±0.15°C	±0.15°C
Setpoint Cooling Capacity* 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
Reservoir Volume	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)
Refrigerant	R134A	R134A	R134A	R404A	R404A
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)	23.5 x 12.6 x 20.9 in	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)
PD1 — Positive Displacement Pump					
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)	—	—
PD2 — Positive Displacement Pump					
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)

CP55 — Centrifugal Pump					
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)
Unit Weight (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)

Voltage Options					
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

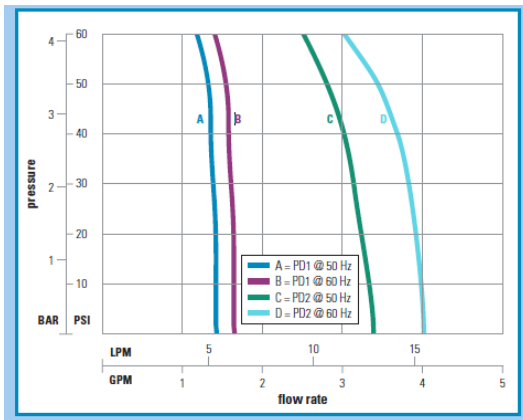
Standard Compliance

(for all Merlin recirculating chillers)

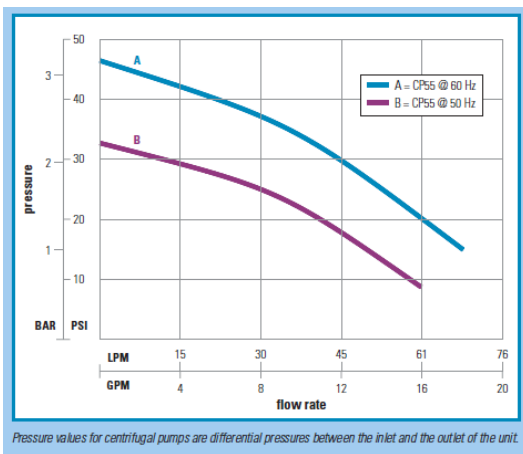
**Specifications obtained at sea level using 50/50 ethylene glycol/water mixture as the recirculating fluid at a +20°C process setpoint, +20°C ambient condition, at nominal operating voltage. Other fluids, process temperatures, ambient temperatures, altitude or operating voltages will affect performance. 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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