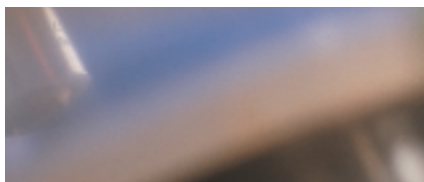


The NESLAB Merlin Series recirculating chillers provide a wide range of cooling capacity all in a highly reliable, superbly designed space-saving package for your critical application needs.

## NESLAB Merlin Series Recirculating Chillers

Delivers a continuous supply of cooling capacity up to 5045 watts



### Typical applications for the Merlin Series:

- Lasers
- Analytical instrumentation
- Printing equipment
- Electron microscopes
- Semiconductor manufacturing
- Medical imaging equipment
- Reaction vessels
- Condensers

### Feature-Packed Compact Chillers

The NESLAB Merlin Series of recirculating chillers provide precise temperature control in the most demanding cooling applications. Engineered for process-fluid cooling, these feature-packed compact chillers include easy-to-use controls, effortless maintenance, and quiet operation. Plus adjustable high and low temperature safeties, an audible alarm, and temperature stability of up to  $\pm 0.1^{\circ}\text{C}$ .

The environmentally-friendly CFC-free air-cooled refrigeration system provides reliable and powerful cooling. With a variety of pumps to choose from, you can configure a chiller that is ideal for your specific application requirements.

While each Merlin recirculating chiller has many standard features, a variety of options and accessories is available to meet specific application needs.

### Backed By a Two-Year Warranty

When purchased new from Thermo Electron Corporation, each Merlin unit is warranted for 24 months. For you, it means peace of mind. For us, it means we believe in our products.



## System Specifications

Thermo Electron Corporation has a well-established reputation in temperature control through its NESLAB and HAAKE product lines. Formerly independent companies, NESLAB and HAAKE have joined forces within Thermo to provide proven temperature control technology along with global service and support. With over 75 years of extensive industry experience, Thermo professionals worldwide continue to develop and support the solutions that help you analyze, detect, measure, and control your application with increasingly advanced precision.

### NESLAB Merlin Series Specifications

	M 25	M 33	M 75	M 100	M 150
<b>Cooling capacity @ 20°C</b>					
60 Hz	810 watts 2765 BTU 697 Kcal	1250 watts 4266 BTU 1075 Kcal	2410 watts 8225 BTU 2073 Kcal	3500 watts 11946 BTU 3010 Kcal	5045 watts 17219 BTU 4339 Kcal
50 Hz	725 watts 2474 BTU 624 Kcal	1125 watts 3840 BTU 968 Kcal	2180 watts 7440 BTU 1875 Kcal	3500 watts 11946 BTU 3010 Kcal	4540 watts 15495 BTU 3905 Kcal
<b>Refrigerant</b>	R134A	R134A	R134A	R404A	R404A
<b>Temperature range</b>					
standard	+5°C to 35°C	+5°C to 35°C	+5°C to 35°C	+5°C to 35°C	+5°C to 35°C
low temperature option	-15°C to 35°C	-15°C to 35°C	-15°C to 35°C	-15°C to 35°C	-15°C to 35°C
<b>Temperature stability</b>	+/- 0.1°C	+/- 0.1°C	+/- 0.15°C	+/- 0.15°C	+/- 0.15°C
<b>Pumps</b>					
MD 30 – Mag Drive*	yes	yes	n/a	n/a	n/a
PD 1 – Positive Displacement	yes	yes	yes	n/a	n/a
PD 2 – Positive Displacement	n/a	yes	yes	yes	yes
CP 55 – Centrifugal Pump	n/a	n/a	n/a	yes**	yes**
<b>Reservoir volume</b>					
gallon	0.5	0.5	0.5	0.5	0.5
liter	1.8	1.8	1.8	1.8	1.8
<b>Unit dimensions</b>					
H x W x D in	23.5 x 12.6 x 20.9	23.5 x 12.6 x 20.9	26.1 x 16.3 x 24.0	30.4 x 21.3 x 29.3	30.4 x 21.3 x 29.3
H x W x D cm	59.7 x 32.1 x 53.0	59.7 x 32.1 x 53.0	66.4 x 41.3 x 61.0	77.2 x 54.0 x 74.3	77.2 x 54.0 x 74.3
<b>Power requirements</b>					
option 1	115V, 60 Hz, 10 amps	115V, 60 Hz, 13 amps	200-230V, 60 Hz, 9 amps	200-230V, 60 Hz, 13 amps	200-230V, 60 Hz, 15 amps
	100V, 50 Hz, 10 amps	100V, 50 Hz, 13 amps	200V, 50 Hz, 9 amps	200V, 50 Hz, 13 amps	200V, 50 Hz, 15 amps
option 2	230V, 50 Hz, 5 amps	200-230V, 60 Hz, 7 amps	230, 50 Hz, 9 amps	230V, 50 Hz, 13 amps	230V, 50 Hz, 16 amps
		200V, 50 Hz, 7 amps			
option 3	n/a	230, 50 Hz, 7 amps	n/a	400V, 50 Hz, 3 ph 8 amps	400V, 50 Hz, 3 ph 8 amps
<b>Unit weight</b>					
lb	118	120	176	254	254
kg	54	54	80	115	115

Specification listed for standard units circulating water at 20°C fluid temperature and 20°C ambient. Other fluids, fluid temperatures, or ambient temperatures will affect performance. Cooling capacity and amperage ratings based on units with PD 1 pumps (PD 2 with M 100 and M 150). Other pumps will affect performance. Specifications are subject to change.

\*Available in 60 Hz configuration only.

\*\*M 100 and M 150 units with CP 55 pump have a height of 36.4", and unit weight of 275 lbs.

## NESLAB Merlin Series Features and Benefits

Feature	Benefit
<b>Variety of pumps</b>	Meets your specific application needs
<b>Refrigeration system</b>	Provides CFC-free refrigeration system for precise temperature control and optimum stability
<b>Hot gas bypass</b>	Extends chiller life
<b>Reservoir isolation valves</b>	Eliminates reservoir overflow when pumping vertically
<b>Fluid reservoir</b>	Enables you to view the liquid level and fluid condition at a glance
<b>Removable front grille</b>	Allows quick release of front grille for routine cleaning
<b>Integrated fluid pressure and flow adjustment</b>	Meets specific application needs
<b>Easy access reservoir drain</b>	Allows fast and easy access when changing fluids
<b>Pressure gauge</b>	Provides fluid system diagnostics at a glance
<b>Digital temperature controller</b>	Provides intuitive controller with an easy-to-view digital display for simple operation
<b>High/low temperature safeties</b>	Ensures your application maintains critical operating parameters
<b>Compact design</b>	Maximizes valuable floor space
<b>Two-year warranty</b>	Provides you with peace of mind

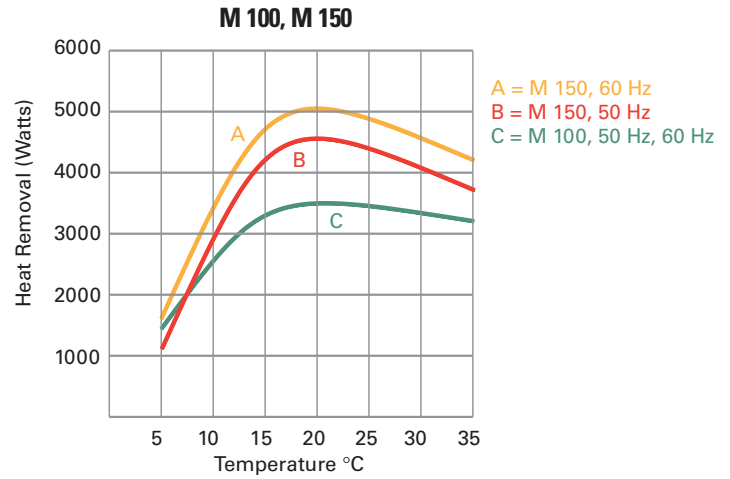
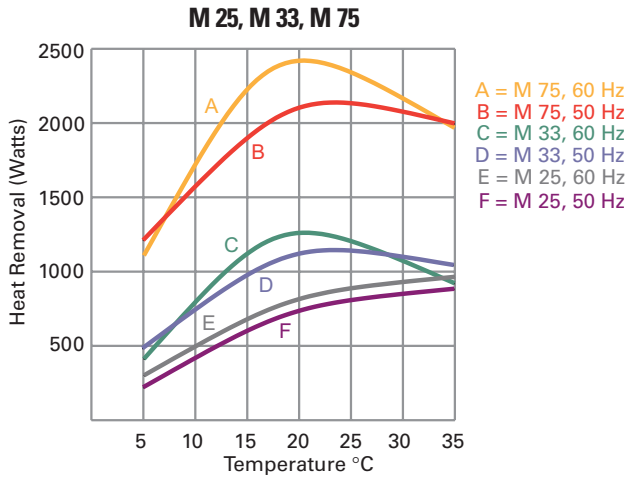
## Options

Feature	Benefit
<b>Communications package:</b>	
• RS-232 or RS-485	Allows for remote operation, monitoring, and data logging
• Remote start/stop	Allows the unit to be remotely turned on and off for convenient operation
• Status relay	Allows for remote monitoring
• Remote sensor port	Allows remote temperature control of the application
<b>Low level/low flow safety package</b>	Ensures fluid level and fluid flow safety to ensure continuous operation

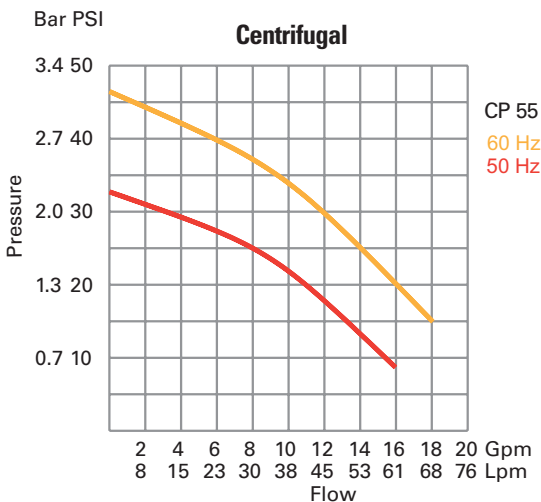
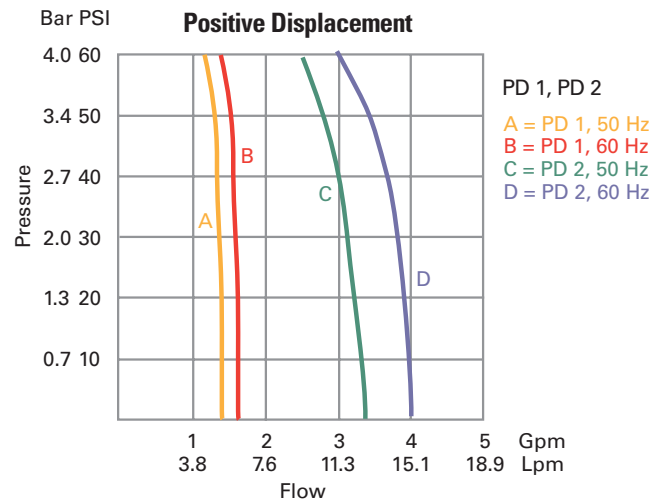
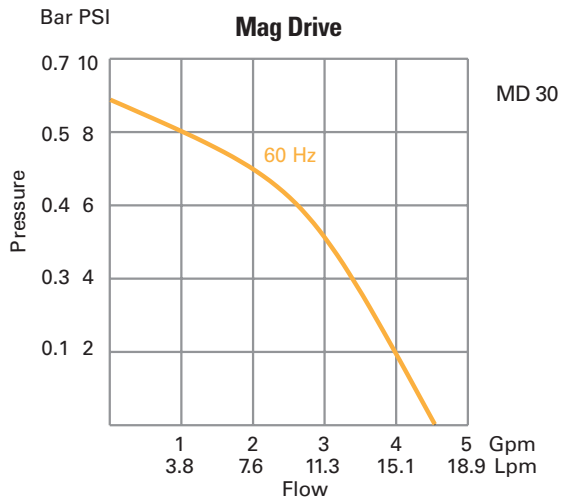
## Accessories

Feature	Benefit
<b>NESLAB NEScom software</b>	Allows you to easily program and automate your temperature control process from a PC system
<b>Plumbing kits</b>	Provides tubing, insulation, and connectors for easy installation
<b>External temperature gauge</b>	Allows you to monitor system operating temperature any point in-line between the chiller and the application
<b>External pressure gauge</b>	Allows you to monitor system pressure any point in-line between the chiller and the application
<b>Air filter kits</b>	Protects your chiller from dusty environments
<b>Deionized water package</b>	Maintains a water resistivity level between 1 and 3 megohm/cm2 for cooling application requiring ultra pure water
<b>Fluid particulate filters</b>	Maintains particulate-free operating fluid. Available with 5, 10, 25 or 40 micron filters
<b>Ethylene glycol</b>	Allows circulation to temperatures down to -20°C in a 50/50 mixture with water

## Cooling Capacity



## Pumping Capacity



USA  
25 Nimble Hill Rd.  
Newington, NH 03801  
Tel. 800 258 0830  
info.tc.us@thermo.com

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France  
16 Avenue du Québec - Silic 765  
91963 Courtaboeuf Cedex  
Tel. +33 (0) 1 60 92 48 00  
info.tc.fr@thermo.com

United Kingdom  
Ion Path, Road Three  
Winsford, Cheshire CW7 3GA  
Tel. +44 (0) 1606 54 87 49  
info.tc.uk@thermo.com

Benelux  
Takkebijsters  
4817 BL Breda  
Tel. +31 (0) 76 5 87 98 88  
info.tc.nl@thermo.com

International/Germany  
1 Dieselstr. 4  
76227 Karlsruhe  
Tel. +49 (0) 721 4 09 44 44  
info.tc.de@thermo.com