Product Specifications

Compact, reliable heat exchangers provide a low energy and efficient way to remove heat from water-cooled applications resulting in low cost of ownership. Cooling capacities up to 100 kW.

Thermo Scientific NESLAB System

Water-to-Water Heat Exchangers

Ideal for diverse applications within the following markets

- Laboratory
- Laser
- Industrial
- Semiconductor
- Medical

Simple, Reliable and Green

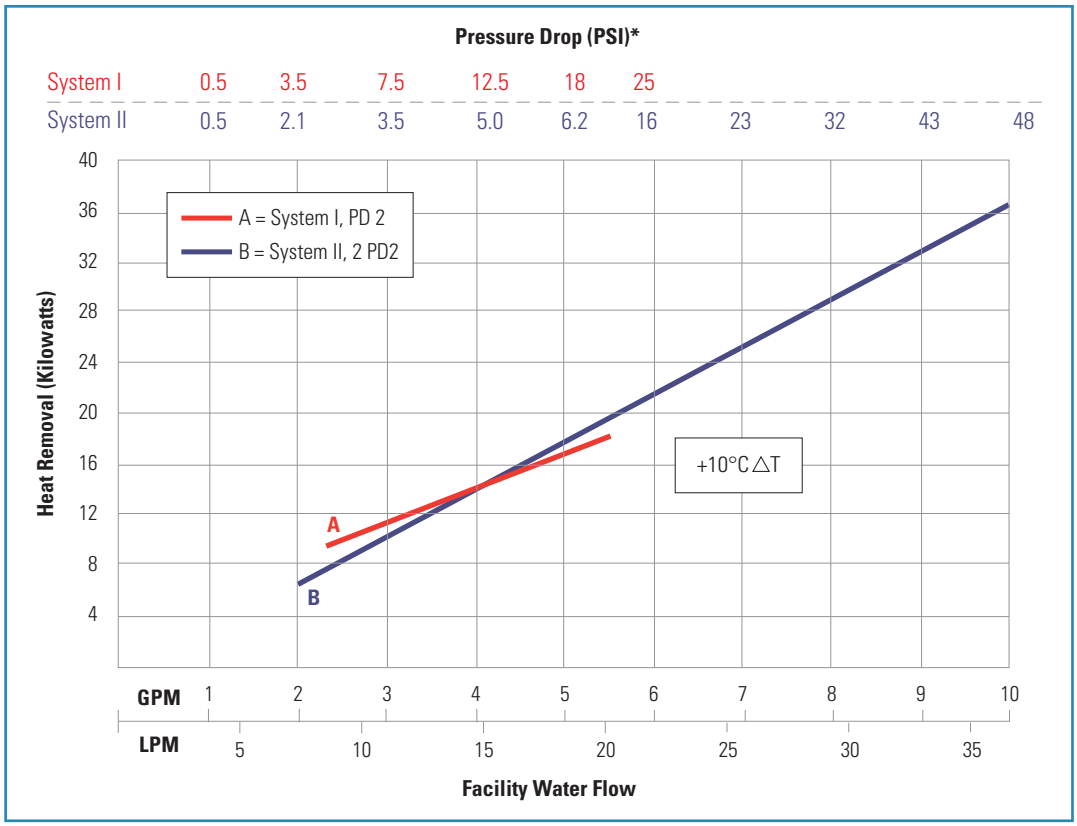
The Thermo Scientific NESLAB System Water-to-Water Heat Exchangers provide a clean, stable, controlled, closed-loop water cooling system that rejects the process heat into an existing in-house facility water supply. This eliminates the problems associated with the direct use of in-house water such as insufficient or fluctuating flow, changing pressure, poor water quality, and temperature instability.

Because the NESLAB System series heat exchangers take advantage of an existing in-house water system for heat removal, they use less energy and cost less to operate than traditional compressor-based chillers.

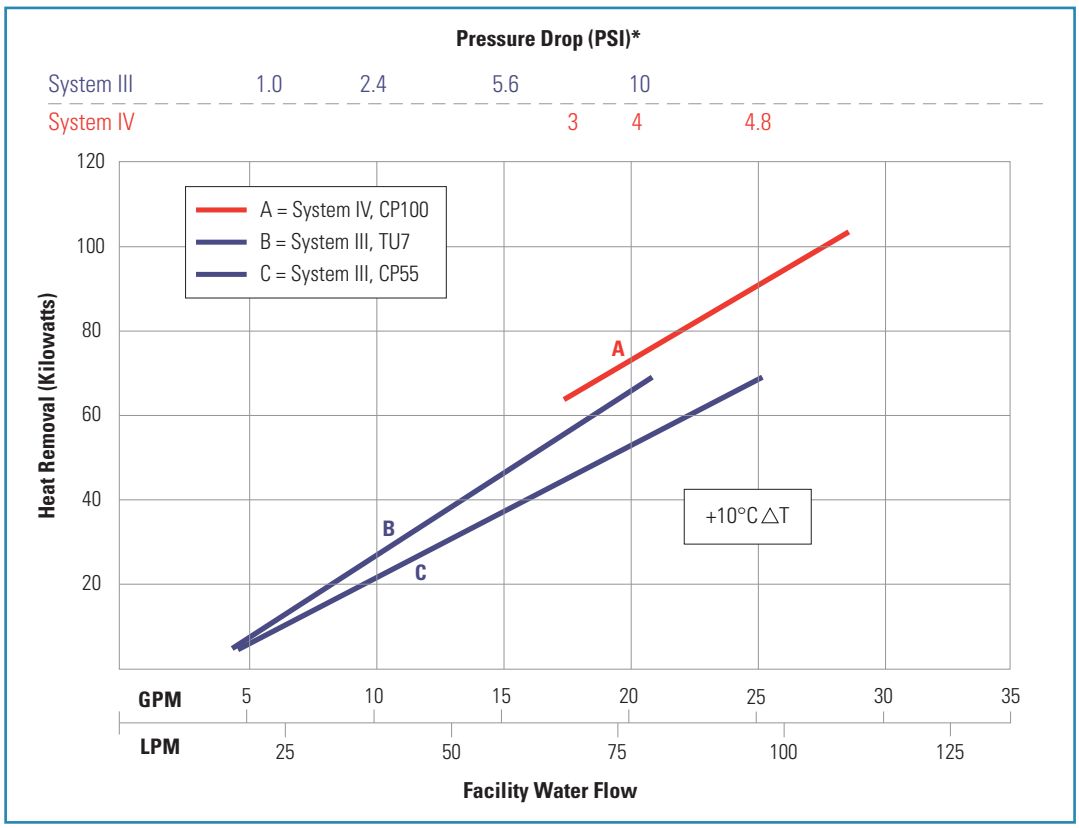
Features & Benefits

- Simple, reliable design for years of worry-free operation
- Compact footprint optimizes valuable floor space
- Heat load sensing valve conserves facility water usage
- Panel mounted gauges monitor recirculating temperatures and fluid pressure (SYS-I and SYS-II)
- Flow control valve allows precise setting of recirculating rate (SYS-III and SYS-IV)
- High temperature and low liquid level safety feature with status relay provides protection to temperature sensitive applications

Heat Load Removal for NESLAB System I and System II



Heat Load Removal for NESLAB System III and System IV



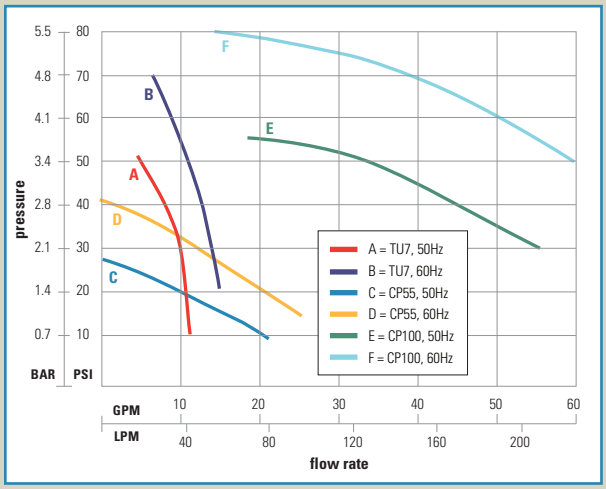
Heat load removal is based on a 10°C difference between the temperature of the facility water supply and the application set point.
Heat load removal will be reduced with less than a 10°C difference between the temperature of the facility water supply and the application set point.
Please contact our application engineering department for further assistance.
**Pressure Drop (PSI) indicates the minimum pressure differential between the Facility Water inlet and the Facility Water outlet to achieve the corresponding Facility Water Flow rate ($Pressure_{inlet} - Pressure_{outlet} = Pressure_{drop}$).*

Thermo Scientific NESLAB System Water-to-Water Heat Exchangers

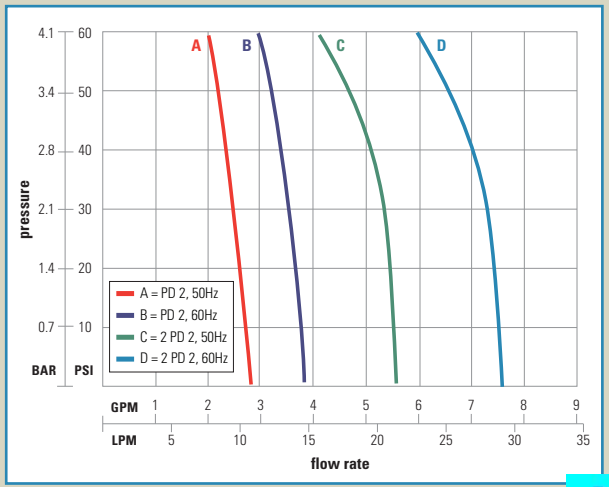
		NESLAB System I	NESLAB System II	NESLAB System III	NESLAB System IV
Setpoint Temperature Range		+5°C to +35°C (+41°F to +95°F)	+5°C to +35°C (+41°F to +95°F)	+5°C to +40°C (+41°F to +104°F)	+5°C to +40°C (+41°F to +104°F)
Ambient Temperature Range		+10°C to +40°C (+50°F to +104°F)	+10°C to +40°C (+50°F to +104°F)	+10°C to +40°C (+50°F to +104°F)	+10°C to +40°C (+50°F to +104°F)
Temperature Stability		±1.0°C	±1.0°C	±1.0°C	±1.0°C
Setpoint Cooling Capacity					
60 Hz at +20°C		14 kW / 47768 BTU	34 kW / 116008 BTU	70 kW / 238840 BTU	100 kW / 341200 BTU
50 Hz at +20°C		14 kW / 47768 BTU	34 kW / 116008 BTU	70 kW / 238840 BTU	100 kW / 341200 BTU
Reservoir Volume		1 gallon (3.79 liters)	1.75 gallons (6.6 liters)	1.25 gallons (4.7 liters)	6.5 gallons (24.6 liters)
Physical Dimensions (H x W x D)					
PD2, CP55 pumps		25.5 x 14.3 x 20.5 in (64.8 x 36.2 x 52.1 cm)	30.1 x 16.5 x 20.1 in (76.5 x 41.9 x 51.1 cm)	20.8 x 17.4 x 27.0 in (52.7 x 44.1 x 68.6 cm)	—
TU7, CP100 pumps		—	—	33.8 x 23.0 x 27.0 in (85.7 x 58.4 x 68.6 cm)	33.8 x 23.0 x 27.0 in (85.7 x 58.4 x 68.6 cm)
PD2	60 Hz	3.0 gpm @ 60 psi (11.4 lpm @ 4.1 bar)	—	—	—
	50 Hz	2.5 gpm @ 42.6 psi (9.4 lpm @ 2.9 bar)	—	—	—
2 PD2	60 Hz	—	6.0 gpm @ 60 psi (22.7 lpm @ 4.1 bar)	—	—
	50 Hz	—	5.0 gpm @ 42.6 psi (18.8 lpm @ 2.9 bar)	—	—
CP55	60 Hz	—	—	12 gpm @ 30 psi (45.4 lpm @ 2.1 bar)	—
	50 Hz	—	—	10 gpm @ 20.3 psi (37.7 lpm @ 1.4 bar)	—
TU7	60 Hz	—	—	10 gpm @ 55 psi (37.9 lpm @ 4.1 bar)	—
	50 Hz	—	—	8.3 gpm @ 37.7 psi (31.4 lpm @ 2.6 bar)	—
CP100	60 Hz	—	—	—	50 gpm @ 60 psi (189.3 lpm @ 4.1 bar)
	50 Hz	—	—	—	41.5 gpm @ 42.1 psi (157 lpm @ 2.9 bar)
Unit Weight		96 lb (43.5 kg)	186 lb (84.3 kg)	206 lb (93.4 kg)	289 lb (131.1 kg)
Voltage Options					
115 V/60 Hz		Available	Available	—	—
230 V/50 Hz		Available	Available	Available	—
208-230 V/60 Hz/3 phase		—	—	Available	Available
400 V/50 Hz/3 phase		—	—	—	Available
Compliance (50 Hz units)		CE	CE	CE	CE

Specifications obtained using water as the recirculating fluid and using water as a coolant for the facility water, at nominal operating voltage.
Other fluids, process temperatures, ambient temperatures, altitude, or operating voltages will affect performance. Specifications are subject to change.
Heat load removal based on a +10°C difference between the temperature of the facility water supply and the application set point.

Pumping Capacity for Pump Options TU7, CP55, CP100



Pumping Capacity for Pump Options PD2 & 2 PD2



Pressure values for pumps are gage pressures (psig).