thermo scientific

SPECIFICATION SHEET

Thermo Scientific Systems Water-to-Water Heat Exchangers

Simple, reliable and efficient

The Thermo Scientific™ Systems 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 Systems Series Heat Exchangers take advantage of an existing in-house water system for heat removal, they cost less to operate and own than traditional compressor based chillers.

Features and 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)
- LED display for recirculating temperatures and panel mounted gauge for fluid pressure (SYS-III and SYS-IV)
- 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

Ideal for diverse applications within the following markets

- Laboratory
- Laser
- Industrial
- Semiconductor
- Medical

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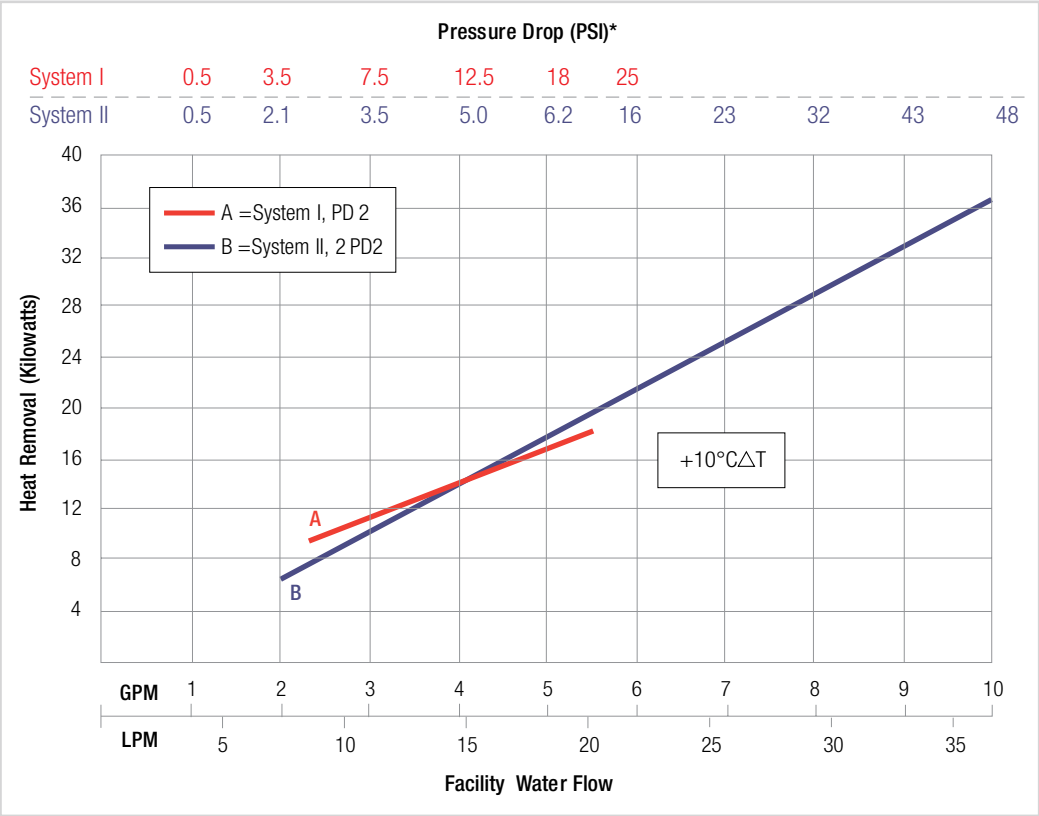
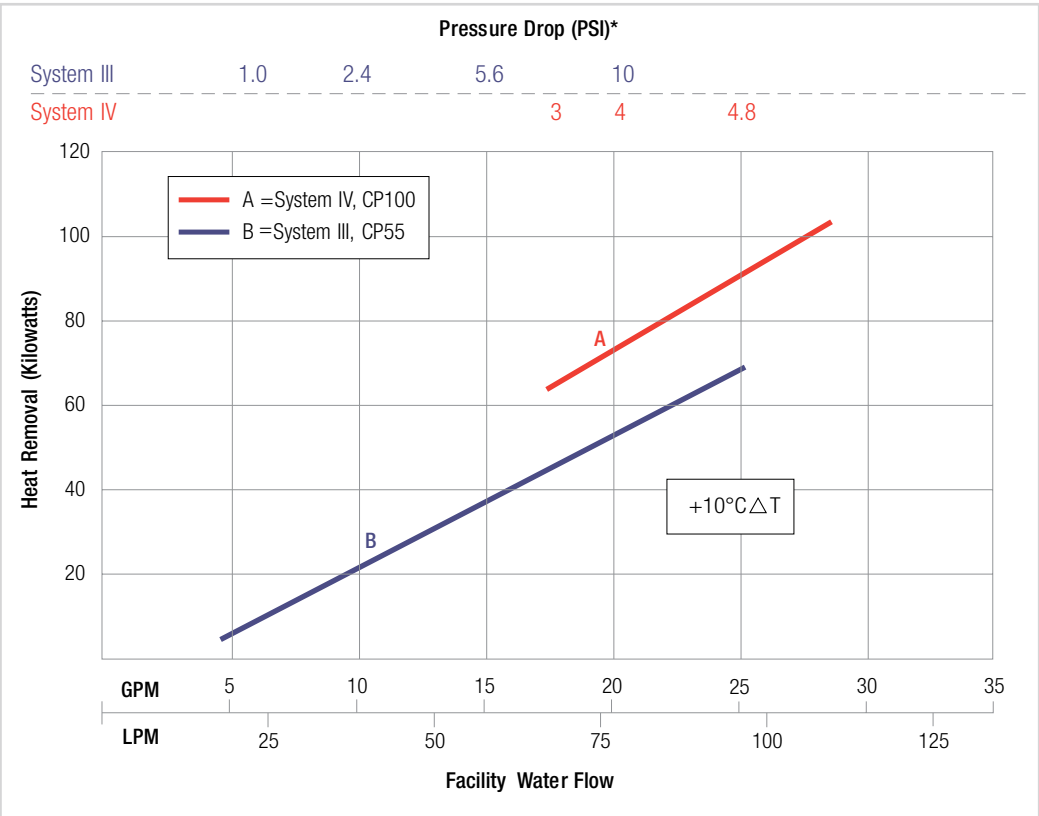
Facility water requirement for System I and System II



Facility water requirement for System III and System IV



Facility water requirement is based on a 10°C difference between the temperature of the facility water supply and the application set point.

Facility water requirement 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.

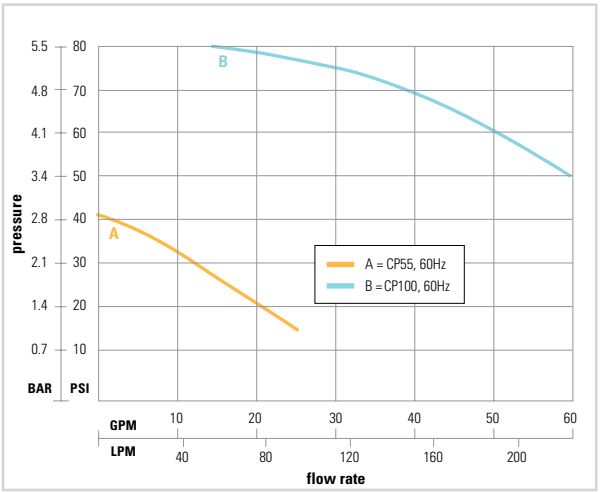
*Pressure Drop (PSI) indicates the minimum pressure differential between the Facility Water inlet and the Facility Water outlet to achieve the corresponding Facility Water Flow rate ($Pressure_{inlet}$ – $Pressure_{outlet}$ = $Pressure_{drop}$).

Thermo Scientific System Water-to-Water Heat Exchangers

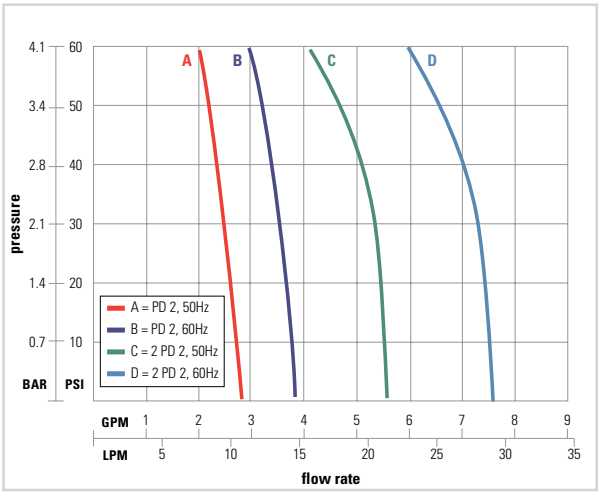
		System I	System II	System III	System IV
Cat. Nos.	115 V/60 Hz	322003041401	323003260108	–	–
	220 V/50 Hz	322006041401	323006260112	–	–
	208-230 V/60 Hz/3 phase	–	–	327004021602	602005291603
Setpoint temperature range		+5°C to +35°C (+41°F to +95°F)	+5°C to +35°C (+41°F to +95°F)	+5°C to +40°C (+41°F 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 50 Hz at +20°C		 14 kW/47,768 BTU 14 kW/47,768 BTU	 34 kW/116,008 BTU 34 kW/116,008 BTU	 70 kW/238,840 BTU 70 kW/238,840 BTU	 100 kW/341,200 BTU 100 kW/341,200 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)	 –
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)	
CP100	60 Hz	–	–	–	50 gpm @ 60 psi (189.3 lpm @ 4.1 bar)
Unit weight		96 lb (43.5 kg)	186 lb (84.3 kg)	206 lb (93.4 kg)	289 lb (131.1 kg)

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 CP55, CP100



Pumping capacity for pump options PD2, 2 PD2



Pressure values for pumps are gage pressures (psig).

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