



## **Rheology Solutions**

*Rheology Solutions is the sole Australian distributor of this product range and we welcome the opportunity of discussing your application requirements.*

*We hope the information you are seeking is contained within this file.  
If you have any questions, or require further information please contact us.  
We look forward to being of further service.*

*Regards from the Team at Rheology Solutions.*

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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

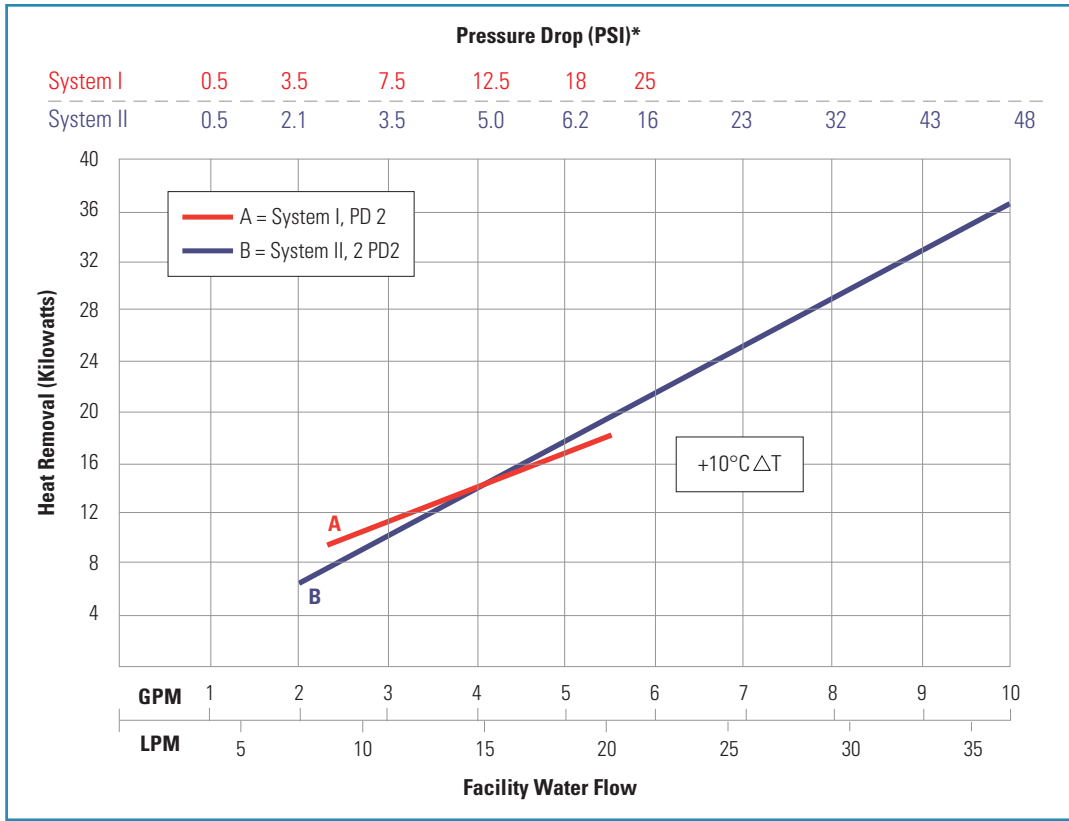
The Thermo Scientific NESLAB System Water-to-Water Heat Exchangers provide a clean, stable, controlled, closed-loop water cooling system that rejects the process heat into an existing in-house facility water supply. This eliminates the problems associated with the direct use of in-house water such as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

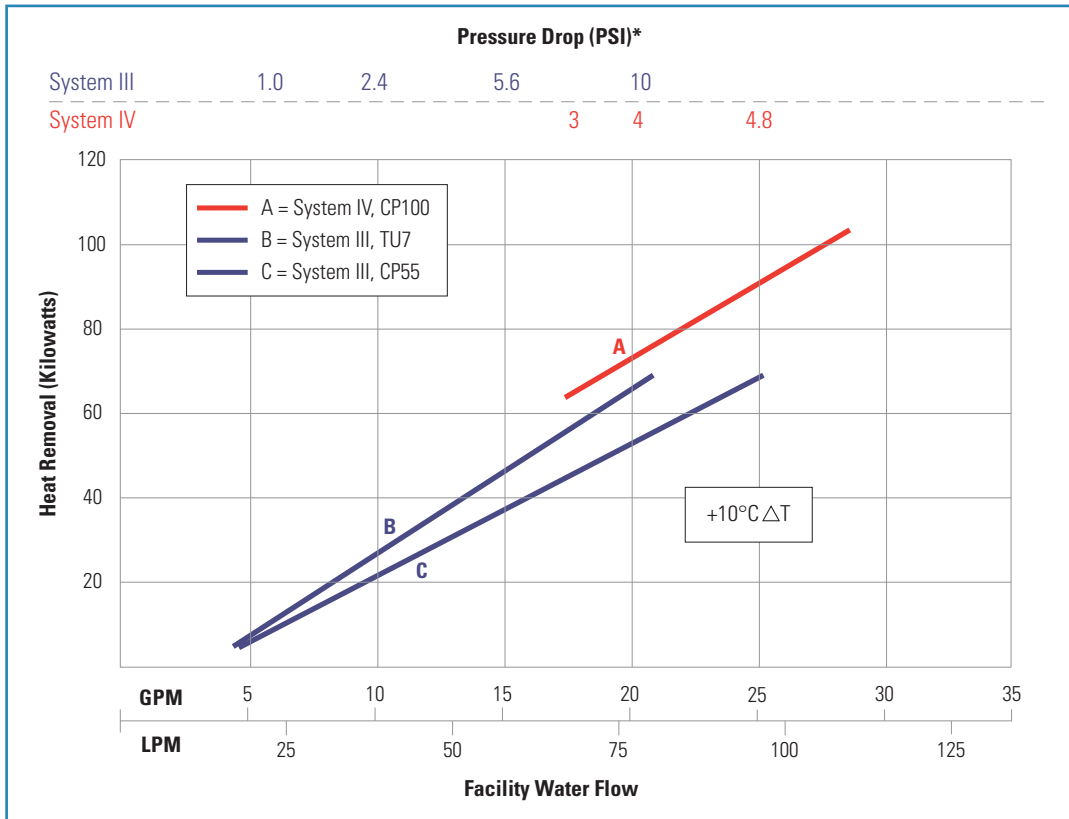
#### Features & Benefits

- 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**



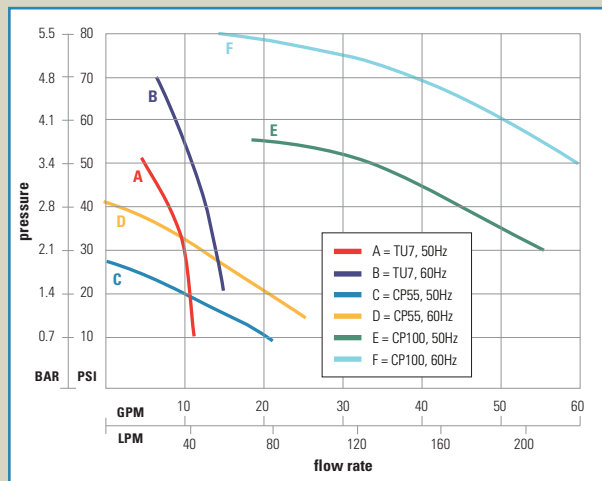
Heat load removal is based on a 10°C difference between the temperature of the facility water supply and the application set point.  
 Heat load removal will be reduced with less than a 10°C difference between the temperature of the facility water supply and the application set point.  
 Please contact 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

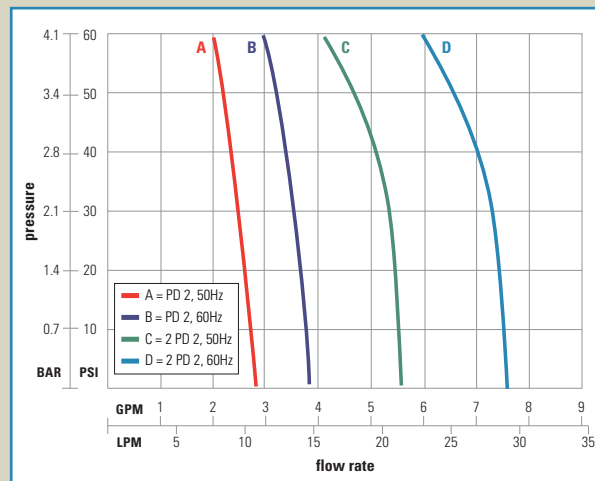
|  | NESLAB System I                                  | NESLAB System II                                 | NESLAB System III                                | NESLAB System IV                                 |
|--|--|--|--|--|
| <b>Setpoint Temperature Range</b>      | +5°C to +35°C<br>(+41°F to +95°F)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

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).

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

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