

### Liquid-to-Liquid Cooling System LCS20

#### Cooling Capacity up to 20 kW

Boyd's Liquid-to-Liquid Cooling System (LCS20) offers precise temperature control of process water and transfers the waste heat to your facility water via a liquid-to-liquid heat exchanger. It is an excellent solution for high heat-load or high ambient temperature applications where chilled facility water is available.

- **Large cooling capacity in a compact package:** An LCS is a great solution for high heat loads where space is at a premium. With 20 kW of cooling, our LCS20 provides over three times the capacity of a comparably-sized recirculating chiller.
- **Tight temperature control:** We maintain the fluid temperature to within  $\pm 0.5^{\circ}\text{C}$ , despite fluctuations in the facility water temperature and flow rate. Our PID controller varies the facility water flow rate through the heat exchanger based on the process water temperature to achieve this stability.
- **Contamination-free:** The process cooling loop of the LCS is isolated from the facility water. This separation protects your equipment, keeping it free from facility water contaminants. It also eliminates the risk of condensation near your equipment if the facility water is below the dew point.
- **Reliable, quiet, and energy efficient:** The LCS system contains very few moving parts-this makes it inherently reliable and quiet. The only components requiring power are the pump, motor, and controller, so it is also extremely energy efficient.
- **ITSNA tested to UL 61010A-1 and CE certified**



## Performance Specifications

Specification	LCS20
Cooling capacity	20 kW (68 kBTU/Hr) at 4.3 GPM process and 10 GPM facility and 20°C Initial Temperature Difference (ITD)
Temperature stability	+/-0.5°C
Fluid connections	3/4" FNPT
Reservoir capacity	6 gal / 22 liters
Coolant temperature range	50°F to 140°F / 10°C to 60°C
Facility water temperature range	50°F to 95°F / 10°C to 35°C
Ambient temperature range	41°F to 104°F / 5°C to 40°C
Facility flow rate	2 to 10 gpm / 8 to 38 lpm
Facility pressure	100 psi / 7 bar max
Facility pressure drop	15 psi / 1 bar at max flow
Dimensions (W x D x H) - mm and inches	21.4 X 27.8 X 31.9 and 543 X 705 X 810
Weight - lbs and kg	140 and 64
<b>Electrical configurations with full load amperage<sup>1</sup>:</b>	
G01: 100-120V, 50/60 Hz          Amps	7.2
J01: 200-240V, 50/60 Hz          Amps	3.6
<b>Pump options</b>	
BG: PDP <sup>2</sup> , Brass, 4.3 gpm/16.3 lpm	•
CG: PDP <sup>2,3</sup> , Stainless Steel, 4.3 gpm/16.3 lpm	o
DA: Centrifugal, 1/4 HP <sup>4</sup>	o
EB: Turbine, 1/2 HP <sup>4</sup>	o
FB: Turbine, Stainless Steel, 1/2 HP <sup>3,4</sup>	o
<b>Controller options</b>	
LCS20 Only Package 1: Digital temperature display, °C/°F toggle, over-temperature indicator, calibration offset	•
LCS20 Only Package 2: Package 1 plus low level indicator, low flow indicator, analog output	o
<b>Available options</b>	
External flow valve	o
External pressure relief valve	o
5 micron coolant filter <sup>5</sup>	o
DI water cartridge <sup>5</sup>	o
High purity plumbing	o
Heater <sup>6</sup>	o
Internal insulation package	o

● = standard

o = available option

<sup>1</sup> With standard pump

<sup>2</sup> PDP = Positive Displacement Pump (J01 only)

<sup>3</sup> Only available with high purity plumbing

<sup>4</sup> Actual flow rate depends on system pressure drop

<sup>5</sup> Not available with DA pump

<sup>6</sup> Not available with G01 electrical configuration

**LCS 20 G01 BG 1 M** An LCS20, 100-120V, 50/60 Hz, with BG pump and controller package 1

— Customization options (A 4 digit option code will be assigned at time of order, based on elected options. Leave blank if no additional options selected.)

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