Vertiv™ Coolant Distribution Unit (CDU) – XDU600

Energy and space efficient liquid cooling High-Performance Computing (HPC) and data center applications

The Vertiv™ XDU600 Coolant Distribution Unit (CDU) provides effective separation of the facility circuit and secondary circuit via a high efficiency HX (heat exchanger) with the devices to be cooled, including Rear Door Heaters, In-row Coolers, Direct Chip cooling.

Ensures that the cooling fluid in a data center environment can be kept to a minimum volume, is closely controlled for flow, pressure & temperature and can be accurately maintained for fluid quality.

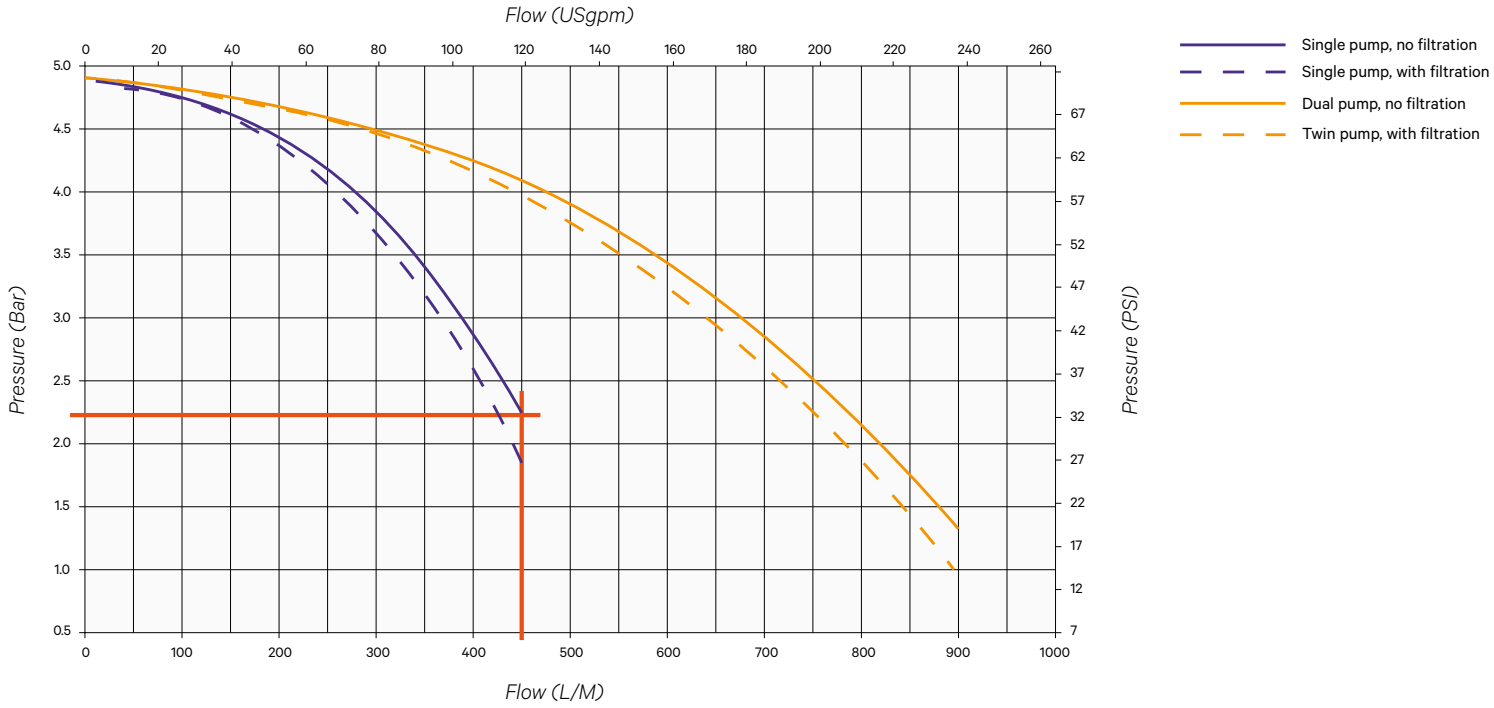
Dual pumps and inverters for redundancy

- Secondary circuit flow of 19 gpm (450 l/m) at 32 psi (2.2 bar) external DP, up to 238 gpm (900 l/m) at 19 psi (1.3 bar) external in dual pump mode
- Low pressure drop 2.5 in. pipe-work, components and heat exchanger
- Two inverters, controlled via RS485 enables detailed reporting of data, status, seamless pump change-over, and dual pump running mode
- Large heat exchanger for low “Approach Temp Diff” 600kW at 7.2°F (4.0°C)
- Effective separation of primary/ secondary water circuits
- All stainless-steel secondary circuit with self-filling and venting capability
- Large dual redundant secondary filters at 50µ and primary filter at 500µ for concurrent maintainability.
- Large capacity dual redundant expansion vessels
- Easy to install, pipe connection options including internal manifold
- Low center of gravity, helps with Seismic compliance and logistics
- 7 in. color touchscreen Human-Machine Interface (HMI) and ARM Cortex M7 basedcontroller
- Communication via Modbus RTU (RS485) and TCP/IP protocols
- Triple redundant secondary supply sensors and redundant RH sensors
- Fully configurable for various installation options and features
- CE, cULus and IEC compliant

Performance:

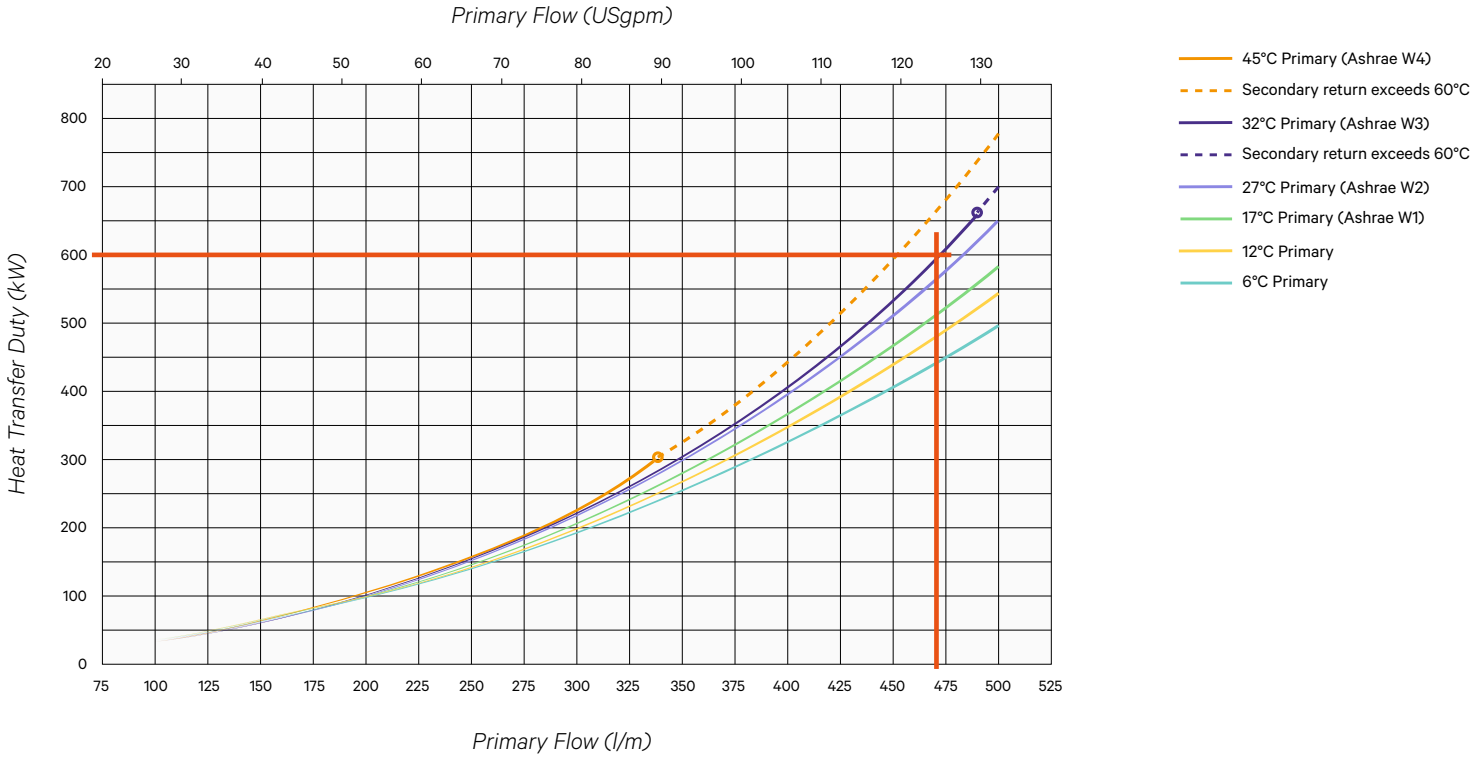
119 gpm (450 l/m) at 32.0 psi (2.2 bar) differential pressure external to XDU600

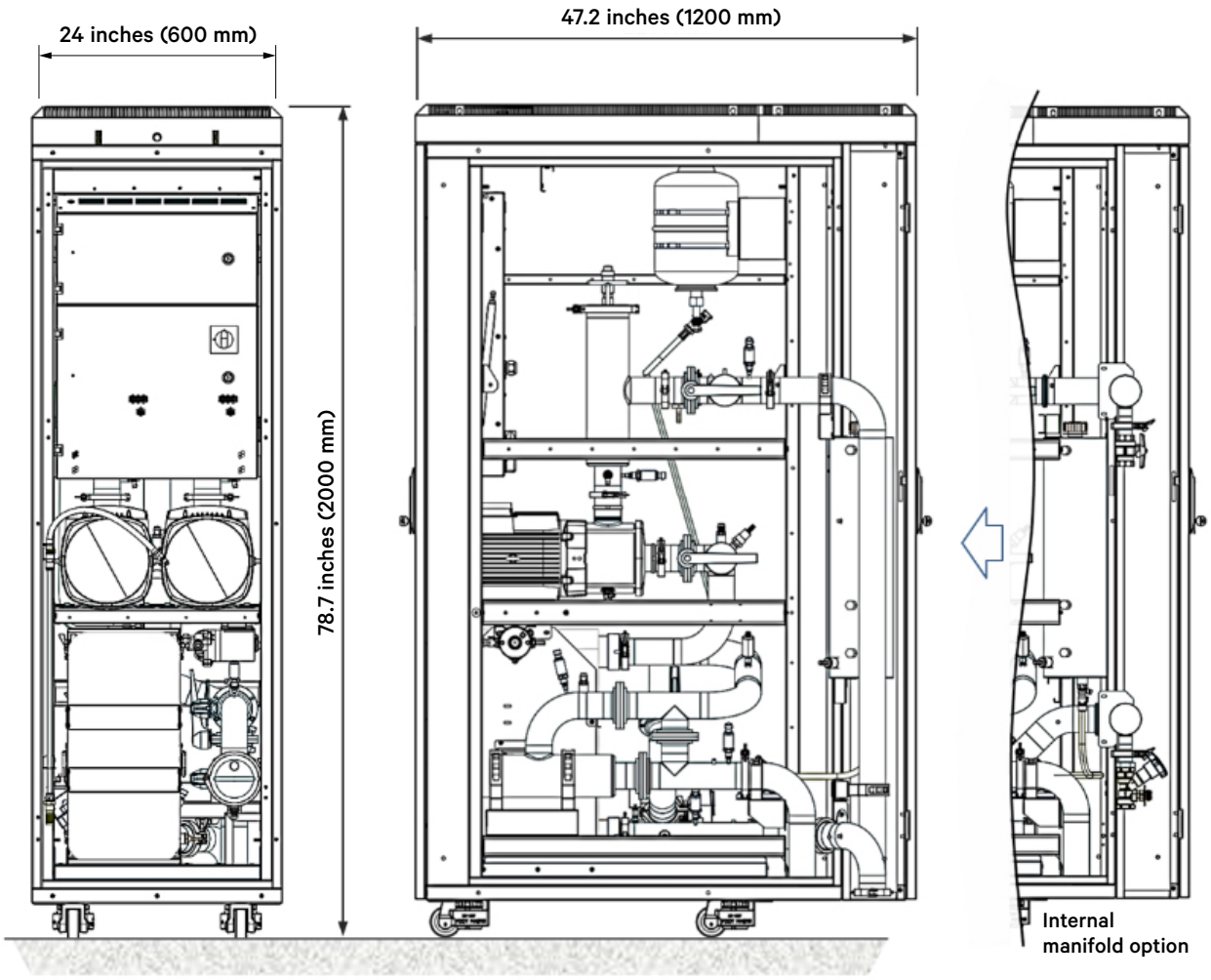
External Differential Pressure



600kW Heat Transfer at 7.5 °F(4.0°C) ATD - Facility water at 89.6 °F 32°C

Primary Flow/Temperature Graph for 7.2 °F (4 °C) ATD




24 inches (600 mm)
47.2 inches (1200 mm)
78.7 inches (2000 mm)
Internal manifold option
Front of Unit
Right side of unit

XDU600 FDU Specification

Nominal Cooling Capacity	600 kW at 7.2 °F (4.0 °C) Approach Temperature Difference (ATD)
Maximum Flow – Single Pump Running	119 gpm (450 l/m) at 31.9 psi (2.2 bar) External Differential Pressure to FDU (DP)
Maximum Flow – Dual Pump Running for N+ operation	238 gpm (900 l/m) at 18.9 psi (1.3 bar) External Differential Pressure to FDU (DP)
Secondary Coolant Type	Water, water/glycol or any compatible sensible phase liquid
Primary Coolant Type	Water, water/glycol
Pump Redundancy	Redundant pumps (N+N) or dual pump run mode
Primary Pressure Drop	12.3 psi (0.85 bar) at typical 105.7 gpm (400 l/m) with 20% glycol (w/o filter)
Secondary Coolant Temperature Range	50 to 131 °F (10 to 55 °C) with dew-point control standard
Maximum Power Consumption	4.5 kW at maximum flow and external pressure drop (single pump)
Dimensions (H x W x D) and Weight	79 in. x 24 in. x 47 in. (2000 mm x 600 mm x 1200 mm) 945.78 lbs. (429 kg) - dry
Noise Level at 3m (10ft)	< 55 dBA
Power Supply Europe, Asia and ROW	400 v 50/60 Hz 3 phase, fused at 30 or 40 A (1 or 2 x pump op.)
Power Supply US – 480v	480v 60 Hz 3 phase, fused at 30 or 40 A (1 or 2 x pump op.)
Power Supply US – 208v	208 v 60 Hz 3 phase, fused at 50 or 63 A (1 or 2 x pump op.)
Power Supply Japan	200 v 50/60 Hz 3 phase, fused at 50 or 63 A (1 or 2 x pump op.)
Dual Power Feeds (ATS)	Optional feature
Primary Connection	2 ½". hygienic flanges top or bottom
Primary Filtration	Optional – 500µ with bypass to enable on line cleaning
Primary Circuit Volume	With filtration – 9.8 gallon (37 liter)
Secondary Connection	2½" hygienic flanges top or bottom or optional manifolds
Secondary Filtration	Optional - 50µ dual redundant to enable on line cleaning
Secondary Circuit Volume	With filtration – 12.7 gallon (48 liter)
Flow Meters	Primary and secondary
Pressure Sensors Primary Circuit	Primary inlet pressure and filter DP
Pressure Sensors Secondary Circuit	Inlet pressure (redundant), supply pressure and filter DP
Temperature Sensors	Primary inlet, secondary inlet and supply (triple redundant)
Other Sensors	Ambient/Room RH and temperature (redundancy option)
Fill pump and Air Vents	Automatic fill pump and automatic air vents
Expansion vessels	Redundant 2.1 gallon (8.0 literl) expansion vessels
Communication	RS485 RTU Modbus, TCP/IP SNMP, CLI, Webserver and others
Agency Approvals and Certification	CE, UKCA, cULus, RoHS3

*Consult your Vertiv sales rep for maximum cooling capacity.

Vertiv.com | **Vertiv Headquarters,** 505 N Cleveland Ave, Westerville, OH 43082, USA

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