Coolant Distribution Unit (CDU) – XDU 1350

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

The Vertiv XDU 1350 Coolant Distribution Unit (CDU) provides effective separation of the facility circuit and secondary circuit via a high efficiency HX with the devices to be cooled, including Rear Door Heat Exchangers, In-row Coolers, Direct Chip cooling.

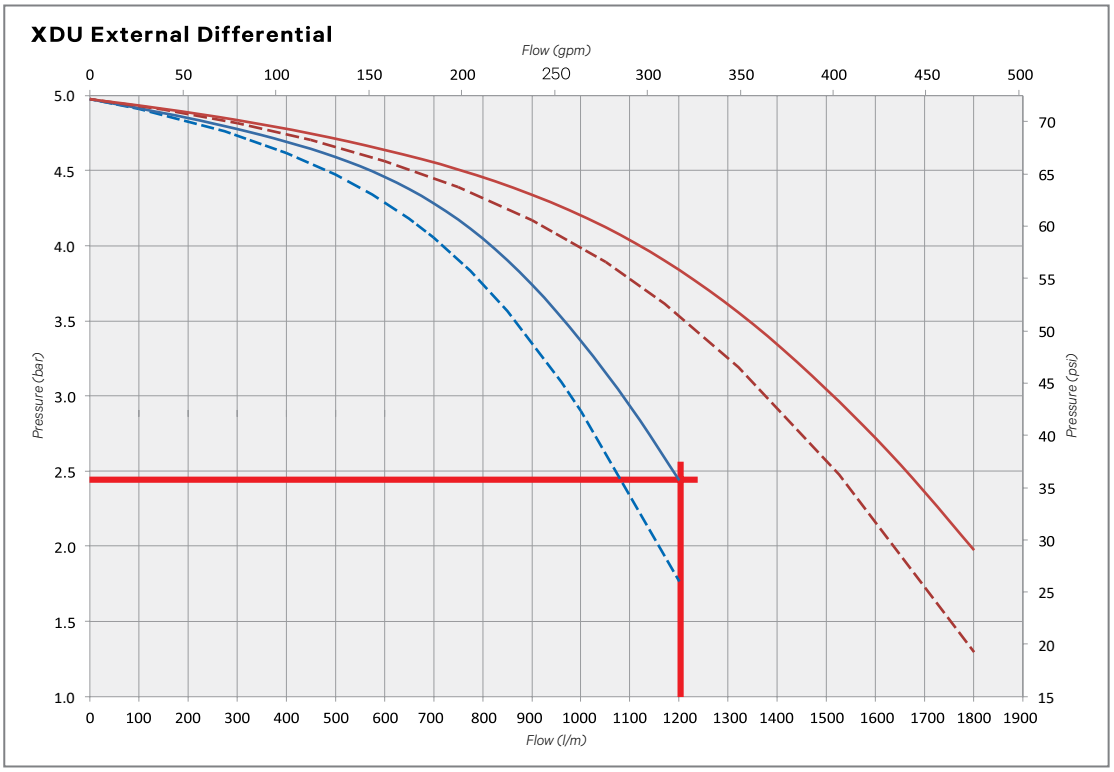
Ensures that the cooling fluid in a data center environment can be kept to a minimum volume, is closely controlled for flow, pressure & temperature and can be accurately maintained for fluid quality.

Features:

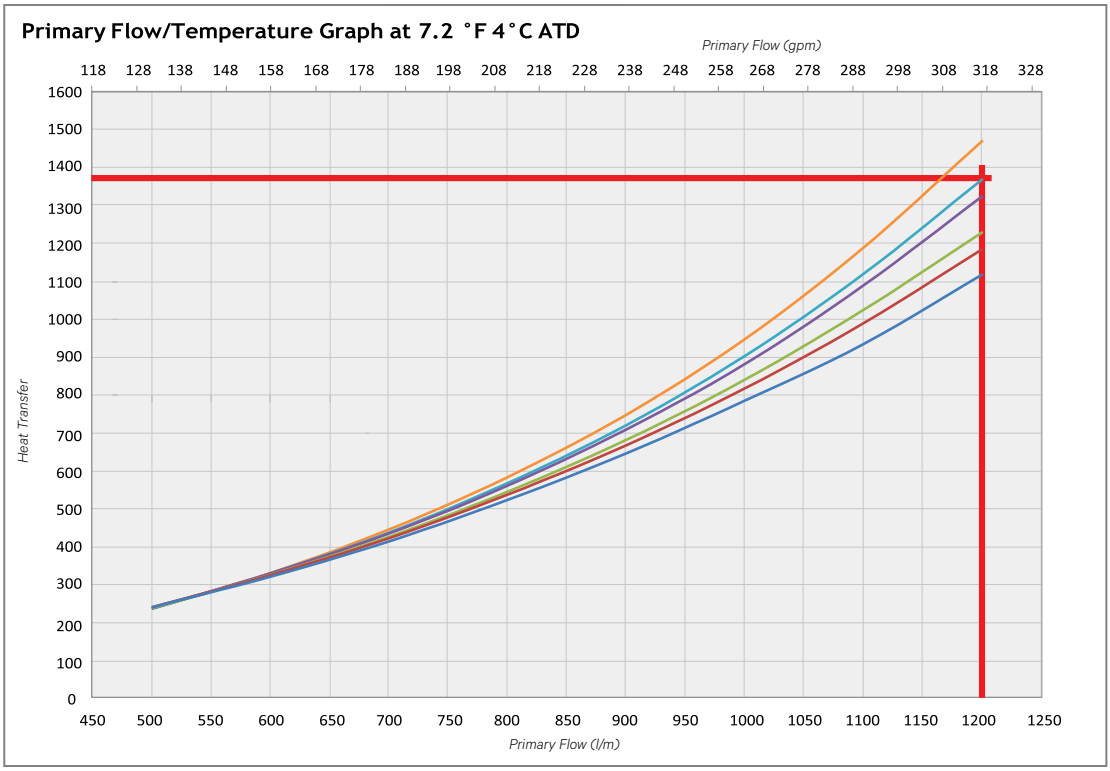
- Triple pumps and inverters for redundancy
- Secondary circuit flow of 320 gpm (1200 l/m) at 35.4 psi (2.44 bar) external DP
- Low pressure drop 4 in. pipework, components and heat exchanger
- Triple inverters, controlled via RS485 enables detailed reporting of data, status, seamless pump changeover, and dual/triple pump running modes
- Large dual Heat Exchanger for low “Approach Temp Diff” 1368 kW at 7.2°F (4°C)
- Effective separation of primary/secondary water circuits
- All stainless-steel secondary circuit with self-filling and venting capability
- Large capacity triple redundant 50µ secondary filters for concurrent maintainability
- Large capacity triple redundant expansion vessels
- Easy to install, top or bottom pipe connection options
- Low center of gravity, helps with Seismic Compliance and logistics
- Robust, welded and painted cabinet gives excellent rigidity
- 7 in. color touchscreen user interface and ARM Cortex M7 based controller
- Communication via Modbus RTU (RS485) and TCP/IP protocols
- Triple redundant secondary supply sensors and redundant pressure sensors
- Fully configurable for various installation options and features

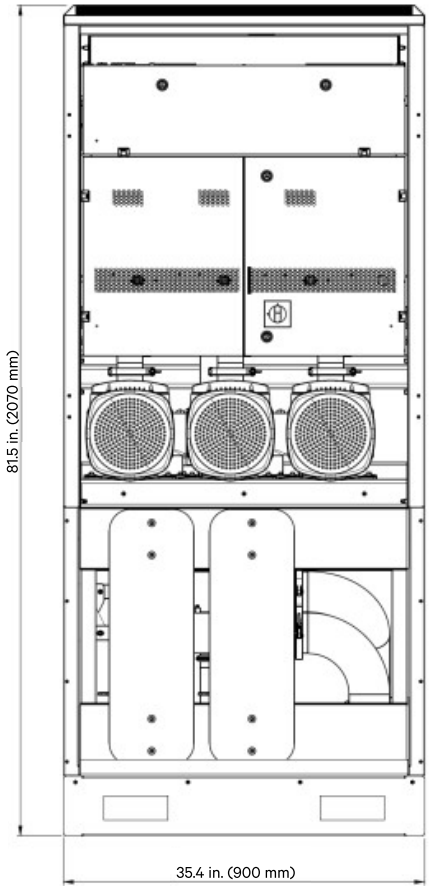
Performance:

317 gpm (1200 l/m) at 35.4 psi (2.44 bar) differential pressure external to

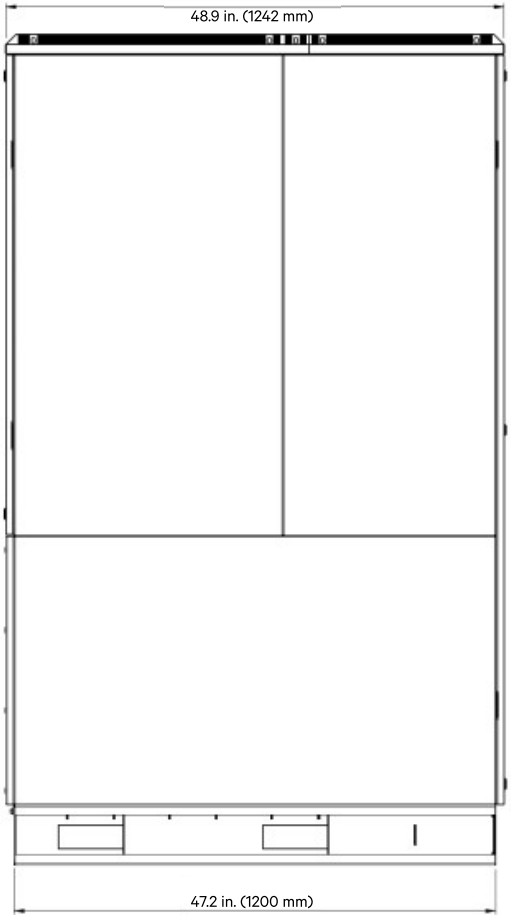


1368 kW heat transfer at 7.2°F (4.0°C) ATD – facility water at 89.6°F (32°C) W3

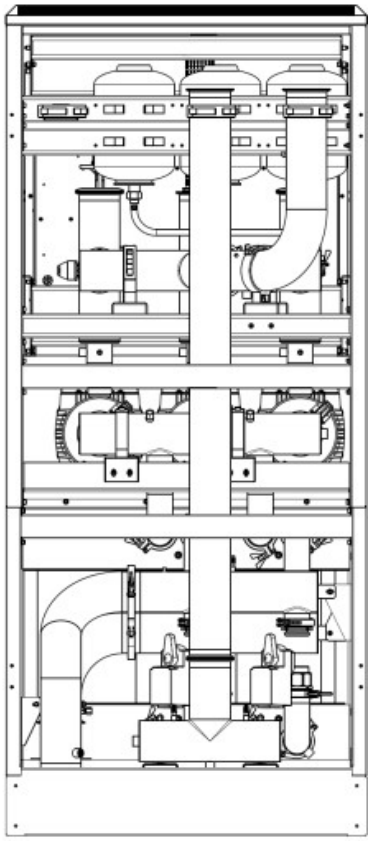




Front of unit



Right side of unit


Rear of unit

XDU 1350 Specification:

Nominal Cooling Capacity	1368 kW at 7.2°F (4°C) Approach Temperature Difference (ATD)
Maximum Cooling Capacity	2912 kW at 14.4°F (8°C) Approach Temperature Difference (ATD)
Nominal Flow – 2x Pump Running	317 gpm (1200 l/m) at 35.4 psi (2.44 bar) External Differential Pressure to CDU (DP)
Maximum Flow – 3x Pump Running	475.5 gpm (1800 l/m) at 28.7 psi (1.98 bar) External Differential Pressure to CDU (DP)
Secondary Coolant Type	Water, water/glycol or any compatible sensible phase liquid
Primary Coolant Type	Water, water/glycol
Pump Redundancy	Dual pump (N+1), triple pump (N) run modes
Primary Pressure Drop	12 psi (0.84 bar) at Typical 317 gpm (1200 l/m) with 20% glycol at 80.6°F (27°C)
Secondary Coolant Temperature Range	50 to 126°F (10 to 52°C) dew-point control standard
Maximum Power Consumption (2x Pumps)	13.7 kW at maximum flow and external pressure drop
Maximum Power Consumption (3x Pumps)	20.5 kW at maximum flow and external pressure drop
Dimensions (H x W x D) and Weight	81.6 in. x 35.4 in. x 48.9 in. (2069 mm x 900 mm x 1243 mm) 1433 lbs. (650 kg) – approx.
Noise Level at 3m (10ft)	< 54 dBA
Power Supply Europe, Asia and ROW	400 v 50/60 Hz 3 phase, fused at 63 (80-N mode) amps
Power Supply US – 480v	480 v 60 Hz 3 phase, fused at 63 (80-N Mode) amps
Dual Power Feeds (ATS)	Optional feature
Primary Connection	4 in. hygienic flanges top or bottom
Primary Filtration	External (optional) - 500µ with bypass to enable cleaning
Primary Circuit Volume	22 gal. (83 l) max.
Secondary Connection	4 in. hygienic flanges top or bottom
Secondary Filtration	Optional - 50µ triple redundant to enable on line cleaning
Secondary Circuit Volume	With filtration – 29 gal. (110 l) max.
Flow Meters	Primary and secondary
Pressure Sensors Primary Circuit	Primary inlet pressure
Pressure Sensors Secondary Circuit	Inlet pressure (redundant), supply pressure and filter DP
Temperature Sensors	Primary inlet/outlet, secondary inlet and supply (3x redundant)
Other Sensors	Ambient/Room RH and temperature
Fill pump and Air Vents	Automatic fill pump and automatic air vents
Expansion vessels	3x redundant 2.1 gal. (8.0 l) expansion vessels
Communication	RS485 RTU Modbus, TCP/IP SNMP, CLI, Webserver and others

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