

Vertiv™ CoolChip CDU

Liquid-to-liquid coolant distribution unit



Features & benefits

- Flexible deployments for in-row or perimeter placement.
- Configurable top and bottom hygienic connections for quick and easy installation.
- High cooling availability with redundant pumps and unit-to-unit group operating modes.
- Built-in unit leak detection and available spot leak detection options.
- Maintain system uptime and efficiency with integrated filtration and fluid monitoring options.
- Supports ASHRAE W45 cooling, at low approach temperatures for high-efficiency deployments.
- Secondary fluid temperature controlled within $\pm 1^{\circ}\text{C}$ to enable cooling stability with variable heat loads.
- Controlled secondary fluid circuit through differential pressure or flow rate control modes, meeting various application requirements.
- Global all-in-one service offerings from design to installation and startup to fluid management and troubleshooting.
- CE, cULus, and RoHS Compliance.

The Vertiv™ CoolChip CDU in-row coolant distribution unit provides effective separation of the facility fluid circuit and secondary fluid network (SFN) while maximizing available space for high-density IT. The Vertiv liquid-to-liquid CDU portfolio is ideal for direct-to-chip high-density deployments.

Ultra high-density cooling availability

As AI data center infrastructure becomes widely integrated and deployed, these systems are not only increasing in rack density and compute power but are being deployed as scalable rack clusters.

The Vertiv CoolChip CDU is engineered to support deployments of high-density pods for AI, high performance computing (HPC), and machine learning (ML) applications by delivering high-performance cooling. This system offers reliable secondary flow rate availability, high efficient heat transfer, ITE protective hardware, and best-in-class controls for building, scaling, and maintaining AI infrastructure with confidence.

Precisely maintained fluid

To maximize heat transfer, server performance, and deployment uptime, the ITE cooling fluid of a liquid cooling deployment needs to be properly maintained. The Vertiv CoolChip CDU provides essential separation between the facility fluid circuit and secondary fluid circuit. Industry-approved wetted materials, hot-swappable integrated filtration, and a monitoring package for automated fluid sampling help preserve fluid integrity. Integrated controls regulate flow rate, pressure, and temperature for precise fluid management.

Local and remote management

- 7" color touchscreen Human-Machine Interface (HMI).
- Communication via Modbus RTU (RS485) and TCP/IP.
- Full alarm monitoring, providing real-time status of the IT equipment and ambient environment.
- Remote monitoring and control capabilities.
- Unit-to-unit communications available for increased redundancy and controlled coordination.



Vertiv™ CoolChip CDU 2300kW



Technical specifications

	Vertiv™ CoolChip CDU 600kW	Vertiv™ CoolChip CDU 1350kW	Vertiv™ CoolChip CDU 2300kW
Physical data			
Unit dimensions (H x W x D), mm (in)	2000 x 600 x 1200 (78.7 x 23.6 x 47.2)	2122 x 900 x 1243 (83.5 x 35.4 x 48.9)	2400 x 1200 x 1200 (94.5 x 48 x 48)
Weight (wet), kg (lbs)	550 (1212)	1086 (2394)	1793 (3953)
Deployment type			
Application support	Enterprise Single-pod	Enterprise Large-scale	Large scale Multi-pod Campus
Performance data			
Nominal cooling capacity*	600kW @ 4°C ATD	1350kW @ 4°C ATD	2300kW @ 4°C ATD
Fluid circuit data			
Primary fluid type	Chilled water or glycol mixture		
Secondary fluid type	Treated water or propylene glycol mix		
Primary fluid filtration	Factory fitted 500µ	Field supplied 500µ	Field supplied 500µ
Secondary fluid filtration	25µ or 50µ	25µ or 50µ	25µ or 50µ
Primary piping connections, top or bottom	2.5" sanitary flange	4" sanitary flange	6" sanitary flange
Secondary piping connections, top or bottom	2.5" sanitary flange 1" hose barb for optional 6-way manifold	4" sanitary flange	6" sanitary flange
System resiliency	Redundant pumps, sensors, component / unit failover protocols		
Electrical data			
Power supply	400V, 50/60Hz 480V, 60Hz	400V, 50/60Hz 480V, 60Hz	400V, 50/60Hz 480V, 60Hz
Nominal power consumption	90kW	20.5kW	47.8kW
Controls data			
Communication protocols	Modbus RTU (RS485) and TCP/IP protocols		
Ambient conditions			
Operating conditions	0 to 40C (0 - 104F), 10 to 90% RH (non-condensing)		
Storage conditions	-40 to 70C (-40 - 158F), 5 to 93% RH (non-condensing)		
Service access required	Front / Rear	Front / Rear	Front / Rear
Compliance			
Safety compliance	CE, cULus, RoHS	CE, cULus, RoHS	CE, cULus, RoHS

*For detailed performance data, please contact your local sales representative.

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