Vertiv™ CoolChip CDU 70

Liquid-to-air Coolant Distribution Unit

Overview

Internet of Things (IoT), Artificial Intelligence (AI), and other data intensive technologies like virtual reality are requiring data centers and colocation environments to deploy servers with more intensive power and cooling requirements.

While liquid-cooled servers afford tremendous efficiency benefits in these high-density environments, it is no small task for an air-cooled data center to make the infrastructure changes needed to support liquid-cooled servers … until now.

The Vertiv™ CoolChip CDU 70 liquid-to-air heat exchanger technology for direct-to-chip cooling applications allows end users to easily and cost-effectively tap into the advantages of liquid cooling with no need to redesign existing air-cooled environments.

Benefits

- Reduced capital expenditures
- High cooling capacity with a compact footprint
- Simplified installation
- Improved heat rejection capacity
- Fan and pump redundancy
- Designed for easy serviceability with hot-swappable fans, pumps, and filters

With its liquid to air heat exchanger the Vertiv™ CoolChip CDU 70 Coolant Distribution Unit removes the traditional barriers to liquid cooling, giving end users a cost-effective means for deploying liquid-cooled servers to support advanced applications.

Liquid cooling solution for air-cooled environments

The Vertiv™ CoolChip CDU 70 makes it possible for data centers to deploy liquid cooled servers without extensive updates to existing infrastructure. The row-based heat exchanger is an easy-to-deploy, fully-enclosed system that is filled at the time of installation and mounted adjacent to or nearby a rack of liquid-cooled servers.

A secondary fluid network (SFN) running from the Vertiv CoolChip CDU 70 to the racks is controlled by variable speed pumps to deliver just enough cooling capacity to support the liquid cooled servers. The liquid-to-air heat exchanger then rejects the heat into the data center to match your facility's current air-cooling configuration, seamlessly integrating with existing thermal management solutions.

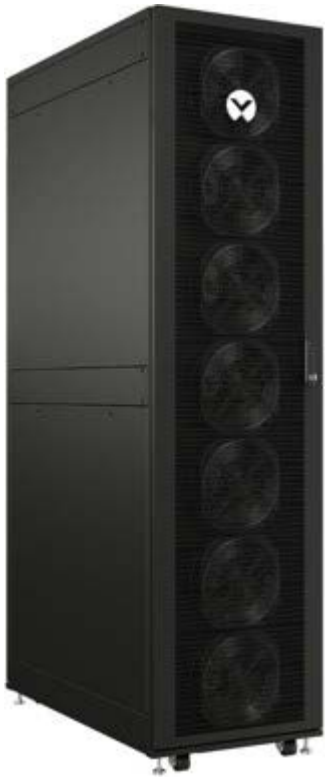
Closed-coupled high density heat rejection

Provides a high-capacity compact format that enables easy, cost-effective deployment in any data center.

The SFN allows the cooling fluid in the data center environment to be kept to a minimum volume. By doing so, it can be closely controlled for flow, pressure, and temperature, and can accurately be maintained for fluid quality with integrated filtration.

Complete visibility and control

- 7 in. 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 Remote monitoring and control
- Unit-to-unit teamworking available for increased redundancy and control



Technical specifications

Physical data	
Unit Dimensions (H x W x D), mm (in)	2300 x 600 x 1200 (91 x 24 x 48)
Shipping Dimensions (H x W x D), mm (in)	2497 x 930 x 1350 (98.2 x 39.6 x 53.1)
Weight (Dry), kg (lbs)	386 (851)
Weight (Wet), kg (lbs)	434 (956.8)
Weight (Shipping), kg (lbs)	546 (1203.7)

Performance data	at 40°C (104°F) fluid supply temperature
Nominal Cooling Capacity	70 kW @ 15°C Approach Temperature Difference (ATD)
Nominal Fluid Flow	70 l/min (18.5gpm)

**All performance data listed above was calculated with 6 fan operation*

Fan data	
Maximum Airflow, 6 Fan Operation (N+1)	9,500 CMH (5,592 CFM)
Maximum Airflow, 7 Fan Operation (N)	11,100 CMH (6,533 CFM)
Noise Level at 3m (10ft)	< 72 dBA (Sound Pressure)

Fluid circuit data	
Fluid Type	Water or PG-25 with inhibitors
Fluid Filtration	50µm or 25µm
Base Unit, L (Gal)	38 (10)
Reservoir Tank Capacity, L (Gal)	10 (2.6)
Piping Connection	1.5 in. Sanitary Flange (top or bottom)

Electrical data		
Power Supply	110V-120V, 1PH, 50/60 Hz	208V–240V, 1PH, 50/60 Hz
Full Load Amps (FLA)	18A	9A
Minimum Circuit Ampacity (MCA)	20A	10A
Maximum Overcurrent Protection (MOP)	25A	15A
Short Circuit Current Rating (SCCR)	7.5kA	
Power Consumption	1.92 kW at maximum flow and external pressure drop (single pump)	
Dual Power Feeds	Standard Feature	

** Contact Vertiv for additional power configurations*

Ambient conditions	
Operating Conditions	0 to 40° C (32 - 104° F), 10 to 90% RH
Storage Conditions	-40 to 70° C (-40 - 158° F), 5 to 93% RH

Compliance	
Compliance	CE, cULus, RoHS

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