



Product brochure

# Vertiv™ CoolLoop RDHx

The active and passive rear-door heat exchanger.  
Energy efficient cooling for high density applications.





The Vertiv™ CoolLoop RDHx is the rear-door heat exchanger engineered to deliver a highly efficient, room-neutral cooling solution for high-density IT applications, with the best cooling capacity and the lowest footprint.

Eliminate heat at the source with space-saving, efficient, and reliable cooling with the Vertiv CoolLoop RDHx, purpose-engineered for compatibility with the Open Compute ORv3 rack to support advanced power architectures at 48VDC, from 5kW to 85kW per rack.



#### **Low power requirements**

Unlike traditional cooling solutions, the Vertiv™ CoolLoop RDHx relies on the server's own fans to circulate air, eliminating the need for additional fans. For enhanced airflow, an optional active fan module with high-efficiency EC fans is available when needed.



#### **Flexible installation**

The unit utilizes the building's existing chilled water system or can be paired with Vertiv™ CoolChip CDU Coolant Distribution Unit to maintain more precise water temperatures, enhancing system efficiency and preventing condensation.



#### **Built to last**

With few moving parts, the Vertiv™ CoolLoop RDHx rear door is designed for a long life, providing greater confidence for critical IT equipment.



#### **High density**

Vertiv™ CoolLoop RDHx is perfectly designed to complement direct-to-chip liquid cooling by handling the air-cooled component.



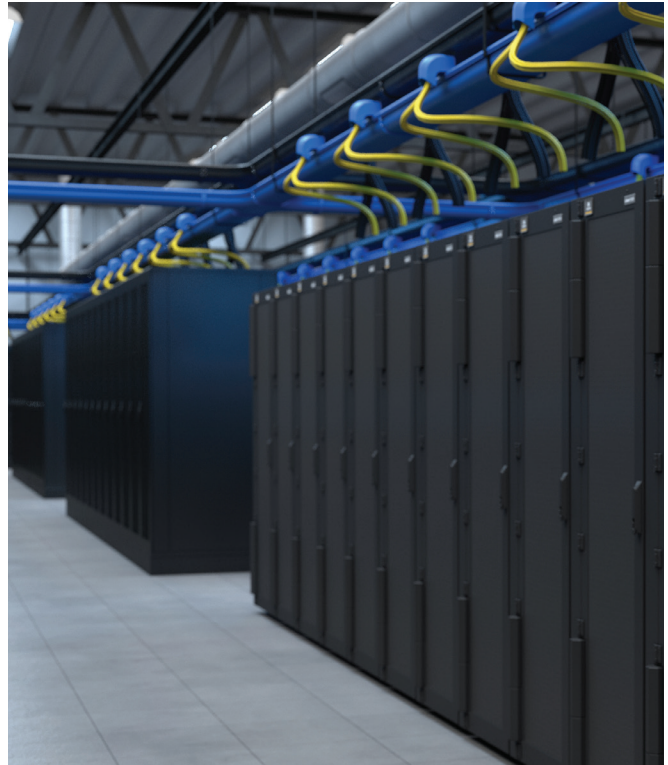
## Eliminate high heat density at the source

For air cooled datacenter, the Vertiv™ CoolLoop RDHx offers reliable and efficient cooling solutions that optimize performance while maintaining high energy efficiency. It offers flexible configurations, striking the perfect balance between efficient cooling and cost-effectiveness. The passive module, with no fans, is perfect for environments that don't require the high cooling capacity needed for high-density setups. Its easy scalability and durable design make it ideal for a wide range of standard data center applications, enabling consistent performance and minimizing downtime.



### **Scale with ease!**

The Vertiv™ CoolLoop RDHx rack-mounted rear door heat exchanger makes it easy to scale with growing business needs without needing to redesign the data center.



### **Meet changing demands**

With 0-100% cooling capacity modulation, the Vertiv™ CoolLoop RDHx can manage every change in demand as usage increases and heat varies throughout the day. By matching cooling capacity as it's needed, this solution provides peace of mind for critical business operation.



### Scalable cooling capacity

Each model offers 0-100% scalability, continuously adapting to the system's evolving demands and allowing high cooling availability at all times.



### Room-neutral cooling

By removing heat directly at the rack and delivering room-temperature air, the Vertiv™ CoolLoop RDHx eliminates the risk of hot spots, reducing strain on the entire system.



### Monitoring & control

The active module comes with built-in monitoring and control capabilities, enhancing the system's reliability, efficiency, and longevity, while allowing increased security and operational assurance.



*Vertiv™ CoolLoop RDHx available in both 600mm and 800mm configurations*



### Flow control valve

Add a flow control valve to fine-tune the chilled water flow rate, boosting efficiency and reducing operational costs.



### Chilled water connections

With multiple chilled water connection options, the Vertiv™ CoolLoop RDHx offers greater installation flexibility, enabling it to be installed in locations both with and without a raised floor.



### Low maintenance

With minimal moving parts, the Vertiv™ CoolLoop RDHx requires very little maintenance, lowering the total cost of ownership and enhancing reliability.



## Bring cooling closer to the heat source.

Reduce your total cost of ownership with Vertiv™ CoolLoop RDHx and enable your critical IT equipment stays cool with advanced control options and system redundancy:

Main points	Key benefits
Cooling capacity up to 85 kW	<b>Ready for hybrid cooling:</b> paired with a Vertiv™ CoolChip CDU, the ideal match for direct-to-chip liquid cooling, effectively absorbing any excess heat dissipation from air-cooled IT equipment.
Space-saving cooling system	<b>Uses minimal white space:</b> Mounted directly on the rear of the rack, saving valuable floor space.
Rack widths of 600mm and 800mm	<b>Room-neutral cooling:</b> By removing the heat at the rack and delivering room temperature air from the rack, it eliminates the potential of hot spots being created by the rack, reducing the strain on the whole system.
Modular design	<b>Flexibility:</b> active and passive modules can be supplied separately. The active fan unit can be easily retrofitted.
Purpose-built for OCP compliant AI infrastructure	Engineered to support advanced power architectures like 48VDC, offering the flexibility modern data centers require and simplifying integration within open compute environments.
State-of-the-art Vertiv™ Liebert® iCOM™ controller and a modern network interface with the Unity Card for remote monitoring and control	<b>Monitoring &amp; Control:</b> The active module is available with monitoring and control capabilities, further increasing the reliability, efficiency, and longevity of the system.
Complete service concept	<b>Easy Maintenance:</b> With few moving parts, it has very low maintenance, reducing the Total Cost of Ownership (TCO) and increasing reliability. The chilled water connections provide more flexibility during installation, allowing the unit to be installed in locations with or without a raised floor.
Full assembled solution together with the rack	<b>Simplified deployment and integration:</b> By coming pre-integrated, the solution reduces installation time, allows compatibility between the cooling unit and the rack, and minimizes potential errors during setup. This leads to faster commissioning, reduced labor costs, and a more efficient plug-and-play deployment, especially valuable in high-density data center environments where precision and performance are critical.
0-100% capacity modulation	<b>Scalable cooling capacity:</b> Each model provides high cooling availability.
Active model with highly efficient EC fans	<b>Max energy efficiency:</b> EC fans reduce operational costs with total energy savings potential of up to 70% over traditional cooling.
Optional A/B transfer switch	<b>Power redundancy:</b> for minimal downtime.
Passive unit without fans for lower heat load datacenters	<b>Low Power Requirements:</b> The passive unit utilizes the server's existing fans to circulate air, delivering an energy-efficient cooling solution while minimizing overall power consumption.
Pressure independent control valve	<b>Available flow control:</b> It maintains a constant flow rate regardless of pressure fluctuations, which improves energy efficiency and system stability.
Patented control logic to optimize the fan speed for precise adjustment of the cooling capacity according to IT requirements	<b>Continuous Innovation:</b> The patented control logic adjusts fan speeds based on pressure differences for optimal cooling, with individual fan monitoring and a fail-safe mode to allow reliability. This enhances energy efficiency and improves PUE by adapting to varying thermal loads.

## Technical specifications

Vertiv™ CoolLoop RDHx	DCD35	DCD47*	DCD50	DCD65**	DCD80**
Nominal cooling capacity [kW]	<b>35</b>	<b>47</b>	<b>50</b>	<b>65</b>	<b>80</b>
Width [mm]	600 / 800	600 / 800	800 (750)	800 (750)	800 (750)
Height [mm]	2000 / 2200	2000 / 2200	2000 / 2200	2000 / 2200	2000 / 2200
Max. air flow rate [m <sup>3</sup> /h/cfm]	11200 / 6592	11200 / 6592	14500 / 8534	14500 / 8534	15300 / 9005
Max. water flow rate [m <sup>3</sup> /h/GPM]	5.3 / 23	8.7 / 38	5.3 / 23	8.7 / 38	8.7 / 38
Power consumption at nominal cooling capacity	500 W	1350 W	800 W	1950 W	2600 W
CW Connection Size [ mm / inch ]	25 / 1"	32 / 1 1/4"	25 / 1"	32 / 1 1/4"	32 / 1 1/4"
CW Regime	Standard	Elevated	Standard	Elevated	Elevated

### Dimensions, mm (in)

Dimensions passive unit, W x D x H	600 x 120*** x 1954 (23.62 x 4.72 x 76.93)	only with active module	800 x 120*** x 1954 (31.50 x 4.72 x 76.93)	only with active module	only with active module
Dimensions active unit, W x D x H	420 x 125 x 1954 (16.54 x 4.92 x 76.93)	600 x 310 x 1954 (23.62x 12.20x 76.93)	580x 125 x 1954 (22.83 x 4.91 x 76.93)	800 x 310 x 1954 (31.50x 12.20 x 76.93)	800 x 310 x 2398 (31.50 x 12.20 x 76.93)
Compatible nominal Rack Heights [mm]	2000 / 2200	2000 / 2200	2000 / 2200	2000 / 2200	2400
Compatible rack Widths [mm]	600 / 800	600 / 800	800	750	750

### Weight, kg (lbs)

Passive unit, dry	73 (160)	106 (233)	93 (205)	122 (267)	131 (289)
Passive unit, wet	88 (194)	128 (282)	111 (245)	152 (335)	165 (364)
Active module	40 (88)	40 (88)	45 (99)	45 (99)	65 (143)

### Environmental requirements

Operating air inlet temperature °C (F)	10 °C to +40°C (-50 to 104)				
Storage temperatures, °C (F)	-30 °C to +50°C (-22 to 122)				
Audible noise [dB(A)] @ nominal capacity	74	81	76	82	87
Operating pressure (Max), bar (psi)	10 (145)				

### Electrical requirements

Operating voltage	208 / 230VAC / 48V DC****				
Rated current	16 A				
Fuses	16 A T				
Supplied connection type	IEC60320 C20				

\* only available as an Active Model

\*\* only available as ETO

\*\*\* 151mm incl. swivel joint

\*\*\*\* Available on Demand

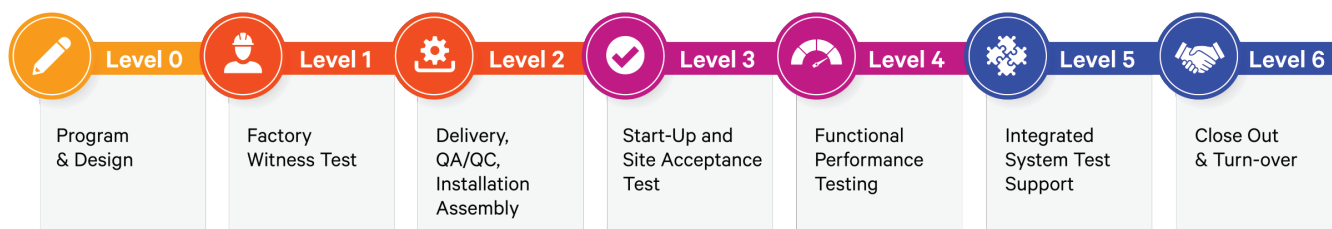
Product data subject to modification without notice.



## Global Liquid Cooling Services

Vertiv is committed to providing the state-of-the-art product no matter the location. With thousands of factory trained and certified technicians around the globe, Vertiv offers value-added services at all stages of your Liquid Cooling deployment. Our full Liquid Cooling Service offering includes design, installation, and maintenance services, facilitating operational efficiency and enhanced system availability. Vertiv™ Services can also conduct routine fluid quality analysis to identify parameters that cause corrosion, degradation, and heat transfer limitations.

Learn more about Vertiv's Liquid Cooling Services by visiting [Vertiv.com](http://Vertiv.com)



## Global Service Portfolio

	PM Contract	Basic	Essential/Preferred	Premier	
Performed by Vertiv certified technicians				—	Unit Management
Guaranteed emergency response time				—	
Access to customer resolution center				—	
Preventive maintenance service visits				—	
Labor and travel coverage	—			—	
Parts coverage	—	—		—	
Secondary circuit fluid sampling					Fluid Management
Secondary circuit fluid analysis*	+	+	+		
Secondary circuit fluid remediation	+	+	+		
Secondary circuit initial fill	+	+	+	+	
Secondary circuit flush and fill	+	+	+	+	

\*Inclusion of fluid analysis and remediation is predicated upon the use of DOWFROST LC25. If another manufacturer fluid is being used, pricing and offering will need be evaluated

- These items are included at this level of service coverage
- These items are not included at this level of service coverage, and they will be quoted on time and material basis
- +
- These items are available to be quoted on Time and Material basis



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SL-80859-ASIA (R04/26)