



Product brochure

Vertiv™ CoolLoop Chiller

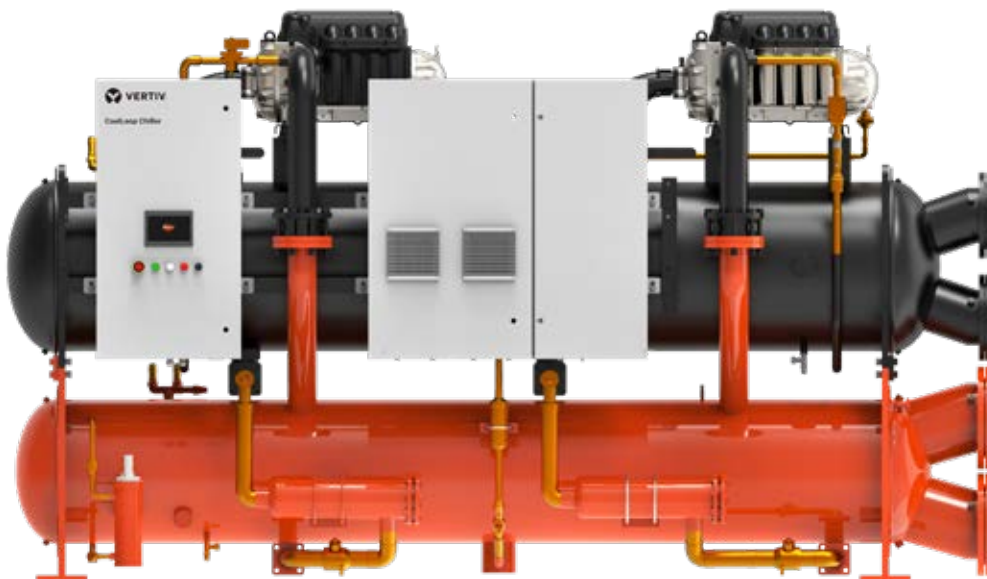
Water cooled oil free centrifugal chiller.
Cooling capacity 550~6000kW.



Product brief

Vertiv™ CoolLoop Chiller, water cooled oil free centrifugal chiller series, are designed to meet the high-density cooling and energy management needs of data centers. They use magnetic levitation bearings, permanent magnet synchronous motors and AI digital control technology to achieve mechanical frictionless operation and dynamic energy efficiency optimization. The unit is compatible with vertical/horizontal deployment, compact design suitable for the renovation of old computer rooms and the construction of new ITCs. It supports continuous load adjustment of 10%-100% through efficient heat exchange and frequency regulation and, combined with oil-free design and long-life architecture, it reduces the total maintenance costs, and provide stable heat protection for GPU clusters and AI computing centers.

For high-density scenarios above 50kW per cabinet, the unit allows critical business continuity through modular redundancy design and intelligent early warning system. Vertiv provides full cycle support from planning, deployment to operation and maintenance, including customized energy efficiency solutions and rapid response service networks. The open interface supports coordinated regulation with data center infrastructure to respond to business-resilient computing needs such as Artificial Intelligence Generated Content (AIGC), enabling customers to achieve efficient and environmentally responsible cooling management in complex environments.



Oil-free zero friction

Low attenuation life, long full-frequency efficiency, low operation and low TCO.



Oil-free 0 friction compressor

- Starting current as low as 2A, smoother start-up and less impact on the grid.
- Oil-free, zero-friction design for enhanced reliability and long-lasting performance operating with R134a refrigerant.
- Operates without mechanical friction, resulting in minimal noise for a quiet environment.
- Thanks to direct drive technology with a permanent magnet synchronous motor, the compressor minimizes power transmission losses, resulting in improved overall energy efficiency.
- Variable frequency drive intelligently regulates the speed, reducing energy consumption during partial load and enhancing overall efficiency.



Oil-free efficient heat transfer technology

- Flooded evaporator combined with oil-free system further improves heat exchange efficiency for a better performance.
- Multiple heads share system design for improved unit efficiency and operation reliability for stable operation.
- High-efficiency flooded evaporator reduces approach temperature, minimize annual power consumption, and provides excellent heat transfer efficiency during partial load and enhancing overall efficiency.



Flexible configuration

- Supports horizontal/vertical dual form and water string/parallel modular combinations, with on-demand expansion capability up to 6000kW.
- 1m² minimum cell adaptation and transformation project, breaking through the height/depth limit and minimize footprint.



Energy control

- The controller automatically determines the compressor's operating limits allowing the unit to operate safely and efficiently at all times.
- Powerful control function allows the compressor to operate in a wide range of conditions and achieve optimal efficiency.
- Supports RS485 and Ethernet communication, and is compatible with standard Modbus protocol for remote monitoring and diagnostics.



Efficient and stable

- The use of the economizer further increase the cooling efficiency of the two-stage compression system.
- With magnetic levitation oil-free compressor technology, the Vertiv™ CoolLoop Chiller delivers superior performance under every operating condition.
- Smart low-pressure ratio technology permits stable operation in low-temperature cooling water conditions, improving reliability.



Eco-friendly consciousness

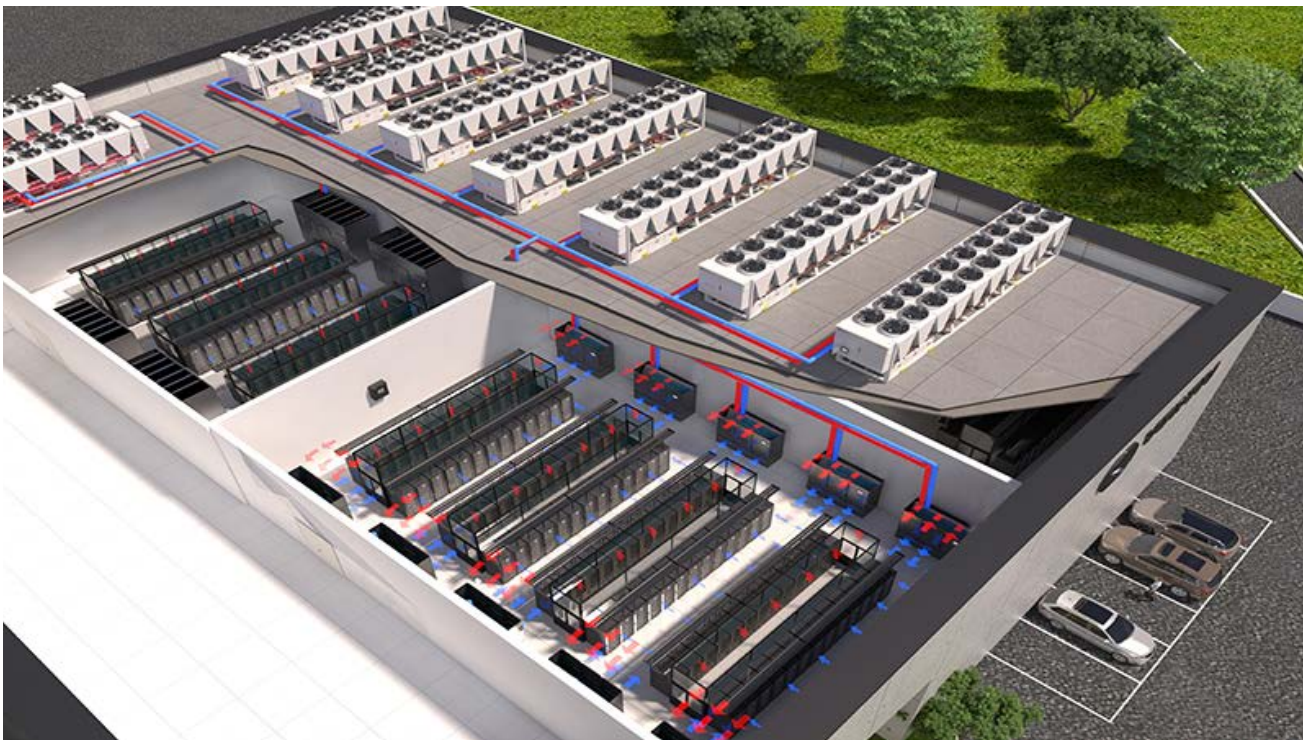
- Crafted with 100% non-toxic, harmless ingredients, enabling a pollution-free impact throughout the entire life cycle.
- Fully enclosed protection of live cells against electric shocks.

Application scenarios

Chilled water technology for data center solutions

Chilled water solutions are chosen in data center environments due to their scalability, energy efficiency, and ability to support high-density IT loads. They are among the primary solutions adopted by major cloud and colocation providers due to their exceptional performance. These systems are designed to increase cooling density, minimize energy consumption, and maximize efficiency under all load conditions.

Vertiv™ CoolLoop Chiller family is part of a comprehensive and integrated chilled water architecture for hyperscale and colocation data centers, fully compatible with traditional air cooling systems as well as with high-density hybrid solutions.



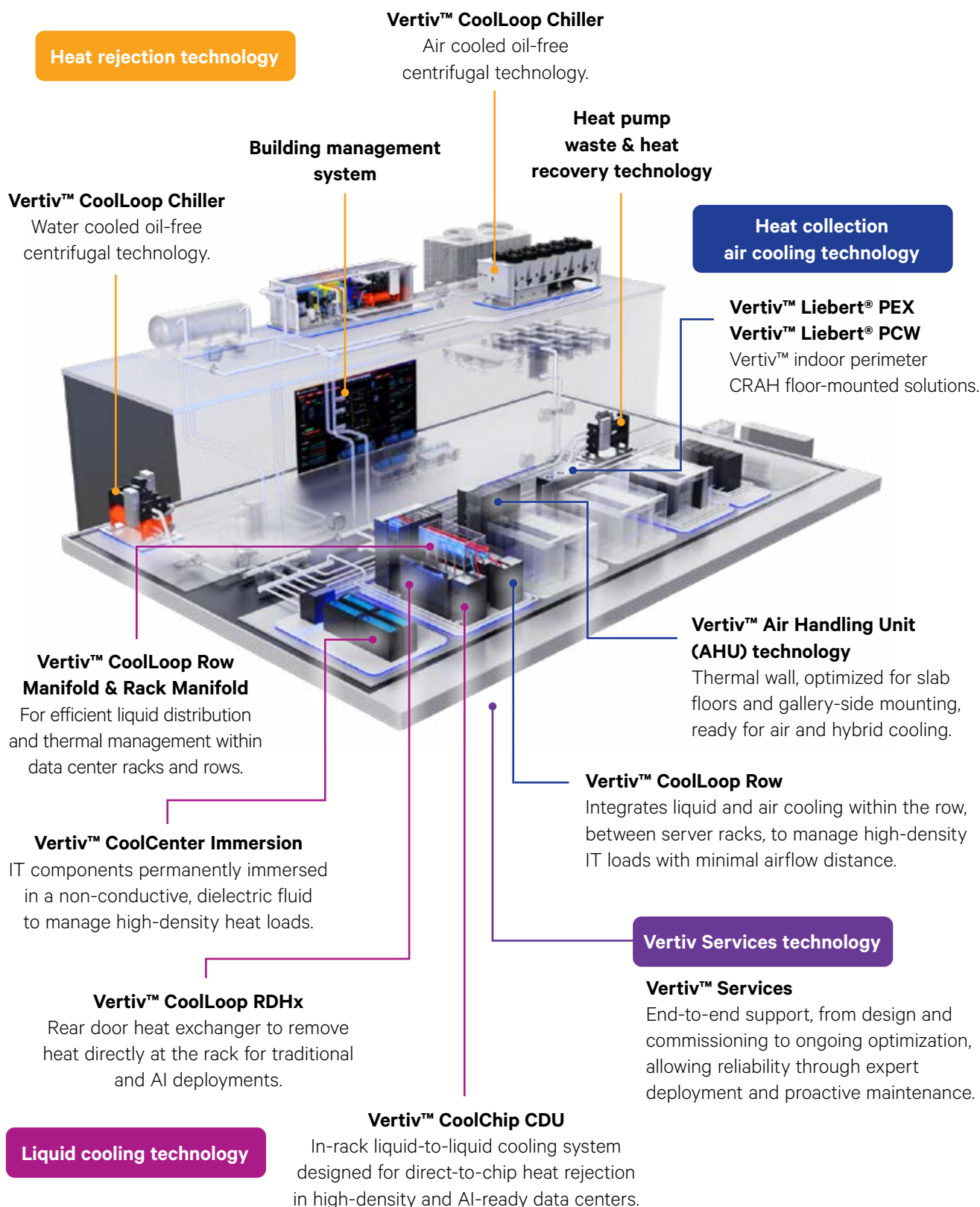
Vertiv CoolLoop Chiller, **the water cooled centrifugal version**, based on the oil-free magnetic levitation compressor technology, is specifically designed to enhance system reliability and reduces maintenance, which is critical for facilities requiring continuous uptime.

Moreover, the precise control offered by magnetic levitation compressors allows stable chilled water temperatures, contributing to optimized thermal management, improved PUE (Power Usage Effectiveness). This makes chilled water systems a strategic choice for hyperscale and colocation data centers aiming for resilient infrastructure.



From chip to heat rejection: the Vertiv™ Chilled Water end-to-end systems

A holistic chilled water strategy that intelligently optimizes and controls the entire thermal chain, from chip-level cooling to heat recovery, allowing efficiency, environmental responsibility and performance across the system.



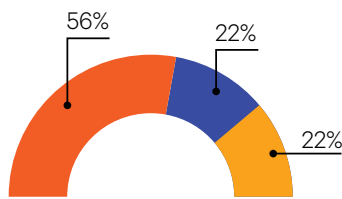
The world depends on data we power and cool™

Vertiv at-a-glance

Vertiv is a global leader in critical digital infrastructure for applications in data centers, communication networks, and commercial and industrial environments.

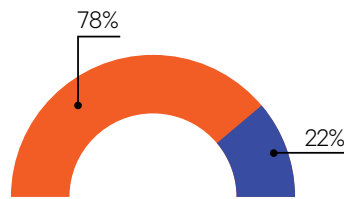
As businesses, industries, and communities become more connected, we pioneer and deliver end-to-end power and cooling technologies to help our customers stay resilient and optimized.

With our industry-leading innovative technologies and global services network, we are fueling the revolution of the digital world – keeping technology ecosystems running efficiently and without interruption.



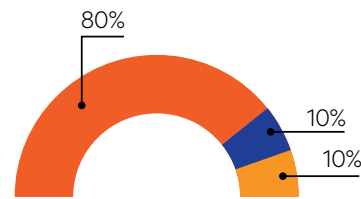
Geography¹

- Americas
- APAC
- EMEA



Portfolio¹

- Critical Infrastructure & Solutions
- Services & Spares





Market Segment^{1,2}


- Data Centers
- Communications Networks
- Commercial & Industrial


Note: ¹Based on FY 2024 revenue; ²Market segment rounded to 5%; ³Dell'Oro Data Center Physical Infrastructure reporting 2024; ⁴Omdia UPS Hardware Market Tracker 2024; ⁵Omdia Data Center Power Distribution Tracker 2024. All else, company information as of December 21, 2024.


Key facts


 **~\$8.0B**
USD revenue¹


 **130+**
countries served


 **60+**
years in the industry


 **Westerville, Ohio, USA**
global headquarters


 **24**
manufacturing locations

 **#1**
in 3-phase large UPS⁴ and power switching & distribution⁵

 **310+**
service centers

 **~4,000**
field service engineers

 **~31,000**
employees globally

 **#1**
in thermal management³

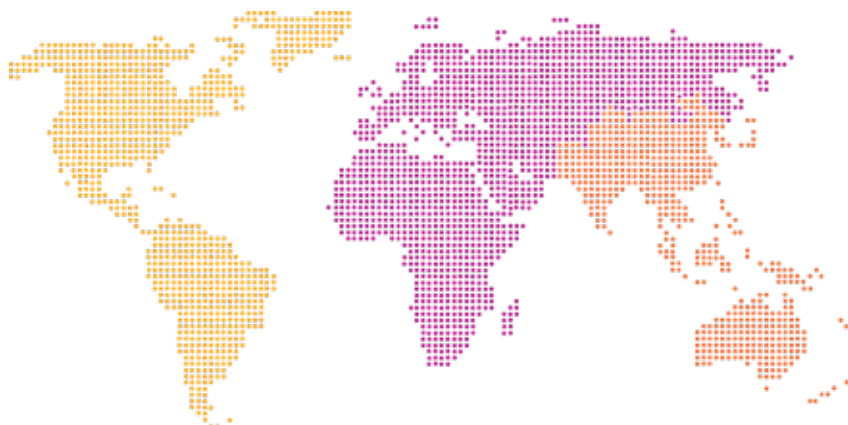


Our global service presence

Headquartered in Westerville, Ohio, USA, Vertiv does business in more than 130 countries.

Worldwide

- Manuf. and Assembly Locations: **24**
- Service Centers: **310+**
- Service Field Engineers: **~4,000**
- Technical Support/Response: **~300**
- Customer Experience Centers/Labs: **27**



Americas

- Manuf. and Assembly Locations: **9**
- Service Centers: **170+**
- Service Field Engineers: **~1,750**
- Technical Support/Response: **~120**
- Customer Experience Centers/Labs: **4**

Europe, Middle East, and Africa

- Manuf. and Assembly Locations: **9**
- Service Centers: **60+**
- Service Field Engineers: **~650**
- Technical Support/Response: **~130**
- Customer Experience Centers/Labs: **12**

Asia Pacific

- Manuf. and Assembly Locations: **6**
- Service Centers: **80+**
- Service Field Engineers: **~1,600**
- Technical Support/Response: **~50**
- Customer Experience Centers/Labs: **11**

Solving the power and cooling complexities of the AI revolution

Vertiv is supercharging data's potential; accelerating the pace of technology, raising the bar for high performance compute and redefining the limits of densification.

A leading innovator with most complete critical digital infrastructure portfolio.

