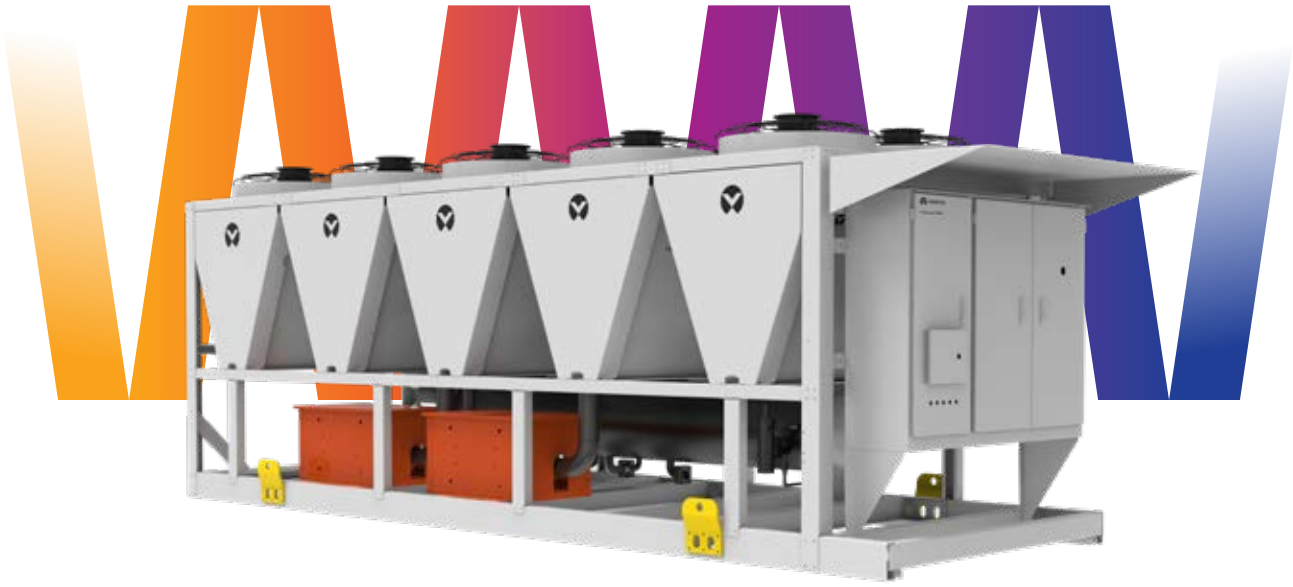
VERTIV.

Product brochure

Vertiv™ CoolLoop Chiller

Air cooled oil free centrifugal chiller.
Cooling capacity 350~2200kW.



Product brief

Designed to meet the high energy efficiency and reliability requirements of data center rooms, Vertiv™ CoolLoop Chiller is available in both standard chiller and free cooling configurations with optional hydraulic modules. It offers a wide capacity range, covering from 350 to 2200 kW providing flexible adaptability for data centers of various sizes.

By integrating leading-edge energy-saving technologies such as levitation balance bearings, permanent magnet synchronous motors, multi-head co-systems, smart control microcomputers, and efficient heat exchangers, the Vertiv CoolLoop Chiller excels in energy efficiency and life cycle stability, providing efficient and reliable cooling solutions for data centers.

The Vertiv CoolLoop Chiller offers significant benefits such as high energy efficiency, year-round combined energy performance, low noise attenuation, long service life, compact footprint, and support for cooling strategies that reduce operational costs and enhance overall data center energy efficiency.

Oil-free zero friction

Environmentally conscious, full-frequency operation, enhanced efficiency, and high water temperature compatibility

Oil-free 0 friction magnetic levitation 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 with no mechanical friction and resulting in minimal noise for a quiet environment.
- Variable frequency drive intelligently regulates the speed, reducing energy consumption during partial load and enhancing overall efficiency.
- Thanks to direct drive technology with a permanent magnet synchronous motor, the compressor minimizes power transmission losses, resulting in improved overall energy efficiency.

High-efficiency liquid-filled flooded evaporators

- Liquid-filled 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, improves unit IPLV, and provides excellent heat transfer efficiency.

High-efficiency low-noise EC fan

- The EC fan's compact design allows low-noise operation, contributing to a quiet environment.
- Smart speed adjustment based on load changes, more efficient than traditional type.
- Its cutting-edge design minimizes operating noise and maximizes fan efficiency.

Space saving

- Minimizes the need for additional components like cooling pumps and towers, reducing equipment footprint and lowering installation costs.
- Factory-installed differential flow switches simplify installation by eliminating on-site configuration and installation.
- An optional hydraulic module can be factoryintegrated with the unit, requiring only a power connection on-site for immediate operation, streamlining installation.

High efficiency wide operating range

- The use of the economizer further increases 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.
- Leaving water temperature can reach up to 25°C for industrial applications suitable for hybrid air and liquid cooling datacenters.

Eco-friendly consciousness

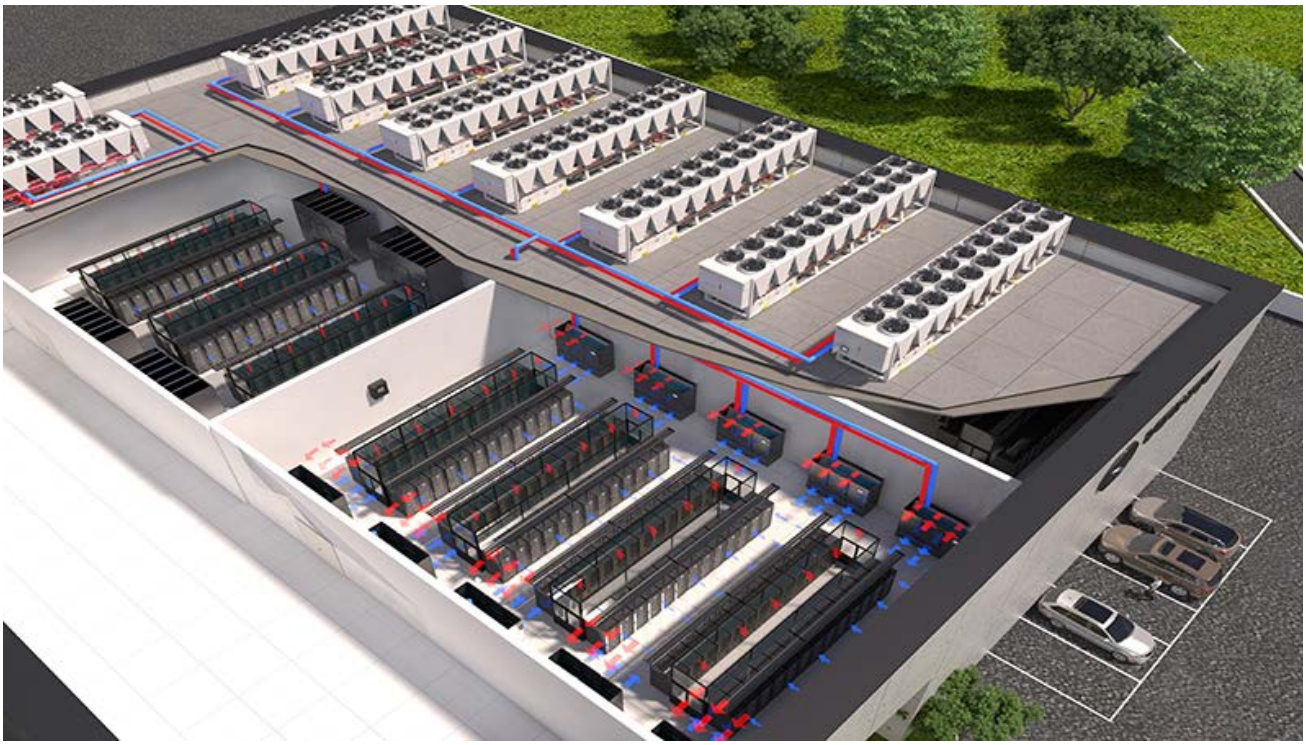
- Fully enclosed protection of live cells against electric shocks.

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 air 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.

Heat rejection technology

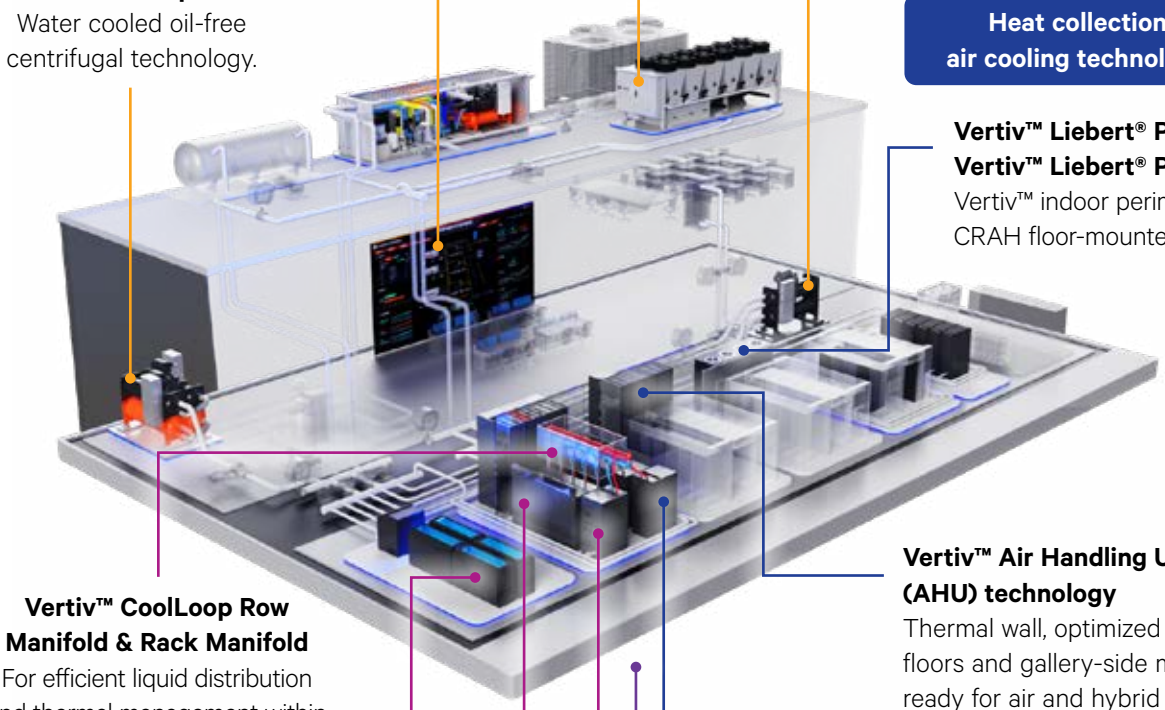
Vertiv™ CoolLoop Chiller
Air cooled oil-free centrifugal technology.

Heat pump waste & heat recovery technology

Building management system

Vertiv™ CoolLoop Chiller
Water cooled oil-free centrifugal technology.

Heat collection air cooling technology



Vertiv™ Liebert® PEX
Vertiv™ Liebert® PCW
Vertiv™ indoor perimeter CRAH floor-mounted solutions.

Vertiv™ Air Handling Unit (AHU) technology
Thermal wall, optimized for slab floors and gallery-side mounting, ready for air and hybrid cooling.

Vertiv™ CoolLoop Row Manifold & Rack Manifold
For efficient liquid distribution and thermal management within data center racks and rows.

Vertiv™ CoolLoop Row
Integrates liquid and air cooling within the row, between server racks, to manage high-density IT loads with minimal airflow distance.

Vertiv™ CoolCenter Immersion
IT components permanently immersed in a non-conductive, dielectric fluid to manage high-density heat loads.

Vertiv Services technology

Vertiv™ Services
End-to-end support, from design and commissioning to ongoing optimization, allowing reliability through expert deployment and proactive maintenance.

Vertiv™ CoolLoop RDHx
Rear door heat exchanger to remove heat directly at the rack for traditional and AI deployments.

Liquid cooling technology

Vertiv™ CoolChip CDU
In-rack liquid-to-liquid cooling system designed for direct-to-chip heat rejection in high-density and AI-ready data centers.

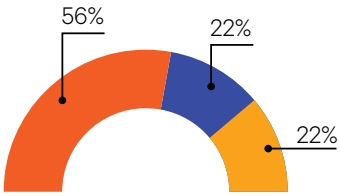
The world depends on data we power and cool™

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.

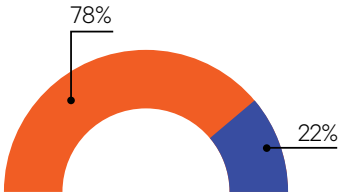
As businesses, industries, and communities become more connected, we pioneer and deliver end-to-end power and cooling technologies to help our customers stay resilient and optimized.

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.



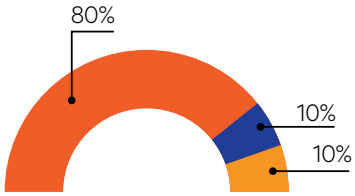
Geography [1]

- Americas
- APAC
- EMEA



Portfolio [1]

- Critical Infrastructure & Solutions
- Services & Spares



Market Segment [1,2]

- Data Centers
- Communications Networks
- Commercial & Industrial

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

Key facts

~$8.0B
USD revenue[1]

130+
countries served

60+
years in the industry

Westerville, Ohio, USA
global headquarters

24
manufacturing locations

#1
in 3-phase large UPS[4] and power switching & distribution[5]

310+
service centers

~4,000
field service engineers

~31,000
employees globally

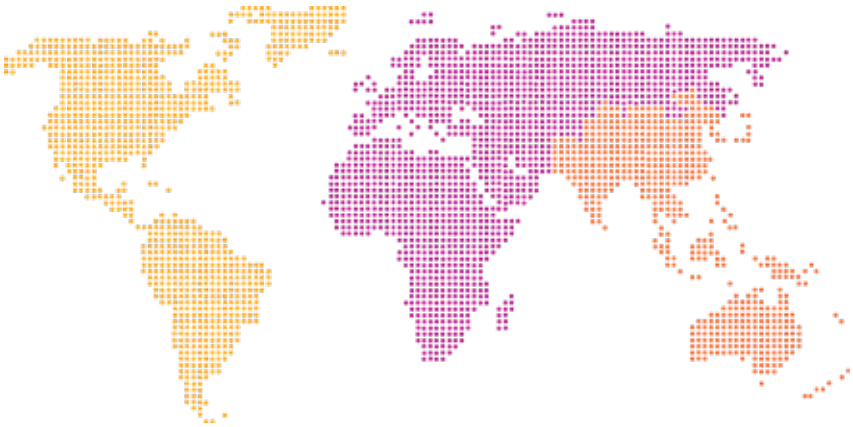
#1
in thermal management[3]

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.

- Power management
- Thermal management
- IT systems
- Infrastructure solutions
- Services

Vertiv.com | **Asia Pacific**

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