

YVAM

Air-cooled magnetic bearing centrifugal chiller

Cooling capacities from 1100 kW to 1800 kW



Options/Accessories

- R-**1234ze** ultra-low GWP refrigerant standard
- Leaving fluid temperatures up to 32°C
- Maximum ambient temperature 55°C
- BMS Interfacing options
- Advanced Controls (Silent Night, Quick Restart)
- Low ambient capable to -29°C
- Dual pressure relief valves
- High efficiency EC fans standard
- Enclosure options
- Sound treatment standard full load sound power as low as 97 dBA
- Anti-vibration mounts options

Optimized for uptime, efficiency and a lower total cost of ownership, YORK® YVAM Air-Cooled Magnetic Bearing Centrifugal Chillers from Johnson Controls leverage pioneering magnetic bearing technology for reliable, real-world performance in hyperscale and colocation data centers.

Higher Efficiency

Full Load Input Power can be over 25% lower than air-cooled screw chillers. For a 40MW data center, this reduces the size of the electrical infrastructure and allows 2MW to be reallocated from mechanical to compute.

Simplified Design

Next generation off-design efficiency meets annualized PUE targets without free cooling coils which add weight, complexity, pressure drop, and embodied carbon. This means customers can use water instead of glycol, which complicates environmental regulations, containment, and disposal processes.

Unbelievably Quiet

The magnetic bearing driveline virtually eliminates noise and vibration that comes from traditional air-cooled chiller drivelines. The YVAM produces notably less sound, with full-load sound of just 65 dBA at a distance of 10 meters.

Inhouse Components

The YVAM uses a state of the art driveline that was designed inhouse, by YORK, and developed specifically for submersible US Navy vessels. The magnetic bearing centrifugal compressor and variable speed drive are individual unit assemblies that allow for independent inspection, service, repair, and replacement which improves uptime and lowers maintenance spend.

Futureproof

The YVAM can operate with chilled fluid temperatures as low as 18 °C for air-cooled serves. The same hardware can also produce 32 °C chilled fluid for liquid-cooled servers. This means the same equipment can be used as server architecture changes which increases the useful life of the product.

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Designed for critical applications

It's essential to maximize chiller uptime for mission-critical, temperature sensitive applications. Data centers and high-value connected loads face a constant threat of violating service level agreements, equipment failures and lost production, all of which cost money. Owners and operators must have confidence in the equipment serving their processes.



Reduce risk of cooling disruption

Quick Start saves both time and money by:

- Reducing time for chiller restart after a power failure
- Rapidly bringing the chiller back to pre-power failure operating capacity
- Maintaining temperature of critical spaces and equipment
- Lowering the risk of damage to temperature-sensitive equipment

Since uptime is vital, Quick Start is included as standard on all YORK® YVAM magnetic bearing centrifugal chillers.



Smarter power management

YVAM chillers include an integral emergency power management system, which ensures critical systems remain energized through a power outage. During a power failure, the magnetic bearing controller, Optiview Panel and OptiSpeed variable-speed drive control circuits remain energized until an emergency generator is activated. This eliminates the need for a control panel reboot, so the chiller is able to restart the moment power is restored and compressor coastdown is complete.



Variable Speed Drive

- Standard product meets IEEE-519 requirements
- Active front end ensures TDD is kept below 5%
- Displacement power factor 0.97 or better
- Delivers highest part load efficiency for real-world energy savings at off-design conditions
- Near-zero in-rush increases motor life
- Liquid cooled to reduce maintenance costs

Modernized Controls

- Full screen display and graphics
- Panel keeps record of shutdowns in memory
- Remote control through BAS:
 - BACnet
 - ModBus
 - N2
 - LON
- Continuous system monitoring
- Trending data with ability to customize points