YORK®

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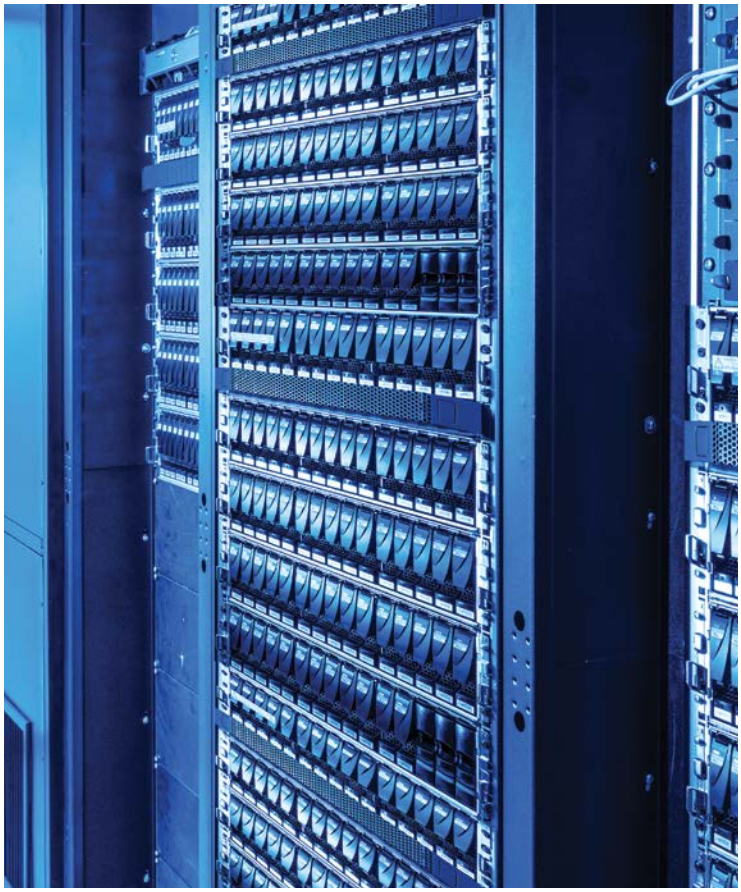


YORK® YVFA FREE-COOLING CHILLER

Combining Efficiency, Simplicity and Reliability

Johnson Controls

Efficiency

Providing the lowest possible operating costs

YORK® YVFA chillers deliver the lowest possible operating cost by combining superior engineering and technology in a packaged design that's simple to own and operate. Advanced technologies include:

Industry-leading variable-speed drive (VSD) that allows YVFA compressors to operate efficiently across all cooling-load and ambient-temperature conditions.

High-efficiency, air-to-liquid "free-cooling" coils, designed by our heat transfer experts, reduce or eliminate the need for mechanical cooling when ambient conditions allow. Plus, the coils are integrated within the chiller footprint to conserve space.

Intelligent controls that optimize energy use year-round, constantly evaluating conditions and controlling bypass valves to reduce pump energy when free cooling is not beneficial.

Plus, performance is assured by AHRI certification, the first time certification has been given to an air-cooled screw chiller with free cooling.

Annual Energy Cost (AEC) verifies payback in as little as three years

To confirm that your chiller selection delivers the smallest possible energy footprint, we use an AEC modeling tool to produce a customized report factoring in all key variables – geographic location, building type, operating hours, utility costs and local weather data. In most locations, a facility operating 24/7 with a constant cooling load can achieve an operating cost payback in as little as three years.

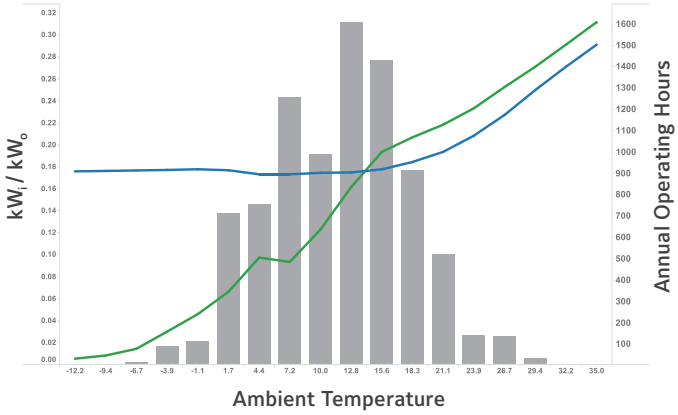
Hybrid mode combines the best technologies to boost part-load efficiency

For unsurpassed efficiency at part-load conditions, intelligent controls optimize the balance of using fans to move air over the free cooling coils with the outstanding efficiency of the VSD compressor.

Optimized liquid circuit prevents needless pumping

Designed with low liquid pressure drop in mind, the YVFA chiller employs oversized pipes and fittings, a highly optimized free-cooling coil, and an automatic bypass to prevent pumping through the coils when not beneficial.

YVFA Efficiency vs. Traditional Chiller



YORK® YVFA Chillers with integrated free cooling reduce annual operating costs below a traditional chiller.

Simplicity

Packaged controls with single-point convenience

The YVFA chiller simplifies operation with single-point control that easily accommodates process or building changes. When a new setpoint is required, adjustment can be made at the chiller control panel or through a Building Automation System (BAS). The free-cooling controls automatically adjust to deliver the best performance at the required conditions.

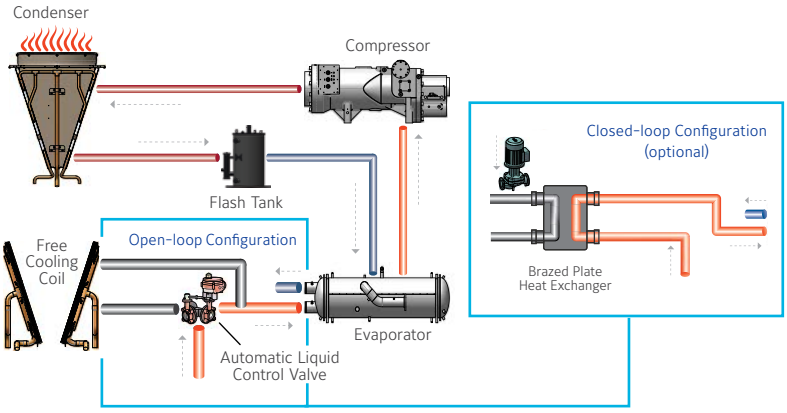
Open- or closed-loop configuration options

YVFA offers two variations to provide the most convenient solution no matter what type of system your building requires.

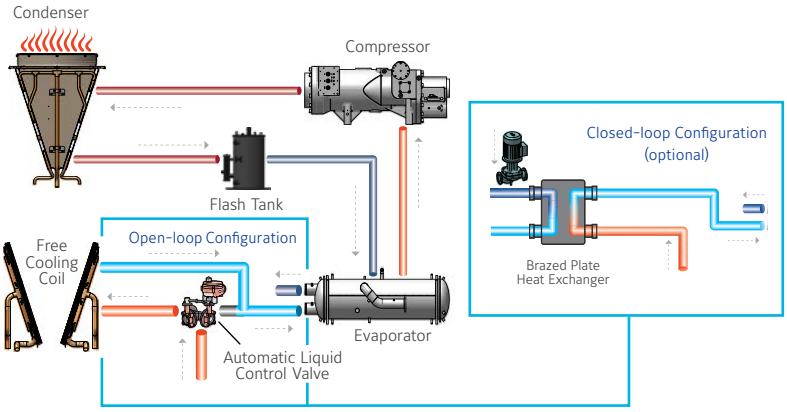
Open-loop design permits building glycol to flow through the free cooling coils directly, with the best performance and lowest first cost.

Closed-loop design integrates a brazed plate heat exchanger and pump loop on the YVFA. The building water loop is isolated from the free cooling coils, and the YVFA pump circulates glycol between the brazed plate heat exchanger and the free cooling coils. This provides the lowest pump pressure drop and a building loop that's glycol-free.

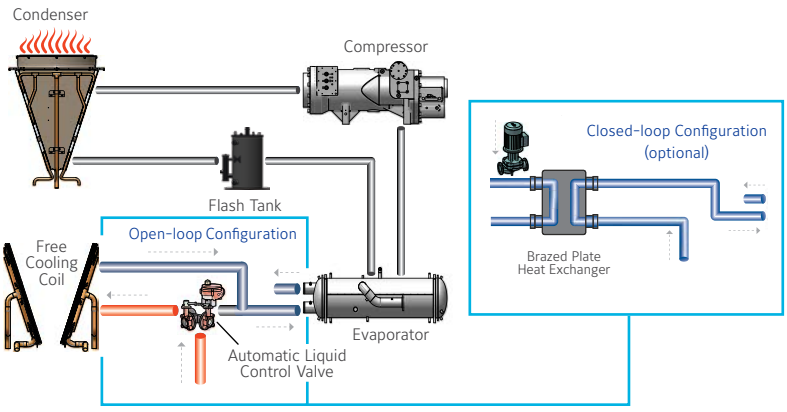
Saving energy is simple in every situation



1 **Mechanical Cooling Mode** When it's too warm to use ambient air for cooling, the YVFA performs as a standard chiller. The automatic flow-control valve in the open-loop configuration bypasses the free-cooling coils to reduce pump energy. When either cooling load or ambient temperature are less than full design condition, the variable-speed screw compressors and condenser fans modulate to optimize energy use. In a closed-loop configuration, the free-cooling coils are also bypassed.



2 **Hybrid Cooling Mode** When ambient temperatures permit, liquid flow through the free-cooling coils is enabled. This pre-cooling reduces energy use while the compressors deliver final cooling to meet setpoint. Thanks to YORK® VSD Screw technology, at reduced ambient the compressors may draw less power than the fan motors required to move air through the free-cooling coils. Advanced controls provide the most efficient operation rather than simply shutting off compressors as quickly as possible. The Annual Energy Cost Report demonstrates the benefit of this intelligent control.



3 **Free Cooling Mode** At lower ambient temperatures, full cooling load can be most efficiently delivered by the free-cooling coils. Compressors are shut off and the VSD fans are modulated to meet the cooling setpoint.

Reliability

Get assured performance from the variable-speed leaders

Three generations of Johnson Controls expertise in variable-speed driven air-cooled chillers ensure superior efficiency and reliability.

Zero-inrush soft start and a high power factor across the entire operating range – both enabled by variable-frequency inverter technology.

Quick Start option achieves full load after a power-loss in four minutes or less – providing assured cooling for critical process and data center applications.

Why install anything but YORK®?

You want high performance. You expect efficiency.

When your reputation is at stake, it's smart to demand nothing less than YORK® technology and service. That's because we provide local service and parts to keep your equipment operating at peak performance year after year. Enjoy the peace of mind knowing that trained service experts and Original Equipment Manufacturer parts are available from Johnson Controls – the largest HVAC service and preventative maintenance organization in the world.

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