Frequently asked questions about the YORK® YZ

Below is a list of frequently asked questions about the YORK® YZ Magnetic Bearing Centrifugal Chiller. In-depth specifications and related chiller details can be found in the engineering guide. Information provided below may be subject to change.

What is the YORK® YZ?
The YORK® YZ Magnetic Bearing Centrifugal Chiller is a revolutionary advancement that challenges everything about conventional chiller design. Built upon decades of industry-leading chiller expertise, YORK® engineers questioned every component, analyzed every function and challenged every assumption. The result is the first chiller fully optimized for ultimate performance with a next generation low-GWP (global warming potential) refrigerant, delivering superior real-world performance, lower cost of ownership and a new definition of sustainability. It’s the first chiller built to exceed every expectation – today and tomorrow.

Why introduce the YORK® YZ?
To maximize value, the YORK® YZ design has been specifically optimized for use with a new, low-GWP refrigerant. The goal: minimize operating costs by leveraging the benefits of a new refrigerant in our new heat exchangers and motor/compressor driveline while also mitigating the high cost of a next generation refrigerant. The design premise for the YORK® YZ was accomplished through a holistic approach to system design and engineering, optimizing every component around a next generation refrigerant for ultimate performance. The YORK® YZ is the first chiller to be built specifically with these newer types of refrigerants in mind.

How does the YORK® YZ work?
The YORK® YZ uses an integral, variable-speed drive and advanced magnetic bearing technology that features a single moving assembly suspended in a magnetic field. Using a falling film evaporator, an even spray of refrigerant is applied over the length of the tubes. The YORK® patented falling film design also eliminates the need for a refrigerant pump.
Why use magnetic bearings?
An integral, variable-speed drive and advanced magnetic bearing technology deliver extraordinary efficiency, superior durability, simplified maintenance and a wider operating envelope than any chiller using oil- or refrigerant-lubricated compressor bearings. This driveline features a single moving assembly suspended in a magnetic field that does not require lubrication. With 80% fewer moving parts than traditional oil- or refrigerant-lubricated drivelines, longevity is enhanced and maintenance is reduced.

What is “real-world efficiency?”
YORK® was the first to use the term “real-world efficiency” to represent the energy savings found when chillers are operating in off-design conditions – where chillers operate up to 99% of the time. The YORK® YZ continues this legacy of leadership by providing better efficiency at every operating condition. In a typical building, the amount spent on energy costs over the life of the chiller is 8-10 times the initial chiller cost; investing in the real-world efficiency of the YORK® YZ is the quickest way to save money in a building’s operation.

What refrigerant does the YORK® YZ use?
In selecting a low-GWP refrigerant for the groundbreaking YORK® YZ, engineers considered safety, efficiency, availability, environmental impact and cost. R1233zd(E) refrigerant is nonflammable, low in toxicity per ASHRAE specifications (A1), readily available from refrigerant manufacturers, exceptionally efficient with proper chiller design optimization and has an ultra-low global warming potential of 1. The YORK® YZ was then built to have better efficiency at all design conditions, resulting in total direct and indirect emissions that are impressively low – and performance that is exceptionally high.

Is the technology used in the YORK® YZ reliable?
YORK® has built a reputation of delivering chiller systems proven to be the best at operating efficiently and reliably in real-world conditions. YORK® designers carefully engineer and fully optimize custom solutions rather than package off-the-shelf components from various suppliers. For instance, YORK® has a long history of leadership in the aerodynamic engineering of centrifugal compressors, YORK® pioneered the variable-speed drive (VSD) for use in chillers and YORK® was the first to offer a chiller with inverted temperature operation. YORK® patented falling film evaporator designs improve heat exchanger performance while reducing refrigerant charge, and patented control logic from YORK® provides better turn-down and quickly responds to changes in building load to improve efficiency. YORK® has also successfully transitioned in the past from one refrigerant to the next with fully optimized, long-term solutions. YORK® has installed magnetic bearing technology like that found in the YORK® YZ for thousands of customers since it was first introduced. Many of these installations include mission-critical applications like data centers, manufacturing facilities and naval ships.
When is the YORK® YZ available?
The YORK® YZ Magnetic Bearing Centrifugal Chiller is available now. To learn about specific option availability or to discuss shipping and pricing options, contact a sales representative at (888) 220-5866.