YORK® YMC²
MAGNETIC CENTRIFUGAL CHILLERS

Build better buildings. Choose superior chillers.





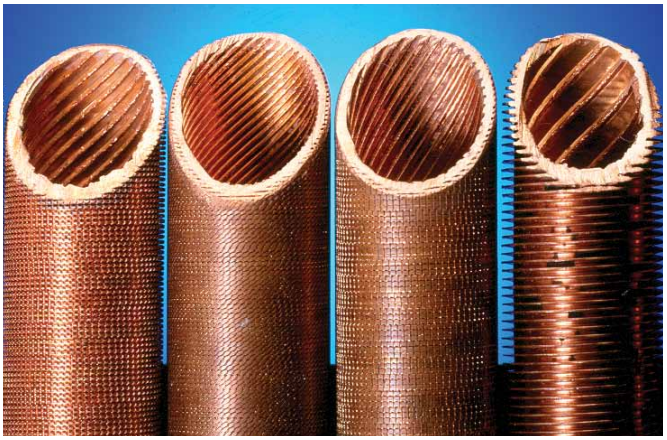
Johnson Controls


Stay a step ahead

Implement superior innovation

Facility owners and designers deal with an ever-changing world. And as the world has changed, Johnson Controls has kept you in the forefront with innovative YORK® chiller technology. When electricity prices climbed, we pioneered variable-speed drives and enhanced heat exchangers to keep energy consumption down. When CFC and HCFC refrigerants were designated for phase-out, we introduced environmentally responsible alternatives to give your operation a sustainable future. And when you needed chiller control that was both powerful and intuitive, we created the first full-screen, full-color, microprocessor control center.

For today's challenges, Johnson Controls helps you take four giant steps forward with the new YORK Magnetic Centrifugal Chiller (YMC^2). This state-of-the-art design addresses the most pressing concerns of facility owners and designers – energy, sustainability, sound, and uptime – by integrating YORK chiller innovations with the benefits of active magnetic-bearing technology. It's an advanced solution that will keep you a step ahead of the challenges of our changing world.



When electricity prices climbed, Johnson Controls pioneered enhanced heat-exchanger tubes for YORK chillers.


Reduce your consumption

Employ superior efficiency

We live in an energy-hungry world. So, an investment in chiller efficiency can reduce your energy consumption. With a little ingenuity, Johnson Controls discovered how to put our already efficient centrifugal chillers on a stricter diet. We began with the driveline. We utilized a permanent-magnet motor and active magnetic-bearing technology to eliminate mechanical-contact losses associated with oil-lubricated bearings. As a result, the YMC^2 chiller offers 10% better efficiency than conventional, variable-speed centrifugal chillers.



To eliminate mechanical-contact losses in the driveline, the YMC^2 chiller utilizes a permanent-magnet motor and active magnetic-bearing technology.

Then we improved the efficiency of our OptiSpeed™ variable-speed drive and enhanced the efficiency of our evaporator with an advanced falling-film design. But we kept the features that always made YORK chillers so efficient. Like an optimized centrifugal compressor that can take advantage of the low-temperature tower water to save energy. And our proprietary capacity-control logic, which continually analyzes and adjusts the chiller's operations to ensure optimum performance. When you weigh your chiller options, you will find that the YMC^2 chiller offers the best real-world efficiency in the marketplace.



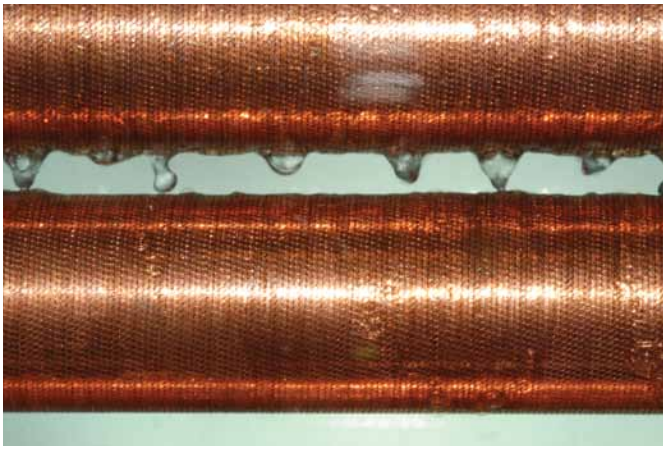
Improve your environmental equation

Specify superior sustainability

When you calculate the way your chiller affects the environment, you realize it has a significant impact. The ozone-depletion potential (ODP), plus the direct and indirect global-warming potential (GWP), are three of the factors in your environmental equation. You can improve your equation by specifying the YORK YMC² chiller.

You'll get the benefit of refrigerant HFC-134a, which has zero ODP. And the 10% efficiency improvement dramatically reduces the indirect GWP (which is 98% of the total impact) caused by greenhouse-gas emissions produced by your utility to power the chiller. To reduce the 2% direct GWP impact, refrigerant-piping connections have been reduced 57%, so the GWP of leaking refrigerant is virtually nonexistent. Falling-film technology reduces refrigerant usage by 30%, which will enable you to qualify for maximum Leadership in Energy and Environmental Design® (LEED) points for Enhanced Refrigerant Management. And because of the YMC² chiller's high efficiency, you could also earn additional points for the Optimize Energy Performance (EAc1) credit.

Plus, we eliminated the lubrication system to avoid the environmental issues of handling and disposing of refrigerant-saturated oil. Add it all up, and you'll see why you can count on the YMC² chiller to yield a positive environmental result.



(Photo courtesy of the LTCM lab of the Ecole Polytechnique Fédérale de Lausanne, Switzerland)

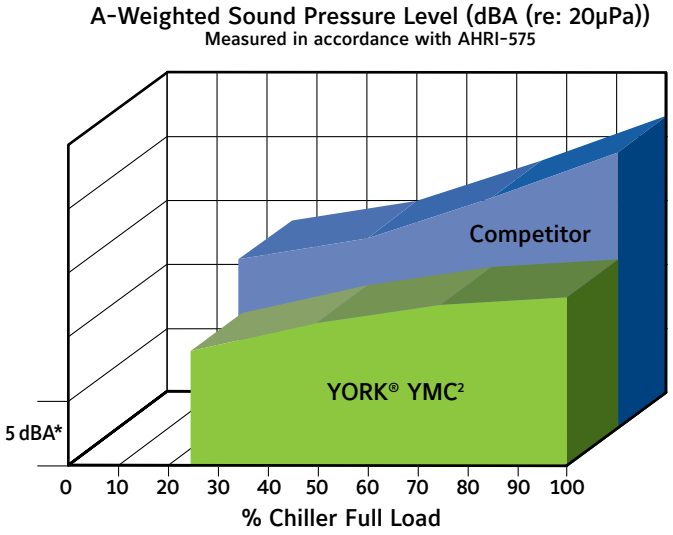
A falling-film evaporator is more efficient because refrigerant is sprayed over the tubes, reducing refrigerant charge by 30%.


Save your voice

Acquire superior attenuation

If you have to shout to be heard above your chiller, it's time for a quiet conversation. When discussing mechanical-room noise, you won't have to raise your voice if your chiller's sound level never exceeds 73 dBA at AHRI-575 full-load standard conditions – the volume of a typical cellphone ringtone. That's why we're happy to talk to you about the sound performance of our YMC² chiller. It is quieter than any water-cooled centrifugal or screw chiller on the market. In fact, when compared to competitive magnetic-bearing chillers, the human ear perceives the YMC² chiller as about half as loud.

Our permanent-magnet motor with active magnetic-bearing technology eliminate driveline sound. And our OptiSound™ feature reduces noise at off-design conditions. Acquire the YORK YMC² chiller and you will win quiet admiration in any application where sound levels are a concern.



The YMC² chiller is so much quieter than competitive magnetic-bearing chillers, it sounds about half as loud.
***Note: each segment on the Y axis = 5 dBA.**


Increase your hours

Demand superior dependability

Time is money – so improved chiller uptime translates into saved money. That's why we moved the clock ahead by employing the most advanced drive available – an active magnetic-bearing drive – to levitate the driveshaft in mid-air. The result is fewer moving parts subject to breakdown and no mechanical-contact losses, which is why we've used magnetic drives in our military-grade chillers since 1999. In addition, our design is field-serviceable; there is no need to purchase a back-up driveline.

With our OptiView control center, you get unsurpassed monitoring and control capabilities. Plus, complete diagnostics avoid troublesome conditions and boost uptime.

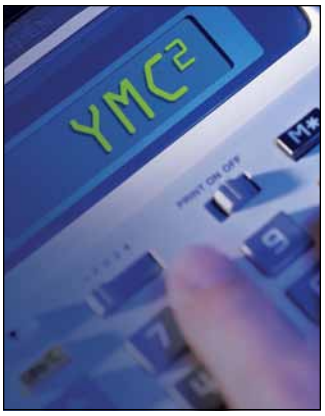
If service is ever required, Johnson Controls has the industry's largest service force: 5,000 technicians worldwide in 169 local service branch offices. Demand the dependability of the YORK YMC^2 chiller. We've put time into our technology and our organization, so you don't waste valuable hours because of excessive downtime.



The OptiView control center provides complete diagnostics to speed troubleshooting.

Choose superior chillers









Reducing energy consumption with exceptional efficiency. Improving the environment with sustainable design. Minimizing noise with advanced acoustic capabilities. Increasing uptime with industry-leading technology and organization. No wonder the YORK YMC^2 chiller from Johnson Controls gives you the advantages you need to build better buildings.

To learn more about what the YMC^2 chiller can do for you, visit www.johnsoncontrols.com/ymc2 – or contact your nearest Johnson Controls branch office.

Printed on recycled paper.

PUBL-6390 (311) Supersedes: Nothing
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www.johnsoncontrols.com

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