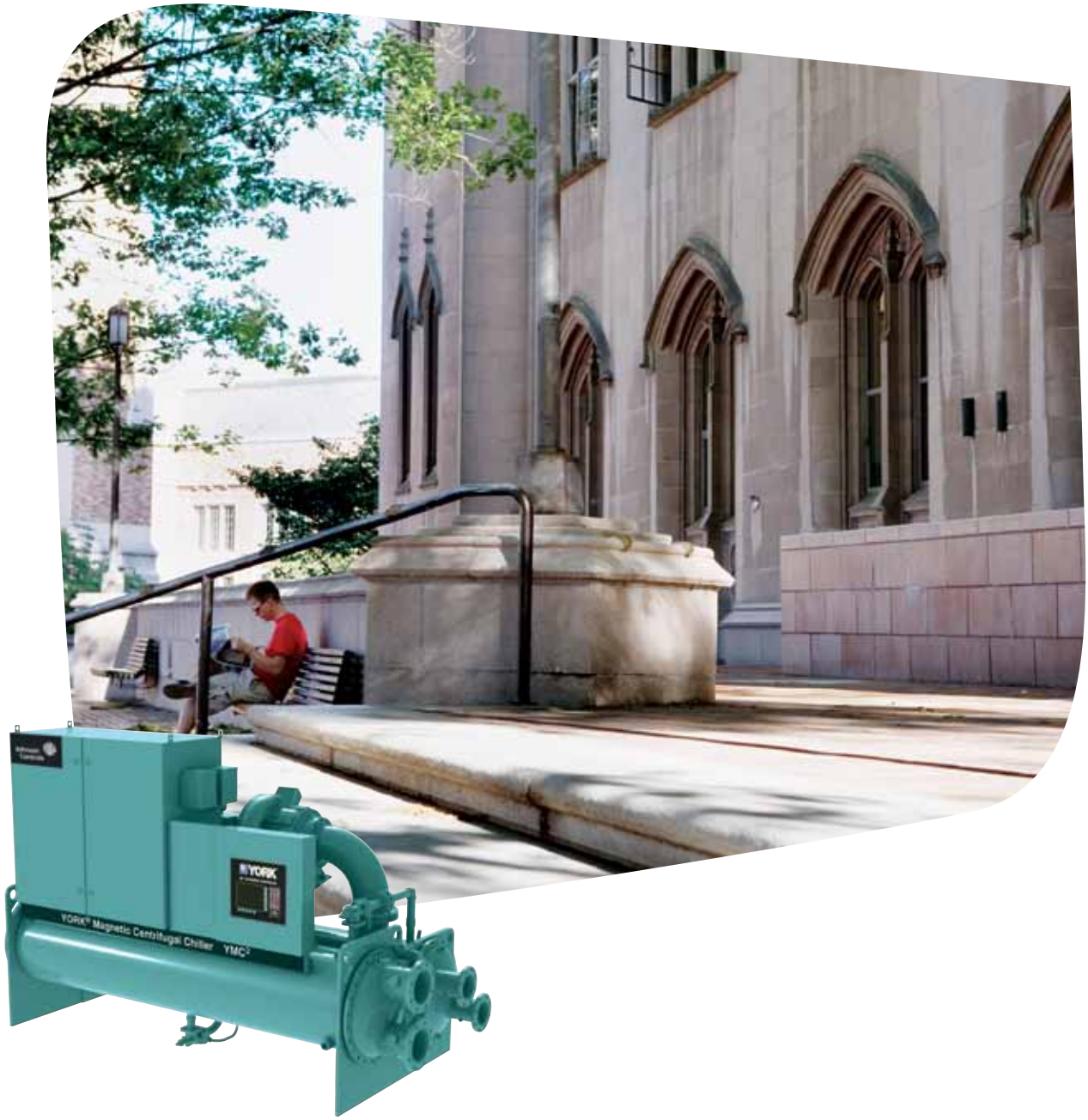
YORK® YMC²
MAGNETIC CENTRIFUGAL CHILLERS

Superior chillers for high-performance education facilities



Johnson Controls

Let the experts in building efficiency raise your facility's performance





The efficiency, sustainability, and quietness of YMC² chillers earn high marks in education applications.

Proven experience in educational environments

For bright ideas in creating high-performance chillers for educational facilities, Johnson Controls earns high honors for decades of innovation. 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 offered environmentally friendly alternatives to give facilities 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.

In today's changing world, Johnson Controls understands the comfort and cost challenges facing K-12 and higher-education facilities. In fact, our founder, Warren Johnson, was an educator himself who created the first electric thermostat to control the comfort in his classroom. Today, we offer the YMC² chiller. It addresses all of your most pressing concerns – energy, reliability, sustainability, and sound – so your facility wins top grades with administrators, faculty, and students.

Chiller technology provides a more efficient, greener, quieter facility

Improve energy efficiency

According to the Department of Energy, education buildings have the third-highest energy expenditures of all building types. On average, over 70% of the energy budget goes toward electricity. That's why Johnson Controls developed the YORK® YMC² chiller. By employing proven permanent-magnet motor and active magnetic-bearing technology, the YMC² chiller eliminates the mechanical-contact losses associated with a conventional driveline. We also improved chiller efficiency with our patented OptiSpeed™ variable-speed drive and advanced falling-film heat-exchanger technology. The result: the new YMC² chiller cuts electricity consumption by 10% compared to conventional, variable-speed chillers. Money not spent on energy can be directed to other important areas of your budget.

Greater reliability, increased uptime

The active magnetic-bearing technology in the YORK YMC² chiller features fewer moving parts subject to breakdown and no mechanical-contact losses. The result is unprecedented reliability. The driveline is also field-serviceable, which means a back-up driveline is not needed.

Our patented OptiSpeed variable-speed drive improves reliability with its soft-start capability that extends motor life. And our OptiView™ control panel provides complete monitoring and control capabilities to make sure the chiller operates within optimum parameters. It also enhances troubleshooting visibility if problems arise. If service is ever required, Johnson Controls fields the industry's largest service force – 5,000 technicians worldwide in 169 local service branch offices – a strong resource in assuring reliability.



To eliminate mechanical-contact losses in the driveline, the YMC² chiller utilizes a permanent-magnet motor and active magnetic-bearing technology.



The OptiView control center provides complete diagnostics to enhance troubleshooting visibility.

Add LEED points for a higher grade in "green"

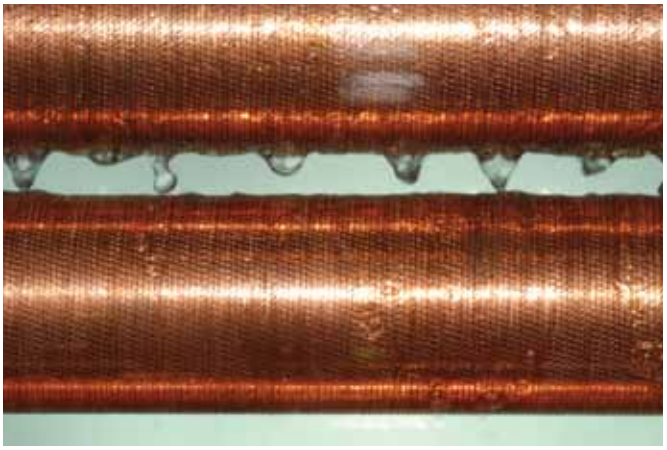
As a leader in energy-efficient, green-building technologies, we designed the YMC² chiller to qualify for points in the Leadership in Energy and Environmental Design® (LEED) Green Building Rating System. The maximum number of points can be earned under the Enhanced Refrigerant Management (EAc4) credit, because the YMC² chiller employs an advanced falling-film heat exchanger that reduces the refrigerant charge by 30%. And because a YMC² chiller makes it easy to raise baseline building performance above ASHRAE/IESNA Standard 90.1-2007, additional points can also be earned for the Optimize Energy Performance (EAc1) credit.

Lowest sound level contributes to higher academic performance

Low noise levels are critical to student performance in the classroom. That's why it's important to start with low sound levels in the mechanical room. The YORK YMC² chiller uses magnetic bearings to eliminate driveline noise produced by conventional bearings. Other noise reduction measures include our patented OptiSound™ control, which reduces noise at off-design conditions. The result is a sound level that does not exceed 73 dBA at AHRI-575 full-load standard conditions – the volume of a typical cellphone ringtone. It is the lowest level on the market. In fact, it is so much quieter than competitive magnetic-bearing chillers, it sounds about half as loud.

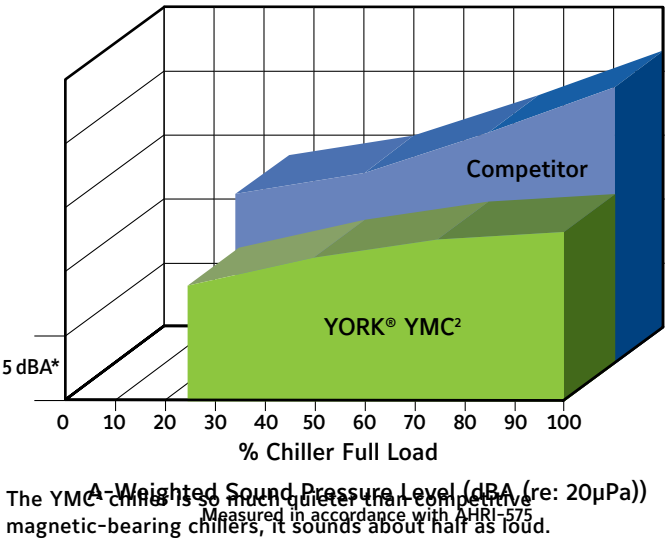
Make the grade with higher performance

Our leadership in building efficiency makes Johnson Controls the first choice for the K-12 and higher-education community. Count on us for greener, higher-performance solutions that can improve your facility's reputation with students, faculty, and administrators.



(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%.



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.**

Printed on recycled paper.

PUBL-6394 (310) Supersedes Nothing
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