



## Magnitude™ Frictionless Centrifugal Chillers

*Engineered for flexibility and performance™*



# Daikin McQuay Magnitude™ Frictionless Centrifugal Chillers

*Everything you want in a chiller... and more*



## Energy Savings

The Daikin McQuay Magnitude™ chiller is the most energy efficient chiller in its size range with part load performance as low as .31 kW/ton IPLV.

## How Much Can You Save?

Using the McQuay Energy Analyzer™ program, the estimated energy savings with a McQuay frictionless chiller are impressive. Your payback could be as soon as 2 years, as shown by these examples.

Frictionless Chiller Annual Energy Savings Comparison			
Location	Tampa	Chicago	New York City
Chiller Type	Screw vs Frictionless	Centrifugal vs Frictionless	Centrifugal vs Frictionless
Building Type	Hospital	3-Story Office	Hotel
Square Footage	37,000	56,400	158,000
Design Cooling Load (tons)	150	150	300
Annual Cooling (ton-Hr)	561,524	102,870	454,232
On - Peak Charge (\$/kWh)	\$.05	\$.064	\$.109
Off - Peak Charge (\$/kWh)	\$.021	\$.044	\$.109
Annual Energy Savings	\$6,008	\$2,252	\$4,428
Simple Payback (years)	1.89	2.54	2.36

## Quiet

The Daikin McQuay Magnitude™ chiller is the quietest chiller in its size range with sound pressure ratings as low as 76 dBA per ARI Standard 575. That makes it ideal for sound sensitive environments such as schools, performance halls, museums, condominiums and libraries.

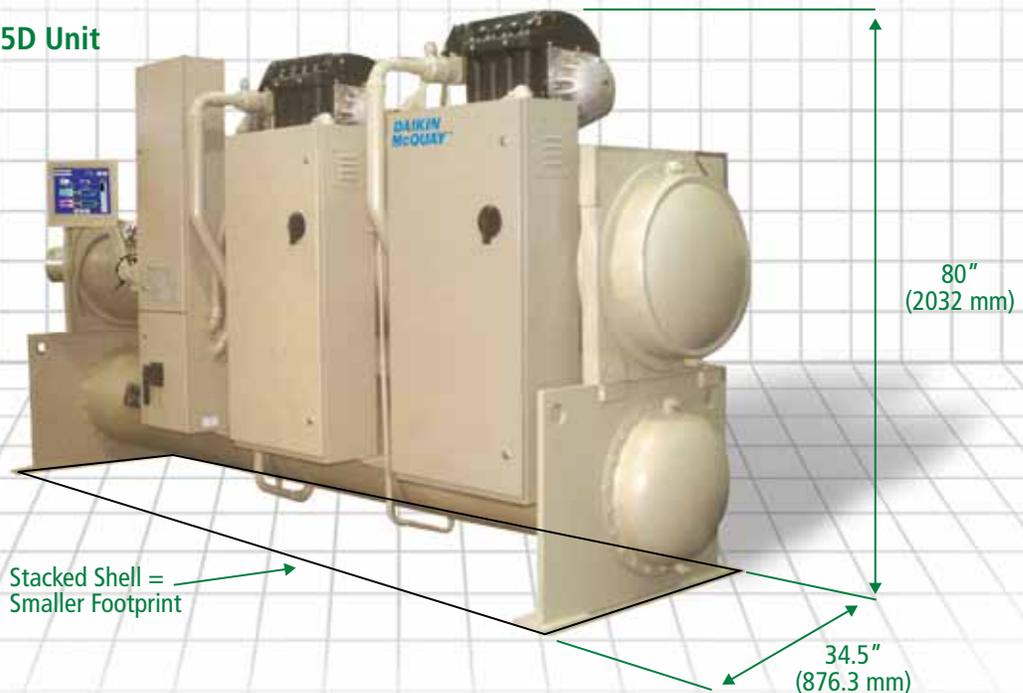




## *Ideal for Retrofit and Replacement*

The compact size of the Magnitude™ chiller makes it ideal for retrofit and replacement installations. In addition, the space that would have used for equipment can now be put to more productive use in the facility.

**Typical WMC145D Unit**



## *Reliable*

From 2003 through 2009, nearly one thousand Magnitude™ chillers have been installed around the world, providing consistent comfort and energy savings.



## What the Owners of Daikin McQuay Magnitude™ Chillers Say About Their Units

### *Johnson County Office Building in Olathe, Kansas*

We save **57% on energy costs** compared to a similar county office building down the road. And with the high performance McQuay frictionless chiller as part of our system, we earned **LEED® Gold certification** from the U.S. Green Building Council.

**Neil Angrisano**, AIA, Deputy Facility Manager for Johnson County



© Photography by Brad Feinkopf

### *One Crawford Condominiums in Portsmouth, Virginia*

We save **\$3,000 a month** in electrical costs after replacing our old chillers with two McQuay frictionless chillers. And the units are so **quiet** the residents living directly below the chillers cannot hear them operate.

**Charles Twine**, Vice President of the Crawford Residents Association





### *Northbrook Junior High School in Northbrook, Illinois*

We were sold on the **quiet operation** of the chillers because the plant is located next to three classrooms. The 18% reduction in energy costs with the McQuay frictionless chillers helped us earn an **Energy Star® School** rating from the U. S. EPA after our mechanical system modernization.

**Russ Jensen**, *Director of Buildings and Grounds for Northbrook School District 28*



### *McNamara Alumni Center at the University of Minnesota in Minneapolis*

The **compact design** of the chiller worked in our very tight design. Because the unit is so **quiet** we could avoid installing a housekeeping pad typically used to isolate sound, thus greatly reducing the weight and physical footprint.

**Jon McCombs**, *Operations Manager,  
McNamara Alumni Center*



## The Inside Story on Innovation

**Magnetic bearing centrifugal compressor** eliminates the efficiency-robbing friction inherent in traditional centrifugal chillers.

**Integrated VFD** optimized part load efficiency, a key performance feature since most chillers operate at part load 99% of their life.

**Sustainable performance** assured for the operating life of the chiller. The positive pressure, oil-free design eliminates performance degradation due to non-condensables and oil contamination of the refrigerant.

**Easy integration** with our Open Choices™ feature using BACnet®, LonWORKS® or Modbus® communications without an expensive gateway panel.

**R-134a refrigerant** has no ozone depletion potential and no phase-out schedule.

**Reduced maintenance** costs due to elimination of the oil, oil system, purge system, and shaft seals found in older technology chillers.

**Small unit footprint** helps the Magnitude™ chiller fit in buildings where space is limited, making it ideal for retrofit projects.

**Unmatched unloading** with the integrated VFDs since the on-board digital controls reduce compressor speed to match the load.

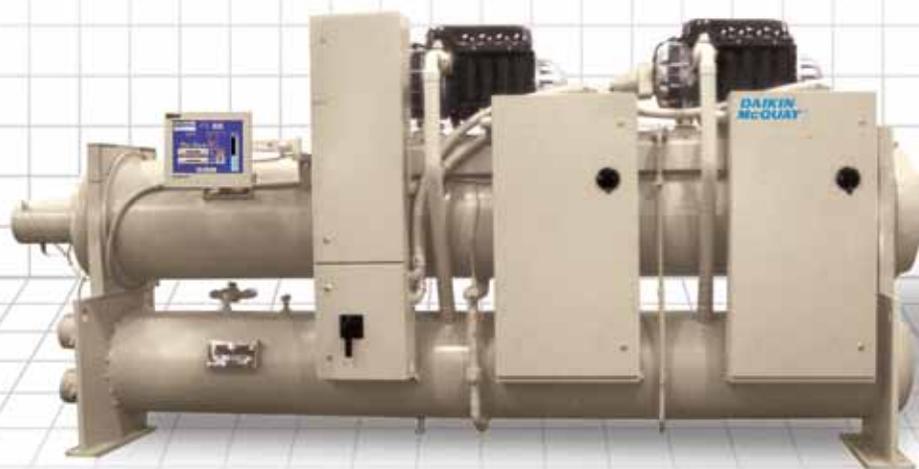
**Low inrush current at startup** is ideal for operation with backup or emergency power systems.

*Our bottom line for your bottom line – lowest total cost of ownership*



### *Touch Screen*

*The touch screen operator interface panel is easy to learn and easy to use for monitoring chiller status and controlling operation.*



**145 to 400-ton Magnitude™ Chiller**

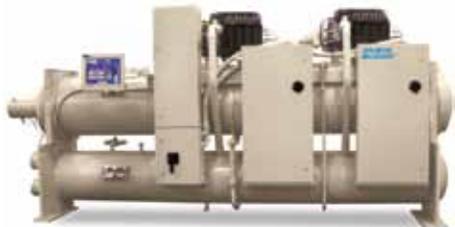


**400 to 550-ton Magnitude™ Chiller**



*Make it a McQuay System for Optimum System Performance and Reliability*

**STEP 1** Choose a Daikin McQuay Magnitude™ Chiller



**145 to 400-ton Magnitude™ Chiller**  
Water-Cooled Chiller



**400 to 550-ton Magnitude™ Chiller**  
Water-Cooled Chiller

**STEP 2** Choose a McQuay Air Handler or Terminal Unit



**Vision™ Indoor Air Handler**  
900 to 100,000 cfm



**Skyline™ Outdoor Air Handler**  
900 to 65,000 cfm



**Destiny™ Indoor Air Handler**  
600 to 15,000 cfm



**RoofPak™ Outdoor Air Handler**  
4000 to 50,000 cfm



**Unit Ventilators**  
750 to 2,000 cfm



**Fan Coil Units**  
200 to 3,000 cfm



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