

## Lower sound Higher productivity



- Johnson Controls patented technology delivers the quietest centrifugal chiller products on the market
- Available on YORK® model YMC², YK, YK-EP, YD and CYK centrifugal chillers
- Provides expanded operating range
- Improves chiller performance and reliability
- Ideal for apartments, auditoriums, classrooms, offices and other sound-sensitive locations

Employees are productive, students can easily focus, and patrons have a better experience when their surrounding environments are quiet. Noisy chillers, especially at part load, can interrupt daily activities and create complaints. Johnson Controls developed the OptiSound control for YORK chillers to greatly reduce chiller sound levels.

The OptiSound control, available on model YMC², YK, YK-EP, YD and CYK centrifugal chillers, is a patented combination of hardware and software that reduces operational sound and vibration levels, expands the chiller operating range, and improves chiller performance and reliability. OptiSound control delivers the quietest centrifugal chiller products on the market from 215 to 6,000 TR (755-21,100 kW).



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## Minimize gas flow noise

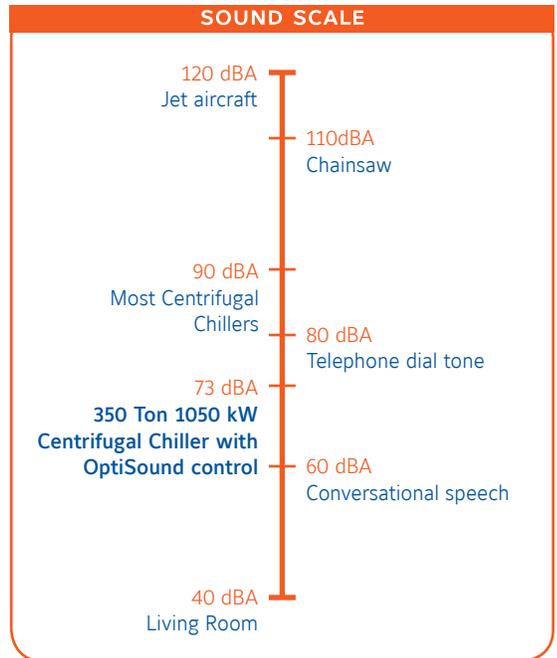
Chillers create sound as the refrigerant flows through the system. During part load, the flow can separate from the walls of the compressor's diffuser. This condition, known as "diffuser stall," substantially increases sound and vibration. The OptiSound control continuously monitors the characteristics of the compressor-discharge gas and optimizes the diffuser to minimize gas flow disruptions.

This innovative technology decreases the operating sound levels of the chiller an average of 7 dBA and up to 13 dBA on the largest models. The human ear recognizes a change of 10 dBA as being half as loud. Therefore, with OptiSound, the chiller sound is perceived as approximately half the sound of a similar chiller without this unique technology.

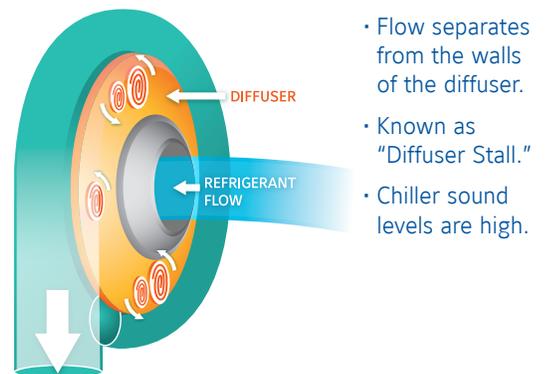
## Improving performance and reliability

In addition to noise suppression, the OptiSound control provides an expanded operating range. It improves performance and reliability because diffuser-gas stall is minimized at off-design operation, particularly conditions of very low load combined with little or no condenser water relief. This gives the chiller better efficiency over an expanded range of operation.

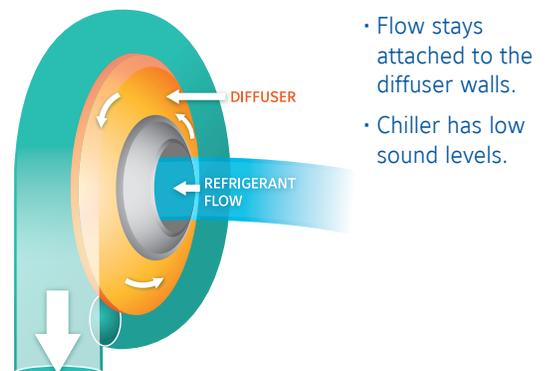
The technology improves system reliability, allowing units to continue operation with higher condenser water temperature than design. For example, a cooling tower or condenser pump problem may result in reduced flow or elevated temperatures. But a chiller with OptiSound control will continue to operate while other units are in stall, surge, or shut down.



### COMPRESSOR WITHOUT OPTISOUND CONTROL



### COMPRESSOR WITH OPTISOUND CONTROL



The reduced sound and vibration makes a chiller with OptiSound control ideal for apartments, auditoriums, classrooms, data centers, precision manufacturing, offices and other sound-sensitive installations. For more information about the OptiSound control, contact your local Johnson Controls representative.

Please visit [www.johnsoncontrols.com](http://www.johnsoncontrols.com) to learn more about YORK products.