

Innovative chiller helps hotel reclaim heat, turning cool rooms into hot showers



Result

- Hotel is able to reclaim heat from its cooling system to provide hot water for kitchen and guest use.
- Eliminates heat waste and greatly reduces energy usage.

Application

- Multiaqua Heat Recovery Chiller with the Copeland™ variable speed scroll compressor and motor control drive.

Challenge

In the U.S., large hotels spend an annual average per square foot of \$1.05 on electricity and \$0.25 on natural gas. In a typical lodging facility, lighting, space heating, and water heating represent close to 60 percent of total use, making those systems the best targets for energy savings.

Rather than paying to reject heat generated by cooling, hotel facility managers can recover heat for use throughout the facility. Recovered heat reduces purchased heat (and cost) and also reduces the ancillary power necessary to reject the heat, while providing heated water to support kitchen operations and even guest showers.

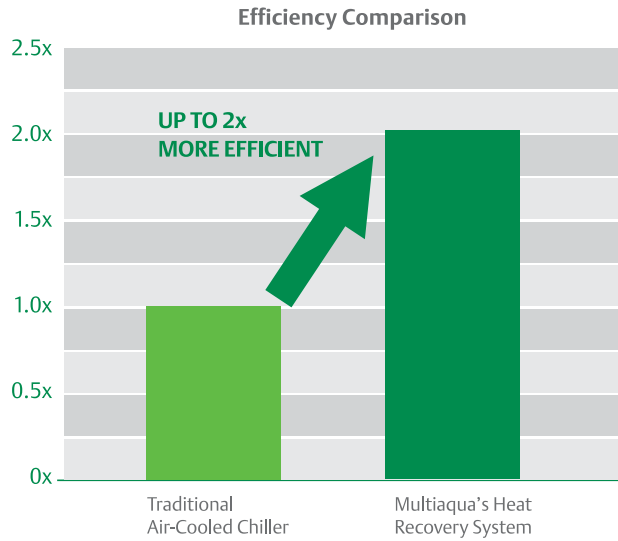
Solution

The Multiaqua Heat Recovery Chiller technology is unique in that it has the ability to reclaim/recover 100 percent of the heat that would otherwise be rejected and wasted into the atmosphere. It can move heat from multiple sources, either from air or water, and distribute that heat wherever it is required simultaneously. The microprocessor controlled, refrigerant management system controls the Copeland variable speed scroll compressor and motor control drive, as well as a valve system to direct refrigerant movement where it is needed seamlessly without compressor shut-down. The chiller accomplishes these functions and delivers a coefficient of performance (COP) from 3 to 7.93.

“When you capture and use 100 percent of the heat that is normally discarded, your COP/efficiency doubles. Emerson’s variable speed technology helps enable this through its efficiency benefits and precise capacity control.”

– Ralph A. Fera, President of Multiaqua





“With our industry’s increasing emphasis on efficiency, this chiller is an innovative solution that minimizes energy usage and can be applied across multiple markets and applications.”

David Hules, Director
Commercial Marketing, Emerson



Resources

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