

Urban Teaching Hospital



Besides being able to accommodate installation challenges and offer cost-saving high efficiency performance, Thermax chillers benefit the environment by using water instead of ozone-depleting refrigerants. In addition, the chillers can communicate with nearly any building management system because they feature an open protocol.

Thermax

- Double-effect steam-fired absorption chiller
- 280 tons of cooling
- Brooklyn, New York

Versatile Double-Effect Absorption Chiller Is Perfect Fit at Medical Center

When a large New York teaching hospital decided to replace a steam-fired absorption chiller in its student center, it faced a serious challenge squeezing the new unit through a narrow 7 x 6.5-foot shaftway to a second-level basement.

The project planners evaluated chillers from a number of manufacturers before selecting a 280-ton Thermax double-effect absorption chiller for the job. The chiller operates on steam created by natural gas-fired boilers.

“Once we started laying the project out and looking at the difficulties, it became apparent that their willingness to break the unit down was going to be critical to the success of the installation,” says John Stehn, who served as Project Engineer for the hospital installation while working for Joseph R. Loring &

Associates Consulting Engineers in New York City. Stehn, currently with Genesys Engineering in White Plains, New York, adds, “Thermax was very cooperative and was interested in doing whatever they had to do at the factory in making sure that the unit would fit down the shaft.”

Another plus was the Thermax unit’s high 1.25 coefficient of performance (COP).

“We were 20% more efficient than the existing equipment or the competition,” says Rajesh Nabar, National Sales Manager for Thermax. He attributes this efficiency level to a unique split evaporator design developed in 2002, and to the unit’s drain heat exchanger.

The chiller runs on high-pressure steam from the hospital’s boilers, which are fired by natu-





ral gas. The absorber generates cold water to air condition the building, without increasing the hospital's electricity demand during peak summer-rate periods.

But the dealmaker was the ability of Thermax to break its chiller down into three sections that fit into the hospital's mechanical room opening. Thermax was the only manufacturer able to provide the chiller in multiple pieces that could pass through the opening (*see photo, left*). Most chillers only break down into two

large segments, impossible to wedge through that opening.

"Thermax has a very large experience of supplying chillers in knocked-down (disassembled) condition and then reassembling them at the jobsite." Nabar says. "We break them down at the factory in a controlled atmosphere [to prevent debris from entering]. It is very important when knocking down a chiller that debris does not get into it when it is reassembled." Once it was brought into the mechanical plant, the chiller was welded with special components to make it leakproof.

Besides being able to accommodate installation challenges and offer cost-saving high efficiency performance, Thermax chillers benefit the environment by using water instead of ozone-depleting refrigerants. In addition, the chillers can communicate with nearly any building management system through MODBUS or BACNET protocol that can be pre-programmed from the factory into the chiller's Siemens PLC-based control system.

Thermax, a manufacturer of cooling products for 20 years, has installed more than 2,500 chillers worldwide, including in the United States, South America, Asia, Australia, and Europe. Thermax has supplied some 100 chillers in the U.S. market and also has a very strong after-sales service network.

The 48,000-sq.-ft. student center served by the chiller contains meeting rooms, athletic/exercise facilities, lounges, a darkroom, and café. Included in the indoor athletic/exercise facilities are a gymnasium, swimming pool, sauna, whirlpool bath, weight room, and two squash courts.



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