YAZAKI

- **Direct-fired double-effect absorption chiller/ heaters**
- **120 refrigeration tons**
- **6,000 sq. ft. concert hall**
- **Boston, Massachusetts**

The New England Conservatory of Music (NEC) chose quiet Yazaki cooling to affordably update its acoustical gem, Jordan Hall.

After nearly a century of glory, the New England Conservatory of Music's Jordan Hall craved a facelift. The Boston concert hall drew recognition as a National Historic Landmark in 1994, then closed for restoration in 1995.

Plans to restore the faded splendor of the building's interior, famed for its world-class acoustics, included meticulous renewal of ornamental plaster work, hardwood railings and panels, and seating. New amenities included access for patrons with disabilities, a modern lobby, and air conditioning.

Although cooling would liberate Boston's small musical giant from a summer of darkness, the installation threatened to wreak havoc upon the hall's "perfect" sound transmission capabilities. The problem, according to acoustical consultant R. Lawrence Kirkegaard, involved introducing air conditioning in a historic building without creating noise and "messing up the acoustics."

After studying a number of options, including an underground vault to house the cooling equipment, acoustical experts suggested hoisting natural gas absorption chiller/heaters atop Brown Hall, next door. Four 30-ton Yazaki direct-fired absorption chiller/heaters made the trip by crane.

R.G. Vanderweil Engineers Inc. of Boston designed the cooling system to cut noise and avoid invasive machinery vibrations. The chillers have few moving

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parts to vibrate for quiet, cost-effective operation. Vanderweil developed a unique air delivery system using the space between the ceiling and the roof that doesn't alter the appearance of Jordan Hall's decorative dome. Extra-large ductwork, constructed in extra-long tentacles, moves air slowly and quietly through the cooling system. Fiberglass duct linings add extra soundproofing.

Air circulates into the hall at a rate of 25,000 cu. ft. per minute from behind suspended baffles concealed by original pine ceiling panels. Air supply diffusers constructed in front of the openings allow air to reach the interior of the concert hall while music bounces back toward the audience.

At a gala reopening to celebrate Jordan Hall's rebirth, musical greats including cellist Yo-Yo Ma, trumpeter Wynton Marsalis and the Amaryllis String Quartet took the stage. Their thrilling performances were matched by the triumphant efforts to return to Massachusetts a renewed, intact acoustical gem.

"Our mission is to enhance Boston's summer cultural life by offering excellent concerts during Jordan Hall's extra months of operation," remarks Hilary Field, NEC's manager of performance services. "Realizing this mission is only possible now due to the hall's cool summer interior!"

AMERICAN GAS COOLING CENTER

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