New Jersey Hospital Built To Be Environmental Role Model

Reduced refrigerant creates increased reliability for fitness center.

The Hackensack UMC Fitness and Wellness Center in Hackensack, NJ is a 112,000-sq-ft facility and the only center of its kind affiliated with an NFL franchise, the New York Giants. The building was to purposely identify, control and prevent environmental toxic exposure.

With that in mind, project architect and engineering firm Jarmel-Kizel Architects and Engineers Inc. purposely specified reduced refrigerant equipment, low volatile-organic-compound materials and other measures to complement HUMC's ongoing environmental goals. Though the center has not applied for certification, it does meet all the criteria for a LEED label.

The aquatics center features a Protocol, NP-series dehumidifier and a 70-ton 23,000-cfm HVAC system that dehumidifies, cool and heats the 8,000-sq-ft aquatic space to a 50% relative humidity and 80°F space temperature. The Protocol unit substitutes glycol for the estimated 690 lb of R-410A refrigerant used by similar-sized conventional dehumidifiers.

To dehumidify and cool, the system uses 140 lb of R-410A refrigerant in an internal refrigeration circuit requiring no jobsite installation due to being factory-charged and sealed. For heat rejection, the rooftop unit's heat exchangers transfer the refrigeration circuit's heat to glycol for either free supply air reheat or heat rejection to dry coolers.

The reduced-refrigerant strategy increases reliability because refrigerant leak potential is reduced and compressor life cycles are lengthened by eliminating oil migration issues that are common to heat-rejection methods using refrigerant and long copper-piping runs to air-cooled condensers.

For more information, visit www.serescodehumidifiers.com.

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Beginning with basic theory and extending to complex troubleshooting, training courses covering refrigeration and air conditioning, heating, electricity, controls, heat pumps and safety may be conducted in a classroom environment or though self study. RSES publications may be purchased by schools, contractors, manufacturers or any other industry group wanting to conduct comprehensive training programs. Seminars covering air conditioning troubleshooting, electrical troubleshooting, compressor training, condenser training, refrigerant piping practices, DDC controls, and more are held in various cities across North America.

Select training programs offer Continuing Education Units (CEUs) and NATE Continuing Education Hours (CEHs).

In addition, RSES offers industry certification preparation materials for refrigerant handling (EPA Section 608), R-410A and North American Technician Excellence (NATE) examinations.

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