Manhattan restaurant upgrades to compact, quiet walk-in solution

Summary

Restaurant owner facing location issues and large capital investment chooses Emerson Climate Technologies to help save more than $50,000 while meeting critical operating requirements for his refrigeration systems.

Customer

Gibsen HVAC, a New York City refrigeration contractor, servicing the Manhattan Diner at 94th & Broadway.

Application

Refrigeration systems for walk-in coolers and freezers.

Challenge

The Manhattan Diner in New York City needed to add refrigeration capacity for its walk-in freezer and coolers, and found itself faced with several issues commonly found in urban settings. Due to space constraints, the contractor could not install conventional condensing units on the roof of the six-story building. Outside the diner, a seven-foot wide alley was all that separated the restaurant from a hotel, so both noise and space were exterior limitations.

Indoor water-cooled condensing units with a cooling tower on the roof were initially being considered, but would add nearly $50,000 to the capital cost of the project, plus require ongoing maintenance. Placing the units inside was also a poor alternative since the equipment would take up valuable interior space. The restaurant's owner was struggling to find a cost-effective and reliable refrigeration option which would fit his particular location and fall within his budget.

"I knew I saved on the up front installation cost, and the additional electricity cost savings will definitely help my bottom line over the long-term."

Frank Tsantsouris, Owner
Manhattan Diner

EMERSON
Climate Technologies

Solution

The Manhattan Diner was designed to be a high efficiency restaurant, with a focus on HVAC, refrigeration, and lighting. Nick Benetos, owner of Gibsen HVAC, turned to ABCO Refrigeration and Emerson Climate Technologies to learn more about the new Copeland Scroll® Outdoor Condensing Unit (XJ Series). Nick felt the XJ could be a potential solution as the new units were not only highly efficient, but offered installation flexibility, low sound performance, and built-in protective diagnostics.

In order to install the Copeland Scroll XJ units safely on the wall, heavy-duty wall brackets would be secured to the side of the building, providing a 12-inch clearance from the wall to ensure adequate air flow. Once plans were approved, the units were successfully mounted in the 7-foot wide alley, high enough so that they would not interfere with the ground area between the alleyways.

To answer potential noise concerns of neighboring hotel guests, the XJ is also significantly quieter than traditional units due to the scroll compressor's low sound and mounting position, along with a unique fan blade design and variable speed fan motor control. After installation, Nick was quoted as saying, "I can hardly hear them run. These are the quietest refrigeration units I have ever worked with."

Result

- Lowered project investment costs by nearly $50,000 and avoided ongoing maintenance expenses by not selecting a water-cooled design option
- The three Copeland Scroll® XJ units are expected to save about $2,400 in energy cost per year (at $0.16/kWh) when compared to standard semi-hermetic condensing units
- Operating sound output will be 11-16 dBA quieter than traditional outdoor units, eliminating potential nuisance calls from the neighboring hotel
- Built-in CoreSense™ Diagnostics will provide Gibsen's technicians information to quickly and accurately troubleshoot any issues, avoid unneeded service calls, and protect the system from premature failure

Resources

Learn more about the Copeland Scroll Outdoor Condensing Unit at: **EmersonClimate.com/copelandoutdoorunit**

"After seeing how easy the installation was, I am going to use the XJ for another job because of the ease of installation, strong field support and the energy savings it can deliver for my customers."

Nick Benetos, Owner
Gibsen HVAC

The Copeland Scroll® Outdoor Condensing Unit ranges in size from 1.5-6 HP, offering energy savings of up to 40% compared to standard industry condensing units, making it perfectly suited for many walk-in cooler and freezer applications. The scroll unit incorporates multiple advances in refrigeration as standard features into a single unit solution, including:

- The latest Copeland Scroll refrigeration compressors which have been optimized for the highest annual energy efficiency
- Ultra-quiet and efficient Variable Speed PSC fan motors
- Large condenser coils for more efficient heat transfer
- High efficiency fan blade design
- Proprietary electronic algorithms to optimize energy performance
- Exclusive Enhanced Vapor Injection (EVI) circuit on Low Temp units for added capacity and system efficiency
- Exclusive CoreSense™ Diagnostics to enable faster, more accurate service, along with compressor protection benefits to lower total lifecycle costs