

Hilton Garden Inn tackles IAQ, comfort and efficiency with SEMCO Pinnacle® Units



The hotel has one of the most sophisticated energy recovery systems available to commercial facilities. The inclusion of two SEMCO Pinnacle Energy Recovery Units in the hotel's mechanical design not only provides year round savings in heating and cooling costs, it also bumps the indoor air quality up to a whole new level.

■ FACTS

Customer:

Hilton Garden Inn
Atlanta, USA

Need:

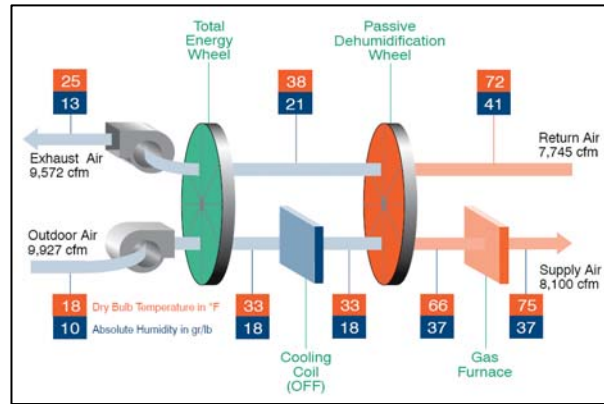
Energy Efficient Ventilation System

Solution:

Pinnacle® ventilation units manufactured by SEMCO

“No other equipment can compete in terms of efficiency”

B & A Consulting Engineers of Decatur, GA chose to include the SEMCO units as a way to efficiently improve comfort and lower humidity while still bringing in a large volume of outside air. The energy recovery units, which are installed on the rooftop of the hotel, utilize continuous exhaust and some general exhaust to pre-condition outside air, relieving in-room units of any latent load.



The supply air from the Pinnacle units pressurizes the hotel’s corridors and common areas with semi neutral, dehumidified air. The supply air is dry enough so that any build up of moisture inside the guestrooms is either exhausted via bathroom exhaust or absorbed by the hallway areas.

Humidity is kept comfortably low (50% or lower) during the cooling season, which not only improves comfort; it helps prevent any mold issues from occurring inside the hotel.

The units selected for the Hilton project were customized to fit the hotel’s overall mechanical design, which includes a cooling tower and some heat pump capacity. With the availability of a water source loop, the SEMCO units were designed to include a water-cooled condensing section to further optimize efficiency.

Those applying the Pinnacle unit often focus on its benefits associated with the dehumidification cycle in the cooling season, but an equal benefit is the energy savings associated with the wintertime operation.

SEMCO’s system is designed so both wheels can utilize the exhausted air in the wintertime to provide the owner with additional energy savings and offset the horsepower penalties associated with the second wheel.

During the summer months, the Pinnacle system saves upwards of 60% of the tonnage associated with 3/4 of the building load served (outdoor air temperature load, outdoor air humidity load, and the building internal humidity load).

In the winter time, the two wheel system can reduce the heating load requirement associated with the outdoor air by as much as 90%.

“We looked at other types of energy recovery equipment but none of them could compete with this particular unit in terms of capacity and efficiency,” said Bill Ehle, mechanical engineer on the project.

SEMCO

SEMCO is a unique indoor environment products manufacturer serving the key disciplines of air distribution, noise abatement, temperature, and humidity control in the commercial and industrial building markets. SEMCO was acquired by Fläkt Woods in 2007.

Fläkt Woods Group

Fläkt Woods is a global company providing solutions for ventilation and air treatment for buildings as well as fan solutions for Industry and Infrastructure applications.

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