



The ENERGY STAR earning Marriott Quorum sits among premier restaurants, entertainment, and shopping in the North Dallas area and receives rave reviews from guests and businesses.

CASE STUDY

Hotel

Facility at a glance

Name

Dallas/Addison Marriott Quorum

Location

Addison, TX, USA

Building

547 guest rooms, 23,000 sq ft event space

Issue

Economical, energy saving upgrade and replacement of HVAC system

Solution

581 Daikin HiLine® vertical stacked fan coils (200 to 1200 cfm)

3 Daikin Skyline® custom air handlers (900 to 65,000 cfm)

Dallas hotel selects Daikin Applied again for non-disrupting, cost-effective replacement solution to HVAC system

Issues

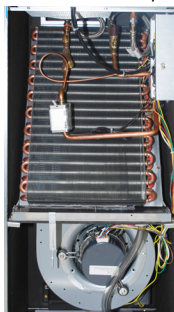
Since the early 1980s, the Dallas/Addison Marriott Quorum hotel has been a north Dallas landmark and has earned the ENERGY STAR label for its efforts to protect the environment. Recently, owners sought economical replacement of the fan coil units throughout most of the 547-room hotel along with other HVAC upgrades.

Fan coil replacements had to be completed in stages and in coordination with additional room renovations while the hotel remained in operation. "The customer was seeking the easiest, most cost-effective swap for their existing McQuay (now Daikin Applied) fan coils, original to the building, without having to replace the cabinets. These are water coil with electric heat units in a two-pipe system," says Billy Pullin, project manager with Comfort Systems USA in Houston.

Solution

"The customer specified the standard PSC motor on the fan coils and these traditional units provide efficient, quiet performance with individual thermostatic control," says Jay Ramkumar, LEED AP BD+C, marketing engineer with Daikin Applied.

Erin Schroeder, sales engineer, LEED green associate and Daikin Applied representative with HTS Texas in Houston, notes significant costs were saved by not having to replace entire units that are recessed into the walls. "Because the owners used the same manufacturer for the replacement units, they saved on in-room installation of the fan coils by replacing only the internal chassis components and avoiding sheet metal replacement," she says.



Fan coil chassis

Coordination with remodeling crews required tight orchestration. Installations occurred from November 2014 through March 2015 and primarily occurred on Friday and Saturdays to avoid disrupting business travelers in nearby rooms. "We set up a staging area in the parking garage and Comfort System's teams of 8 worked to install up to 18 units a day," Pullin says.

In addition, Daikin Applied supplied 3 custom Skyline outdoor air handling units for supplemental air handling in the hotel's public spaces that include hallways and elevators. "Like the fan coils, these units also replaced McQuay equipment and are used to feed chilled water in conjunction with energy recovery ventilation (ERV) systems by another manufacturer to reclaim energy from the building's exhaust,"



Vertical stacked fan coils line the hotel parking garage where Comfort System's technician teams performed preparation work on the new units.



Pullin says. Comfort Systems also upgraded the interface of the building automation system (BAS) to the new HVAC equipment that controls the hotel's public spaces. Each hotel room is controlled by existing programmable thermostats.

Outcome

"Daikin Applied did a great job with the fan coils. We had to start-up the fan coils and turn them over right away to prepare for room occupancies. We also appreciate Daikin Applied's ability to manufacture the new outdoor air handlers in a custom size to accommodate a tight footprint," Pullin says.

Both Daikin Applied solutions contribute to sustainable HVAC at the Marriott Quorum. The first phase of the HVAC renovation was completed in April 2015 and remaining HVAC equipment in public spaces will be updated in a future upgrade.



In addition to fan coils, three Daikin Skyline custom outdoor air handlers, paired with energy recovery systems, reclaim energy from the building's exhaust and help contribute to the Marriott Quorum's ENERGY STAR rating.