

BLUEPRINT

EMBASSY SUITES RALEIGH-DURHAM AIRPORT AT BRIER CREEK RALEIGH-DURHAM, NORTH CAROLINA

PROJECT INFORMATION

Building Type: Hotel

Square Feet: 156,000

Rooms: 175

Floors: 8

Consulting Engineer:

Teeter Engineering
Charlotte, NC

Architect:

Godwin Associates
Charlotte, NC

Manufacturer's Representative:

Hoffman & Hoffman
Charlotte, NC



Challenge:

The owners required a system that would operate quietly, require only a minimum amount of space in the guest rooms, and maintain an optimal level of comfort to meet the expectations of guests staying at an upscale full service hotel.

The Solution:

Daikin VRV heat recovery system with vertical indoor air handlers was chosen for the guest rooms because of their low operational sound levels, space savings, and potential for energy savings.

When Winwood Hospitality Group and its President Amit Patel made the decision to build a full service Embassy Suites by Hilton at Brier Creek in Raleigh-Durham, NC, they knew from years of experience in the hospitality industry that delivering a higher level of comfort for their guests would complement the increased level of service that the hotel wished to provide.

Teeter Engineering, working closely with the engineering and HVAC experts at Hoffman & Hoffman Inc., was tasked with engineering a solution that would meet the owner's requirements. Minimal impact on available space and room design, quiet operation, and refrigerant piping installation were all primary design concerns for the project. A Daikin VRV heat recovery system was chosen because of its ability to maximize energy efficiency by providing simultaneous

heating or cooling from the same system as well as varying the refrigerant volume to provide only the necessary heating or cooling capacity required to meet the needs for each individual room.

When compared to the more common chiller or PTAC design alternatives, the Daikin VRV option offered several benefits — Minimal to no ductwork was needed which allows for higher ceilings or reduced overall building height; No large mechanical room needed which means potential revenue generating space or less square feet and building cost; Individual, simultaneous heating and cooling room by room control; Higher efficiencies; Lower sound levels; Improved exterior aesthetics without PTAC's under windows; Less hot and cold spots compared to PTAC's.

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Daikin's vertical air handlers were chosen for installation in all 175 guest rooms. The units were concealed in small mechanical closets in each room and a minimal amount of ductwork supplied conditioned air in a uniform manner throughout the space. Quiet fans that are housed in a sound absorbing thermal insulated cabinet kept ambient sound at satisfactory levels. The vertical installations made it easier to conceal the units, improving both available room space, and aesthetics.

The operational efficiency of the Daikin VRV heat recovery systems has also provided a significant savings benefit for the owners. The Embassy Suites at Brier Ridge enjoys a higher than average occupancy rate so all of the guest room units are operating nearly year around.

DAIKIN EQUIPMENT

- 212 Tons of Outdoor Unit — VRV III Heat Recovery
- 175 Total Indoor Unit — Vertical Air Handling Units
 - 14 FXOQ12MVJU
 - 161 FXOQ18MVJU
- 175 BSV_Q Branch Selector Boxes
- 175 BRC1D71 Controllers
- 3 DSC302C71 Centralized Controllers

FIND OUT MORE ABOUT DAIKIN VRV.
Contact your local dealer or manufacturer's representative.

Additional information

Before purchasing this appliance, read important information about its estimated annual energy consumption, yearly operating cost, or energy efficiency rating that is available from your retailer.