



US CASE STUDY #22

January 10, 2006

Warwick, Rhode Island Warwick House of Hope - RA

Warwick House of Hope seeks to provide long-term comprehensive care to homeless individuals with physical and mental disabilities who have the potential to live independently. The Warwick, Rhode Island location was recently renovated to host eleven studio apartments, each with bath and cooking facilities, plus a common living and kitchen area, and space for group meetings and training.

According to Frank Murphy of Frank Murphy Architects, both heating and cooling were part of the original design of the building. Working with Jeannie Lamb, Housing Development Director for the Warwick House of Hope, Murphy discovered the building's narrow windows and concrete exterior walls presented a challenge due to the need for several individual heating and cooling units.

The "common area rooms," located in the sub-grade basement, provided individual space for counseling and recreation for the residents. While it had existing hot water baseboard, it had no air conditioning. High Tech Engineering's Jon Jarvis, a mechanical contractor in Pawtucket, RI, suggested the use of two Daikin® inverter duct-free split system heat pumps, one RXS15DVJU/FTXS15DVJU and one RXS18DVJU/FTXS18DVJU as a solution to providing efficient heating and air conditioning.

Jarvis explained that since the Warwick House of Hope was a not-for profit organization, they were eager to save on fuel costs while providing air conditioning to the residents and part-time counselor working in this area. Considering the rising costs of fuel oil, and the varying occupancy of the rooms, both Jarvis and Murphy felt the Daikin inverter split heat pumps could provide the need for varying load and high efficiency.

The mechanical system was modified in such a way that once the outdoor temperature reaches 32°F or above, the hydronic heat is disabled and the inverter split heat pump systems provide the heating. Both rooms maintain a very comfortable temperature while saving energy.

Jarvis is amazed at the extremely low sound level of the indoor units, and the fact that Daikin's power mode can accelerate the system's operation and achieve the desired set point faster than a conventional system. Moreover, the exceptionally high temperature delivered is amazing.

Since the common rooms have varying occupants throughout the day, Daikin's motion sensor feature was an added bonus according to Jarvis. The built in motion sensor feature enables the system to setback the temperature 3.6°F if no motion is detected for 20 minutes. This feature provides energy savings which the customer wants.

Lamb was also pleased with the aesthetics of the units, including the outdoor units which are located below one of the resident's windows. She was especially pleased with the extremely low sound they produce and how well they have performed even during the coldest days.

- written by Russell Tavalacci, Daikin AC (Americas), Inc.

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