



Crowne Plaza, Basingstoke

Hotel's happy as heat recovery air conditioning heads off heatwave

There's nothing like a heatwave to prove the value of a first class air conditioning installation and a good example to support this is Basingstoke's Crowne Plaza hotel.

Built originally some 30 years ago, the hotel dates from an era when air conditioning was considered a luxury rather than an essential, renewable energy and energy efficiency were not yet a common terms and climate control systems were far less sophisticated – or reliable – than today's.

Until recently, the hotel had no air conditioning – and this was a common cause of complaint from guests. It also sported electric panel heaters – by modern standards an uneconomic and inadequate solution.

After a change in ownership and a rebranding to Crowne Plaza, the 140 bedroom hotel with bar, restaurant, gym and eight function rooms was targeted for a massive phased upgrade. This included air conditioning with concealed

slim ceiling units for bedrooms and Roundflow cassettes for public areas.

A Daikin VRV IV heat recovery system was specified throughout, in what hotel general manager Vinay Malhotra describes as a decision that is serving the hotel well. Not only is it able to provide comfort throughout the summer, it also provides space heating through the colder months by efficiently converting renewable energy from the atmosphere into indoor warmth.

When the July 2018 heatwave struck, all but 50 of the guest rooms and four of the function rooms had been refurbished and upgraded to Daikin air conditioning.

Vinay Malhotra says: "When the mercury rose sharply at the start of the heatwave we had a spate of complaints from guests in the unrefurbished rooms. With help from Direct Cooling Services, our air conditioning contractor, we brought in some portable units as a temporary measure and there were no more complaints.

Year of installation

> 2018

Project requirements

- Air conditioning
- Air curtain
- Air purification
- Control
- Heating
- Hot water
- Refrigeration
- Ventilation

Installed systems

- > VRV Heat Recovery
- > Roundflow cassette
- > Slim ducted fan coil
- > Concealed ceiling unit
- > Floor mounted cased
- > Simplified controller
- > ITM
- > VAM heat exchanger



"There was no negative feedback at all from guests in the rest of the hotel during the summer."

The remaining 'old' rooms were programmed for upgrade – in three phases to minimise impact on the hotel's capacity – between September 2018 and January 2019. Working alongside other trades involved in the project, DCS engineers installed the refrigerant piping, branch selector boxes, fan coil units and room controllers.

Martin Ball, contracts manager at Daikin D1+ Premium Partner DCS, says the final phase adds two more Daikin VRV IV condensing units to the 10 already installed, giving the hotel more than 300hp of air conditioning power.

The heat recovery condensing units are mounted in a line on a large flat roof section above the gym. The units are concealed by pitched roofs on all four sides.

FXDQ-A slim ducted units in the guest rooms are mounted above newly lowered ceilings in the entrance passages. The units are activated by card keys, while simplified room controllers give guests the ability to vary the temperature within preset limits. All rooms have opening windows, so there is no requirement for mechanical ventilation.

Martin Ball says: "The ability to supply a slim 200mm unit to fit a shallow ceiling void in the guest rooms, plus an overall seven-year system warranty were key factors that won this project – and an ongoing maintenance contract – for us and for Daikin."

The public areas and conference rooms have either Roundflow cassettes, FXSQ-A concealed ceiling units with medium static pressure, or ducted units or FXLQ-P floor

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mounted units. Six Daikin VAM 1000 heat recovery units ventilate the large spaces.

Because of space limitation on the ground floor, DCS installed smaller 4-way and 6-way Daikin branch selector boxes. Upstairs, however, the larger 10-way BS boxes were used.

The system as a whole is controlled through a Daikin i-Touch Manager, mounted in the general manager's office, and providing fingertip control of every outdoor and indoor unit to maximise efficiency and ensure that operating costs are kept within limits.

Daikin says its VRV IV heat recovery system is inherently more efficient than a two-pipe system because of lower condensing temperatures. Overall efficiency in hotels and other public buildings can also be increased, especially in spring and autumn, when waste heat from 'warm' rooms can be recovered and transferred economically to 'cold' rooms – or to other applications such as air curtains and domestic hot water systems.

Kit list

Code	Description	No of units
REYQ-T	VRV IV heat recovery condensing unit	12
FXFQ-A	Roundflow cassette	
FXDQ-A	Slim ducted fan coil	140
FXSQ-A	Concealed ceiling unit (medium static)	
FXLQ-P	Floor mounted cased fan coil	
BS-Q-A	Branch selector boxes	
BRC2E52C	Wired simplified remote controller	140
DCM601A51	i-Touch Manager	1
VAM-FB	VAM total heat exchanger	6



Daikin Airconditioning UK Ltd The Heights Brooklands Weybridge Surrey KT13 0NY Tel: 0845 6419000

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