

Halcyon Medical



Strip and rebuild service solves new clinic's rooftop heat recovery need

Development of a new facility within an existing land locked building for a busy central city medical practice provided a unique mix of heating and cooling challenges – but they were no match for the versatility of Daikin VRV IV systems.

Daikin's strip and rebuild service solved a major installation headache for an efficient air conditioning system that recovers waste heat to provide an economical energy source for heating water.

Halcyon Medical is an NHS facility in Birmingham that has moved from cramped accommodation in a 400m² Boots basement to more than 1,000m² in nearby Martineau Place – a modernised retail and commercial complex on Corporation Street.

The clinic has staff of six general practitioners, supported by trainees, medical students, nurses and administrative personnel, who collectively care for more than 12,000 patients. On a typical working day there are about 150 appointments, plus at least as many other patient contacts.

Deputy practice manager Sarah Webster says as Halcyon Medical had outgrown its previous premises, the move was a big step forward, providing a much more pleasant environment for staff and patients.

A Daikin VRV IV Heat Recovery system is at the core of the installation which provides cooling, heating, hot water and ventilation for the new first-floor premises.

The three-pipe heat recovery system offers excellent operating efficiencies, simultaneous cooling and heating if needed, and the facility for waste heat to be economically re-used as hot water.

For Halcyon Medical, these benefits are channelled into the production of hot water for both sanitary use and hot water for radiators in clinical areas where there are no air conditioning units. Recovered heat is boosted in three high temperature VRV Hydro boxes and a 200-litre storage cylinder satisfies all hot water requirements with fast recovery times.

Year of installation

> 2019

Project requirements

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

Installed systems

- > VRV Heat Recovery
- > Wall mounted fan coils
- > Roundflow cassettes
- > HT hydrobox
- > DHW cylinder
- > Premium wired controllers
- > ITM



A complication for the installer, Daikin D1 Business Partner, Polar Air Limited, was that the condensing units had to be positioned on top of the Martineau Place tower block – former offices now converted into an apartment hotel – 11 storeys above the clinic and substantially set back from its street frontage.

Polar Air could not simply use a crane to lift the condensers to the roof top, as it would have been difficult to obtain a road closure, as Corporation Street is on the recently extended Midland Metro tram route.

The units had to be taken up the inside of the building using a goods lift, but the final staircase to the roof was too narrow, so the only option was to use Daikin's strip and rebuild service. The condenser components were carried to the roof and fully reassembled on site by Daikin engineers.

The new condensing units share roof space with nine other Daikin systems – also maintained by Nottingham-based Polar Air – serving the hotel's 168 apartments. Refrigerant pipework for the medical practice runs down through existing risers for some 120 metres, terminating in the clinic's plant room.

Halcyon Medical is served by wall-mounted units in the consulting rooms, treatment rooms and administrative areas, with Round Flow cassettes in larger open areas such as the waiting rooms and general office areas.

Six Daikin VAM ventilation units ensure a continuous supply of fresh air for the practice, which passes through an efficient heat exchanger to ensure that outdoor temperatures place minimal load on the air conditioning systems.

The systems are controlled by premium wired controllers, with overall control through a Daikin Intelligent Touch Manager.

Sarah Webster says:

“In our old premises we had the same air conditioning system as the shop above us. But there was no control, so some people were too hot while others were too cold.

“Now we have complete control of our environment, with controllers in each area – so we should have much happier patients and staff. We also have some natural light, which is much appreciated.

“Previously, air conditioning was part of the rent, so we can't really make any comparisons with the Daikin system. But we are confident that with the inherent efficiency of the system, sensible usage and good maintenance, we will get good value for our money over many years to come.”

Code	Description	No of units
REYQ-T	VRV IV heat recovery condensing unit	3
BS-Q14AV1B	Multi branch selector box	3
FXAQ-A	VRV Fan Coil → wall mounted	34
HXHD-A8	VRV high temperature Hydrobox	3
EKUHWHTB	Stainless steel DHW cylinder	1
BRC1E53A	Premium wired controller	22
FXFQ-A	Roundflow cassette	2
DCM601A51	Intelligent Touch Manager	1
DMS502A51	Bacnet Gateway Interface	1
VAM-J	Ventilation unit	6

