

# St Georges, Kew



## Daikin's on 'Kew' for comfort cooling at riverside apartments

Apartment owners in a luxury development overlooking the Thames at Kew Bridge can look forward to cool comfort through future summers, thanks to Daikin air conditioning systems, in partnership with Marlow Air Conditioning Services Ltd.

Nine separate Daikin VRV IV systems have been installed for developer St George – part of the Berkeley Homes Group – in Block D, the fourth and final phase of the 308-unit Kew Bridge project. Block D consists of Quayside House (71 apartments) and Kew Wharf (29 apartments).

This follows a similar Daikin VRV IV installation in the third phase of the development. Systems for both phases were installed by Marlow Air Conditioning Services, a Daikin D1 installer. Project Manager for Marlow, Andy Brown says comfort cooling is installed to offset solar gain in all the Kew Wharf apartments and 50 of the Quayside House apartments with south and west aspects – and views over the river towards Kew Palace and the Royal Botanic Gardens.

With a combined total nominal cooling output of 717.8kW, the nine Block D systems consist of 18 VRV IV heat pumps from 8hp to 20hp, arranged singly or in groups of two and three to meet the design cooling loads of the apartments they serve. There are three clusters of units, each delivering its combined output via one of three mechanical risers serving the two buildings.

The Daikin heat pumps are installed in a secure area against the west wall of the basement car park. Clive Owen, senior engineer from consultants DSSR, says the units are cooled by air that enters via the car park ramp. "Once the air has passed through the units, it is discharged through above ground louvres that are concealed within the landscaping features," he says.

Although the units are built to provide cooling or heating, and feature continuous heating during defrost, in this installation the heating facility is locked out of service as all the apartments are heated by underfloor systems, fed by heat interface units connected to a central energy centre housing gas boilers and a CHP unit.

### Year of installation

› 2016

### Project requirements

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

### Installed systems

- › VRV Heat Recovery
- › Ducted Fan Coil Units
- › Concealed Floor Standing Unit
- › ITM



Depending on the footprint, apartments have between two and five Daikin fan coil units. To meet the developers' requirement for an 'out of sight' air conditioning solution, all the fan coil units are from the slim ducted range which offers models from 1.7-7.1kW nominal cooling.

The 200mm high compact units are installed above an area of dropped ceiling – typically in a passageway – and deliver cooled air either directly or through ductwork to grilles at ceiling height, but concealed by architectural detailing. Clive Owen says: "We call it a ski-slope discharge – it's effectively a plasterboard upstand, creating a narrow slot just under the ceiling."

Fresh air is delivered to the rear of the fan coil units – and the apartment as a whole – via a third party heat recovery ventilation system, operating continuously. The Daikin fan coil units are individually controlled by hand-held Infra-red remote controllers, with sensors mounted out of sight in the ceiling detail near the concealed air outlet grilles.

Daikin's new vertical chassis fan coil units have been installed to cool the access corridors on all floors. These floor-standing units are discreetly boxed to match the surrounding décor.

Overall control of the Daikin VRV IV systems is via iTouch Managers, with Power Proportional Distribution software and Bacnet gateway interfaces to the Building Management System. This facilitates accurate metering and billing, based on each apartment's energy usage.

Corvina Johnson, building services project manager for St George, says:

"Our company ethos involves delivering increasingly high technical standards in our developments. We have worked closely with the engineers, installers and Daikin to secure cooling systems set to achieve new highs in operational and administrative efficiency in Block D."

Marlow Air Conditioning was established in 2003 and offers full installation and maintenance services for residential and commercial systems.

Code	Description	No of units
RYYQ-T	VRV IV Condenser units (single)	2
RYMQ-T	VRV IV Condenser units (multi)	16
FXDQ-A	VRV fan coil – slim concealed ceiling	263
FXNQ-A	VRV fan coil – concealed floor standing	31
BRC1E52A	Infra-red remote controllers	294
DCM601A51	Intelligent Touch Manager	9
DMS502A51	Bacnet Gateway Interface	9

