



Citadines Hotel, Trafalgar



New chiller takes the heat off London apartment hotel guests

Prompted by uncomfortable indoor conditions during a summer heatwave, a central London apartment hotel's inefficient and ageing rooftop chiller was replaced by a high efficiency Daikin unit with a smaller footprint and opportunities for cloud-based monitoring and control.

Citadines Trafalgar Square has 187 apartments, which are air conditioned by fan coil units with cooling and heating coils. These are served by independent hot and cold water circuits, dating from the historic six-storey Northumberland Avenue building's conversion from offices in the 1990s.

The heat of summer 2018 proved too much for the old chiller, sparking the decision to replace it with new technology.

Maintenance manager Ray Klova says: "The chiller was definitely at the end of its lifespan, so we approached Direct Cooling Services who had installed various Daikin solutions at some of our other properties.

"We were impressed by the specifications of the Daikin EWAQ chiller and its extended warranty. It was the best option for our needs. We are now ready for the next heatwave."

The chillers were switched in winter, so there was no further inconvenience to Citadines guests. The old unit was removed and the Daikin unit craned into position during a brief two-hour weekend closure of Craven Street, at the rear of the V-shaped building.

Direct Cooling's Nick Weymouth says: "Installation of the new chiller was a timely opportunity to flush out the cold water circuit and each of the fan coil units to improve the cooling performance even further."

The 400kW Daikin EWAQ high-efficiency chiller was chosen to optimise energy efficiency while also minimising operating costs and environmental impact. The unit features high efficiency hermetic multi-scroll compressors, enhanced condenser coil surface area and plate-to-plate evaporator with reduced pressure drops and low refrigerant charge.

Year of installation

› 2019

Project requirements

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

Installed systems

› Air-cooled Chiller



Ray Klova, Maintenance Manager

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Kit list

Code	Description	No of units
EWAQ-F-	Air cooled chiller	1

A latest generation MicroTech III controller provides monitoring and control functions required for an efficient and trouble free operation of the chiller. Software with predictive logic selects the most energy efficient combination of compressor load and electronic expansion valve position to maintain stable operating conditions and maximise chiller efficiency and reliability.

Citadines Trafalgar Square is at 18-21 Northumberland Avenue, and is one of four Citadines sites in London operated by international Apart'hotel specialist The Ascott Limited, a member of CapitaLand. The group has more than 73,000 units and 500 properties, in more than 130 cities across 30 countries.

The Trafalgar Square property's gross floor area of 10,903m² accommodates a mix of 25m² studio apartments, 39m² one bedroom units, and 70m² two bedroom units.

The present building, designed by Sir Herbert Baker and A.T.Scott, was built in 1935 for the Royal Empire Society – a forerunner of today's Royal Commonwealth Society – to replace smaller premises the Society had occupied on part of the site since 1885.

The foundation stone that remains at the entrance was laid by 'Edward Prince of Wales, in the 25th year of the reign of King George V'. The building was twice hit by high explosive bombs in 1941. The building was converted when the Society was facing financial problems. The Society now operates from Commonwealth House.



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