

Iconic Leicester Square refurb has energy efficiency at its heart

Air Conditioning



A landmark central London building has been given a new lease of life with the help of an energy efficient, heat-recovery air conditioning system.

The £40m scheme at the building at 48 Leicester Square was designed by Make Architects. It provides retail space at ground level and seven floors totalling 90,000ft² of office space in a redevelopment of the whole block.

Building Services consultant Hilson Moran worked with Mechanical main contractor Designer Group Ltd and air conditioning installer Aspen to fit Mitsubishi Electric's City Multi VRF system to provide energy efficient heating and cooling to the different zones on each of the eight floors.

The Grade II listed façade was retained while everything behind the 300-year-old frontage was demolished, with the new build completed in just 90 weeks by Brookfield Multiplex. It is topped by an eye-catching bladed roof, which makes it the tallest building in the square.

Project manager for Aspen, Tony Barlow, says: "Speed of installation was key to adhere to the programme set out by builder Brookfield Multiplex.

We had three to four weeks to completely install the air conditioning on each floor. That equated to more than 52 fan coil units piped, wired and gravity drained each month, whilst maintaining the best possible quality of installation.

"This is one of the advantages of using the City Multi system because in addition to complete design flexibility it could be installed in phases around the refurbishment."

With a high-end finish paramount to the installation, Aspen ticked every box in the eyes of the client, who reported that it was one of the best quality installations they had seen in years.

Aspen will also maintain the equipment for ten years, which, on top of the seven-year warranty offered by Mitsubishi Electric, gives the client complete peace of mind.



A total of 16 AE-200 touch screen centralised controllers have gone in to oversee the system, with each controller able to monitor up to 50 indoor units.

In the back of house areas four ducted indoor units have been installed in the basement level alongside two ceiling cassettes. The ground floor is fitted with six concealed floor standing units, providing simple, effective air conditioning in perimeter zones.

These units are easy to install and at only 220mm deep they offer an unobtrusive method of delivering highly efficient air-conditioning performance. The seven storeys above have all had ducted indoor units installed.

Buildings such as 48 Leicester Square London require cooling in some areas and heating in others, even in adjacent rooms. The City Multi system, with sizes ranging from 22 to 101kW, meets this requirement by distributing surplus heat from cooling operations (and vice versa) to rooms where it is needed. This efficiency can result in energy savings of up to 30% over conventional systems.

Ian Armstrong at Hilson Moran knew all about the City Multi system and was confident that it would offer the high levels of performance and efficiency required. He comments: "The Mitsubishi Electric system was chosen with BREEAM Excellent standards in mind. This was an eco-friendly project that required an energy efficient air conditioning system to match."

Mitsubishi Electric's Procon MelcoBEMS has also been installed on the project, providing an interface between the building management system and Mitsubishi Electric equipment via Modbus or BACnet protocol.



Installation Summary

CITY MULTI | CONTROLS

Outdoor Units:

- 28 x Outdoor condensing unit (PURY-P200YJM-A)



PURY-P200YJM-A

Indoor Units:

- 70 x Ducted indoor units (PEFY-P50VMA)
- 88 x Ducted indoor units (PEFY-P32VMA)
- 99 x Ducted indoor units (PEFY-P40VMA)
- 5 x Floor standing concealed indoor units (PFFY-P63VLRMM-E)
- 2 x Ceiling cassette (PLFY-P50VBM)
- 28 x BC Controller



PEFY-P32-50VMA



PFFY-P63VLRMM-E



PLFY-P50VBM

Controls:

- 92 x Individual zone controllers (PAR-31MAA)
- 16 x 10.4" Touchscreen centralised controllers (AE-200E)
- 16 x Procon MelcoBEMS



PAR-31MAA



AE-200E



Procon MelcoBEMS

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Making a World of Difference

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Note: The fuse rating is for guidance only. Please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air-conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A(GWP:2088), R32(GWP:675), R407C (GWP:1774) or R134a (GWP:1430). These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No 626/2011 from IPCC 3rd edition, these are as follows. R410A(GWP:1975), R32(GWP: 550), R407C (GWP:1650) or R134a (GWP:1300).



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