

HVRF offers a perfect blend of comfort and efficiency in luxury apartment conversion

Air Conditioning



When former office space in Trafalgar House was being transformed into stylish apartments, a Hybrid VRF (Variable Refrigerant Flow) air conditioning system ensured complete comfort and absolute compliance.

The unique **Hybrid VRF system** was chosen specifically to ensure Trafalgar House complied with the British and European Standard EN378 (Refrigeration systems and heat pumps - safety and environmental requirements).

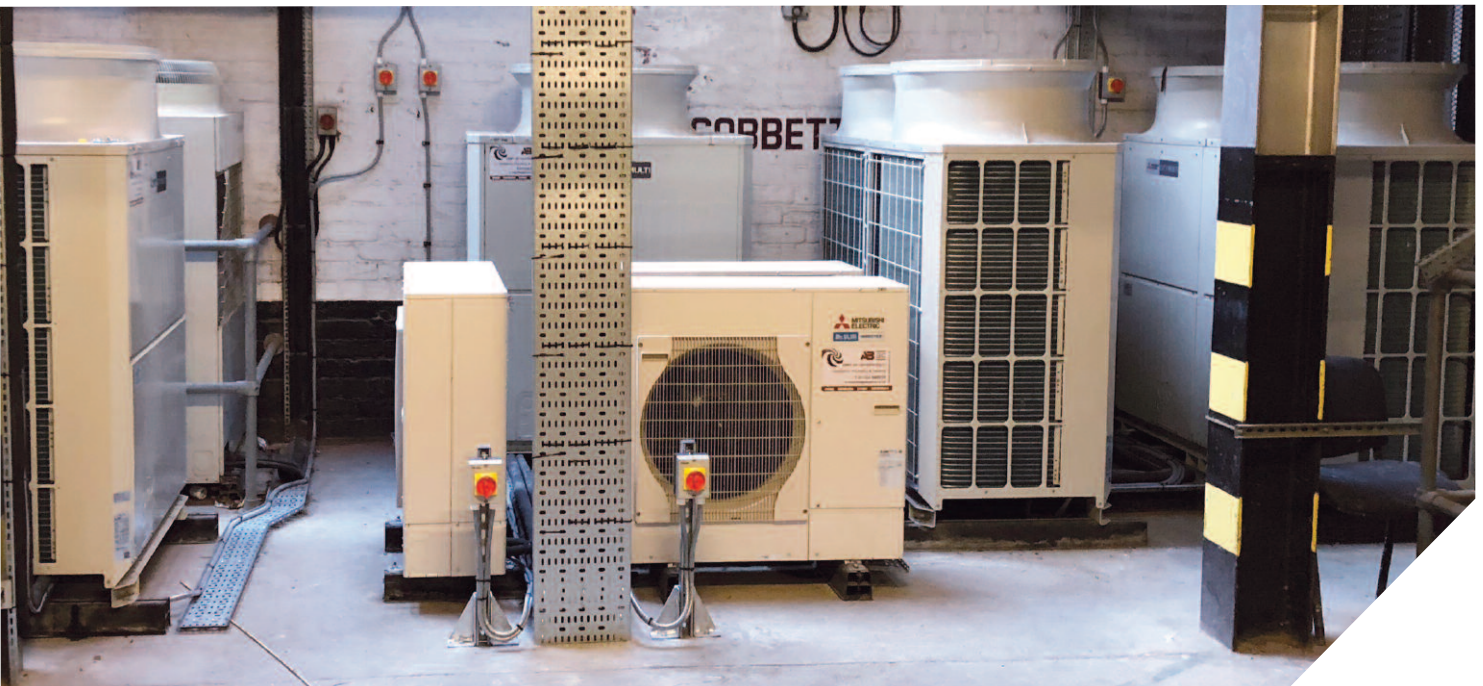
Centrally located within the traditional core of Leeds, Trafalgar House has seen some of its former office space transformed into luxury apartments complete with Mitsubishi Electric's unique Hybrid VRF system.

Abey Air Conditioning were commissioned to install the innovative HVRF system to serve 87 rooms across three floors.

The BS EN378 standard limits the usage of refrigerants in buildings in order to minimise potential risk to occupants that could occur from refrigerant leakage. As the rooms in the conversion were designed to have a small footprint, leak detection equipment would have been required, if a traditional VRF system had been installed.

One of the key advantages in choosing the HVRF solution is its use of water instead of refrigerant in indoor units, therefore removing the need for leak detection equipment. This equates to lower costs, less risks, simplified maintenance and compliance.

At the heart of the HVRF system is its Hybrid Branch Controller (HBC), which links the outdoor units to the indoor units. Temperature is exchanged between refrigerant and water via two heat plate exchangers within individual units. Whilst refrigerant is contained to pipework between the HBC and outdoor units, water is circulated by energy efficient inverter pumps to the indoor units.



Case Study

“ One of the main challenges when specifying any system is balancing efficiency & legislative requirements with maximum occupant comfort. ”

Michael Abey
Abey Air Conditioning

Trafalgar House, Leeds

Michael Abey of Abey Air Conditioning explains: The Hybrid VRF system offers the perfect solution. Its simplified two pipe system is easy to install and uses less refrigerant and only water in occupied spaces meaning it is both efficient and compliant.

This modern alternative to traditional methods offers a more comfortable environment as well as high off-coil temperatures, which is important in smaller rooms. Individual rooms are easily controlled by remote controllers offering flexibility and control to occupants.”

Controls have an invaluable role to play in creating an energy efficient environment. To enable the whole system to be controlled and monitored from a central location an AE200 controller was installed in Trafalgar House.

The AE200 is a state of the art controller and offers easy to use programming and control of temperature, fan speed and airflow.

The advanced controller also provides comprehensive energy consumption monitoring and comparisons on previous years offering valuable assistance in energy saving.

Trafalgar House is now reaping the benefits of the innovative Hybrid VRF air conditioning system, the advanced technology used ensures the development will be energy efficient and offer maximum occupant comfort now and in the long term.



Installation Summary

CITY MULTI | Mr.SLIM. | CONTROLS

Rooms:

- Outdoor Unit: HVRF R2 Series Standard (2 x 350, 2 x 500)
- Indoor Unit: Ultra Thin Ceiling Concealed Ducted Unit (18 x Size 20, 7 x size 25, 9 x size 32, 6 x size 40)
- Indoor Unit: Floor Standing Concealed Unit (14 x size 20, 6 x size 25, 16 x size 32, 2 x size 40)
- Remote Controller: PAR-32MAA-J
- 1x AE200 Centralised Controller

First floor to third floor corridor:

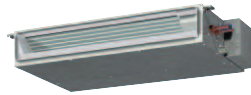
- Outdoor unit: Mr Slim PUHZ-P model (3 x 100)
- Indoor unit: Concealed Ducted Unit (3 x 100)
- Remote controller: PAR32MAA-J



PURY-P350YNW-A



PURY-P500YNW-A



PEFY-WP-VMS1-E



PFFY-WP-VLRMM-E



PUHZ-P100VKA3



PEAD-RP-100-JAQ



PAR-32MAA-J



AE-200E

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Making a World of Difference

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Telephone: 01707 282880

email: air.conditioning@meuk.mee.com web: www.airconditioning.mitsubishielectric.co.uk

UNITED KINGDOM Mitsubishi Electric Europe Living Environmental Systems Division
Travellers Lane, Hatfield, Hertfordshire, AL10 8XB, England General Enquiries Telephone: 01707 282880 Fax: 01707 278881
IRELAND Mitsubishi Electric Europe Westgate Business Park, Ballymount, Dublin 24, Ireland
Telephone: Dublin (01) 419 8800 Fax: Dublin (01) 419 8890 International code: (003531)

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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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