

Housing Association office upgrades to e-series chillers from Mitsubishi Electric following chiller failure

Chillers



e-series

Mitsubishi Electric came to the rescue for a Manchester based Housing Association when the chiller in its main office failed.

Contour Homes, part of the Symphony Housing Group, is one of Manchester's largest registered social landlords with over 12,000 properties under its ownership and management across 23 local authorities.

Contour Homes provide a wide range of services from a number of local offices throughout the North West. Its main office, based on Christie Way, West Didsbury, once belonged to leading pharmaceutical firm AstraZeneca. It comprises offices and meeting rooms and is staffed during office hours.

Contour Homes was looking for a new chiller due to ongoing problems with its old one, as Rob Brierley, Gas Technical Surveyor at Contour Homes, explained: "Our chiller had failed and we had been trying to get it replaced for a number of years due to complaints from staff. The offices often overheated during the summer and it wasn't a good working environment. The existing chiller system eventually failed in September 2017, so when funds became available a new chiller system was a high priority."

Three Mitsubishi Electric **EAHV-P900YA-N e-series heat pump chillers** were installed by Preston based GOS Mechanical & Electrical Ltd, a company with years of experience in providing mechanical, plumbing and boiler services throughout Preston and Lancashire.

Chiller systems have been used for decades to deliver controlled cooling to buildings, but with increasing pressure on energy efficiency and running costs, Mitsubishi Electric's e-series modular chiller provides a low-carbon, cost-effective option.

Cooling is one of the main contributors to energy usage in buildings, so Contour Homes' new system had to be energy efficient to help the building comply with modern efficiency requirements, such as the Minimum Energy Performance Standard, which came into force on 1st April 2018.

e-series



The e-series modular chiller has two inverter driven compressors that allow the unit to operate between 8% - 100% of capacity.

By having a broad operating range the e-series has exceptional part load efficiencies which is where most systems will operate.

e-series

As well as the efficiency benefits, there were other factors to be taken in to account before a new chiller system could be installed. One problem with the old system was the level of noise it created. Employers have a duty of care to ensure their workers are not exposed to excessive noise. Prolonged exposure to noise can lead to gradual hearing loss, so a much quieter system was sought for this project. By utilising highly efficient components within a uniquely shaped chiller, the e-series offers low noise levels.

Another potential issue was the fact the existing plant space is extremely tight, making access to the area very difficult. Interruption to office opening hours and staff activity also had to be kept to a minimum.

The e-series' unique modular approach allows up to six individual units to be connected together to provide a system capacity from 90kW to 540kW. Using this modular approach reduces space requirements and simplifies lifting and installation.

GOS Mechanical & Electrical Ltd completed the installation between October 2017 and December 2017. Peter Jackson, Managing Director at GOS Mechanical & Electrical Ltd, believes the choice of chiller played a key role in ensuring a straightforward installation. He said: "The e-series chiller was a sensible choice as it was available immediately. The only concern we had was the tight working space, but the flexibility of Mitsubishi Electric's modular approach meant it could be easily manoeuvred into position."

Contour Homes is delighted with the new system, which provides the office building with a cooling capacity of 270kW. Rob Brierley at Contour Homes concluded: "**Mitsubishi Electric has provided us with a modern, reliable and energy efficient chiller that I'm sure will prove to be a great investment in the long term.**"



Installation Summary

Equipment:

- 3 x EAHV-P900YA-N e-series heat pump chillers



EAHV-P900YA-N

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4



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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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