MITSUBISHI ELECTRIC

Case Study

CLIMAVENETA
SUSTAINABLE COMFORT

Prokool equips leading packaging producer with energy-efficient and cost-saving cooling

A leading producer of containers for food, beverages and household goods is benefiting from installing five Mitsubishi Electric Climavaneta air-cooled chillers at its production facility in Leeds.

The new chillers provide greater efficiency, lower noise levels, and huge cost savings that could equate to up to **£40,000 per year** compared to the previous system.

Esterform's Leeds-based factory had previously used seven chillers to cool the site. When they were reaching the end of life, the company turned to Prokool, an M&E Contractor who work with the Mitsubishi Electric M&E sales team, to support the move to a more environmentally friendly and energy-saving cooling alternative.

Five Mitsubishi Electric **NX2 4 Compressor air cooled chillers** sized at 350kW cooling capacity were specified by Prokool to be installed on the roof of the building. Designed to deliver the best efficiency in comfort applications, each chiller has four scroll compressors and is available with lower GWP R454b refrigerant. The units also provide perfect acoustic well-being, operating at 1 to 2dBA quieter than previous 'low noise' versions.

When recommending the new chillers, Prokool calculated that the old chiller units had an average power consumption of 232 kW and annual electrical requirements reaching 1,948,800 kWh per year, resulting in an annual electric cost of £253,334.

Comparing this against the new chillers from Mitsubishi Electric, Esterform will now be able to save up to £40,000 a year in electrical costs.

David Gawthrope at Prokool explained, **“The new Mitsubishi Electric chillers use microchannel condensers and lower refrigerant R454B scroll compressors, both of which operate more efficiently than the technology in the previous chillers. As a result, Esterform will be able to bring down the electrical costs over time, which is a great benefit for the company”**.

With Prokool’s expertise in chilled water engineering, the company was able to conduct a full removal of the previous chillers, as well as positioning the new units from Mitsubishi Electric onto the building’s roof. They also modified steelwork and pipework and carried out the safe de-gassing of the old chillers per F-Gas regulations.

In addition to saving energy, Esterform has also boosted the capacity of its machinery since the new chillers were installed. Craig Alsop at Esterform explained, **“Since installing the new chillers from Mitsubishi Electric, we have been able to increase the usage of our injection moulding machines because they can chill the water down to a lower temperature than the previous units. This means that we are now more productive as a business as well as cutting energy costs”.**

By reducing the number of pumps running, Esterform has also benefited from a saving on pump energy. Before the installation, each buffer tank had two chillers and two pumps and was used to store water to accommodate peak loads and support a variable cooling demand. Now, each tank uses just one new Mitsubishi Electric chiller and one pump. There is a 234.2 kW difference in power consumption from the old chillers compared to the new units, - **leading to huge energy savings.**

Click here for more information about Mitsubishi Electric’s chiller range

Case Study

Esterform
Leeds, UK

Installation Summary

Outdoor Units:

X 5
NX2 4 Compressor
R454B Air Cooled Chillers

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MITSUBISHI ELECTRIC
Changes for the Better

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Note: Refer to 'Installation Manual' and 'Instruction Book' for further 'Technical Information'. The fuse rating is for guidance only and 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), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R1234ze (GWP:7) or R1234yf (GWP:4). *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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Green Gateway greengateway.mitsubishielectric.co.uk