



Musgrave Group, Ireland

Irish food giant puts Daikin all-in-one solution to the test

Managing consumption is a key concern for the grocery market, traditionally one of the largest users of energy. For the Musgrave Group, Daikin's Conveni-Pack offered the solution, saving on space and running costs, while offering the necessary scalability required to satisfy demanding refrigeration and in-store comfort needs.

Maintaining a low carbon footprint is an important driver for Irish food wholesaler, the Musgrave Group. When it came to sourcing a heating, cooling and refrigeration solution for the Dublin branch of SuperValu, one of its premier retail partnership brands, a key objective was to find the most cost-effective system that met the Group's energy goals.

The design needed to take into account not only the comfort needs of customers during warm and cold

seasons, but also the running costs in supporting the high demand for refrigeration in the 1,504 square metre store.

With its proven savings and modular design Daikin's Conveni-Pack/ZEAS system was the ideal choice to replace the existing gas boiler-based legacy solution.

Unique all-in-one system

The unique Conveni-Pack system offers an all-in-one space-saving solution, using the latest controls and inverter technology in order to maximize energy efficiency, reducing energy consumption and CO₂ emissions.

Designed for supermarkets and smaller shops, the single compact unit integrates high and low temperature refrigeration, air conditioning and

heating in one system. Inverter-driven fans together with the optimal design of the blades and grilles and an optional night operation mode offer improved acoustics to provide an exceptionally low noise system suitable for busy urban areas.

Equally significant the Conveni-Pack offers cooling as well as a heating option, which makes the unit versatile whatever the season. Combined with the single system unit replacement an 80% saving in plant space requirements was achieved at the SuperValu store.

The ZEAS condensing units complement the Conveni-Pack by providing the perfect solution for applications with fluctuating loads and high energy efficiency requirements such as supermarkets. Thanks to speed control for different power demands depending on the requirements of the operator, utilisation of VRV technology for refrigeration and freezing applications allows for a flexible system design with the highest level of energy efficiency with precise control.

"The brief from Musgrave was to design the most cost effective energy system to meet their energy expectations. Our aim was to show Musgrave the benefits of choosing the Conveni-Pack compared to traditional systems. Our design took into account the comfort needs for their customers during cold and warm seasons, but also the running costs for the high demand of refrigeration both for both medium and low temperatures. I think the figures speak for themselves," says Liam Kirwan, Project



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*Independently monitored by Cylon Active Energy, Dublin

manager, Daikin Ireland.

A single low temperature refrigeration unit was installed along with three medium temperature heat pumps. In addition to serving all refrigeration applications, the system is connected to a wide range of air conditioning indoor units to service all shopfloor heating and cooling requirements. The integral heat recovery technology extracts heat from the refrigeration display cabinets or evaporators, which is re-used for heating the shop comfortably at no extra cost. The system offers a maximum heating capacity of 37.5 kW and an air conditioning cooling capacity of 14.34 kW (adjusted for legacy piping length).

What a difference a year makes

The Dublin store trial has proved hugely successful. Independent tests* revealed a halving of energy consumption in comparison with the legacy system, running over the same period the previous year and taking into account free heat running for 26 weeks over the year. According to Pat Reynolds, Energy Manager at Musgrave Operating Partners Ireland: "The Daikin system is expected to deliver dramatic reductions of 50-60% in our energy needs."

One stop shop

Daikin's innovative design with its flexibility and excellence in circuit design is supported by a team of in-house technical experts, who support businesses and installers to deliver comfort solutions tailored to their individual environments and usage.



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