

## MORE STAR TREATMENT FOR TESCO

Star Refrigeration has completed the installation of a new, high efficiency refrigeration plant for Tesco, at its brand new distribution centre in Scotland.

Star designed the energy efficient refrigeration system for Tesco's new temperature controlled facility at Livingston, West Lothian. With a floorspace of one million sq ft, the state-of-the-art building is one of the largest multi-temperature retail distribution centre in Europe.

Tesco's refrigeration brief for the Livingston facility was to design and install a high efficiency cooling plant, operating on natural, environmentally conscious refrigerant. As preferred supplier for Tesco distribution refrigeration systems, Star worked in conjunction the project team to deliver a cooling solution that provides state of the art carbon reducing technology and control.

Star's cooling solution for the Livingston site comprised a two stage pumped circulation ammonia plant. The system operates on natural ammonia refrigerant and is highly energy efficient.

The refrigeration plant provides cooling for a low temperature freezer and two chill areas within the temperature controlled storage and distribution facility.

Energy saving design features include floating head and suction pressure, integral compressor and cooler control, defrost on demand, heat recovery and inverter driven compressor and condenser fan motors. A heat recovery system has also been installed to provide winter heating for an ambient warehouse on site. These features provide Tesco with an annual running cost saving of over £170k.

The refrigeration plant is located in a purpose built Energy Centre, where space constraints meant Star designed the bespoke system with vertical surge drums. The plant has 3.5MW of chill capacity and 1.2MW of freezer capacity.



**Chill store vertical surge drums, designed to meet space constraints in the site's purpose built Energy Centre.**

The plant features six Star-built screw compressor packages, with variable speed drives and high efficiency drive motors. It also features two BAC CXV-D evaporative condensers, the first of their type to be installed on a refrigeration plant in the UK. The plant has low and high temperature surge drums, 20 evaporators and two ambient heaters.



Star built low stage screw compressors, including variable speed drive on the far end compressor.

Star's patented TELSTAR computerised control system ensures optimum performance and efficiency. Star-owned mechanical and electrical contractor Penec was responsible for the installation of electrical panels. Local maintenance support is provided by Star's Bellshill branch.

Star Refrigeration Sales Director Rob Lamb says; "The Livingston project is the latest cutting edge cooling solution designed by Star to ensure the efficiency of Tesco's frozen and chilled operation. We have worked in close partnership with Tesco for over 20 years to increase energy efficiency and reduce carbon footprint."

In 2007 Star completed a six-year programme to phase out HCFC refrigerant R22 from Tesco's UK distribution centre refrigeration systems. Star currently provides refrigeration maintenance support to all of Tesco's UK temperature controlled distribution sites. It is working in partnership with Tesco to reduce energy consumption across these sites and on future projects.

Star Refrigeration is the UK's largest independent industrial refrigeration engineering company. Star focuses on the design, manufacture, installation, commissioning and maintenance of industrial refrigeration systems. The company offers a turnkey package to all users of refrigeration plant.

Star's technical advisory arm, Star Technical Solutions (STS), operates as an independent consultancy providing advice on refrigeration engineering issues. Star also owns food freezing and chilling equipment specialist Starfrost, as well as mechanical and electrical contractors Penec.

Established in Glasgow in 1970, Star has over 250 employees nationwide and provides fast response 24-hour technical support from a network of nine branches to customers throughout the UK.

				
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