

CASE STUDY: Supply Chain Specialist

PROJECT: Dual temperature cooling system

STAR RISES TO THE CHALLENGE OF FALLING TEMPERATURES AT DISTRIBUTION CENTRE

Customer:	Supply Chain Specialist
Location:	Hertfordshire
Equipment:	Two-stage pumped circulation Ammonia plant
Refrigerant:	NH₃
Capacity	2,224kW
Temperature	- 25°C Frozen; - 6°C Chill

Star Refrigeration has supplied a dual temperature cooling system as part of a warehouse conversion project for a leading European supply chain specialist.

The logistics provider was looking to convert an existing empty warehouse at its site in Hertfordshire into a temperature controlled food and beverage storage and distribution facility. The client required an energy efficient cooling system for cold and chill stores within the building, using environmentally conscious natural refrigerants.

Working on behalf of the building contractor, Star supplied a bespoke ammonia refrigeration plant to meet both frozen and chill requirements within the new facility. Star completed the fast track project in less than six months from order placement.

A world leader in cooling and heating system innovation, Star designed, built, installed and

commissioned a two-stage pumped circulation ammonia refrigeration plant for the facility. Located in a plant room adjacent to the warehouse building, the system has an overall capacity of 2,224kW including cooling for the cold store, chill store and loading bay areas.



The existing ambient warehouse was fitted out with a 9,000 sq m frozen chamber operating at minus 25 degrees centigrade and a 5,000 sq m chill chamber operating at plus 2 degrees centigrade. Cooling is delivered to the chambers via evaporators located along one wall of the facility. These discharge air 120 metres across the store towards the vehicle loading docks.

Star Refrigeration's Director of Sales – Food Market, James Ward says: "This project confirms our continued ability to deliver innovative bespoke solutions to exactly match customer requirements. The plant provides optimum efficiency and uses an environmentally benign refrigerant in terms of global warming and ozone depletion."

The refrigeration plant features two low stage, two high stage and one 'swing' screw compressor, low temperature and high temperature surge drums and two evaporative condensers. Star's Telstar PLC computerised control system ensures optimum performance, with HMI touch screen interface.

Star's energy efficient design package includes high efficiency compressor drive motors, **Aether** condenser fan inverter controller and intelligent compressor/cooler controls. Star also provided underfloor heating for the frozen chamber with oil circuit heat recovery. In addition, Star designed and installed a rainwater harvesting system for the evaporative condensers, making use of an existing water storage tank.

When it comes to designing energy efficient cooling and heating systems, Star is a natural innovator. Star works with strategic partners across the globe to deliver low carbon, cost saving solutions.

For more information, phone Star Refrigeration on 0141 638 7916, email star@star-ref.co.uk or visit www.star-ref.co.uk. Star Refrigeration, Thornliebank Industrial Estate, Glasgow G46 8JW.

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