

Cool move for Northern Foods

Cooling specialist Star Refrigeration has completed a plant relocation and refurbishment project for one of the UK's leading food producers, Northern Foods.

Northern Foods produces own label and branded convenience foods for major retailers. With production facilities across the UK and Eire, the company specialises in frozen, chilled and bakery products including ready meals, pastry products, snacks and pizza.

In 2005 Northern Foods was looking to transfer production of chilled savoury products from a site in Evesham, Worcestershire, to its Palethorpes production facility in Shropshire. Existing processing equipment including a Starfrost spiral chiller and associated refrigeration plant was required to be relocated to a new factory extension at the Palethorpes facility in Market Drayton.

Freezing and chilling equipment manufacturer Starfrost was called in to undertake this project for Northern Foods. Starfrost's project team worked in conjunction with engineers from Star Refrigeration, a key supplier of cooling solutions for the UK food industry. The project demonstrate another successful joint venture for the two firms, since Starfrost was acquired by Star in 2004.

Star's first task involved decommissioning and dismantling the 250kW refrigeration plant on site at Evesham. The plant comprised two reciprocating compressors (run and standby), an evaporative condenser complete with water treatment equipment, plus high and low side vessels and electrical panels.

The refrigeration components were then transported over 80 miles to a brand new purpose built plant room at the Palethorpes facility. The plant was reconstructed, tested and commissioned

by Star engineers, before being cleaned and painted. New aluminium clad insulated pipework helped complete the transformation of the refurbished plant.

The Starfrost Helix Spiral chiller had been in operation at the Evesham site for a number of years. The overall performance and condition of the chiller was deemed excellent and the machine only required minor refurbishment. Technical changes to the configuration of the system were required due to the layout of the new production line at Palethorpes. The direction of rotation within the chiller was reversed and the number of spiraling tiers was adjusted by Starfrost engineers.

The installation of the chiller at Palethorpes was concurrent with the relocation and refurbishment of the refrigeration plant. This helped to ensure that connection, testing, commissioning and handover were completed on time and on budget.

R22 REPLACEMENT

Prior to relocation, the plant operated on the R22 gas refrigerant. Due to the current phase out programme, Star took the opportunity to replace R22 with ISCEON MO79, a modern 'drop-in' gas refrigerant. Developed by Star and a chemical company R-422A removes the need for expensive system flushing and requires minimal plant modifications. The new refrigerant has also improved the performance of the plant's compressor.

ISCEON MO79 is popular in a number of applications where R22 was previously used, most notably lower temperature applications and has been used by others in food processing and storage applications as well some supermarket applications. ISCEON MO79 can be used to replace R22, R408A and other such R22 containing blends in existing systems and in most cases the existing oil type can continue to be used. ISCEON MO79 has the added benefit of giving lower discharge temperatures, whilst at lower temperatures the improved capacity and energy efficiency is a major benefit.

IDS Refrigeration is an authorised distributor of ISCEON series refrigerants. "We are seeing increasing numbers change their refrigeration and air conditioning systems away from HCFCs to one of the DuPont ISCEON 9 series, confirmed Mel Bridges, IDS Managing Director. "The ease of conversion is one reason but those doing so are seeing other benefits and keeping their equipment 2010 compliant."

The refurbished refrigeration plant at Northern Foods' Palethorpes facility in Shropshire.

