

CASE STUDY: James T Blakeman

PROJECT: Helix Spiral Freezer

James T Blakeman & Co new spiral freezer system

Customer:	James T Blakeman
Equipment:	Helix Spiral Freezer
Refrigerant:	R449A
Capacity	50 kW
Temperature	-18°C

Star Refrigeration and its group business, Starfrost have successfully worked in collaboration to install a new Helix Spiral freezer at James T Blakeman's Millennium Way production facility in Newcastle-under-Lyme. Star delivered a cost-effective, energy-efficient and future proof turnkey refrigeration solution to an extremely tight deadline and within budget.

James T Blakeman Group is a leading manufacturer of sausage and meat products, distributing 14,000 tonnes of products per year to clients both in the UK and internationally. Enjoying an annual turnover of £39 million, James T Blakeman & Co have built up an excellent reputation for consistently-high quality products over six decades in the industry.

An imminent increase in product demand meant that James T Blakeman required a new spiral freezer unit and accompanying refrigeration system in order to facilitate an extension of their production capacity.

The project presented a number of challenges. Firstly, the new freezer installation was only one part of a wider upgrade to the entire facility. Secondly, with Christmas on the horizon and new orders to fulfil,

James T Blakeman & Co specified that the cooling equipment need to be installed, commissioned and ready to use within 18 weeks. The manufacturer of the famous 'Supreme Sausage' also required production to be operational for 20 hours per day, leaving only a four-hour window for defrosting the freezer to ensure its coil are kept clear from ice build-up. Finally, there wasn't enough water onsite to allow water defrosting.



The customer's strong commitment to health and safety determined that Star were to provide onsite support through the secondment of Leeds branch project manager, Luke Walsh, who was based at the Millennium Way site for the duration of the works in order to ensure successful completion of the project.

Spiral freezer connected to R449A refrigeration system

Star designed a bespoke solution that used all of their industry experience to deliver the best viable

refrigeration solution for the customer. Benefiting from Starfrost's niche expertise in freezing and chilling for the global food processing sector, Star provided a 50kW Helix Spiral freezer and refrigeration solution. The combined technology is capable of meeting James T Blakeman & Co's specifications of variable freezing between 10°C and -18°C with a retention time of 30 minutes, allowing for optimum flexibility. The system uses refrigerant R449A which has a global warming potential (GWP) of 1,397 – well below the upper legal threshold of 2,500- and offers a cost effective, efficient and low GWP alternative that will ensure the plant remains operational for many years to come.

Variable speed EC condenser fans were selected to reduce energy consumption during periods of lower ambient temperatures and to ensure smoother and more stable plant control. The plant also incorporates electronic expansion valves (EEVs) in order to allow the condenser pressure to vary and guarantee optimised performance all year round. To overcome the defrost challenge, Star used their patented four-way valve technology to deliver a reverse cycle defrost, ensuring that the system would be operational for 20 hours a day.

Philip Blakeman, Director of James T Blakeman & Co, said, "We were impressed with the quality of the service Star could provide. Their ability to offer a competitive turnkey solution which covered all the bases, alongside the onsite expertise of Luke, gave us

peace of mind and allow us to continue to focus on our business operations".

As the project progressed, Star's Manchester branch undertook additional responsibility for the supply, installation and commissioning of two new refrigeration systems at the production hall and loading dock areas within the factory extension. Star also assumed the role of principle contractor and designer to provide a new dehumidification system for the coldstore roof void to tackle the build up of moisture found on the insulated panels.

Brian Littleton, Head of Projects at James T Blakeman & Co, said, "From their initial advice and expertise in designing a completely brand-new system, to the rapid installation and capability to take on additional work to ensure the project was successfully delivered, Star Refrigeration have provided an excellent service.

"The team at Star have once again demonstrated their ability to go above and beyond our expectations and will now be helping us with the transition of all our existing R404A systems to a more environmentally-friendly alternative as well as taking on the maintenance contract for our site."

 <p>Thornliebank Ind Est Glasgow UK G46 8JW</p> <p>T: +44 (0)141 638 7916 E: star@star-ref.co.uk W: www.star-ref.co.uk</p>	 <p>Thornliebank Ind Est Glasgow UK G46 8JW</p> <p>T: +44 (0)141 638 7916 E: dblackhurst@star-ts.co.uk W: www.star-ts.co.uk</p>	 <p>Wincanton Close Ascot Drive Derby DE24 8NB</p> <p>T: +44 (0)1332 861370 E: info@star-mesolutions.co.uk W: www.star-mesolutions.co.uk</p>	 <p>Thornliebank Ind Est Glasgow UK G46 8JW</p> <p>T: +44 (0)141 638 7916 E: info@i-know.com W: www.i-know.com</p>	 <p>Craftsman's Way Lowestoft Suffolk NR32 3LQ</p> <p>T: +44 (0)1502 562206 E: info@star-frost.co.uk W: www.star-frost.co.uk</p>
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