

CASE STUDY: Blakemans

PROJECT: In-line freezing

TWO STARS UNITE AT SAUSAGE FACTORY

Customer:	James T Blakeman & Co Ltd
Location:	Staffordshire, UK
Equipment:	2 x in-line Helix Spiral freezers 650kW ammonia refrigeration system
Refrigerant:	R717
Benefits:	Total Solution using Star Group products Energy efficient refrigeration plant design using natural refrigerant

Leading UK sausage manufacturer Blakeman's has employed the joint expertise of Starfrost and Star Refrigeration to supply a high efficiency freezing system at its new £4m production facility.

Freezing and chilling technology specialist Starfrost has installed two custom built Helix spiral freezers for raw sausage production at Blakeman's showpiece Staffordshire factory. Starfrost's parent company Star Refrigeration supplied an environmentally responsible plant to provide energy efficient cooling for the new freezing system. Star also installed new cooling systems to supply the factory's storage and processing areas.

James T Blakeman & Co Ltd is one of Europe's leading manufacturers of over 50 sausage and meat products to ready meal, catering and fast food industries. The company has invested in a new industry-leading manufacturing facility to

accommodate increasing orders from customers and double production capacity.

As part of the development programme, Blakeman's was looking to upgrade from a traditional blast freezing process to a fully automated in-line freezing system for a variety of sausage products. Increased energy efficiency, maximum throughput and consistently high quality products were key drivers in sourcing an equipment supplier.



Starfrost's Helix Spiral Freezer

Company Managing Director Philip Blakeman says: "Starfrost was able to supply a bespoke system with a unique air-flow, designed for fast, energy efficient and uniform freezing of different products. Through working together with Star Refrigeration, Starfrost offered a total solution or 'one stop shop' for our freezing requirements, which also met our overall environmental policy."

He adds: "By combining fully qualified staff with the highest quality ingredients and the world's best

equipment, we are now able to produce a consistently high standard of product.”

Starfrost custom designed, built and installed two in-line Helix Spiral freezers for Blakeman’s – a twin and a single belt system. The twin belt system allows two different product lines to be processed simultaneously. It features two 760mm wide conveyor belts, each with 18 tiers spiralling around a single rotating drum. The single belt system features a 37-tier spiral. Each freezer is capable of processing up to 3,000kg/hr of raw sausage products.

Cooling for both freezers is provided by Star Refrigeration’s ammonia pump circulation plant. The plant has a total cooling capacity of 650kW and operates on a high efficiency natural refrigerant to meet Blakeman’s environmentally conscious policy.

It features two screw compressors, one surge drum, evaporative condenser and Star’s Telstar PLC control system, with energy enhancing features to maximise performance. The packaged plant was designed to fit the space restrictions of an existing plant room, with surge drum and condenser located on the roof of the building.

The factory’s processing area also benefited from new food specification cooling equipment. Refrigeration plant designed by Star was coupled to existing equipment relocated from a separate Blakeman’s facility. This ensured a high quality installation, whilst operating within the customer’s budget.

Starfrost’s Helix Spirals have a low tension, flat belt design for ultimate durability and require minimal maintenance. Available with a range of belt sizes and tier heights, the Helix system can be designed to process from 500kg/hr, to capacities over 6,000kg/hr.

Starfrost’s Helix Spiral is suitable for freezing and chilling food that requires medium to long retention times, such as ready meals, poultry, pizzas, potato products, desserts, pastries, and ice-cream. A product specific “Guided Flow” air circulation system that can be vertical, horizontal or a combination of directions, ensures quick and even freezing without excessive air speeds.

Star is the UK’s largest independent industrial refrigeration engineering company. Star focuses on the design, manufacture, installation, commissioning and maintenance of industrial refrigeration systems.

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Case Study: Blakemans **Published:** 01/07/16