

Case Study 490

Spiral Chiller

Pizzas



THE CUSTOMER

Bakkavor Food Group specialise in manufacturing private label prepared foods for the top global grocery retailers and well-known international foodservice operators. With a product range of over 5000 and customer base that includes Tesco, M&S, McDonalds & Pizza Express, Bakkavor are a major player in the food processing industry.

THE REQUIREMENT

The customer required equipment to allow the processing facility in Harrow, Middlesex to increase capacity, due to a growth in demand for their products. Bakkavor were specifically looking to upgrade the pizza processing line of the business.

THE SOLUTION

Starfrost worked alongside the Bakkavor to develop the best IQF (Individual Quick Freeze) solution, ensuring maximum throughput, high efficiency and low energy costs for the customer.

A Helix spiral chiller was custom designed, installed and commissioned, with a processing capacity of 6,400 pizza bases per hour (1,900 kg/hr). The Helix Spiral features a 32inch wide stainless steel conveyor belt around a single rotating stainless steel drum, with 32.5 spiralling tiers.

The bespoke Helix is designed to process 12-inch pizza bases, at a rate of over 100 per minute. The freshly baked product enters the in-line chiller at a temperature of +95 degrees Celsius. Each individual pizza base is then chilled down to +3 degrees Celsius.

THE DESIGN

This project features Starfrost's Frost Removal System (FRS), which allows Bakkaavor to operate the chiller for long run times of up to 120 hours between defrosts. The FRS uses dry compressed air to remove frost from the chiller's evaporator fins during operation, maintaining coil efficiency, without the sequentially defrosting evaporators.

SPIRAL COOLING SOLUTIONS

The Helix spiral's unique IQF airflow design delivers consistent cooling of food products for optimum product quality and maximum system performance. The design and construction enables modification of conveyor belt tiers and tier pitch to suit future developments and expansion plans.

