

## STAR'S COOL PERFORMANCE NETS A 25% ENERGY SAVINGS FOR SEAFOOD FIRM

Location:	Fraserburgh
Equipment:	2 x Screw compressor PU 1 x Surge drum Evaporators
Refrigerant:	R717
Capacity	460kW
Temperature	- 25°C Coldstore - 40°C Freezing Tunnel - 35°C Blast freezer

A Scottish seafood processor has cut over 25% from its annual energy bill by investing in a high efficiency cooling system from Star Refrigeration. well as enforcing the safety of staff and site visitors.



Braehead (SFO Enterprises) is a seafood processing company run by the Scottish Fishermen's Organisation (SFO). The firm operates a large processing facility in the coastal town of Fraserburgh in Aberdeenshire, NE Scotland.

Braehead (SFO Enterprises) is a key producer of high quality whole Scottish langoustine, landed by SFO members. The company processes and supplies the fresh and frozen Scottish shellfish to retail and food service markets across Europe.

The company was looking for an energy efficient and environmentally conscious cooling system to replace aging refrigeration plant at its langoustine processing facility in Fraserburgh. The existing plant operated on R22 gas, a HCFC refrigerant with high global warming potential that is currently being phased out by European legislation.

A world leader in cooling and heating system innovation, Glasgow-based Star designed and supplied a bespoke multi-temperature refrigeration plant for Braehead (SFO Enterprises). The plant supplies a total of 460kW of cooling to three cold store chambers, an in-line freezing tunnel and a blast freezer.



Star handled the removal of the existing R22 plant

and installed a single stage economised pumped circulation cooling system, with two Star built compressors and a surge drum/economiser package, all operating on natural ammonia refrigerant. The plant provides 270kW of cooling for the three cold store chambers (-25°C), 190kW for the freezing tunnel (-40°C) and 65kW of cooling for the blast freezer (-35°C).

Star's Operations Director, John Fraser says: "Star secured the contract following a competitive tender process and recommendation from an independent survey by the Carbon Trust. Our competitors specified HFC refrigeration systems, but the client was ultimately looking for an environmentally sound and energy efficient solution."

He adds: "Star's low charge ammonia plant uses an environmentally benign refrigerant in terms of global warming and ozone depletion. Highly efficient operation was key to the plant's design and an advanced control system ensures an energy saving, low carbon cooling solution. We're delighted that the client's energy bills are less than 75% of the previous cost."

Star's Telstar PLC computerised control system ensures optimum plant performance, with HMI touch screen interface. Plant operation can be monitored remotely and power consumption is measured and input into the Telstar system, which

produces a graphic record of performance. The Telstar system hardware and control panels were supplied by Star M&E Solutions, Star's mechanical and electrical contracting company.

The operating efficiency of the plant is further enhanced by Star's energy saving Aether system, which automatically reduces condenser fan speed and uses floating head pressure control to optimise performance. Further energy saving features include high efficiency motors, evaporative condenser, automatic leak detection and a hot gas defrost system.

A new weatherproof plant room adjacent to the main building houses the plant's compressor packages, whilst the surge drum and evaporative condenser are located outdoors. The new refrigeration plant at Braehead (SFO Enterprises) site is now benefiting from Starcare, Star's planned, preventative maintenance (PPM) programme for refrigeration plant operators run from the local Branch Office in Aberdeen.

**For more information, phone Star Refrigeration on 0141 638 7916, email [star@star-ref.co.uk](mailto:star@star-ref.co.uk) or visit [www.star-ref.co.uk](http://www.star-ref.co.uk). Star Refrigeration, Thornliebank Industrial Estate, Glasgow G46 8JW.**

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**Case Study:** Braehead SFO