

Case Study

CASE STUDY: East Kilbride Ice Rink

PROJECT: Azanechiller 2.0

East Kilbride ice rink receives Star Refrigeration's treatment, naturally!

Star Refrigeration is helping one of Scotland's most-loved ice rinks to improve both its service to skaters and curlers and its environmental credentials by replacing their existing R22 refrigeration system with an eco-friendly and highly efficient Azanechiller 2.0.

The natural cooling contractor's latest Azanechiller 2.0 will provide East Kilbride Ice Rink with a solution that will significantly reduce the rink's energy costs and environmental impact which avoids the uncertainty of synthetic refrigerants caused by the F-Gas Regulations.

East Kilbride's famous ice rink is currently undergoing complete replacement in order to bring the facility into the 21st century. Originally inspired by Houston's The Galleria shopping mall, the ice rink attracts between 115,000 and 120,000 visitors through its doors every year. Playing host to a wide range of events, from curling to ice skating parties and even family days out, the rink is very much a fixture in locals' lives and requires a strong, reliable backbone to support it into the future.



Providing top quality 'ICE' for 40 years – From curling rinks that helped prepare Team GB for a Bronze victory at Sochi 2014, to ice skating facilities where ice quality is critical, to the cutting-edge 'Ice Factor' climbing wall in Scotland, the largest indoor facility of its type in the world.

Star Refrigeration's expertise in the specialist field of ice rink design and installation helped the company succeed in securing the project following a competitive tender. Having designed and installed a significant majority of the permanent ice rink facilities in the UK leisure industry for the last 45 years, including the original ice rink in the shopping centre, helped demonstrate that Star were the right choice for the job.

Gerry Campbell, the General Manager of South Lanarkshire Leisure and Culture said, "After a long and productive partnership with Star, SLLC are delighted that they have been selected to provide so much of the fundamental equipment at the newly refurbished East Kilbride Ice Rink."

"The new ammonia based chiller system with its significantly improved energy consumption will be an essential part of our successful operation."

"The excellence of the service received over the past 25 years from Star ensures we can look forward to the next years comfortable in the knowledge that the single most important piece of equipment will be well installed and well maintained."

The refurbishment project includes the removal of existing floor, plant and barriers, and the supply and installation of a new ammonia air cooled chiller, pump set, ice rink floor, barrier system, curling stone storage area, interconnecting pipework and wiring.

The Azanechiller 2.0 is an air-cooled, packaged ammonia chiller which incorporates energy saving technology and delivers cooling efficiencies that are 71% higher than the EU's EcoDesign Directive's requirements and 20% higher than competing high efficiency chillers. In addition, the use of ammonia, a natural occurring refrigerant with zero ozone depleting and global warming potential, will keep the rink in line with current regulations which have banned the use of R22 due to its ozone depleting potential.

The installation works are being carried out in conjunction with the main contractor's larger redevelopment of the area around the ice rink, within the Olympia Mall. In order to facilitate a successful and timely delivery, Star's engineering team scheduled the removal of the existing floor

during the night, which allowed for the other works to continue without disruption. Star Refrigeration have a vast experience working in collaboration with main contractors, with ice rinks being a key specialist sector, which proved to be fundamental for this project as the contractor required to be fully reliant on Star's expertise to execute the new ice rink facility and guarantee a successful delivery.

The standalone air cooled modular Azanechiller 2.0 AA415MT-2 model is part of a specifically designed MT range for medium temperature applications with two compressors to provide extra resilience, and will be installed with run/standby pumpset. The total installation offers numerous benefits, including reduced energy consumption, low maintenance requirements and the advantages of using a zero GWP refrigerant, which future proofs the ice rink against new environmental legislation. The Azanechiller also offers proven exemplary safety credentials and reliability, reduced life cycle costs when compared to the next best alternative, and a long life expectancy of over 20+ years.



East Kilbride Ice Rink's air-cooled ammonia Azanechiller is 71% more energy efficient than the EcoDesign Directive requirement, which will be applicable from 1st July 2016.

Lewis Brown, sales engineer for Star Refrigeration who is overseeing the project through from its inception, said, "East Kilbride ice rink's state of the art Azanechiller 2.0 has a Seasonal Energy Performance Ratio (SEPR) of 4.32, which is 71%

higher than the EU EcoDesign Directive requirement."

"Our research showed life cycle cost savings of £278,000 and carbon savings of 1,204 tons of CO2 over 20 years for this specific application when compared with 'best in class' ammonia screw chillers."

Star Refrigeration has long ties with East Kilbride ice rink, having installed their previous system – which lasted 26 years and operated round the clock – when it was first opened in 1989. The rink is also located just 10 minutes away from Star's head office and manufacturing facility with in-house design team in Glasgow. This is a welcome extra layer of assurance for the ice rink which will have a dedicated, fully qualified engineering team readily available 24/7.

The installation is expected to be completed by the end of the year. Star Refrigeration's local Bellshill branch will continue to offer support through a three year maintenance programme to ensure the ice rink performs at optimal design conditions.

Customer:	East Kilbride Ice Rink
Location:	East Kilbride
Equipment:	Azanechiller 2.0
Refrigerant:	NH3
Capacity	200kW – 1200kW
Temperature	-10°C - +10°C

