

STAR'S TOTAL SOLUTION FOR BRITISH PETROLEUM

The BP facility at Grangemouth is one of the UK's most significant petrochemical sites producing around two million tonnes of products annually. BP's need was for an Industrial Process Refrigeration Package to maintain temperatures within the Butadiene circuit especially during higher ambient conditions.

BP required the refrigeration package to be free standing in a remote Zone 2 IIB T3 hazardous area location on the site where no cooling water was available and had to be designed to meet the process intermittent loads and use an environmentally friendly hydrocarbon refrigerant. Star Refrigeration were awarded the contract to supply this specialised refrigeration system.

In order to meet BP's requirements for the package located close to the hazardous area Butadiene spheres, Star offered a customised modular air-cooled package designed for operating with another hydrocarbon, Propane (R290) Refrigerant.

The customised package was designed to cool 14,000 kg/hour of Butadiene fluid from +28C down to +18, equivalent to a refrigeration capacity of 89.5Kw when operating with a maximum ambient design dry bulb condition of +29.5C.



The package consisted of an oil injected screw compressor, close coupled Zone 2 Ex N drive motor, API 661 compliant air-cooled condenser, liquid receiver and shell & tube evaporator with all interconnecting pipe work and package unit wiring terminating at package junction boxes and skid mounted Control Panel.

The control panel included an Allen Bradley SLC500 PLC provided to control all operating and safety functions of the plant. Hard-wired Zone 2 safety cut-outs/controls were also provided as a site safety requirement.



View showing skid mounted control panel

Star Refrigeration is the UK's largest independent industrial refrigeration engineering company. Star focuses on the design, manufacture, installation, commissioning and maintenance of industrial refrigeration systems. The company offers a turnkey package to all users of refrigeration plant.

Star's technical advisory arm, Star Technical Solutions (STS), operates as an independent consultancy providing advice on refrigeration engineering issues. Star also owns food freezing and chilling equipment specialist Starfrost, as well as mechanical and electrical contractors Penec.

For more information, phone Star on 0141 638 7916, email star@star-ref.co.uk or visit www.star-ref.co.uk. Star Refrigeration, Thornliebank Industrial Estate, Glasgow G46 8JW.

				
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