



## Client BOC

### Nature of client business

The BOC Group plc was the official name of the multinational industrial gas and British based company more commonly known as BOC. BOC is now a part of the Linde Group.

**Project Location:** Worsley, Manchester

### Scope of job

BOC are an existing client for service, maintenance & installation works. We were contracted to replace an existing R22 refrigeration plant for the cooling of Nitrous Oxide gas at low temperature. The client had a preference for a system which would operate with a Natural Refrigerant.

### What the project entailed

The project required the design, supply and installation of a low temperature Hydrocarbon chiller for the production and cooling down of nitrous oxide gas (better known as laughing gas) which is predominately used within the National Health Service. The cooling down process condenses the gas in to a liquid for storage and transportation. The process requires the gas to pass through a heat exchanger with a cooling medium at -31C.

Working within a restricted plant space, we also successfully provided the interconnecting services of pre-insulated ABS pipework system for a secondary refrigerant.

**Timing:** December 2014 to May 2015

### What we brought to the job

The project required a bespoke installation and therefore called upon our expertise in refrigeration and bespoke solutions.

### Equipment installed

Frigadon Low Temperature Chiller utilizing Hydrocarbon (HC) refrigerant R1270. Secondary refrigerant Hycool (potassium formate). Pump module with inverter speed controlled pumps.

