



Heater Installation in Libya - Case Study



UnitBirwelco successfully delivered a high-performance heating solution, ensuring maximum efficiency, safety, and reliability. The project involved the design and supply of a 7.5 MW replacement heater, purpose-built to enhance operational efficiency and meet stringent compliance standards. Fabricated in Northern Spain, the heater was predominantly shipped as a single unit via a dedicated chartered vessel, streamlining logistics and reducing on-site assembly time. Meanwhile, the fuel gas skid was expertly manufactured at UnitBirwelco's Swansea facility, showcasing the company's integrated engineering capabilities.

The comprehensive scope of work included detailed design, procurement, fabrication, protective coating, assembly, and rigorous testing. UnitBirwelco also managed the complex shipment process and provided critical on-site support during erection and commissioning phases. This turnkey approach highlights UnitBirwelco's expertise in delivering tailored heating solutions to meet client requirements, even in challenging international locations such as Libya.

Design Features

- ① The radiant/convection and breeching sections were pre-assembled, minimizing on-site installation time.
- ① The deflector cylinder, internally lined and suspended from breeching steelwork, enhances flow distribution.
- ① Radiant walls and deflector lined with fibre blanket.
- ① Heater floor lined with insulation board and topped with castable refractory.
- ① Four observation doors at different levels.
- ① Three access platforms, including a 360-degree burner floor platform.
- ① Equipped with a UV scanner for flame monitoring and ionization rod ignition for the pilot burner.
- ① Instrumentation points allow real-time performance monitoring.



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UnitBirwelco is a leading engineering solutions provider, specializing in the design, manufacture, and maintenance of industrial heating equipment. With decades of experience, the company has built a strong reputation in delivering innovative and energy-efficient heating solutions across various industries, including oil & gas, petrochemical, power generation, and manufacturing.

For over 50 years, UnitBirwelco has been a market leader in the design and supply of fired heaters, delivering over 750 heaters worldwide. In response to evolving industrial regulations and environmental concerns, UnitBirwelco continues to develop state-of-the-art heating solutions that optimize energy efficiency and minimize emissions.

The heater is a Natural Gas Heater comprising three main sections: a vertical cylindrical Radiant and Convection Section, a Breeching Section, and a Flue Gas Stack. The radiant coil is constructed from ASTM A335 P5, while the convection coil features a helical design made from ASTM A105 Gr. B. To ensure efficient and environmentally friendly operation, the heater is equipped with three low NOx, natural draft, up-firing fuel gas burners. Additionally, instrumentation is provided in compliance with API 560 and project specifications, enabling precise monitoring and control of the heater's performance.

UnitBirwelco Heater Installation Includes:

- ① Design, fabrication, testing, and modular shipment for seamless installation.
- ① Low NOx burners, BMS, and LCS for efficiency and safety.
- ① Expert supervision for erection, testing, and operational success.



UnitBirwelco offers a comprehensive range of industrial heaters that cater to diverse applications. The company's solutions are tailored to meet the unique requirements of clients while adhering to industry standards and regulatory compliance.

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