

## CASE STUDY: INSTALLATION OF MEDICAL AIR PLANT

### Scarborough Hospital, North Yorkshire

Scarborough Hospital is the Trust's second largest hospital. It has an Accident and Emergency department, and provides acute medical and surgical services, including trauma and intensive care services, to the population and visitors to the North East Yorkshire Coast.



#### Services provided by Scarborough Hospital:

- Accident and Emergency
- Cancer Services
- Cardiology
- Child Health
- Clinical Haematology
- Dermatology
- Gastroenterology
- General Surgery and Urology
- Intensive Care
- Nutrition and Dietetics
- Orthopaedics
- Renal Medicine
- Special Care Baby Unit

#### The Project

After due consideration the Trust accepted a bespoke tender from SHJ Medical Gas Specialists.

This was a turnkey project encompassing all works necessary for the installation of a new medical air plant.

The medical air plant comprised of three rotary screw compressors, air receivers, a desiccant dryer, an intelligent plant controller, and a condensate management system.

Upon completion of the works the existing plant was decommissioned and removed from site.

#### The Challenges

During the project medical air to the hospital had to be fully maintained at all times.

A complete new electrical supply had to be installed to accommodate the new medical air compressors, the intelligent plant controller and medical air dryer.

Other challenges included installing a triplex plant where a duplex plant was previously sited, requiring careful design of the new plant layout.

#### The Solution

To ensure that the project caused minimal disturbance to the hospital's daily operations and medical air to the hospital was fully maintained at all times, the plant was built up offsite at SHJ's head office premises.

A site survey was initially carried out, which involved taking measurements of the hospital's existing plant room and plant footprint.

The plant room footprint was then mapped out at SHJ's onsite R&D unit, where the new plant was built within the footprint, ensuring it would fit perfectly within the existing plant room when installed onsite.



### Key facts:

- Project comprised of installing a new medical air plant with modern control and alarm panel
- Key challenges
  - Maintaining medical air to the hospital at all times
  - Installing a complete new electrical supply
  - Fitting a triplex plant into a duplex plant footprint
- New plant was built in SHJ's onsite R&D unit
- SHJ used their own energy efficient plant using 'Dew Point Control' algorithms to minimise wasted regenerative air
- The project was completed quickly, keeping disturbance to the hospital's daily operations at an absolute minimum

When the new plant was built onsite at SHJ, the intelligent plant controller was programmed and the plant tested and commissioned ensuring it worked at optimum performance levels. SHJ also used their own energy efficient plant using 'Dew Point Control' algorithms to minimise wasted regenerative air.

Once SHJ were satisfied with their comprehensive commissioning process, the customer was invited to inspect the new plant.

Following customer approval the new plant was dismantled and transported to site.

When installing the new plant onsite, the hospital's medical air system was supplied from the medical / surgical air manifold. A test run of the manifold was carried out before hand and additional air cylinders were supplied to ensure adequate capacity of the manifold to cover the installation period.

Following installation, the new plant was test run and commissioned before being put into service. The existing plant was removed from site.

### The Benefits

The project has provided the hospital with a new, modern and reliable plant, providing greater service security and reduced running and maintenance costs.

The use of offsite assembly for the new plant allowed the onsite installation to be completed within two days.

This allowed the hospital to be supplied safely by the existing air cylinder manifold, reducing project costs and any disturbance to the hospital's daily operations.

### Customer Testimonial

During the entirety of this project, SHJ adhered to their schedules, didn't compromise the hospital's medical air supply, and all staff acted in a professional and helpful manner. I couldn't be happier with SHJ's commitment to this project and would definitely work with them again.

**Nigel Watkinson - Estate Manager**

**This project is a fantastic example of one of SHJ's core business philosophies, which is to work within rapid response times when delivering the highest standards of care and support for our customers**