

CASE STUDY: REPLACEMENT OF MEDICAL VACUUM PLANT

Doncaster and Bassetlaw Teaching Hospitals

Located in Yorkshire, Doncaster and Bassetlaw Teaching Hospitals is one of Yorkshire's leading active Trusts, serving over 420,000 residents across South Yorkshire, North Nottinghamshire and surrounding areas.



Services provided by Doncaster and Bassetlaw Teaching Hospitals:

- Emergency Department
- Breast Screening
- Cardio
- Children's Services
- Endocrinology
- Maternity Services
- Medical Imaging
- Occupational Therapy

The Project

This was a turnkey project encompassing all works necessary for the installation of a new 10 bar surgical air plant and new medical vacuum plant in the ground floor plant room of the Women's and Children's Hospital.

After a competitive tendering exercise, the Trust accepted a tender from SHJ Medical Gas Specialists.

The surgical air plant comprised of four HPC rotary screw compressors, air receivers, a desiccant dryer by Silicair Ltd, two air receivers, an Empower intelligent plant controller and a condensate management system.

The new plant provides medical and surgical air to the Park Hill Block and medical air to the Women's and Children's Block and replaces two existing air plants.

The medical vacuum plant comprised of four oil lubricated rotary sliding vane vacuum pumps, two vacuum reservoirs with facilities for by-pass and isolation, two independent bacterial filter/drainage traps, non-return valves, isolating valves, gauges and

differential pressure indicators and a plant control panel.

The new vacuum plant replaces three existing plants, which were isolated and removed.

Extensive pipework alterations were required to connect both the new air and vacuum plants to existing services.

The Challenges

Medical air, surgical air and vacuum services to the hospital had to be fully maintained at all times during the project. Extensive new pipework mains had to be run in the confined spaces of the hospital service ducts.

A phased installation of the medical vacuum plant was required to maintain service to the hospital whilst allowing for building alterations.



Key facts:

- Installation of a new 10 bar surgical air plant and new medical vacuum plant
- The new plant replaces two existing air plants
- The hospital's medical air, surgical air and vacuum services had to be fully maintained at all times
- A phased installation of the medical vacuum plant was required to maintain service to the hospital, whilst allowing for building alterations
- All of the plants are covered by SHJ's own 5 year no quibble warranty

The Solution

SHJ engineers worked closely with the Trusts AP (MGPS) to coordinate the installation works.

A complex schedule of service shutdowns was required to transfer existing services to the new plants and maintain a full air and vacuum service to the hospital at all times.

The Benefits

SHJ utilised their 50 year plus experience to plan and deliver a tailor-made solution for the hospital, ensuring that every need was met, with the least disruption to hospital services.

The hospital now has new medical/surgical air and vacuum plants, resulting in reduced running and maintenance costs and improved security of service.

All of the plants are all covered by SHJ's own 5 year no quibble warranty, giving the Trust peace of mind that if anything were to fail it would be replaced new free of charge.

The warranty covers every item of the installation from compressors, to controllers, to batteries.

This includes labour and material costs for the entire 5 year period, with 'no quibble'.

Customer Testimonial

"We have been a customer for SHJ for just over year, they are carrying out the medical gas PPM to a high standard and always go above expectations to aid in compliance.

SHJ have also installed a new air and vacuum plant, which was completed on a tight schedule, and accommodated complex shutdowns to meet the needs of the hospital."

James Hutchinson Estates Manager

SHJ plans every installation carefully with our customers, ensuring that our work causes minimum disturbance to hospital routines and is coordinated with the work of other contractors.