

CASE STUDY: REPLACEMENT OF MEDICAL AIR AND VACUUM PLANT

Eastbourne District General Hospital, East Sussex

In November 2017 the Trust issued a tender for the replacement of their existing medical air and vacuum plant that was installed during the hospital's construction in the 1970s. This project was part of the Trust's ongoing backlog maintenance programme, and was also required to keep pace with increasing clinical needs.



Services provided by Eastbourne District General Hospital:

- Medical and surgical wards
- Specialist units
- A 24-hour Emergency Department
- Diagnostic services including MRI, CT and Interventional Radiotherapy

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, a new medical vacuum plant, and an upgrade of the medical gas alarm system.

The medical air plant comprised of four rotary screw compressors, air receivers, a desiccant dryer, an intelligent plant controller, a condensate management system, and modifications to the existing plant room ventilation system.

The medical vacuum system comprised of six rotary vanes, oil lubricated vacuum pumps, bio filters, a dedicated control system, and adaptation and reuse of existing vacuum receivers.

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

The Challenges

Both medical air and vacuum service to the hospital had to be fully maintained at all times during the project.

A restricted electrical supply capacity required careful management of the operation of the existing plant, and the installation and commissioning of the new plant, to ensure the system was not overloaded.

The medical gas alarm system had to be kept fully operational, particularly to critical areas during the system upgrade.

Other challenges included providing fresh air supplies to the existing medical air compressors during the upgrade of fan motors, new ductwork, and rebalancing of the entire system.



Key facts:

- Replacement of a 1970s medical air and vacuum plant
- Medical air and vacuum supply to run whilst plant was replaced
- Project completed with restricted electrical capacity
- New plant offers increased energy efficiencies and meets current HTM & pharmaceutical standards
- New plant covered by a 5 year warranty

The Solution

To ensure that the project caused minimal disturbance to the hospital's daily operations, a temporary area for the new plant's construction was set up, and a temporary vacuum plant was installed.

Electrical supplies were then moved from the existing plant to the temporary one, and new electrical distribution boards were installed.

The new vacuum plant was then installed, the plant commissioned, and connected for hospital use.

Once completed, the remaining old vacuum plant was removed, and the site cleared.

The Benefits

To ensure the success of this project, SHJ appointed a dedicated project Site Manager and Contract Manager.

This allowed for adaptations to the project works onsite to meet challenges as they arose with the minimum of disruption.

Customer satisfaction remained a priority at every stage of the project.

At the end of this project the hospital was fitted with a new medical air and vacuum plant, complete with a modern alarm system.

Customer Testimonial

Peter Paine, the Estate Officer for the NHS Trust was extremely happy with the outcome of this project, and was impressed by SHJ's dedication to customer satisfaction.

"From when I joined the project as AP for Eastbourne DGH, I found that SHJ were very good with their planning and communications. They held regular site meetings and they followed their planned timeline closely. SHJ's staff were professional, polite, and helpful. We were extremely pleased with the final installation, and had our communications team put a small piece in the local paper."

This project is a fantastic example of SHJ's core business philosophy, which is to build strong, long-term relationships with our customers by working openly and honestly with them to plan, deliver, and maintain solutions to match their precise needs.