



Case Study

Electrical engineering upgrade to a critical ventilation system

An NHS hospital was experiencing electrical issues that prevented the Ultra Clean Ventilation system from functioning, resulting in an operating theatre being out of use.

Challenge

An Exflow UCV system installed in an operating theatre back in 2000, and serviced by a third party, had begun to experience failing electronic components in multiple positions of the circuits in the main distribution panel. This left the operating theatre out of action and unable to function as desired to support the clinical teams who use this area to carry out orthopaedic procedures.

The panel contained centre tapped transformers and single phase re-circulation motors, something that newer Howorth products no longer use.

Solution

As there were multiple failures on the backplate and components were becoming obsolete, the engineers decided to re-manufacture the entire panel. A site survey took into account the feasibility of this with the BMS systems, battery back-up units for operating lights and controls functionality of the UCV. A new solution was designed to fit the exact same size enclosure, ensuring that all the cable runs were not compromised and the field conduits fitted back into position.

Outcome

This particular UCV now has a new distribution panel. Redundant parts have been removed and the old transformer style arrangement has been replaced with variable frequency drives. As the field wiring source has been changed and modified, Howorth's engineers also completed the relevant NIC/EIC electrical testing documentation with the assistance of our electrical engineering partners at Agb Electrical Solutions Ltd.

Following the installation, and electrical safety tests the canopy was then retested in accordance with HTM 03 01 Part A (Chapter 8). This version of the Exflow is extremely robust with many installed worldwide, and with the new controls system designed and supplied by Howorth there is no reason why it shouldn't go on to last another 20 years.