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Clean air supply benefits UK's largest hospital

The UK's largest new acute teaching hospital project is installing ABB variable speed drives, supplied by ABB Drives Alliance member Slater Drive Systems, to maintain a clean air supply in its operating theatres. When complete the £210 million Edinburgh Royal Infirmary will use over 100 drives, of varying sizes, from ABB's AC drives range throughout the hospital for its air handling applications.

The air handling units have been divided into critical and non-critical applications. All the 20 operating theatres are classed as critical applications and each will have three to four ABB drives. The operating theatres need a filtered airflow with a maintained air volume. As static pressure builds up over the air filters, the drives need to compensate for the reduction in flow rate in order to maintain the air volume. The Building Management System (BMS) monitors the system for any reduction in performance. The BMS then signals the drive to increase the airflow accordingly. The theatres are not in constant use, therefore the drives are often employed in a standby mode, maintaining a reduced airflow in order to save energy.

Five of the operating theatres are dedicated to orthopaedics. Bone operations need a particularly clean environment, with more frequent changes of air. The drives need to maintain a flow rate of 1.65m³/s with the air filtered through special ultra-clean hoods containing extra filters. Other areas such as safety cabinets and fume cupboards also have air-handling units powered by ABB drives.

McQuay (UK) Ltd, the company that supplied the air handling units, commented "One of the reasons we chose the ABB drive was because it could meet the strict air flow requirements that were specified. It is also important that all the drives are fitted with RFI filters, in order to prevent interference with electronic medical equipment."

As well as the drives themselves, McQuay (UK) Ltd was also impressed with the drives' supplier, ABB Drives Alliance member Slater Drive Systems (SDS). "SDS were very good," McQuay says. "They held to the quote they gave us even though some delays were experienced and we could not install some of the drives when we expected to. This benefited our client because we could stick to our quotation. When we did require the drives, they delivered in a very short space of time. We have been very pleased with the service we received from SDS."

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Caption: Edinburgh Royal Infirmary, the largest UK new acute teaching hospital project is installing ABB variable speed drives, supplied by Drives Alliance member Slater Drive Systems, to maintain a clean air supply in its operating theatres.

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