Case study

Forth Valley Royal Hospital

Johnson Controls protects new £300m Forth Valley Royal Hospital

Project overview

Johnson Controls have provided a highly sophisticated fire detection system as part of a £300 million development of Forth Valley Royal Hospital in Stirlingshire, Scotland.

It was vital to have an effective and robust fire detection system in place to protect patients, staff and visitors in the event of a fire. In addition, due to the nature of the facility, the system was required to reduce disruptive and potentially dangerous false alarms. Forth Valley is the first hospital in the UK to use a fleet of robots to transport goods and equipment around the building. In the event of a fire these robots would be prevented from entering a danger zone from a signal sent directly from the fire detection panels.

Product and services applications

- Minerva MX2-211 fire panels
- Smoke detectors
- MX graph systems
- FM200 extinguishing systems
- Smoke fire dampers

Customer needs

The new Forth Valley Royal Hospital is the largest NHS construction ever built in Scotland, spanning 4000 rooms, 25 wards and 860 beds. It is one of the most modern and well equipped hospitals in Europe. As such, it required a modern fire detection system that would protect the site.

Johnson Controls

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Ken MacRae, Commercial Manager at Crown House Technologies

Johnson Controls solution

During the hospitals development, Johnson Controls worked closely with building service provider Crown House Technologies to design, plan and install the fire system installation. Johnson Controls have installed 28 MX2-211 fire panels, 5300 smoke detectors, 112 loops, five MX graph systems and four FM200 extinguishing systems.

In addition, over 2500 smoke fire dampers were used throughout the new Forth Valley Royal Hospital. Should a fire occur these dampers would close automatically to stop the spread of smoke gases and fumes into adjacent areas. Usually installed above ceilings, manually opening these vents is a difficult and time consuming task with such a large site. Therefore, Johnson Controls designed an electronic control module to monitor the 2500 dampers on-site so that should a fire be detected these dampers close automatically.

This was crucial to the successful implementation of the systems and Ken MacRae, Commercial Manager at Crown House Technologies, commented; "When we were looking to specify a fire protection system for the Forth Valley Royal Hospital we were aware that a manual damper control system would not be suitable for this particular building as it would require countless man hours on site."

"Thankfully the Johnson Controls team were able to design a bespoke damper control module, which allows for simple hand held control of each and every damper in the building." Also being utilised on the site is a new digital Minerva MX2, one of a new generation of digital addressable fire alarm controllers that is based on MX Technology. It uses state-of-the-art multi sensor virtual detection to expertly isolate fire using electronic fire doors and protects predetermined escape routes.

Ken MacRae commented: "Overall, we have been extremely impressed with Johnson Controls level of technology and customer service. It's very reassuring to know that Forth Valley Royal Hospital is now protected at all times from the risk of fire and false alarms".

For further information or advice, call: **0800 804 6227**

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