Australian Government

ansto

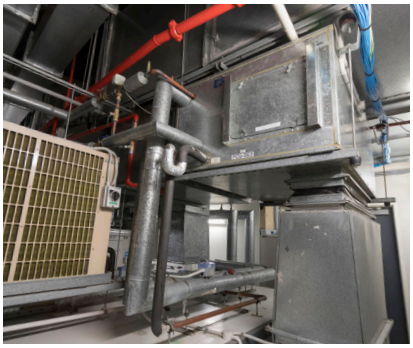
Fan coil unit fan replacement

Higher reliability for Australian Synchrotron's fume extraction cupboards

Technical data

Type		K3G250PR17I9
ebm-papst Product	2x	EC backward-curved, direct drive blowers mounted on one Markair Components custom EC fan plate
Airflow	m^3/h	3,025m^3/h @ 250Pa

Project



The Australian Synchrotron is a world-class synchrotron radiation facility built in 2007 and located in Melbourne's south-east. It is managed by the Australian Nuclear Science and Technology Organisation (ANSTO).

The facility houses several labs, two of which include a laboratory fume cupboard. Based on specifications by contractors Paramount Air, fan specialists Markair Components devised a custom sheet metal housing. ebm-papst A&NZ were then approached to supply the fans for a fan upgrade for the fan coil units providing make-up air into the lab.

The fume cupboard is critical to ensure worker safety and requires the make-up air supply to ramp up as soon as the cabinet doors are opened. To ensure worker safety it is also necessary that the fans reliably maintain a pressure differential between the different rooms in the lab to avoid cross-contamination.

Installation

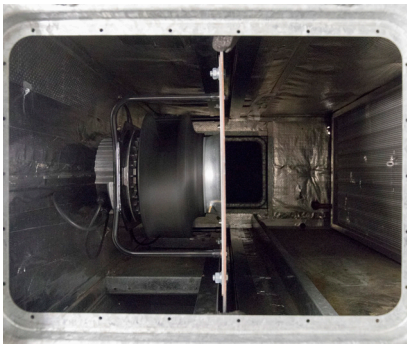
The existing fans, which were speed controlled via VSD, were unreliable, difficult to service and slow to ramp up. The upgrade aimed at improving reliability, unit responsiveness and serviceability.

The existing double-inlet, direct-drive 750W fans were removed and replaced with two individual direct-drive fan blowers by ebm-papst. They were mounted on a custom slide in/-out EC fan plate supplied by Markair Components. The fan deck only required minor modifications to the sheet metal housing.

Paramount Air installed the new fan deck during regularly scheduled maintenance, removed the VSD and re-used the existing differential pressure sensor and controller.

The new fans are controlled via the building's BMS, keeping the room pressure stable.

Benefits



The fan replacement resulted in a more reliable and safe operation of the fume cupboard.

Paramount and ANSTO staff were very happy with the outcome of the installation. The plate mounting of the fans ensured not only quick installation but will also provide easy access for future maintenance.

Contractors Paramount Air summarised that 'on testing the new equipment, the efficient and responsive operation of the new EC motors certainly met all expectations.'