

Containerised Breathing-Air Solutions

As confined spaces go you don't get much more confined than the inside of an aircraft wing, especially when the interior contains a fuel tank that needs to be regularly cleaned with highly volatile chemicals.

Those working in such confined environments, where the atmosphere is obviously too hazardous to breathe, require long duration breathing apparatus to ensure they can operate safely. This was the problem that faced the engineers of BAe Systems at the RAF Kinloss Nimrod aircraft base in Scotland.

Factair worked with them and developed a containerised breathing-air system that could supply up to 8 people simultaneously. To meet this requirement the container incorporates 2 rotary screw compressors in a duty/standby arrangement. The air supply from the compressors is passed through a filtration and drying system, which purifies the air to breathing standards. The air is then supplied via a pipework system to each aircraft hanger.

As the container is essentially a piece of life support equipment it was critical to incorporate a back-up system that, in the event of a power failure or machinery breakdown, continued to provide breathing-air to those working inside the fuel tanks. The unit contains a reserve of breathing-air stored in cylinders at high pressure. A separate compressor ensures that the reserve air supply is maintained and alarms in the container and hangers detect any faults and warn users to leave the hazardous area. It was also vital that the compressor air intakes are protected against possible contaminants such as carbon monoxide, carbon dioxide and LEls. A gas detection system is fitted in the intake, which is interlinked with the high-pressure reserve and alarm systems.

RAF Kinloss is a remote site and it was therefore important that the status of the system could be monitored remotely either by BAe Systems or Factair. A link was installed which allows the control system within the container to be interrogated via a modem connection. This allows routine servicing to be better scheduled, diagnostics to be undertaken, therefore optimising service visits.

Now the containerised system is installed BAe Systems have a state of the art unit that not only provides a highly reliable source of filtered breathing-air but also incorporates the latest in safety back-up and remote diagnostic features.

