

Boosting efficiency in industrial gas production with gas analysis

Ivor Matanle checks on the demands the industrial gases market is making on manufacturers of gas analysers.

Industrial gases is a globally organised industry demanding universally applied standards. A key area is the gas analysis equipment which monitors and maintains product quality and which frequently has a key role in safety.

As safety standards have become more stringent, increased automation has brought a need for analysers with communications and networking capability.

Cost efficiency

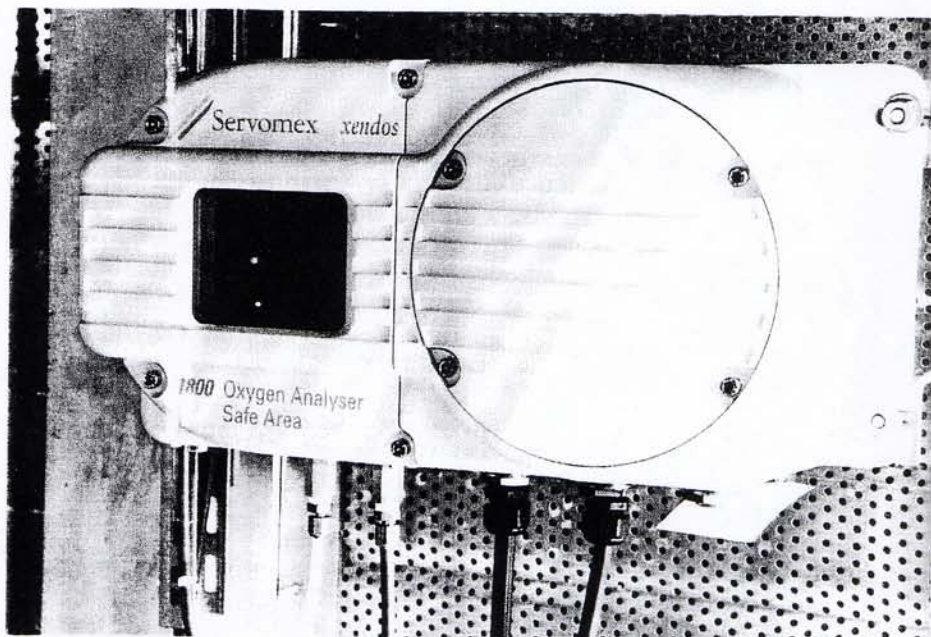
Dr Stephen Firth of Servomex Group explained that Servomex has a worldwide network of sales and technical support teams. "Industrial gas companies look increasingly for higher performance analysers, lower prices, global purchase deals and global support. We take the view that we must provide cost efficiency throughout the life of the instrument."

An example is Air Liquide. Servomex Xentra 4100 series gas analysers at its industrial gas production plant in Richemont, Northern France, handle continuous measurement of trace oxygen in the production of pure nitrogen with separate oxygen analysers for ambient air monitoring.

"We have used a Servomex OA540 as our reference analyser for oxygen purity for many years" said Mr Million, head of instrumentation services. "We also use Servomex 570A portable oxygen analysers in safety checking for the staff".

Successful trials

The guaranteed maximum value of oxygen impurity is 5ppm for gaseous nitrogen and 3ppm for liquid nitrogen delivered by truck or train. Trials proved the Servomex Xentra 4100 with the ZR704 catalytic cell to be the ideal analyser for monitoring such levels of oxygen in nitrogen and Xentra 4100 series analysers are now used to control quality throughout the pure nitrogen production process. Mr Marly emphasised

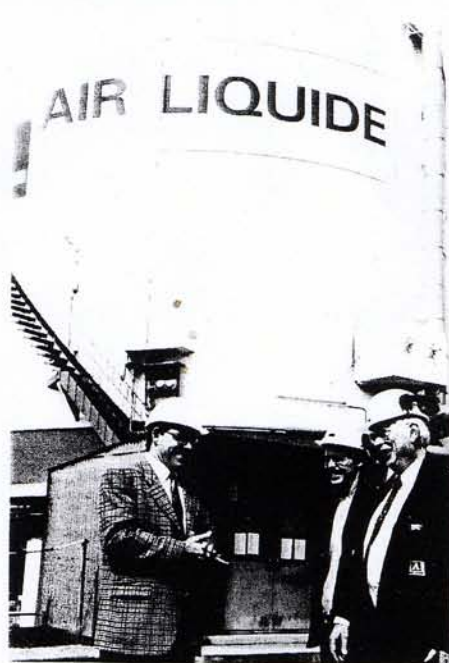


that it was not only the performance of the Xentra 4100 but the quality of the service, the practicality of the analyser and reliably long lifetime of the ZR704 cell which were decisive.

"The Xentra 4100 is now our reference instrument," he said. "The Servomex Xendos 1800 analyser is used to monitor ambient oxygen and maintain a safe and comfortable environment for the workforce."

Latest technology

The latest Xentra 4100C analyser, which came onto the market during the autumn of 1999, measures oxygen purity, trace oxygen, trace carbon dioxide, trace carbon monoxide and controlled percentage of oxygen in a gas stream, and can analyse four gas streams simultaneously. Measurement of 0-50vpm or 0-500vpm N₂O (nitrous oxide) and of 0-50vpm or 0-500vpm methane, both important measurements in cryogenic air separation plants, continue to be possible with the 4100C, and new software provides fully independent auto calibration of each fitted transducer as standard. This is a major and unique advance in industrial gas purity analysis as it is now possible to calibrate the transducer monitoring one of the gas streams while the analyser continues to monitor the others normally.



Higher standards

The key requirement for gas analyser manufacturers is to find means of increasing the cost efficiency of gas analysis.

"Research and development continues constantly," said Stephen Firth. "Our development team has made major advances for the industrial gases market which will have a significant impact world-wide."