



Protection from Gas Explosion Inertization During Centrifugation

Comi Condor are one of the leading suppliers of vertical continuous and horizontal centrifuges for the fine chemicals industry. It has selected METTLER TOLEDO for oxygen measurement in the inertization control system of its products. The result is improved centrifuge productivity and performance through in-situ measurement, and less maintenance.

Class-leading centrifuges

The Italy-based Comi Condor company has supplied world-class filtering centrifuges for fine chemical and pharmaceutical ingredient production for over a century. It draws on decades of innovation and continuous improvement for developing the best separation techniques that fulfill the most stringent industry requirements for product quality and yield. Their products also comply with some of the world's most rigorous safety regulations.

Founded in 1885, the company develops, manufactures and sells its centrifuges from two plants located in Milan and Pavia. It is the leader in robust and reliable centrifuges with particular emphasis on compliance and GMP fulfillment for the pharmaceutical industry.

Highest inertization requirements

Comi Condor has developed a monitoring and control system based on the continuous measurement of centrifuge overpressure and oxygen level. The system allows safe operation of purging, filling, processing and emptying of the centrifuge.

The safety requirements for running centrifuges (next to the ones necessary for hazardous area certification) can vary from one country to another. Italy applies one of the most stringent concepts that can exist: overpressure and oxygen control must be present on each centrifuge control system. This is considered the safest method of operation compared to overpressure control only. Control of oxygen can ensure that that particular element of the explosion triangle is continuously kept





below a safe limit during all stages of the centrifugation process.

How the application was originally handled

Comi Condor has manufactured safe centrifuges using oxygen and overpressure control for the fine chemicals industry for decades. However, the company's customers often noted tedious and sometimes even unpredictable maintenance operations on the extractive oxygen systems as a significant drawback. Disturbed batch manufacturing schedules and yield loss were the result, thus impacting the overall performance of the centrifuge.

In-situ oxygen measurement

Comi Condor contacted METTLER TOLEDO for a more reliable and easier to maintain solution. They selected one of

our amperometric systems based around the InPro 6800 G sensor to replace the extractive installation in the control system of the centrifuges. Moreover, the InPro 6800 G can be mounted directly into the centrifuge, so the delicate gas sampling system they had been using could be removed, thereby increasing reliability and saving on costs.

Accurate and fast

After a successful test period, good practical experience was gained with the features of the new system. A comparison of both the extractive and the amperometric equipment showed that the simpler METTLER TOLEDO solution displayed excellent measurement accuracy and proved to be as fast as the extractive solution.

Competitive advantage

Comi Condor has gained a competitive edge by offering its customers more reliable centrifuges that reduce downtime and require minimal maintenance. For new centrifuges where both oxygen and overpressure control is required, Comi Condor now preferably chooses METTLER TOLEDO amperometric systems.

Find out more at:

► www.mt.com/o2-gas

InPro 6800 G oxygen gas sensor



Cost-effective:

- Amperometric design means costly gas extraction and conditioning system is not required

Reliable:

- Unaffected by exposure to water, water vapor or most organic solvents

Low maintenance:

- Membrane body replacement takes just five minutes and can be conducted on site by the user

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