

GEA COTECTOR®

Continuous, real-time carbon
monoxide monitoring



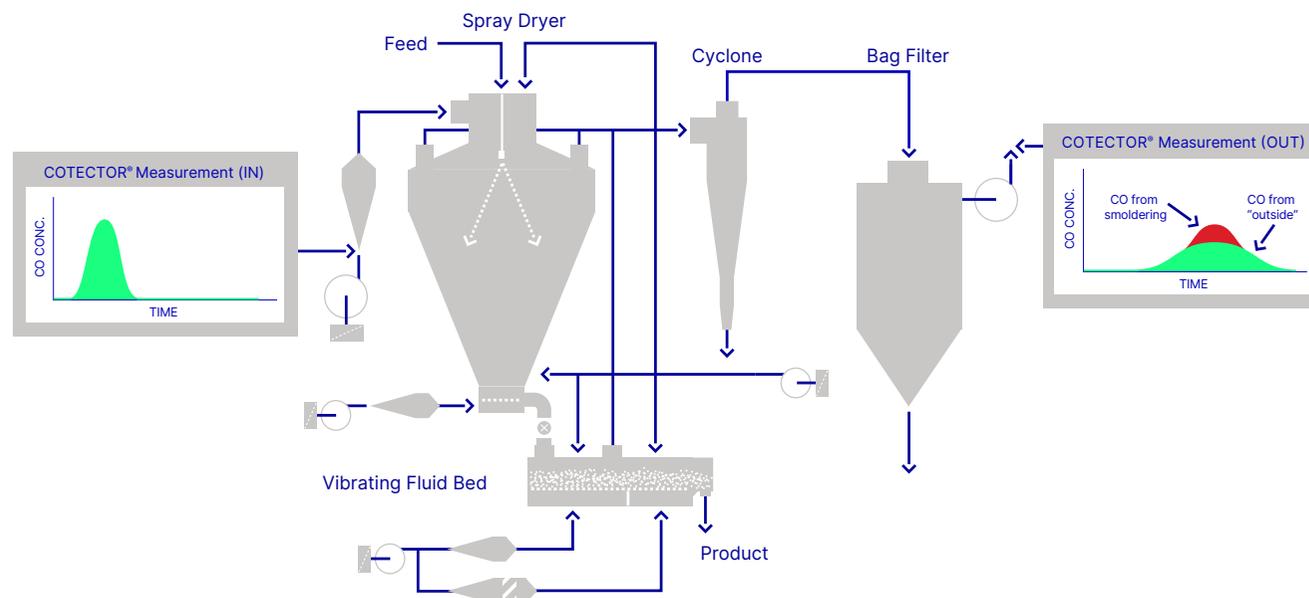


GEA has developed the patented COTECTOR® system to help prevent fires and explosions in food and dairy spray drying plants. Giving you an additional layer of confidence in the safety of your plant, 24/7, the innovative COTECTOR® technology continuously evaluates carbon monoxide (CO) levels, for example, in the drying chamber or in the vibrating fluidizer, in real time. The system then gives operators an early warning to the potential presence of smoldering powder lumps that could represent a fire or explosion risk.

The COTECTOR® technology offers a level of safety assurance above that of the state-of-the-art temperature surveillance, and fire/explosion control solutions that are already installed as standard in GEA spray drying plants as part of our inherent safety design principles.

GEA COTECTOR®

- Designed to monitor CO continuously, 24/7
- State-of-the-art algorithm allows estimation of CO generated inside the dryer
- Enables fast response time, with automatic plant shutdown, if required
- Simple set up: inlet and outlet CO concentrations are compared in the COTECTOR® safety PLC (SIL 3 certified)
- Can be integrated into plant's safety management system
- Can be retrofit into existing spray dryer plants, as well as configured into new systems
- Low operating costs compared with alternatives on the market
- Compatible with GEA remote assistance and support, by default data logging of all CO values up to 6 months



The majority of fires in spray dryers are caused when glowing hot powder lumps form and fall into the lower chamber of the spray dryer, where they can break apart and act as an ignition source for explosive dust-air mixes. These heated powder deposits release CO, which can be evaluated indirectly by using a calculation based on measurements of the amount of CO in air that enters the plant via air inlets, and the amount of CO in air that leaves the plant via air outlets.

Infrared laser technology

The COTECTOR® solution is founded on infrared laser technology that employs monochromatic light at a specific wavelength to detect CO in process air. The laser transmits light at a known intensity, and the amount of this light that then reaches the receiver is measured. The difference between emitted and received light demonstrates the degree of absorption in the air, which is a direct indicator of the concentration of CO in the air.

A number of COTECTOR® sensors continuously measure CO at each air inlet, and at each air outlet, and the system then uses these measurements to calculate real time CO generated in the spray dryer. So, by taking into account any unexpected or transiently high levels of CO that might enter the plant, this continuous measurement is, tests have shown, highly accurate, and more precise than that derived using other technologies.

Build new or retrofit

GEA can install the COTECTOR® system as part of a new spray drying plant, or retrofit the technology into an existing GEA spray drying facility. Highly configurable, the COTECTOR® technology is tailored to requirements, and provides three levels of warning, which sequentially alert operators if the chamber CO levels are elevated above normal, and, if required, then trigger automatic shut down of the plant when CO levels exceed the present safety threshold.

Ultimately the system is designed to help contribute to plant safety, both with respect to your processes and equipment and, of course, your staff.

COTECTOR® benefits

- Adds an additional level of surveillance above standard temperature monitoring, fire/explosion safety systems
- Highly configurable, self-calibrating system - in-built methane cell
- Easy start up, installation and low maintenance
- Reliability, accuracy and precision for increased confidence in spray drying processes and equipment
- Real-time, continuous measurement supports proactive, rather than remedial actions
- Presence of smoldering powder lumps never goes undetected
- Reduced plant downtime

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