

Fail-safe Oxygen Measurement


In the chemical and pharmaceutical industries

Who We Are

We, at Ntron, are proud of our reputation developed over the last 40 years. We have established ourselves as market leaders in the design and manufacturing of gas measurement systems for process and people safety across a wide variety of industrial applications.

Today, Ntron strives to exceed customer expectations through continuous innovation; by developing better and more efficient gas analysis and control solutions, by helping to maximize process efficiencies, by improving product quality to protect the health and safety of personnel and the environment and also by preserving capital equipment and investments.

Our experienced team provides customised solutions across a wide range of sectors internationally. Our goal is to ensure qualitative and efficient gas measurement systems for your specific gas measurement requirements.

A photograph of an industrial facility, likely a chemical or pharmaceutical plant. The scene is filled with large, cylindrical stainless steel tanks and complex piping systems. The tanks are interconnected by various pipes, valves, and gauges. The background shows a large window with a view of a landscape, and the overall environment is clean and well-maintained. The lighting is bright, highlighting the metallic surfaces of the equipment.

We have the ability to supply either in-line or extractive oxygen measurement systems designed to prevent flash fires and explosions on process applications.

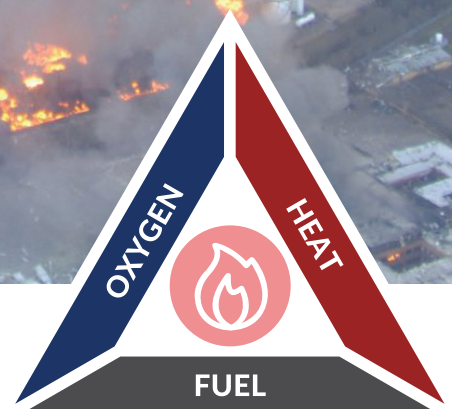
40 Years' Experience of Fail-safe Oxygen Measurement in the Chemical and Pharmaceutical Industry

Ntron is the market leader for the supply of oxygen analysis-based inerting control systems for safety critical applications.

We have the ability to supply either in-line or extractive oxygen measurement systems designed to prevent flash fires and explosions on process applications.

We have developed successful relationships with several OEM manufacturers, in applications such as: centrifuges, chemical reactors, thermal oxidisers, dryers and milling applications.

We can assure you through our cross-industry experience and our SIL 2 (IEC 61508) capable solutions that we can provide the most suitable option to your individual needs.



The Combustion Triangle

Fire is a chemical reaction and without one of these components, fire cannot exist or be sustained.

Application

Flammable solvents are essential ingredients of many centrifuge separation processes. Such applications raise the possibility of flash fire or explosions. If the oxygen concentration within the combustible mixture is decreased sufficiently, a flame cannot propagate.

The use of inert gas will effectively deplete the oxygen concentration in the process and provide the required level of safety.

The use of oxygen based inert gas control is the only direct method of preventing flash fire and explosions.

Solution 1 - In-Line

Safe Area



SIL2-capable

Oxygen Analyzer designed to comply with the requirements of IEC 61508 for the fail-safe oxygen measurement on inert gas blanketing applications

Hazardous Area

Retractable Oxygen Sensor System

for In-Situ / In-Line process measurement



Solution 2 - Extractive

Safe Area



OxyOne Oxygen Analyzer

for inerting control applications

Hazardous Area



Extractive Sampling System

designed for harsh applications where extreme temperature and pressure conditions exist.



Schematic Diagram for Centrifuges

The Ntron Solution

Ntron has developed an in-line SIL2-capable oxygen analyzer designed specifically for harsh chemical applications within the pharmaceutical and chemical industry.

Products



Single or dual sensor models

OxyOne – Oxygen Analyzer/Inerting System

Technology: Zirconia and Electrochemical

The OxyOne oxygen analyzer is a microprocessor based instrument capable of accepting multiple sensor inputs to control external user components or alarms based upon user configurable setpoint signal outputs.

- Fail safe oxygen measurement
- Dual oxygen sensor inputs
- Sensor trending & sensor life predictor
- RS 485 modbus communication
- Auto-calibration
- Data & alarm logging
- User configurable addressable alarms
- Rack, bench or wall mounted IP 65 enclosure



Remote oxygen sensor for easy installation and maintenance

OxyTx – Oxygen Analyzer for Hazardous Areas

Technology: Zirconia and Electrochemical

The OxyTx oxygen analyzer and transmitter is a low-cost compact and rugged device for measurement of % oxygen concentration in hazardous area applications.

- ATEX approved for use in hazardous areas
- Large LCD display for local % or ppm oxygen concentration readout
- Intrinsically safe device with an IP66 ABS housing



2 Configurable alarm outputs

SiLO2 – Oxygen Analyzer

Technology: Zirconia and Electrochemical

The SiLO2 analyzer is designed to measure oxygen concentration on safety critical applications within the chemical, pharmaceutical and additive manufacturing industries. Applications include centrifuges, reactor vessels, mills, dryers, etc.

- Analyzer and sensor meets the requirements of IEC61508 (SIL2-capable)
- Easy to read display of measured oxygen levels
- Push button calibration
- Solid state ceramic technology for harsh process applications
- Analogue output with RS485 option included
- Plug connector interface wiring terminals
- Inbuilt galvanic isolation barrier

Sample Conditioning Packages

To deliver accurate and reliable gas measurement, sensors require a sample that is free of contaminants. Sample conditioning systems built to withstand harsh processing conditions and efficiently remove damaging contaminants from the sample stream are critical to delivering reliable continuous-duty low-maintenance gas monitoring.

- Continuous positive pressure within the process vessel or system provides the force that pushes the sample gas from the process to the sensor
- A pneumatically-driven aspirator is used to extract the sample gas from the process
- When compressed gas is not available or when the process is running at high vacuum, a diaphragm vacuum pump is used to draw the sample gas stream to the sensor

OxyExtract – In-Line Oxygen Measurement

Technology: Solid State Ceramic Oxygen Sensor

IECEX and ATEX certified, the OxyExtract has the ability to measure O₂ concentration directly in the process gas stream without the need for complex sampling systems. It is perfectly suited to safety critical applications within the chemical and pharmaceutical industries as the sensor can be removed or replaced without opening the process to ambient air.

- In-line oxygen measurement for safety critical applications
- ATEX approved for hazardous area applications
- Manual or automatic actuation
- Available in 316 stainless steel and hastelloy C22
- Tri-clamp and flanged process connections
- Ideal for remote locations

Minox i – Intrinsically Safe Oxygen Transmitter

Technology: Electrochemical

IECEX and ATEX certified, the Minox i is a highly reliable and cost-effective two-wire, loop-powered transmitter with a linearized 4 to 20 mA output. The standard offering has a detection measurement range of 0...25 % oxygen. This compact transmitter utilizes advanced galvanic fuel cell technology that provides a long sensor life with a high level of accuracy and stability.

- Measurement range: 0-25 %O₂
- Industry standard 4–20 mA output
- 24VDC Power supply
- M12 Electrical connection
- Process connection KF40 as standard with optional flowcell
- ATEX certified for gas and dust groups (G&D)



designed for harsh applications



Manual or automatic actuation



ATEX & IECEX certified for gas and dust



Improving the world, one measurement at a time™

ProcessSensing.com

dwyeromega.com

