

PROCESS OXYGEN MEASUREMENT & INERTING ON CENTRIFUGE APPLICATIONS

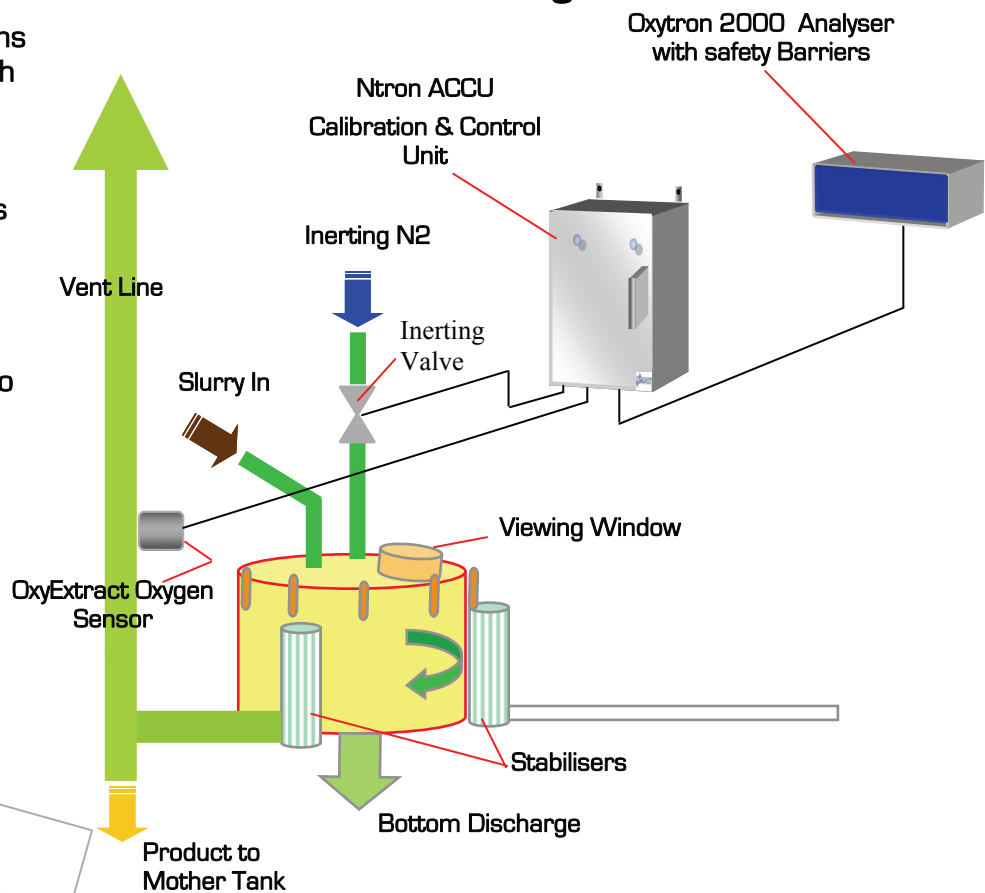
General

Flammable Solvents, Slurries and highly combustible powders are essential ingredients of many centrifuge separation processes. Such combinations of ingredients raise the possibility of flash fires or explosions within those processes.

No flammable process is immune to this threat.

If the Oxygen concentration within the combustible mixture is decreased sufficiently, a flame cannot propagate. So a common method of fire or explosion prevention is using an inert gas blanket within the process vessel. The inert gas blanket will effectively deplete the oxygen concentration in the process and provide the required measure of safety.

A Typical Oxygen Content measurement and Inerting Control system loop for a Centrifuge



The Ntron Solution!

Ntron Process Oxygen Monitoring and Inert Gas Control Systems can help!

It is a fact that Oxygen-based inert gas control is the only direct method of preventing flash fires and explosions. In-Line (In Situ) Oxygen Measurement of Process Oxygen levels is one method of accomplishing this.

The OxyExtract Range of IECEx / ATEX approved retractable In-Line Oxygen Sensors along with the Oxytron Analyser And ACCU Calibration unit, provide a cost effective solution to meet your process safety requirements.



Process Oxygen Measurement

The only direct method for preventing flash fires and explosions-providing a safer working environment .



Process oxygen Industries:

- Pharmaceutical
- Chemical
- Paints and Coatings
- Adhesives
- Petrochemical
- Oil and gas
- OEM Manufacturers



The Oxytron 2000

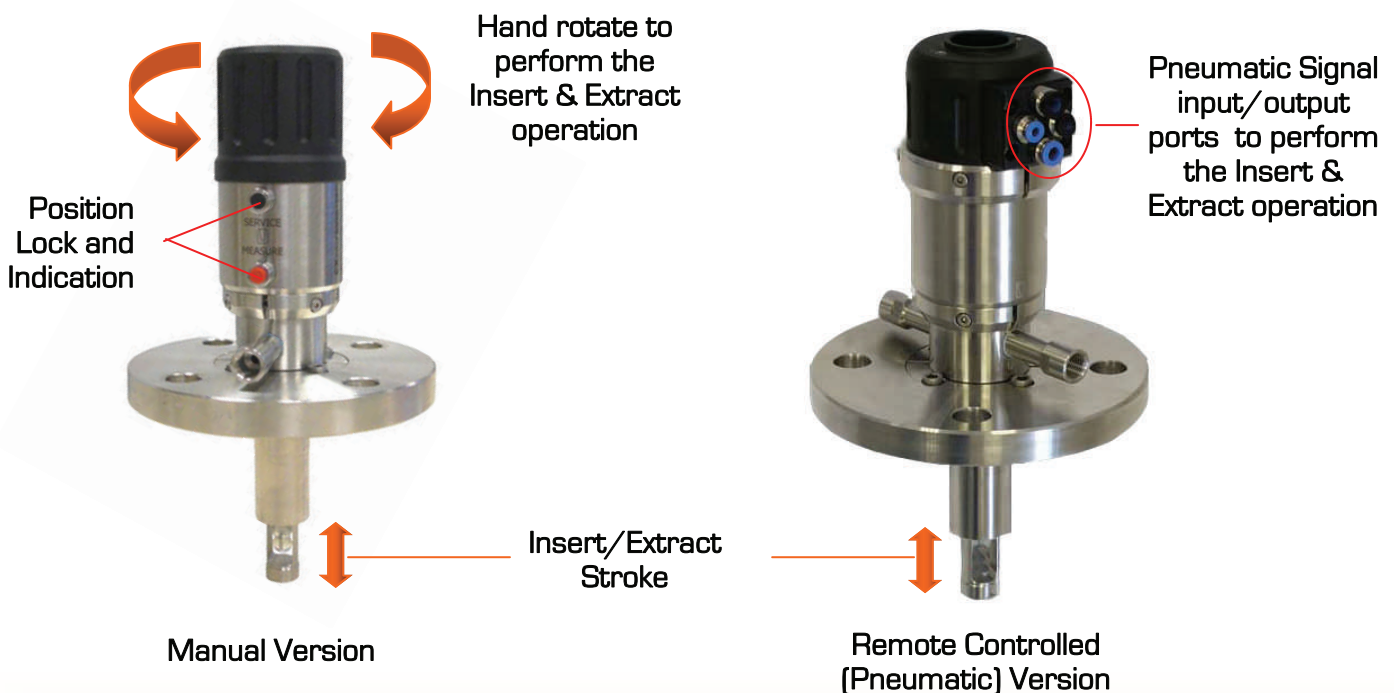
A Panel or Wall Mount Process Analyser for PPM or % Oxygen measurement. 4-20mA industry standard with calibration and Inerting control features.

Ntron *OxyExtract₂₀₀* In-Line Oxygen Sensor.

An Insertable/Retractable Oxygen Sensor Unit for In-Situ/In-Line measurement of Various Processes.

Sensor can be removed/replaced without opening the process to ambient air!

Two basic versions are offered; One for Manual insertion and retraction of the sensor probe, and the other for Remote (pneumatic) insertion and retraction of the sensor probe.



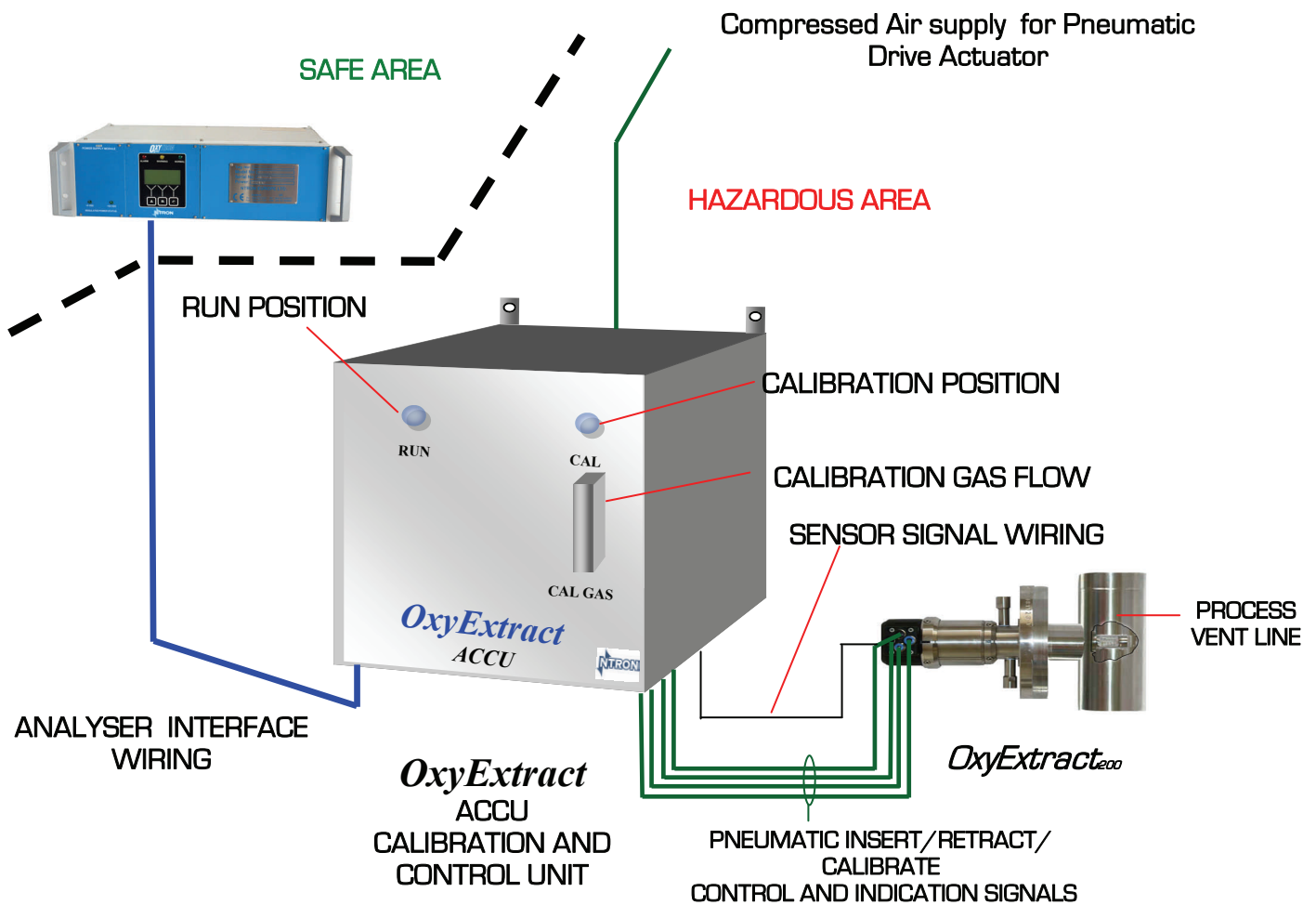
Process Oxygen Applications:

- Thermal Oxidisers
- Vent Lines to Centrifuges
- Reactors
- Mixing Vessels

All Available with Flange or NPT Process Connections

The *OxyExtract*₂₀₀ Solution

TYPICAL INERTING PROCESS OXYGEN MEASUREMENT AND CONTROL SYSTEM AND CONNECTIONS.



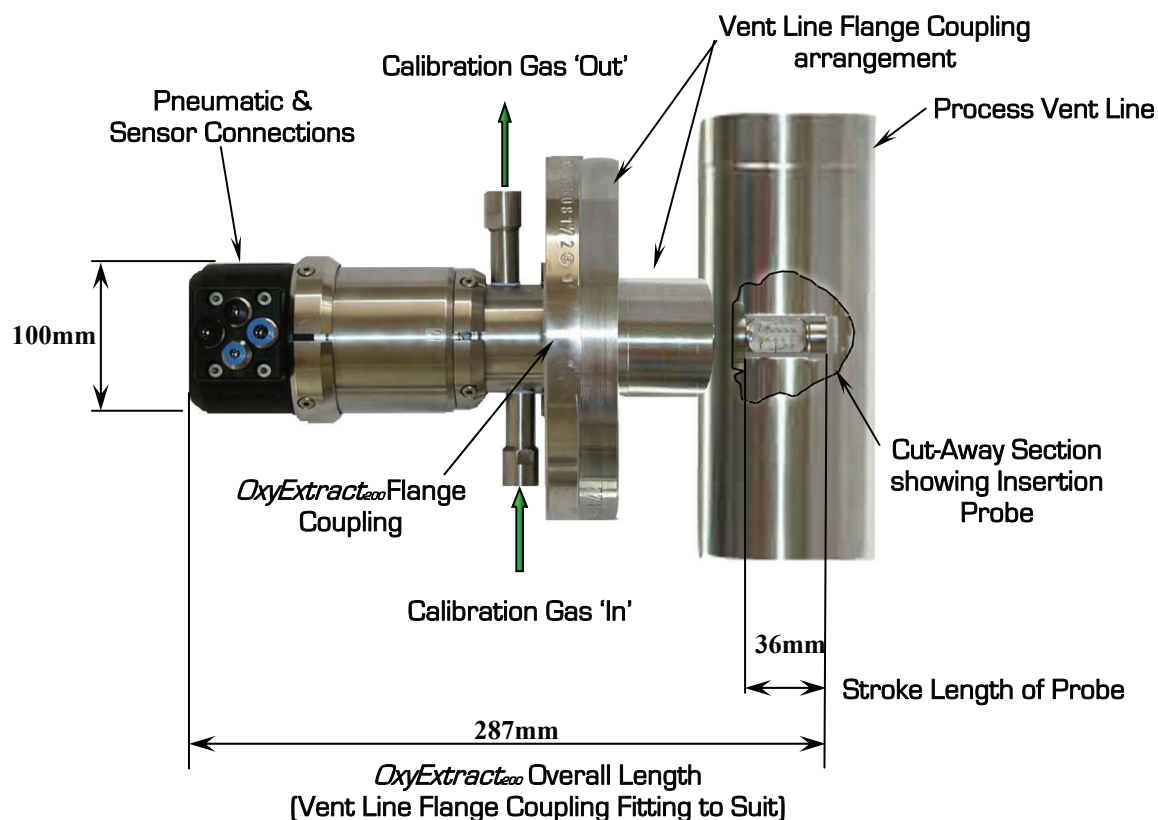
The Ntron Inerting Control System provides for depletion of Oxygen with the Centrifuge to a safe level, whilst optimising the use of Inert Gas for the 'Inert Gas Blanket'.

This provides the additional benefits of reduction of VOC emissions which can occur with excessive use of an Inert Gas, and cost savings for the customer, with the optimum Inert Gas usage being achieved.

In the example shown above, The Oxtron Oxygen Analyser Receives a signal proportional to process oxygen content from the OxyExtract Sensor. Control signals are then sent from the Oxtron Analyser via Calibration and Control unit, to control the inerting process as required.

The position of the Sensor Probe within the OxyExtract unit and process is pneumatically controlled via the ACCU unit. For calibration, the sensor is retracted which isolates the sensor from the process automatically. Calibration Gas can then be introduced via the calibration ports on the OxyExtract unit.

Typical *OxyExtract*₂₀₀ Installation



The *OxyExtract*₂₀₀ offers the option of Manual or Remotely controlled (Pneumatic) Insertion and Extraction of the Oxygen Probe into the process without the need to cease operations and open the process vessel.

In-situ Calibration can be carried out and is fully isolated from pneumatic drive cylinder. Insertion Probe Wiper Ring and PTFE 'Scraper' arrangements ensure long service life and excellent process sealing.

Ntron's OC-25 Chemical Resistant Sensor is ideal for chemical/pharmaceutical applications like Centrifuges, Reactors, Glove Boxes/Isolators or Product Conveyors



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