Oxigraf Case Study:
Head Monitoring System
Oxygen Process Analyzers

Model O2iL and O2iC – Oxygen Process Analyzers:

Modern process control requires fast response without overshoot. The Oxigraf Process Controller responds in less than a second. The transit time of the gas sample through the sampling tube may be 1 second per meter of sampling tube. To respond within 5 seconds, a monitor with a 1 second response time would need to be placed within 4 meters of the potential hazard. Electrochemical sensors may incorporate long averaging times, 20 or more seconds, for large, abrupt changes in oxygen concentration. Laser diode technology offers short response times to meet your control requirements.

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OXIGRAF

The Oxigraf O2iL may be the process controller you need:

- Fast response
- Reliable laser diode technology
- Pressure and temperature correction
- Remote display and maintenance
- Insensitive to movement
- Coded password access
- Sample flow monitor

Oxigraf works with clients across a wide range of industries to address their unique analyzing needs. Recently, for instance, we helped a client who was looking for a way to keep their coffee beans from going stale so quickly. The detailed case study is outlined below.

The Problem:

This client was looking for a way to maintain the freshness of their coffee beans, which were going stale quickly due to oxygen leakage in their storage facility. This, in turn, was resulting in loss of profits from distribution. The company turned to Oxigraf for a reliable coffee bean headspace monitoring solution.

The Solution:

Oxigraf provided an oxygen process analyzer from our O2iL and O2iC Oxygen Process Analyzer product line. The Oxigraf O2iL analyzer we provided is capable of measuring and signaling when oxygen leaks into the storage system, allowing the client to immediately complete needed maintenance tasks. This analyzer also controls the flow of inert gas into the storage silo. With rapid oxygen measurement, monitoring, and response time, the risk of coffee-bean oxidization is eliminated, preventing the beans from going stale.

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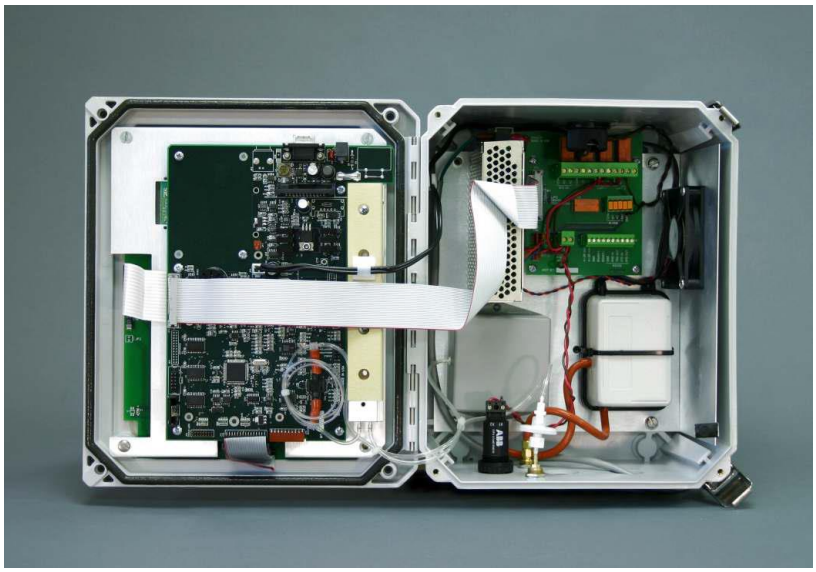
Our team encountered a few unique challenges along the way — such as the complexity involved in measuring the headspace — but a solution was reached through the development of customized equipment, which can measure and control oxygen process gas, combustion oxygen mixtures, or nitrogen purge gas with a response time of less than 1 second.

As a top-of-the-line, modern digital oxygen analyzer, our solution has analog and digital interfaces for the control, display, and data logging of oxygen process parameters. The Oxigraf O2iL features fast response time, reliable laser diode technology, sophisticated pressure- and temperature-correction features, and remote display and maintenance capabilities. It is also insensitive to movement, and has coded password access and a sample flow monitor.



Both the O2iL and the O2iC oxygen process analyzers have a measurement range of 2-100% (0-100% optional). The cross sensitivity is 0.2% oxygen/nitrogen mixtures. The response time is 500 ms at 200 ml/min flow rate, with additional low-pass filtering programmable. The gas inlet temperature is -20 to 60 ºC, and the gas pressure is 100 to 1150 Mb. The humidity is 0 to 95%, non-condensing. The Oxigraf laser diode oxygen analyzer has a very long life span — especially compared to other options on the market — and requires no periodic replacement or servicing.

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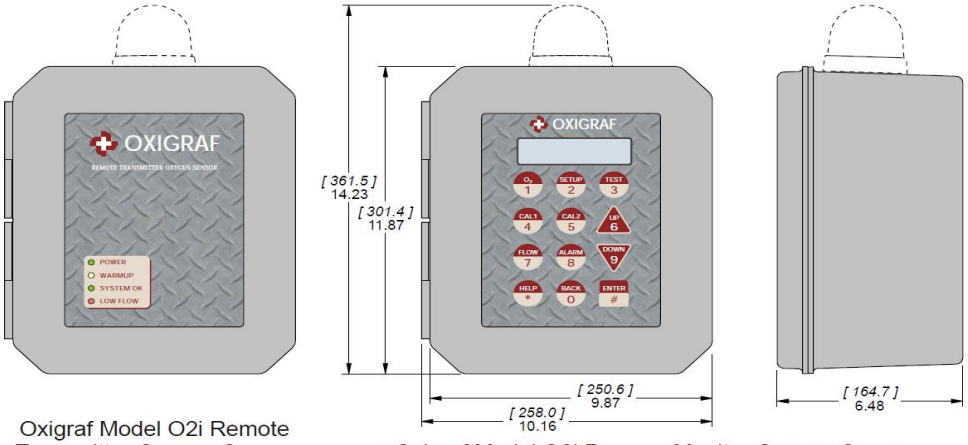
The Result:

The client's problem was easily resolved with the use of our O2iL – O2iC analyzer model, which allowed for an accuracy of +/-0.2%. The customer is now able to keep their coffee beans fresh for longer periods of time, resulting in higher profits in distribution. This client was very pleased with the system we provided, and has since spread the word about our product line and capabilities to other customers in the food industry.

Oxigraf O2i Oxygen Process Monitor Dimensions:



Oxigraf Model O2i Remote Transmitter Oxygen Sensor

Oxigraf Model O2i Process Monitor Oxygen Sensor

Learn More:

Oxigraf has over 20 years of experience producing laser gas sensors and instruments, and is the leading manufacturer of laser absorption spectroscopy sensors for oxygen gas measurement and analysis. Oxigraf O2iM Oxygen Safety Monitors have been widely adapted in hundreds of facilities since 2004, replacing a wide range of less reliable electrochemical sensors. Oxigraf O2 and CO2 sensors, in particular, have been widely adapted by OEM manufacturers of medical respiratory gas monitors in order to measure breath waveforms, end-tidal gas values, anaerobic thresholds, VO2 max, and non-invasive cardiac outputs. For more information on our sensors, or to speak with an expert about your specific monitoring needs, contact the team today.

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