

ICP
Pushing Limits of Detection
with Multi-Quadrupole ICP-MS

THEORY & FUNDAMENTALS
Spreadsheets: A Foundation for
Lack of Data Integrity?

IR
IR Spectral Interpretation
of Nitro Groups

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Spectroscopy[®]

SOLUTIONS FOR MATERIALS ANALYSIS



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and Dispersion in
Raman Spectroscopy**

TECHNIQUE FOCUS

**Raman Spectral Reconstruction
and Fast Imaging Based on
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APPLICATIONS

**2020 Emerging Leader in
Molecular Spectroscopy:
Markita del Carpio Landry**

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Quantum Computer Helium Laboratory Oxygen Deficiency Monitor O2iM from Oxigraf

Oxigraf, Inc.

The Oxigraf state-of-the-art Oxygen Deficiency Monitor, the Model O2iM, is a responsive, accurate, and reliable safety monitor for oxygen displacement monitoring in quantum computer laboratory, MRI, NMR, and liquid nitrogen and helium storage facilities. Our reliable solid-state sensor does not require routine maintenance or factory calibration, and the O2iM is equipped with an automatic, programmable auto-calibration system. The system easily interfaces with alarm system and building management systems.

Oxigraf Case Study

State-of-the-art helium (and other rare gases) recovery, purification, and liquefaction systems are required for operation of helium-3/helium-4 milli Kelvin dilution refrigerators in modern quantum computer laboratories, liquid helium superconducting magnets, MEG systems for medical applications, cryogenic measurement cryostats, and various size helium and cryogenic vacuum facilities.

The Problem

Reliable solutions for sampling gas from remote locations in a helium processing facility are needed to monitor equipment and personnel safety. During their operations, helium processing facilities deal with the presence of cryogenic nitrogen and helium, presenting oxygen deficiency hazards. Oxygen deficiency in the workplace can lead to blackouts, cause falls, and present more serious health risks—some of which can be fatal. The Oxigraf expert team can be brought in to help eliminate the risk of oxygen depletion.

The Solution

The Oxigraf Model O2iM has a high-flow pump option and allows for sampling from long distances. This sensor allows for continual monitoring of the clients' facilities atmosphere from a safe location and provides local alarms and interfaces with sophisticated safety features to prevent hazards such as cryogenic spills, which can lead to rapid displacement of breathing air. Oxigraf's top-of-the-line oxygen deficiency monitor is flexible and efficient, and it provides the client with a reliable, immediate oxygen alarm for concentrations of less than 19.5%. It also eliminates the need for frequent recalibration or replacement of oxygen sensors as well as the



Figure 1: Oxigraf state-of-the-art Oxygen Deficiency Monitor, Model O2iM.

comprehensive, time-consuming maintenance often involved in sampling systems. The risk of false alarms and alarm failures can also be eliminated.

The Result

It can be determined that O2iM allows reliable performance 24/7. Oxigraf customers are particularly impressed with the unique engineering of the "Pre-Fetch" high-flow pump option, which allows for the monitoring of distant sample locations while maintaining fast response times.

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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