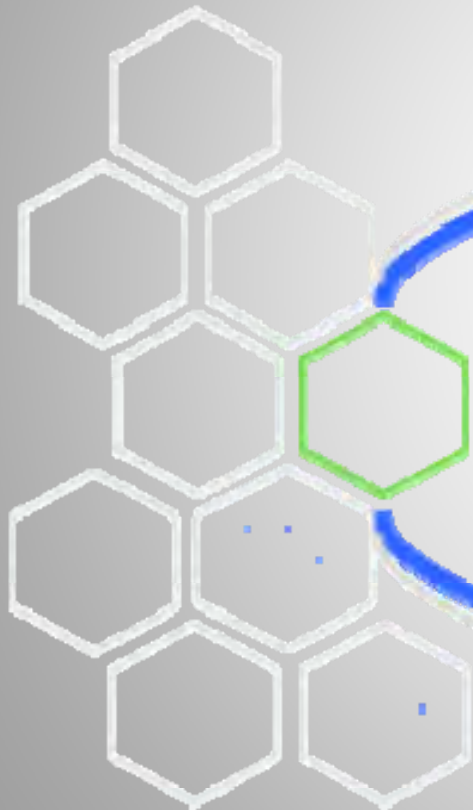




Analytical Industries Inc.
Advanced Instruments Inc.



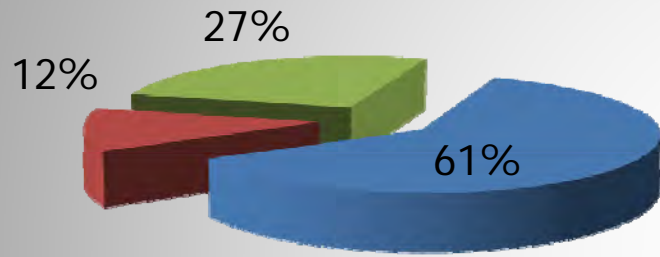
"Innovative solutions to gas analysis"



Business Breakdown

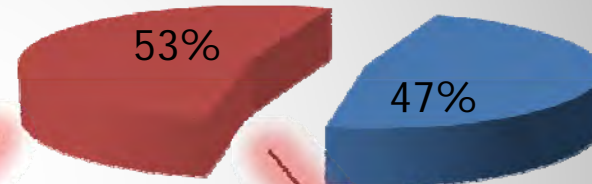
Total Sales by Market

■ Industrial ■ Diving ■ Medical



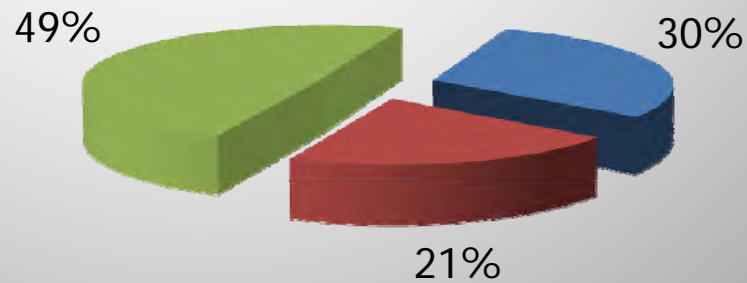
Total Sales by Product

■ Analyzers ■ Sensors



O2 Sensor Sales

■ Industrial ■ Diving ■ Medical



233 Different Sensors Manufactured

115 Industrial Sensors

- 4 Oxygen PPB
- 23 Oxygen PPM
- 82 Oxygen Percent
- 2 Carbon Monoxide PPM
- 1 Carbon Dioxide PPM
- 1 Combustible Percent
- 2 Hydrogen Sulfide PPM

66 Medical O₂ Sensors

Supplier to Ventilator Manufacturers
CareFusion
Hamilton Medical (US, Europe)
Newport Medical
Respironics

52 Diving Sensors

- 50 Oxygen Percent
- 1 Thermal Conductivity (Helium)
- 1 Environmental – Temperature, Barometric Pressure, Humidity

Supplier to US Navy Seals since 1998



Quality System Certifications



510K Oxygen Sensors - K952376
510K Oxygen Analyzers/Monitors - K053407



ISO 9001:2008

Medical Device Directive 93/42/EEC Annex II
as amended by 2007/43/EC



ISO 13485:2003 (Health Canada)

Incoming Material Acceptance Testing



Each brick of anode material is cleaned to remove any contaminants, then milled to a specific size and assembled in a test lot that must pass specific tests before the brick is accepted for production.



Thermistors are assembled in a test lot and temperature tested to confirm the performance over the temperature changes is within published specifications before the batch is accepted for production.

HDPE rod (used to make the sensor body) is cut in sections to verify the internal integrity and the roundness confirmed before each lot is accepted for production.

Pre-Assembly Preparation

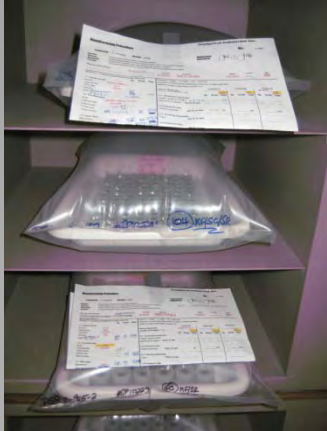


Internal sensor components are subject to proprietary cleaning processes to reduce the possibility of internal contamination.

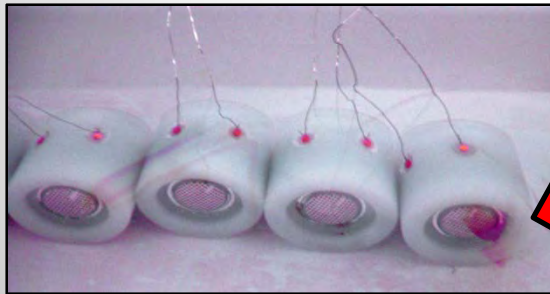


Preventative maintenance of critical equipment, particularly sealing tooling, is performed on a regularly schedule basis by qualified personnel.

In Process Quality Control



Prior to sealing, sensors in process are stored in Nitrogen purged non-permeable plastic bags to prevent air (20.9% oxygen) from reacting with exposed internal components.



Leakage of electrolyte through pinholes in the membranes reacts with the test chemical to produce a brilliant purple plume and readily identify defects.

In Process Quality Control

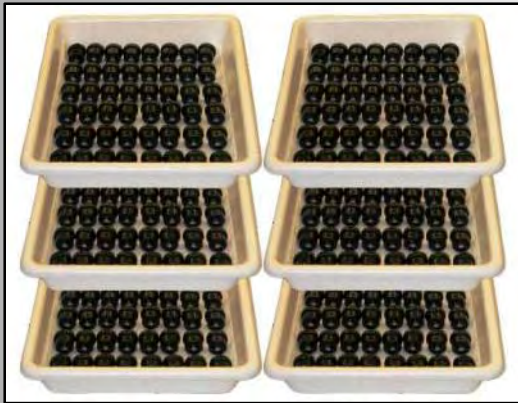


Following leak test, the raw output of every sensor is cycle tested for stability in air, response and stability at 100% oxygen with $\pm 2\%$ criteria.



At critical points in the assembly process, sensors are tested 2-3 times for stability and output with digital voltage meters (DVM) independently calibrated at scheduled intervals. Results are recorded on DHR travelers throughout the manufacturing process.

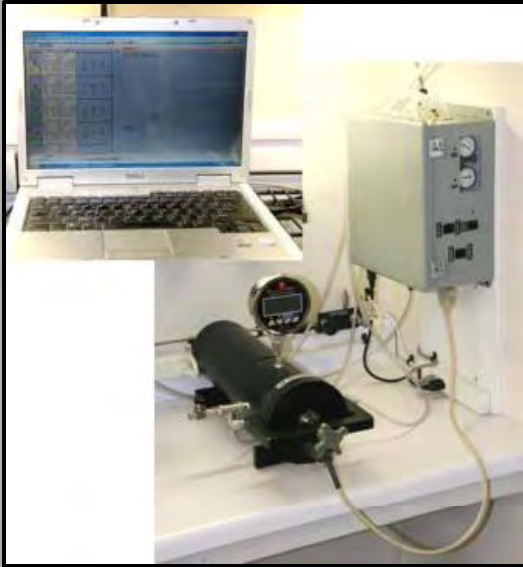
In Process Quality Control



Following completion of the electrical assembly, the output of every sensor is re-tested for stability in air, response and stability at 100% oxygen with $\pm 2\%$ criteria before going into stock.



In Process Quality Control



Sensors destined for diving applications are subjected to a proprietary automated test that confirms signal output in air (20.9%) and linearity at 100% oxygen, and, under 1.8 ATA with a PASS criteria of $< \pm 3\%$.

A test report, right, records the identity, test parameters, mV output and the result at each stage. A copy accompanies each sensor shipped as confirmation of performance.

Model: PSR-11-39-MD
Serial No.: 01134361
Date: 11/17/10 12:19

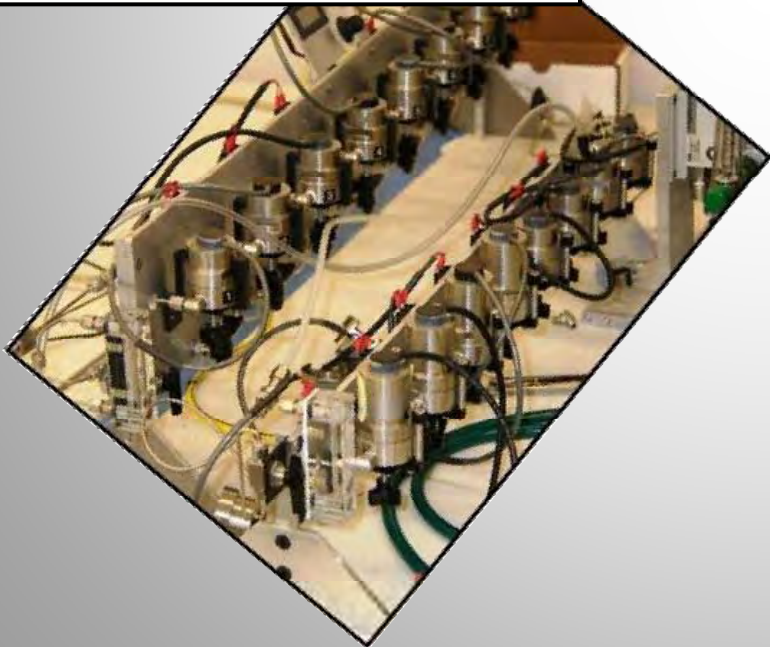
ATA	FO2	PO2	mV	Result
0.954	0.215	0.205	14.02	PASS
0.954	0.990	0.944	65.59	PASS
1.546	0.990	1.530	105.04	PASS

Dalton's Law: $ATA \times FO_2 = PO_2$

In Process Quality Control



PPB and PPM oxygen sensors are subject to different but even more rigorous quality control procedures during manufacture that ensures their capability for ultra high purity analysis.



Key Sensor Quality Statistics

	<u>2009</u>	<u>2010</u>
Sensors Returned	+ 19.2%	- 40.4%
Sensors Manufactured	+ 12.5%	+ 20.0%
Sensors Returned / Manufactured	1.4%	0.7%
Analysis of Sensors Returned:		
Failures	61.3%	41.6%
Damaged in Field	19.6%	19.3%
No Indication of Failure	19.1%	39.1%