

OPTTECH[®]- O₂ MODEL P

Conforms to ASTM Standards F2714-08 and F3136-15

Versatile | Innovative | Easy-to-use

Optical Fluorescence O₂ Analyzer for Measuring Headspace,
Dissolved Oxygen, Oxygen Permeation and Package Leak

THE IDEAL MULTI-PURPOSE ANALYZER – VERSATILE, INNOVATIVE AND EASY-TO-USE



Measurement capabilities of the OpTech®-O₂ Model P:

- Headspace (invasive or non-destructive)
- Non-destructive shelf life analysis
- Dissolved oxygen
- Film permeation (including perforated films)
- Package permeation
- Total Package Oxygen (TPO)
- Gross Leak

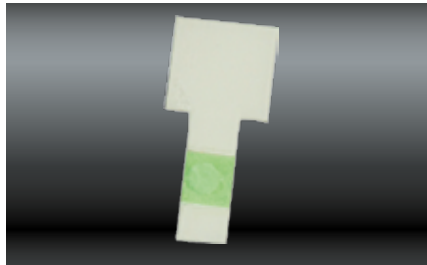
Headspace - Leak Detection - Package Permeation

Sensor types:

Reads accurately through colored packaging materials.



The adhesive sensor requires no preparation and is designed to be inserted into the package, where it is immediately available for use. Testing is conducted through the package wall. The adhesive sensor can also be used to measure dissolved oxygen.



The ImPULSE™ sensor is designed to be inserted into retort and opaque packages, enabling the OpTech-O₂ to monitor the headspace. As the sensor is non-consuming, it is ideal for long term post production shelf life studies.



The OpTech-O₂ Pressure Needle is designed to measure headspace oxygen in any package including limited volume packages. To measure, simply place the tip of the needle into the headspace, and press the activation button. No oxygen is extracted.



Headspace & Permeation



Limited Headspace



Leak Detection



MAP & Quality Control



Produce Films



Dissolved Oxygen and Total Package Oxygen



Retort & Opaque Packages



Transportation Studies



Pharmaceuticals



Medical Device



Test Multiple Samples

Useful for food, beverage, pharmaceutical and medical applications

Software Features

- Unlimited number of concurrent tests
- Continuously monitor O₂ in real time
- One graph - percentage O₂ and transmission rate versus time
- Headspace values with pass/fail limits
- Advanced calibration for wines and spirits, provides increased accuracy at different alcohol % levels
- Barcode system automatically retrieves previous sample data

Option: CFR 21 Part 11 compliant

The versatile OpTech-O₂ Model P provides accurate results, simply and effectively

- Testing does not consume oxygen - ideal for long term oxygen studies
- Oxygen permeation rates of multiple packages or films
- Determine product shelf life for an oxygen sensitive product
- Perform quality control of MAP packages right off the production line (including packages with very limited headspace)

- Conduct transportation and distribution studies
- Understand the effects of total package oxygen including package headspace, as well as dissolved oxygen in a liquid product
- Detect packages with gross leaks

Measure oxygen and understand its effect on products and their shelf life

Simplifies calibration

Calibration Solved Beautifully

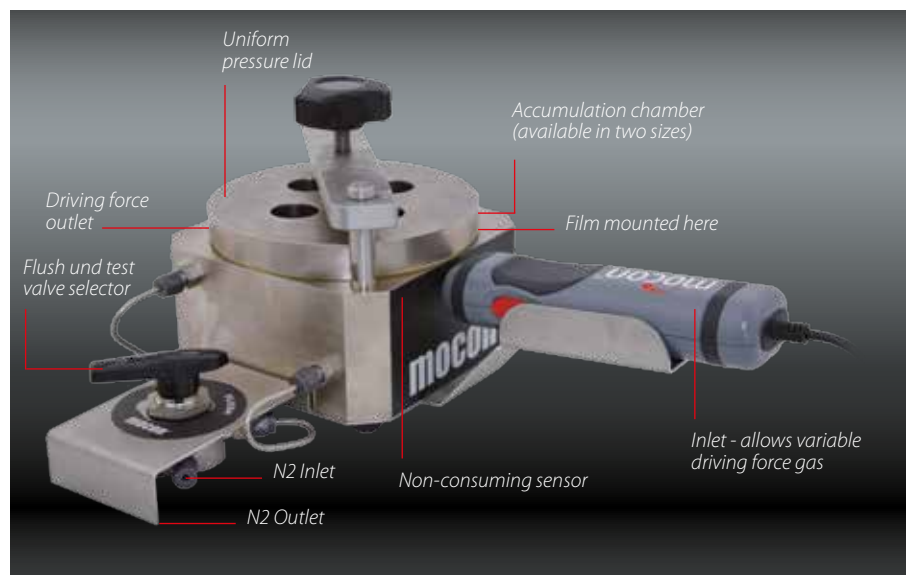
Just select "Calibrate" in the software menu or read the barcode on the Cal-Card, take a reading of "0%", then "Air". No gases needed, and one calibration works for all sensor types. To calibrate the OpTech-O₂ needle, use the CalVial™.



OpTech-O₂ Film Permeation Cell

Optional Permeation Test Cell

The OpTech-O₂ Film Permeation Cell allows for oxygen transmission rate testing of medium and high transmission rate films, including real transmission rates of perforated films as used in fresh produce applications.



IMPROVED OPTECH-O₂ MODEL P

- Ergonomic
- No bulky fiber optic cables
- Lightweight and portable (with Portability Kit)
- Reusable, easy to place sensors – no glues needed
- Easy calibration methods for all sensors
- No gas calibration needed
- Automatic barometric pressure compensation
- Robust invasive needle, no headspace extraction – designed to analyze limited headspace and eliminate inaccuracy caused by unknown internal package pressure.
- Visible, non-UV light source for simple, targeted reading
- Accurate readings through colored packaging material and post production shelf life studies
- ImpULSE™ sensor for opaque packaging materials
- Packaging oriented software package

OpTech-O₂ Model P Specifications

What is Fluorescence Technology?

Fluorescent chemistries, such as the platinum chemistry used in the OpTech-O₂, give off light when stimulated or excited by an external light source. The rate of decay of the fluorescence is directly proportional to the concentration of oxygen present. This is read by the OpTech-O₂ instrument and reported as a percentage of oxygen present in the package. Fluorescence technology does not consume oxygen, making it ideal for long term oxygen studies.

Detector and Base	
Measurement method	Epifluorescence Confocal
Power	Standard Power USB port (2.5 watt)
Operating temperature	10-35°C
Operating humidity	0-100% non-condensing
Compliance	CE/CSA/UL
PDF report options	Through program from computer

Sensors - Adhesive and ImpULSE™	
Application	Adhesive: Sensor is inside package. ImpULSE: Sensor is external
Pressure Compensation	Automatic Barometric Compensation
Repeatability Adhesive (Certified)	± 0.015% (150 ppm) O ₂ or 3% of reading, whichever is greater
Repeatability ImpULSE (Certified)	± 0.05% (500 ppm) O ₂ or 3% of reading, whichever is greater
Range Adhesive	0.001% (10 ppm) to 25% O ₂ Permeation Mode 0.015% (150 ppm) to 25% Headspace Mode
Range ImpULSE	0.05% O ₂ (500ppm) to 25% O ₂
Dissolved Oxygen Range	0.006mg/L to 10.5mg/L
Adhesion	Sensors come ready to apply
Operating temperature	5–40 °C
Operating humidity	0-100% Sensors are designed to be immersed

Sharp & Safety Needle Sensors	
Application	Sensor in needle must be 100% in volume
Pressure Compensation	Automatic Barometric Compensation
Resolution	0.001% (10ppm)
Repeatability	± 0.015% (150 ppm) O ₂ or 2% of Reading, whichever is greater
Range	0.050% (500 ppm) to 25% O ₂
Operating temperature	5–40 °C
Operating humidity	0-100% non-condensing. Needle must not get wet

Pressure Compensation Needle Sensors	
Application	Sensor in needle must be 100% in volume
Resolution	0.001% (10ppm)
Repeatability Package Pressure Range	
0 to 150 mmHg	± 0.100% (1000 ppm) O ₂ or 5% of Reading, whichever is greater
150 to 1,000 mmHg	± 0.015% (150 ppm) O ₂ or 2% of Reading, whichever is greater
Range	0.050% (500 ppm) to 25%
Operating temperature	5–40 °C
Operating humidity	0-100% non-condensing. Needle must not get wet

CalCard®	
Accuracy	± 2% or +/-150 ppm, whichever is greater

CalVial™	
Accuracy	± 150ppm