

8001

## Oxygen Permeation Analyser



New

e-net  
8001

combines the outstanding quality of Systech's Oxygen Permeation Analyser with a unique, online 'Remote Consultant™' capability

**Applications**

Barrier Film   PET Bottles   Containers   Canisters   Flexible pouches   Bags

**Features & Benefits**

- The Remote Consultant™ guidance utility saves time and money.
- New and improved oxygen sensor enhances analytical precision.
- Integrated computer saves valuable laboratory space and compatibility considerations.
- Widest measuring range in the market providing research grade flexibility.
- Electronic flow, temperature and humidity control for ultimate responsiveness and repeatability.
- System validation with certified gas or film for speed and convenience.
- Analytical Systems Manufactured Traceable to NIST.
- No archaic liquid coolants, catalysts or special gas mixtures required.

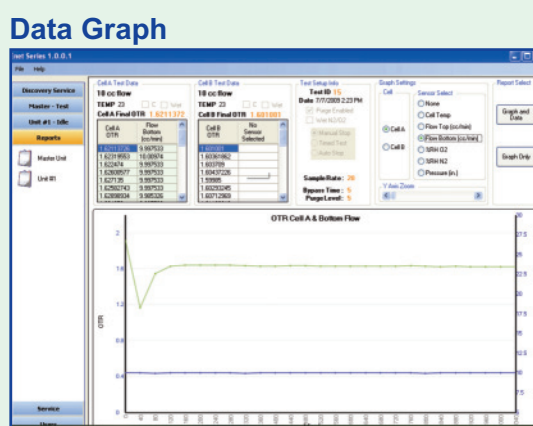
Conforms to:   ASTM D-3985   ISO 15105-2   DIN 53380   JIS K-7126   F2622-08

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The Remote Consultant offers:

- Help and Support - Our experts can train and communicate all aspects of the analyser operation by navigating you through the intuitive menu system on screen.
- On-line instrument diagnostic - Our own Technical Engineers can run complete system diagnostics, baselines, sample tests and even calibrate your analyser assuring it remains in optimum operational condition.
- On-line operation assistance - Method development for unique samples - our Technical Engineers can make recommendations and set-up your test profiles with minimal effort and time.

## Software

[illegible]

The analyser has a new enhanced oxygen sensor offering:

- Extremely fast purge down time.
- Accurate readings at the lowest levels enhancing analytical precision.
- The highest quality sensor in the market with the lowest replacement cost.
- Automatic Barometric Pressure Compensation.

The integral computer eliminates the cost and confusion of sourcing and configuring a work station, whilst saving on valuable laboratory space.

The intuitive Windows based software offers:

- Easy input and recall of operating parameters and test protocols.
- User-friendly data tracking, searches, sorts, storage and output capabilities.
- Complete system diagnostics.

## Widest measuring range

The 8001 e-net analyser gives you the widest measurement range in the market providing:

- Research grade flexibility.
- Research grade accuracy and repeatability.
- Quality Assurance orientated speed and agility.
- Measurement Range ranging from 0.005 cc/m<sup>2</sup>/day to 432,000.
- Up to five Expansion Modules available to increase testing throughput.

## Precision control

This analyser offers precision electronic, temperature and humidity flow control providing ultimate responsiveness and repeatability.

- Test gas and carrier gas flow is controlled by premium electronic flow controllers.
- Widest sample temperature range available - 5°C to 50°C.
- Accurate Relative Humidity range from 20% to 90% RH.
- Fastest changeover from wet to dry sample runs.
- No need for archaic liquid coolants, catalysts or expensive gas mixtures - just simple Nitrogen and Oxygen.

## Laboratory Testing Services

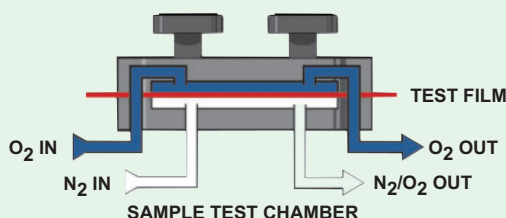
Our test laboratory will perform your Permeation Testing and Headspace Analysis. Whether you are developing innovative materials and packages or validating that your supplier is meeting specification. We can exceed your expectations with:

- Competitive Prices
- Fast Turnaround
- Independent non-biased results
- 25 Years Experience

## Principle of Operation

Utilising our proprietary coulometric sensor technology to detect oxygen transmission rates samples are clamped or attached to a diffusion chamber. Pure oxygen (99.9%) is then introduced into the upper half of the chamber while an oxygen-free carrier gas flows through the lower half.

Molecules of oxygen diffusing through the sample into the lower chamber are conveyed to the sensor by the carrier gas.



This allows a direct measurement of the oxygen without using complex extrapolations. Oxygen transmission rate of the test sample is displayed as either cc/m<sup>2</sup>/day or cc/100in<sup>2</sup>/day.



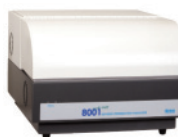
## Systech 8000 Series - Oxygen Permeation Analysers

Systech's range meets the requirement for the testing of any application.



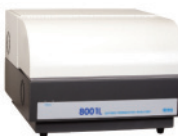
### 8001

2 stations for films or packages, precise humidity control, can switch between wet or dry samples within minutes.



### 8001 e-net

As 8001, with new coulometric oxygen sensor and an integrated computer.



### 8001L

As 8001, with new coulometric oxygen sensor.



### 8002

As 8001, but tests only dry or wet (assumed 100% RH).



### 8003

As 8001, but tests dry only.



### 8200

2 station for films or packages.



### 8501

Reduced specification single station for film or package, dry test only.



### 8700

11 stations for films or packages.

## Technical Specifications

8001 8001 e-net 8001L 8002 8003 8200 8501 8700

### OTR Test Range

#### Films

0.005 - 432,000 cc/m<sup>2</sup>/day  
(0.0003 - 28,000 cc/100in<sup>2</sup>/day) No masking required

0.008 - 432,000 cc/m<sup>2</sup>/day  
(0.0005 - 28,000 cc/100in<sup>2</sup>/day) No masking required

0.04 - 100,000 cc/m<sup>2</sup>/day  
(0.0001 - 5,000 cc/100in<sup>2</sup>/day) No masking required

1 - 99,999 cc/m<sup>2</sup>/day  
(0.07 - 68,000 cc/100in<sup>2</sup>/day) No masking required

#### Package

0.00004 - 1,000 cc/pack/day

### Test Temperature Range

5°C to 50°C (41°F to 122°F)  
15°C to 40°C (59°F to 104°F)

### Controlled RH Testing

Dry and 20% to 90% RH  
Dry and Unknown Wet RH (Assumed saturated or 100% RH)  
Dry only

### Expansion

Expandable up to 5 Modules (Total 12 test cells)  
Expandable up to 5 Modules (Total 66 test cells)

### Test Sample Size

Films 50cm<sup>2</sup>  
Films 100cm<sup>2</sup>  
Packages

### Calibration

Films or NIST gas

### Automatic Temperature Control

	8001	8001 e-net	8001L	8002	8003	8200	8501	8700
0.005 - 432,000 cc/m <sup>2</sup> /day (0.0003 - 28,000 cc/100in <sup>2</sup> /day) No masking required		✓	✓					
0.008 - 432,000 cc/m <sup>2</sup> /day (0.0005 - 28,000 cc/100in <sup>2</sup> /day) No masking required	✓			✓	✓			
0.04 - 100,000 cc/m <sup>2</sup> /day (0.0001 - 5,000 cc/100in <sup>2</sup> /day) No masking required						✓		✓
1 - 99,999 cc/m <sup>2</sup> /day (0.07 - 68,000 cc/100in <sup>2</sup> /day) No masking required							✓	
Package 0.00004 - 1,000 cc/pack/day	✓	✓	✓	✓	✓	✓		✓
Test Temperature Range 5°C to 50°C (41°F to 122°F) 15°C to 40°C (59°F to 104°F)	✓	✓	✓	✓	✓	ambient	✓	ambient
Controlled RH Testing Dry and 20% to 90% RH Dry and Unknown Wet RH (Assumed saturated or 100% RH) Dry only	✓	✓	✓	✓	✓	✓	✓	✓
Expansion Expandable up to 5 Modules (Total 12 test cells) Expandable up to 5 Modules (Total 66 test cells)	✓	✓	✓	✓	✓	✓		✓
Test Sample Size Films 50cm <sup>2</sup> Films 100cm <sup>2</sup> Packages	✓	✓	✓	✓	✓	✓	✓	✓
Calibration Films or NIST gas	✓	✓	✓	✓	✓	✓	✓	✓
Automatic Temperature Control	✓	✓	✓	✓	✓	ambient	✓	ambient

Systech Instruments have over 25 years experience of providing analysis solutions for a wide range of industries. From our manufacturing plant in the UK we produce gas analysers for industrial process industries, headspace analysers for monitoring gas flushing of food products, and our range of permeation analysers.



17 Thame Park Business Centre, Wenman Road,  
Thame, Oxfordshire OX9 3XA  
Tel: +44 (0)1844 216838 Fax: +44 (0)1844 217220  
E-mail: advice@systech.co.uk www.systechinstruments.com



Illinois Instruments, inc  
2401 Hiller Ridge Road  
Johnsburg, Illinois 60050  
U.S.A.  
Tel: +1 815 344 6212  
Fax: +1 815 344 6332  
E-mail: sales@illinoisinstruments.com  
www.illinoisinstruments.com