8501 Oxygen Permeation Analyser



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Analysing

; Production

Advanced Technologies in Oxygen Permeation Measurement



Applications

Produce Manufacturers

Packaging Manufacturers

Process Companies

Food Companies

Converters

Distributors

R&D

Features & Benefits

- Digital electronics
- OTR displayed as cc/m²/day or cc/100in²/day
- Automated test routine
- Scaleable analogue outputs
- RS232 output

- Data logging capabilities
- Low cost system
- Accuracy traceable to current NAMAS/N.I.S.T. standards
- Sensor life indicator

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

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Productio

Your solution to laboratory quality analysis of packaging film barriers in a simple to use benchtop system.

Systech Illinois' 8501 offers a cost effective solution for those who need accurate, uncomplicated measurement of oxygen transmission rates (OTR) through permeable films.

The 8501 features state of the art electronics that allow the user to initialise test or calibrate with the touch of a button. Scaleable analogue outputs allow the user flexibility when connecting to a chart recorder.

A standard RS232 port enables data logging capabilities. The unique LIFE parameter indicates when the internal oxygen sensor needs to be replaced.



Systech Illinois' 8501 combines trace oxygen sensitivity, rugged dependability, and exceptional ease of use in a compact, single chamber, precision oxygen permeation analyser.

Fast Analysis

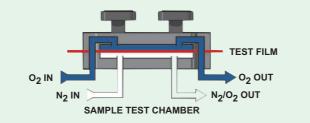
The proprietary sensor design of the 8501 allows for extremely fast, accurate results. In a head-to-head comparison between the 8501 and its competitors, the 8501 was proven to be up to 4 times faster.

With a purge time of only 30 minutes and test times as short as 20 minutes, the 8501 is a must for high volume production facilities.

With 2 button operation, the 8501 is simple to operate and requires little or no special operator training. The unit is easily calibrated to a certified NAMAS / N.I.S.T. traceable calibration gas. This makes the test results traceable to current NAMAS / N.I.S.T. standards.

Principle of Operation

The 8501 utilises our proprietary sensor to detect oxygen transmission rates through flat film barriers. Flat film samples are clamped in 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 film into the lower chamber are conveyed to the sensor by the carrier gas.

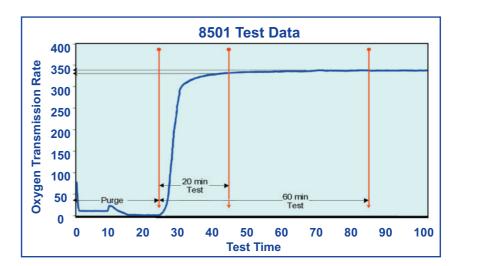


This allows a direct measurement of the oxygen without using complex extrapolations. Oxygen transmission rate of the test film is displayed as either cc/m²/day or cc/100in²/day.

Proven Accuracy

The data plot below illustrates that a test film of 340cc/100in²/day and a test run of 60 minutes yields only about 8cc/100in²/day (2.3%) increase. This is compared to the 332cc/100in²/day sensed within the first 20 minutes.

Many applications will find that a shorter 20 minute test routine will consistently produce reliable and adequate results.

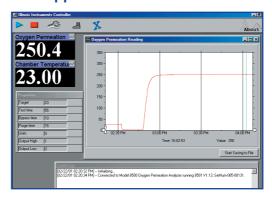


Easy to use software

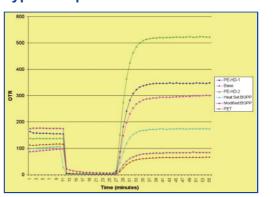
Although the 8501 is a stand-alone instrument, an RS232 port is provided for connection to a PC. Supplied software allows users a graphical interface for display, storage, and printout of the data.

The stored data can also be exported to a spreadsheet program such as Excel® or Lotus®. These programs allow you to graph and print the data or incorporate it into analysis reports for customers or management.

PC Supplied Software



Typical Exported Excel® File



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8000 Series - Oxygen Permeation Analysers

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



8001

8001 e-net

8002

533 x 533 x 305(mm) 28.1kg 2 stations for films or packages, precise humidity control, can switch between wet or dry samples within minutes.

As 8001, with new coulometric oxygen

533 x 533 x 305(mm) 28.1kg

533 x 533 x 305(mm) 28.1kg

(assumed 100% RH).

As 8001, but tests only dry or wet

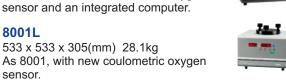


533 x 533 x 305(mm) 28.1kg As 8001, but tests dry only.



8200

533 x 533 x 305(mm) 28.1kg 2 station for films or packages.



8501

356 x 356 x 279 (mm) 18.2kg Reduced specification single station for film or package, dry test only.



8700

760 x 590 x 350 (mm) 65kg 11 stations for films or packages.

Technical Specifications 8001 8001 8001L 8002 8003 8200 8501 8700 **OTR Test Range Films** 0.005 - 432,000 cc/m²/day (0.0003 - 28,000 cc/100in²/day) No masking required 0.008 - 432,000 cc/m²/day (0.0005 - 28,000 cc/100in²/day) No masking required 0.04 - 100,000 cc/m²/day (0.0001 - 5,000 cc/100in²/day) No masking required 1 - 99,999 cc/m²/day (0.07 - 6,800 cc/100in²/day) No masking required **Package** 0.000025 - 1,000 cc/pack/day 0.00004 - 1,000 cc/pack/day Test Temperature Range ambient ambient 5°C to 50°C (41°F to 122°F) 15°C to 40°C (59°F to 104°F) Controlled RH Testing Dry (0% RH) or generated RH (20% to 90%) 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 50cm² Films 100cm² **Packages** Calibration Films or NIST gas **Automatic Temperature Control** ambient ambient Power rating 100-240 VAC, 50/60 Hz, 840 VA (max) 100-240 VAC, 50/60 Hz, 150 VA (max)

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Systech Illinois reserve the right to change specifications without notice. 09/2010

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