

# 8700

## Oxygen Permeation Analyzer



When you need fast and reliable oxygen permeation testing for multiple bottles, packages, or films the Systech Illinois 8700 provides you with the ultimate solution.

- Tests bottles, packages or films
- 11 test stations - expandable to 66
- Ultra fast high production throughput

### Applications

- PET bottles
- Coated PET bottles
- Coated bottles for beer, wine etc.
- Pet food pouches
- Cereal packages
- Pharmaceutical packaging
- Fruit juice containers
- Soft drinks bottles
- Bottle closures
- Barrier films



### Features & Benefits

- Maximize production throughput - Illinois' Turbopurge™ technology ensures the fastest possible stabilization time for the permeation measurement. Preventing 'out of specification' production. Testing can be done in only 3 - 12 hours.
- Measurement of 11 samples simultaneously - individually started, stopped or delayed. Easy sample connection and rapid measurements make the 8700 the most efficient bottle/package/films permeation analyzer available.
- Easy to use - Windows® based software is easy to set up with QuickStart stored testing configuration settings and clear concise results presentation.
- Widest measurement range - using our proven coulometric sensor provides you with reliable, repeatable, and accurate measurements.
- Low running costs - no special gases required, industrial grade nitrogen is all you need.

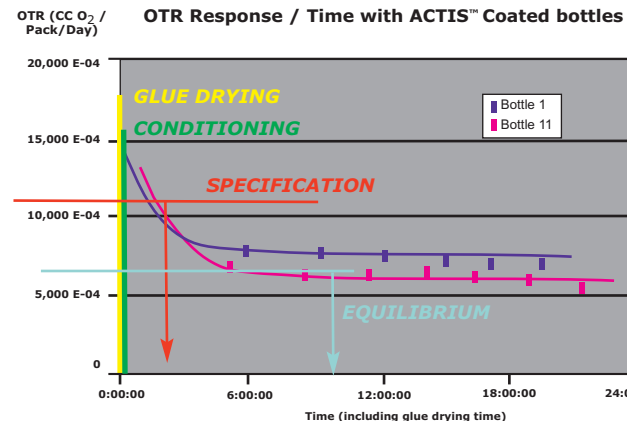
Conforms to: ASTM D-3985 ASTM F-2622 ISO 15105-2 DIN 53380 JIS K-7126  
Electromagnetic Compatibility Directive 89/336/EEC Low Voltage Directive 73/23/EEC

# 8700 Oxygen Permeation Analyzer

## Maximize Production Throughput

**Avoid production scrap and expensive re-work costs**

The 8700 Turbopurge™ works in conjunction with the proprietary coulometric sensor. Complete test results for barrier coated PET bottles are available in less than 12 hours. Specification tests for QC can be obtained in less than 3 hours.



## Multiple Test Stations

### Simultaneous Measurements

Multi-station plastic bottle moulding units require multi-chamber OTR analysis. One 8700 is equipped with 11 test chambers as standard. For even greater capacity you can add 5 expansion units (66 test chambers total) controlled by a single work station. Each test chamber can be individually enabled / disabled / stopped / started / delayed.



## Easy to Use

The control software is simple and intuitive. Training requirements are minimal, and QA staff can be carrying out OTR tests in a matter of minutes. In real time, the Windows® based software will provide you with a complete graphical representation of the measurement so that you can monitor the process and document the results.



- Easy to use tabs**: Points to the 'TESTS' and 'PLOTS' tabs at the top.
- Analyze data over any duration**: Points to the data table showing OTR values over time for multiple stations.
- 'At a glance' station status**: Points to the 'TEST-RUNNING', 'FREE', and 'PURGE' status indicators for each station.
- Simple set up menu**: Points to the 'Test Settings Station 10' and 'Purge Settings' panels.
- Instant recall of commonly used settings**: Points to the 'Recall Settings' and 'Save Settings' buttons.

## Widest Measuring Range

One analyzer has the ability to evaluate a wide variety of barrier alternatives and their corresponding performance.

## Automatic Control

Utilizes software to automatically manipulate mass flow controllers, temperature and all important test parameters while archiving valuable data, settings, and results graphically and digitally.

## R & D and QC

Whatever your application may be, the 8700 has the speed and flexibility to be used as an invaluable QA tool, saving time and money. The instrument is equally at home within a Research and Development environment, enabling cutting edge barrier technologies to be tested for OTR.

## How it Works

Film samples are clamped or packages are attached to the test chamber. Ambient oxygen surrounds the sample under test, while oxygen free carrier gas flows over the other side of the sample. Molecules of oxygen permeate through the sample and are conveyed to the coulometric sensor.

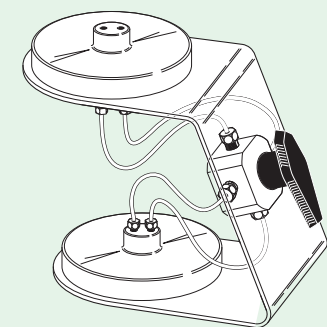
## Built to be Versatile

Versatile package testing by simply switching the 8700 bottle platens with optional alternate platens to analyze films, containers, canisters, pouches, bags, closures and more.

## Adapters

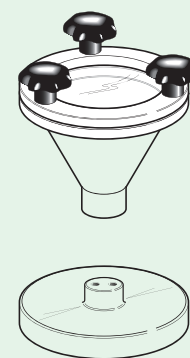
### Delay Repeat Test Adapter

Test any package that will take days to equilibrate. Connect and start test. Withdraw to shelf and reconnect later to verify equilibrium.



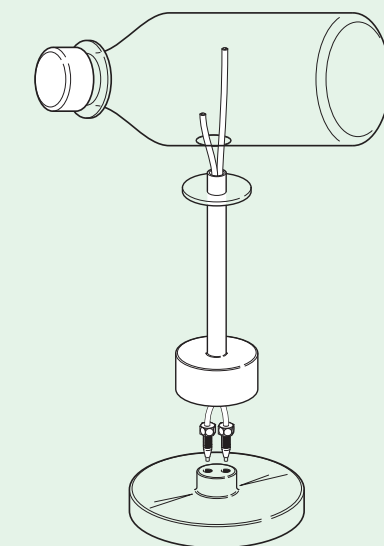
### Film Test Adapter

Test any film sample. May also be used to check the calibration of the instrument



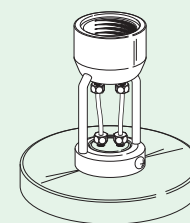
### Complete Package Adapter

Glue to complete package for easy and quick testing.



### Bottle Adapter

No need to glue bottle to adapter anymore. Just screw in for fast testing.



## 8000 Series - Oxygen Permeation Analyzers

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



**8001** 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.



**8001 e-net** 533 x 533 x 305(mm) 28.1kg  
As 8001, with new coulometric oxygen sensor and an integrated computer.



**8001L** 533 x 533 x 305(mm) 28.1kg  
As 8001, with new coulometric oxygen sensor.



**8002** 533 x 533 x 305(mm) 28.1kg  
As 8001, but tests only dry or wet (assumed 100% RH).



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

	8001	8001 e-net	8001L	8002	8003	8200	8501	8700
<b>OTR Test Range</b>								
<b>Films</b>								
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 - 6,800 cc/100in <sup>2</sup> /day) No masking required							✓	
<b>Package</b>								
0.000025 - 1,000 cc/pack/day	✓	✓	✓	✓	✓	✓		✓
0.00004 - 1,000 cc/pack/day								
<b>Test Temperature Range</b>								
41°F to 122°F (5°C to 50°C) 59°F to 104°F (15°C to 40°C)	✓	✓	✓	✓	✓	ambient	✓	ambient
<b>Controlled RH Testing</b>								
Dry (0% RH) or generated RH (20% to 90%) Dry and Unknown Wet RH (Assumed saturated or 100% RH) Dry only	✓	✓	✓	✓	✓	✓	✓	✓
<b>Expansion</b>								
Expandable up to 5 Modules (Total 12 test cells) Expandable up to 5 Modules (Total 66 test cells)	✓	✓	✓	✓	✓	✓		✓
<b>Test Sample Size</b>								
Films 50cm <sup>2</sup> Films 100cm <sup>2</sup> Packages	✓	✓	✓	✓	✓		✓	✓
<b>Calibration</b>								
Films or NIST gas	✓	✓	✓	✓	✓	✓	✓	✓
<b>Automatic Temperature Control</b>								
	✓	✓	✓	✓	✓	ambient	✓	ambient
<b>Power rating</b>								
100-240 VAC, 50/60 Hz, 840 VA (max) 100-240 VAC, 50/60 Hz, 150 VA (max)	✓	✓	✓	✓	✓	✓	✓	✓

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