

# 8700 & 8701 Oxygen Permeation Analysers



The ultimate solution for fast and reliable oxygen permeation testing of multiple bottles, packages, or films



## 8700 Applications

**Ideal for rapid permeation testing of multiple bottles**

- PET bottles
- Coated PET bottles
- Coated bottles for beer and wine
- Soft drinks bottles
- Bottle closures

## 8701 Applications

**Ideal for flexible testing of different packaging types**

- Pet food pouches
- Cereal packages
- Pharmaceutical packaging
- Trays
- Complete packaging
- Barrier films
- Fruit juice containers
- PET bottles

## Features & Benefits

- Measurement of 11 samples simultaneously - individually started, stopped or delayed. Easy sample connection and rapid measurements make the 8700/8701 the most efficient permeation analysers available.
- Ultra fast testing - Systech Illinois' Turbopurge™ technology ensures the fastest possible stabilisation time for the permeation measurement. Saving out-of-specification production time. Testing can be done in as little as 3 hours.
- These analysers are set up to eliminate errors and reduce operator training.
- Confidence in your permeation measurement - the proven coulometric sensor provides you with reliable, repeatable, and accurate measurements, time and time again.
- Simple Windows® based software control - easy to set up with QuickStart stored testing configuration settings and clear concise results presentation.
- Low running costs - no special gases required, industrial grade nitrogen is all you need.

**The 8700 and 8701 can be used for all your package testing.**

Conforms to: ASTM D-3985 F-1307 F-2622 ISO 15105-2 DIN 53380 JIS K-7126  
Electromagnetic Compatibility Directive 89/336/EEC Low Voltage Directive 73/23/EEC

## Principle of Permeation

The basic principle of permeation is to measure the amount of a gas that permeates through a sample. This is accomplished by sealing the sample to a chamber using a platen. The permeant gas flows on one side of the film or package and a carrier gas on the other side of the film or package. The transmission rate is the amount of permeant that is measured in the carrier gas over time at a known flow.

## Ultra Fast Analysis for QC

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

The 8700 and 8701 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.

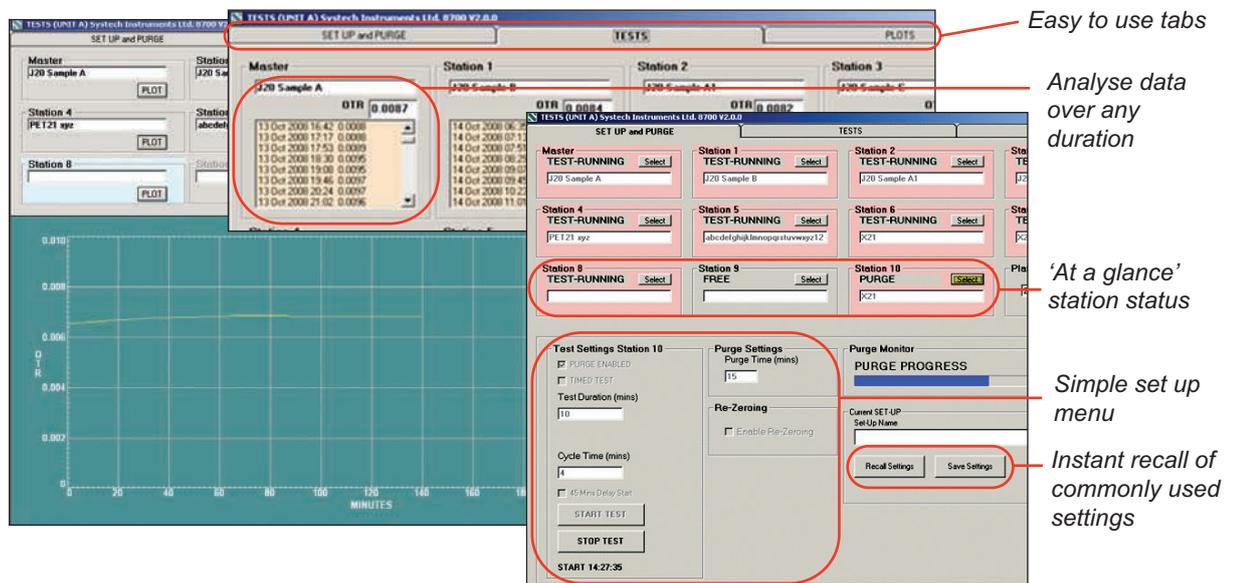
## Easy to Use

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.

## Multiple Test Stations

### Simultaneous Measurements

Multi-station plastic bottle moulding units require multi-chamber OTR analysis. One 8700 and 8701 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. Using the 8701 each test chamber can be individually enabled / disabled / stopped / started / delayed.



## Wide Measuring Range

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

## Automatic Control

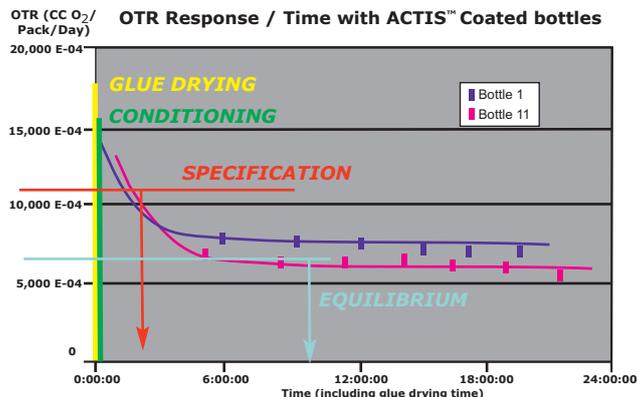
Utilises software to automatically manipulate mass flow controllers, temperature and all important test parameters while archiving valuable data, settings, and results graphically and digitally.

## R & D and QC

Whatever your application may be, the 8700 and 8701 have the speed and flexibility to be used as an invaluable QA tool, saving time and money. These instruments are equally at home within a Research and Development environment, enabling cutting edge barrier technologies to be tested for OTR.

## 8700 oxygen permeation analyser

The 8700 with fixed platens is used primarily in PET bottle manufacturing, as an invaluable R&D resource for new packaging development to test and validate new packages.



In addition, this analyser can be used for Quality Control, to confirm the performance and standard of the packaging. Testing can be done in as little as 3 hours.

## 8701 oxygen permeation analyser

### Built to be versatile

The 8701 offers a range of optional adaptors to provide versatile package testing. Adaptors are available for analysing films, containers, canisters, pouches, bags, closures and more. Adaptors can also be specially designed for your application.



### A choice of adaptors to be used with the 8701 for a variety of package testing requirements.

#### Delay Repeat Test Adaptor

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



#### Bottle Adaptor

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



#### Film Test Adaptor

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



#### Complete Package Adaptor

Glue to complete package for easy and quick testing.



# 8000 range of Oxygen Permeation Analysers

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.



## 8200

533 x 533 x 305 (mm) 25.4kg  
2 station for films or packages.



## 8001L

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



## 8501

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



## 8002

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



## 8700

760 x 590 x 350 (mm) 65kg  
11 stations for testing bottles.



## 8003

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



## 8701

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

## Technical Specifications

8001 8001L 8002 8003 8200 8501 8700 8701

	8001	8001L	8002	8003	8200	8501	8700	8701
<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 - 2,000 cc/pack/day		✓						
0.00004 - 2,000 cc/pack/day	✓		✓	✓	✓		✓	✓
<b>Test Temperature Range</b>								
5°C to 50°C (41°F to 122°F)	✓	✓	✓	✓	ambient		ambient	ambient
15°C to 40°C (59°F to 104°F)						✓		
<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	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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