

Model  
**8700**

# Oxygen Permeation Analyser



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

- Tests films or packages
- 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

- 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 analyser available.
- Ultra fast testing - Systech's Turbopurge™ technology ensures the fastest possible stabilisation time for the permeation measurement. Preventing out of specification production. Testing can be done in only 3 - 12 hours.
- The 8700 eliminates errors and reduces 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 Model 8700 can provide you with all your requirements.**

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

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# Oxygen Permeation Analyser

## Ultra Fast Analysis for QC

### 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.

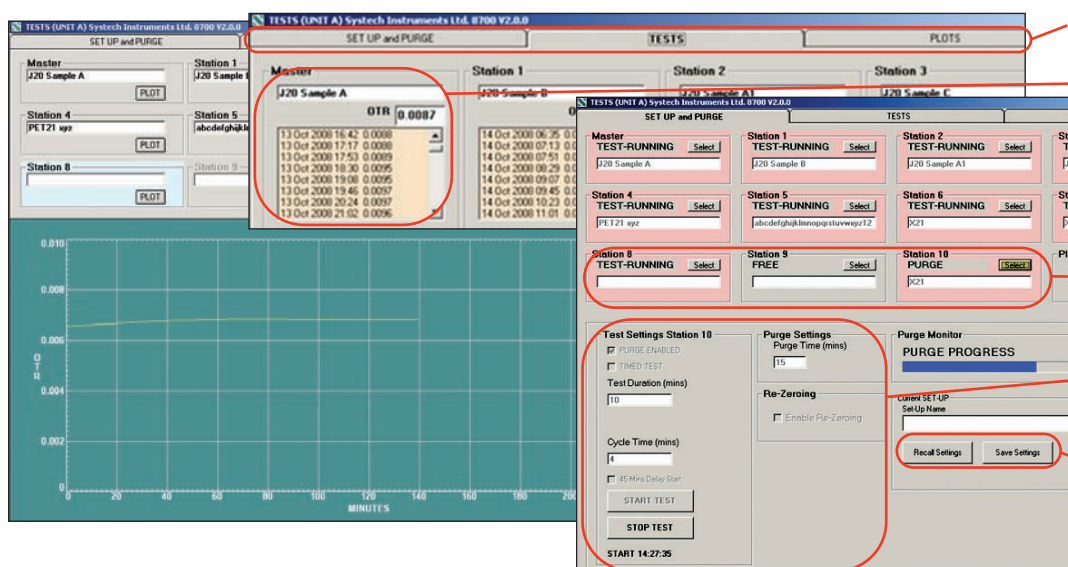
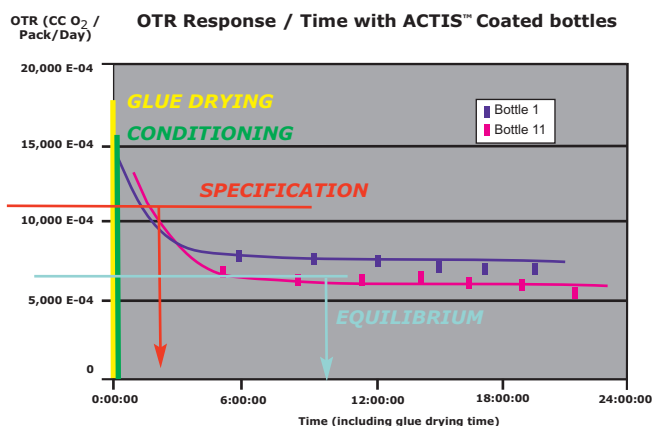
## Multiple Test Stations

### 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

Analyse data over any duration

'At a glance' station status

Simple set up menu

Instant recall of commonly used settings

## Widest 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 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

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.

### Built to be versatile

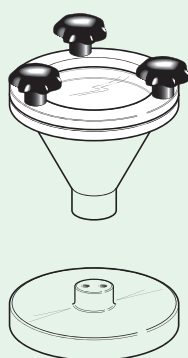
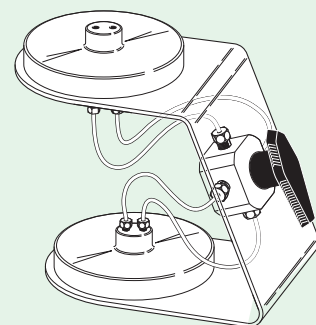
Versatile package testing by simply switching the 8700 bottle platens with optional alternate platens to analyse films, containers, canisters, pouches, bags, closures and more.



### Adaptors

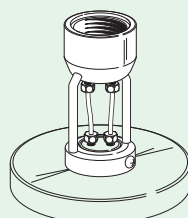
#### Delay Repeat Test Adaptor

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



#### Film Test Adaptor

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

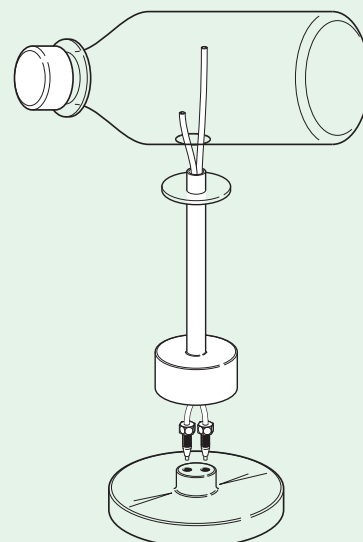


#### Bottle Adaptor

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

#### Complete Package Adaptor

Glue to complete package for easy and quick testing.



## Systech 8000 Series - Oxygen Permeation Analysers

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



### 8700

11 stations for films or packages.



### 8001

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



### 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

## Technical Specifications

8700 8001 8002 8003 8200 8501

### OTR Test Range

#### Films

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  
Gas Only

### Automatic Temperature Control

Note: Reference films and calibration gases are traceable to NIST standards. Masks are not required due to high oxygen levels, however masks can be provided to accommodate samples smaller than 50cm<sup>2</sup>. Expansion Modules 8011, 8012, 8013 and 8201 are available for simultaneous analysis of up to 12 samples.

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.



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