



OX-TRAN[®] 2/22 SERIES

OXYGEN PERMEATION ANALYZER

High performance oxygen transmission testing for barrier films and packages.

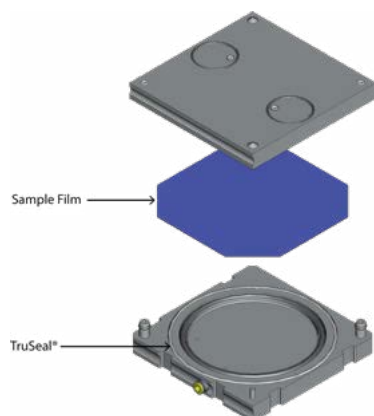
OTR barrier measurements...
done right.



Interchangeable cartridge options such as the package adapter, edge effect and reduced area cartridges expand testing capabilities



Removable cartridge utilizes central pneumatic clamp and TruSeal to provide repeatable results



High Performance Oxygen Permeation Analyzer

The OX-TRAN 2/22 Series of high-performance analyzers provides the highest accuracy and lowest level of Oxygen Transmission Rate (OTR) detection on the market. With three available models, you can choose your exact OTR testing range needs; each model is designed for high-performance film testing, with the capability for whole-package testing. OX-TRAN 2/22 analyzers are easy to use, and offer the shortest test times available with the AMETEK MOCON® patented Coulox sensor. They feature two independent cells with changeable horizontal test cartridges that allow testing of a wide variety of sample sizes and types.

Models	Barrier Level	Detection Range
2/22 H	Low to high	0.05 to 200 cc/(m ² · day)
2/22 L	Low to higher	0.005 to 200 cc/(m ² · day)
2/22 10X	Low to ultra-high	0.0005 to 200 cc (m ² · day)

Extensive Testing Capabilities and Applications

The accuracy and wide testing capability of 2/22 Series instruments make them ideal OTR analyzers for both research and development or production support laboratories. The OX-TRAN 2/22 Series is ideal for testing:

- Mono-layer and multi-layer films
- Coated films and coated paperboard
- Specialty applications like gels and lotions

With the optional PackRack® adaptor cartridge, 2/22 Series instruments can also test complete or partial packages, flexible and rigid containers, bottle closures, and seals such as O-rings or gaskets. The interchangeable cartridges also work with other Next Generation MOCON® permeation analyzers. These purpose-built cartridges increase accuracy, extend the range, or make it possible to test unique or difficult samples.

All test cartridges incorporate our proprietary TruSeal® design, which uses two seals and flushes gas between them to prevent ambient ingress into the test area. This reduces background levels, improves repeatability, and reduces the need to run individual zero.

TruSeal®

- Gas flushing of sample mounting seal protects chamber integrity
- Lowers background oxygen level reducing need to run individual zero
- More repeatable results

Control Features

- Fully automated flow, temp, & RH control throughout tests
- Automatic test method development and recommendations
- Programmable multi-test sequencing

Precision Measurements with Our Patented Coulox® Sensor

The OX-TRAN 2/22 Series uses AMETEK MOCON's patented Coulox sensor, an absolute (intrinsic) coulometric sensor requiring no calibration and the basis for ASTM standard D3985. This instrument family is proven to meet ASTM's precision and bias requirement through independent and third party testing.

Coulox® Sensor



User-friendly Automated Testing

The user friendly WinPerm2 control system features fully automated testing including temperature, gas flow and RH control. Final test reports are automatically saved and can be set to automatically print and export to permanent storage directories.

Auto-test mode automatically adjusts the testing parameters to provide results for unknown samples



The analyzer is compatible with PermWare®, your complete permeation laboratory data management system. The test mode options make testing known or unknown samples easy and repeatable.

Advanced-test mode is the most commonly used and is for specific parameters and conditions



A single button push initiates a fully automated test following pre-set stored parameters, reducing operator variability. The intuitive color touch screen is easy to learn and use while the automated testing provides consistent results and fewer potential errors.

Accuracy in Oxygen Permeation Testing

OX-TRAN 2/22 Series analyzers feature our exclusive test cell drawer design, which incorporates two horizontal easy-load cartridges to improve test repeatability.

Sequential testing allows a series of tests to be performed on the same samples at different test conditions

Sequential Test Parameters			
Parameter Values			
#	Temperature	Test Gas RH	Carrier Gas RH
1	23.0 °C	0.0 %RH	0.0 %RH
2	25.0 °C	5.0 %RH	60.0 %RH
3	33.0 °C	90.0 %RH	80.0 %RH
4	38.0 °C	60.0 %RH	90.0 %RH

A single button opens and closes the drawers, and the cartridge is automatically clamped in place with consistent and even force on any sample thickness. This approach provides greater test repeatability than manual or cam clamping methods.

Touchscreen Interface

- Intuitive automated operation requires less training
- Built in multi-level user management and data security
- Save on valuable lab space by eliminating need for PC

Coulox® Sensor

- Shorter exam times reduces overall test time to increase throughput
- Longest life oxygen permeation absolute coulometric sensor
- Complies with ASTM D3985

Warranty

- Full 100% parts and workmanship warranty for 12 months
- Exclusive 4-year warranty on the Coulox sensor

OX-TRAN 2/22 SERIES SPECIFICATIONS

PRODUCT BROCHURE

Industry Standards

- ASTM D3985
- ASTM F2622
- ASTM F1307
- ASTM F1927
- ISO CD 15105-2
- JIS K-7126-B
- DIN 53380-3
- GB/T 19789-2005
- GB/T 31354-2014

Conformance Standards

- CE, UL, CSA Safety Compliance

Performance Specifications

Test Temperature Range	10°C to 40°C ± 0.2°C
Controlled RH Testing Ranges	0%, 5 to 90% ± 3%
Maximum Film Thickness	Up to 120 mil
Carrier Gas	Nitrogen/Hydrogen Mix (98%/2%)
Test Gas	100% Oxygen (99.9% pure)

Connectivity

- Ethernet Port
- 2 USB Ports
- Optional PermNet™ Lite for remote monitoring

Dimensions & Weight

Depth: 23" or 58.0 cm

Width: 12" or 30.4 cm

Height: 15.5" or 39.4 cm

Weight 95 lbs. or 43.1 kg

Accessories

- PermWare® software for data collection and remote monitoring
- Custom engineered test cartridges to expand testing capabilities. Options include:
 - Reduced area cartridge
 - Edge effect cartridge
 - Blister testing cartridge
 - Package testing adapter

Technical Specifications

Models		Test Ranges			Resolution	Repeatability
		cc/(m ² · day)	cc/(100 in ² · day)	cc/(pkg · day)	cc/(m ² · day) @ 50cm ²	cc/(m ² · day)
2/22 H	Normal (50cm ²)	0.05 to 200	0.003 to 12.9	0.00025 to 1.0	0.0001	0.02 or 1%*
	Reduced Area Cartridge (5.64cm ²)	0.44 to 1770	0.028 to 114.0	-	-	-
2/22 L	Normal (50cm ²)	0.005 to 200	0.0003 to 12.9	0.000025 to 1.0	0.0001	0.002 or 1%*
	Reduced Area Cartridge (5.64cm ²)	0.044 to 1770	0.0028 to 114.0	-	-	-
2/22 10X	Normal (50cm ²)	0.0005 to 200	0.00003 to 12.9	0.0000025 to 1.0	0.0001	0.0005 or 1%*
	Reduced Area Cartridge (5.64cm ²)	0.0044 to 1770	0.00028 to 114.0	-	-	-

* Whichever is greater



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