![mocon AMETEK logo]

2-cell and 1-cell models

OX-TRAN® 2/22 SERIES
OXYGEN PERMEATION ANALYZER

High-performance oxygen transmission testing for barrier films and packages.

HIGHEST PERFORMANCE
PRODUCT BROCHURE

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 multiple models available, you can choose the OTR testing range and configuration that fits your needs. Each model is designed for high-performance film testing, with the capability for whole-package testing. They feature either one or two independent cells with changeable horizontal test cartridges that allow testing of a wide variety of sample sizes and types.

Models	Configuration		Barrier Level	Detection Range
2/22 A	1-cell		Low to moderate	0.1 to 200 cc/(m² • day)
2/22 H	1-cell	2-cell	Low to high	0.05 to 200 cc/(m² • day)
2/22 L		2-cell	Low to higher	0.005 to 200 cc/(m² • day)
2/22 10X		2-cell	Low to ultra-high	0.0005 to 200 cc (m² • day)

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

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

Removable cartridges use a central pneumatic clamp and TruSeal to provide repeatable results.

Sample Film →

TruSeal® →

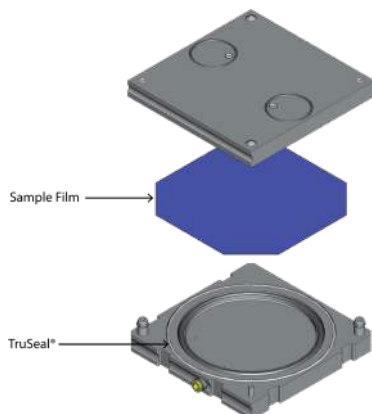## Accuracy in Oxygen Permeation Testing

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

A single button automatically clamps the cartridge with even force for any sample thickness to provide greater test repeatability than manual or cam clamping methods.

AMETEK MOCON offers interchangeable test cell cartridges for the OX-TRAN 2/22 Series which are compatible with other MOCON® permeation analyzers. These purpose-built cartridges increase accuracy, extend the range, or make it possible to test unique or difficult samples. With the optional 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.

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.

TRUSTED RESULTS

Precision Measurements With Our Patented COULOX® Sensor

The OX-TRAN 2/22 Series uses the AMETEK MOCON patented COULOX sensor, an absolute (intrinsic) coulometric sensor requiring no calibration and is 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.

The COULOX® Sensor fully complies to ASTM D3895

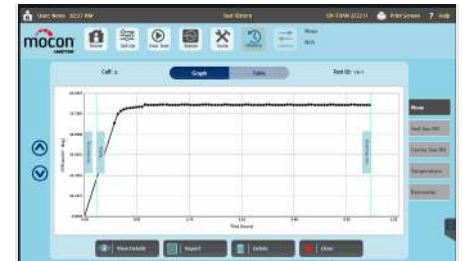| WinPerm™ 2.5 runs on Windows® 10 OS |
| --- |

User-friendly Automated Testing

The user-friendly WinPerm™ 2.5 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.

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.

The analyzer is compatible with PermWare®, a complete permeation laboratory data management system.

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

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

PermWare displays the status of multiple instruments.

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

Windows® is a registered trademark of the Microsoft Corporation.

Touchscreen Interface

- Intuitive automated operation requires less training

- Built-in multi-level user management and data security

COULOX® Sensor

- Shorter exam times reduces overall test time to increase throughput

- Longest life oxygen permeation absolute coulometric sensor

Warranty

- Full 100% parts and workmanship warranty for 12 months

- Exclusive 4-year warranty on the COULOX sensor

OX-TRAN 2/22 SERIES
SPECIFICATIONS

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

	2 cell	1 cell
Test Temperature Range	10°C to 40°C ± 0.2°C	20°C to 40°C ± 0.2°C
Controlled RH Testing Ranges	0%, 30 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

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
- Test cartridges to expand capabilities:
  - Reduced area cartridge
  - Edge effect cartridge
  - Blister testing cartridge
  - Package testing adapter

Technical Specifications

Models	Configuration		Cartridge	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 A	1-cell		Normal (50cm^2)	0.1 to 200	0.006 to 12.9	0.0005 to 1.0	0.0001	0.02 or 1%*
			Reduced Area (5.64cm^2)	0.9 to 1770	0.056 to 114.0	-	-	-
2/22 H	1-cell	2-cell	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 (5.64cm^2)	0.44 to 1770	0.028 to 114.0	-	-	-
2/22 L		2-cell	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 (5.64cm^2)	0.044 to 1770	0.0028 to 114.0	-	-	-
2/22 10X		2-cell	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 (5.64cm^2)	0.0044 to 1770	0.00028 to 114.0	-	-	-

Whichever is greater