OX-TRAN® 1/50 & PERMATRAN-W® 1/50 SERIES
OXYGEN AND WATER VAPOR PERMEATION ANALYZERS

Basic OTR or WVTR Testing for Barrier Films

AMETEK® | **mocon®**

OTR & WVTR Barrier Measurements...
Done Right.

Practical Permeation Transmission Rate Measurement

The OX-TRAN model 1/50 and the PERMATRAN-W 1/50 G are low-cost units designed for testing Oxygen Transmission Rate (OTR) or Water Vapor Transmission Rates (WVTR) respectively on films from low to high barriers. They are designed for both first-time users and the advanced operator, providing accurate and repeatable test results within a wide detection range.

The OX-TRAN 1/50 has an OTR detection range from 0.1 to 200 cc/(m$^2 \cdot$ day). The upper detection limit can be extended to 2,000 cc/(m$^2 \cdot$ day) with the use of a 5 m^2 mask or 960 cc/(m$^2 \cdot$ day) using atmospheric oxygen in place of the normal 100% O_2.

The PERMATRAN-W 1/50 G has a WVTR detection range from 0.1 to 100 g/(m$^2 \cdot$ day). The upper detection limit can be extended to 1,000 g/(m$^2 \cdot$ day) with the use of a 5 cm^2 mask.

Accurate Sensors

The OX-TRAN 1/50 uses our reliable Coulometric sensor that requires no calibration and complies with the ASTM standard D3985.

The PERMATRAN-W 1/50 G uses our reliable RH sensor for accurate transmission rate readings that complies with the ASTM standard E398.

Efficient Use of Space

The upright design and compact footprint require less lab space than many other permeation instruments. It's completely integrated control system with display makes it a perfect standalone instrument.

Applications

The 1/50 Series are designed to be an effective yet simple-to-use instrument for a wide range of applications where low throughput is acceptable. The testing capability make them an ideal OTR or WVTR instrument to test single samples from mono-layer to multi-layer films, coated films and coated paper board. Whether it is research and development at a university, or as a QC instrument to support production operations it provides reliable data to support your permeation testing needs.

Removeable Cartridge

- Easy sample prep on the bench-top
- Consistent loading
- One button release and loading
- Pneumatic clamping provides repeatable results

Automated Control Features

- Fully automated flow & temp control
- Set and go automatic RH controls on both sides of sample
- Store up to 99 different test methods
- Sensor protection from over ranging and shortening sensor life

Digital Display with Keypad Interface

- Intuitive operation reduces training
- Advisory screen prompts inputs
- Status screen displays real-time information
- Integrated controls save valuable lab space by eliminating need for PC

SIMPLE OPERATION

Basic Permeation Instrument

The 1/50 series Instruments are designed to be easy to use and provides reliable accurate test results. They are a cost-effective option for laboratories looking to start in-house permeation testing.

Simple Operation

The easy-to-read digital display has advisory prompts for inputs to step operators through the requirements to set up and run a test. Advanced users can enter individual test parameters via the key pad, then run the test and/or save it as a method or Quick Start for use by other operators. This reduces the training needed to achieve reliable and repeatable test results. Press the Quick Start button to initiate a fully automated test following stored parameters, thus reducing operator variability. Final test reports can be printed with the optional printer. The keypad is easy to learn and use while the automated testing provides consistent results and fewer potential errors.
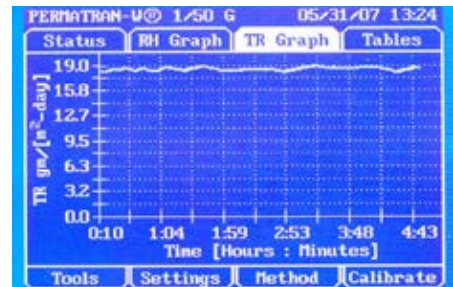
Ease of Loading

These instruments feature our exclusive test cell drawer design with one horizontal removable easy-to-load test cartridge that improves test repeatability. 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. With the cartridge removed, it is easy to clean and consistently load samples on the bench-top, reducing operator variability.

Clear test status screen

Graphical display of test transmission rate

Simple to use operator interface

Removable cartridge utilizes central pneumatic clamp

OX-TRAN Coulometric Sensor

- Accurate and reliable results

- Reliable coulometric sensor that complies with ASTM D3985

PERMATRAN-W High Sensitivity RH Sensor

- Dynamic RH measurement method for accurate results

- Long sensor life

- Accurate and repeatable results

- Reliable RH sensor that complies with ASTM E398

Warranty

- Full 100% parts and workmanship warranty for 12 months

OX-TRAN 1/50 & PERMATRAN-W 1/50
SERIES SPECIFICATIONS

Conformance Standards

- CE, UL, CSA Safety Compliance

Accessories

- Printer

Dimensions & Weight

Depth: 18" or 45,7 cm
Width: 11" or 27,9 cm
Height: 17" or 43,2 cm
Weight: 49 lbs. or 22,2 kg

OX-TRAN Technical Specifications

Models		Test Ranges		Resolution	Repeatability
		cc/(m² • day)	cc/(100 in² • day)	cc/(m² • day)	cc/(m² • day)
OX-TRAN 1/50	Normal (50cm²)	0.1 to 200	0.007 to 12.9	0.001	0.05 or 1%*
	Masked (5.0 cm²)	1.0 to 2000	0.07 to 129.0	-	-

* Whichever is greater

Specifications	
Temperature Control Range	10°C to 40°C ± 0.5°C
Humidity Control, Film Cell, Test Gas	5% to 90% RH ± 3% RH
Film Thickness	Up to 120 mil

Industry Standards

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

PERMATRAN Technical Specifications

Models		Test Ranges		Resolution	Repeatability
		g/(m² • day)	g/(100 in² • day)	g/(m² • day)	g/(m² • day)
PERMATRAN-W 1/50	Normal (50cm²)	0.1 to 100	0.006 to 6.45	0.001	0.05 or 1%*
	Masked (5.0 cm²)	1.0 to 1000	0.06 to 64.5	-	-

* Whichever is greater

Specifications	
Temperature Control Range	10°C to 40°C ± 0.5°C
Humidity Control, Film Cell, Test Gas	35% to 90% RH or 100% ± 3% RH
Film Thickness	Up to 120 mil

Industry Standards

- ASTM E398
- ISO 15106-1
- GB/T 30412-2013

AMETEK® | **mocon**®