OX-TRAN® Model 2/22

Fully automated Oxygen Transmission Rate (OTR) Testing for films and packages

OX-TRAN systems are the only instruments that comply with ASTM D3985

mocon®

Fully automated oxygen transmission rate (OTR) testing with improved results and reduced testing times

Developed for barrier films and packages where fast and accurate results are required. The OX-TRAN 2/22 series of OTR instruments are faster and easier to use, with improved results and a lower cost of ownership.

The 2/22 series of permeation instruments are ideal for food, pharmaceutical, medical device companies, film converters, resin and chemical companies who have to test their barriers for OTR and need fast, accurate results.

The OX-TRAN Model 2/22 is benefit rich including:

Ease of use:

- Fully automated testing
- Full testing control in the Advanced Test mode
- Automatic controls of relative humidity (RH), temperature, pressure and flow of both carrier and test gases
- Control via touch screen and/or remote computer
- Simple access to stored test data
- Horizontal pneumatic cell drawers with lift out cells for easy film placement

Faster speed to result:

- Reduced time to confirm equilibrium
- Elimination of individual zero*
- High purge rate for packages, reducing package testing times

Lower cost of ownership:

- Protected circuits, providing lower maintenance cost
- Longer sensor life
- Gas Saver mode
- Calendar maintenance
- Remote diagnostics
- No coolant or pumps to replace

Improved results:

- Repeatability 2.5 times better**

* Film type dependent
** Compared to the OX-TRAN Model 2/21 L and OX-TRAN Model 2/21 H

MOCON's technology reduces the time to result:

Each user will experience different time savings due to unique film and test conditions. Users testing a flat film may eliminate the need to obtain an individual zero, which reduces testing time in half.

Other users who conduct a number of convergent tests to confirm equilibrium will find the OX-TRAN Model 2/22 substantially reduces the total testing time. Contact your MOCON representative to better understand how this technology will impact your testing.

Coulox coulometric sensor:

For over 45 years, the OX-TRAN line of instruments has been the industry standard for OTR testing. Using a patented coulometric sensor, the OX-TRAN family is the basis for the ASTM standard D3985. The proprietary Coulox sensor is an intrinsic or absolute sensor which follows Faraday's law, therefore requiring no calibration. N.I.S.T. films are available to ensure the entire system is performing to the highest standards in precision and accuracy.

Wet - Dry testing:

Companies that change from wet to dry testing will appreciate that the change can now be made with a simple click. No more emptying of the reservoirs or waiting for the system to dry out. This greatly reduces your set up time.

Only MOCON's OX-TRAN series of OTR instruments comply with ASTM D3985

Automated Testing

These instruments measure barrier films accurately and repeatably down to 0.0005 cc/(m^2 • day)* at precise temperature and RH conditions. Simply place the film, set the RH and temperature and press start. The instrument will automatically determine the correct parameters and start testing.

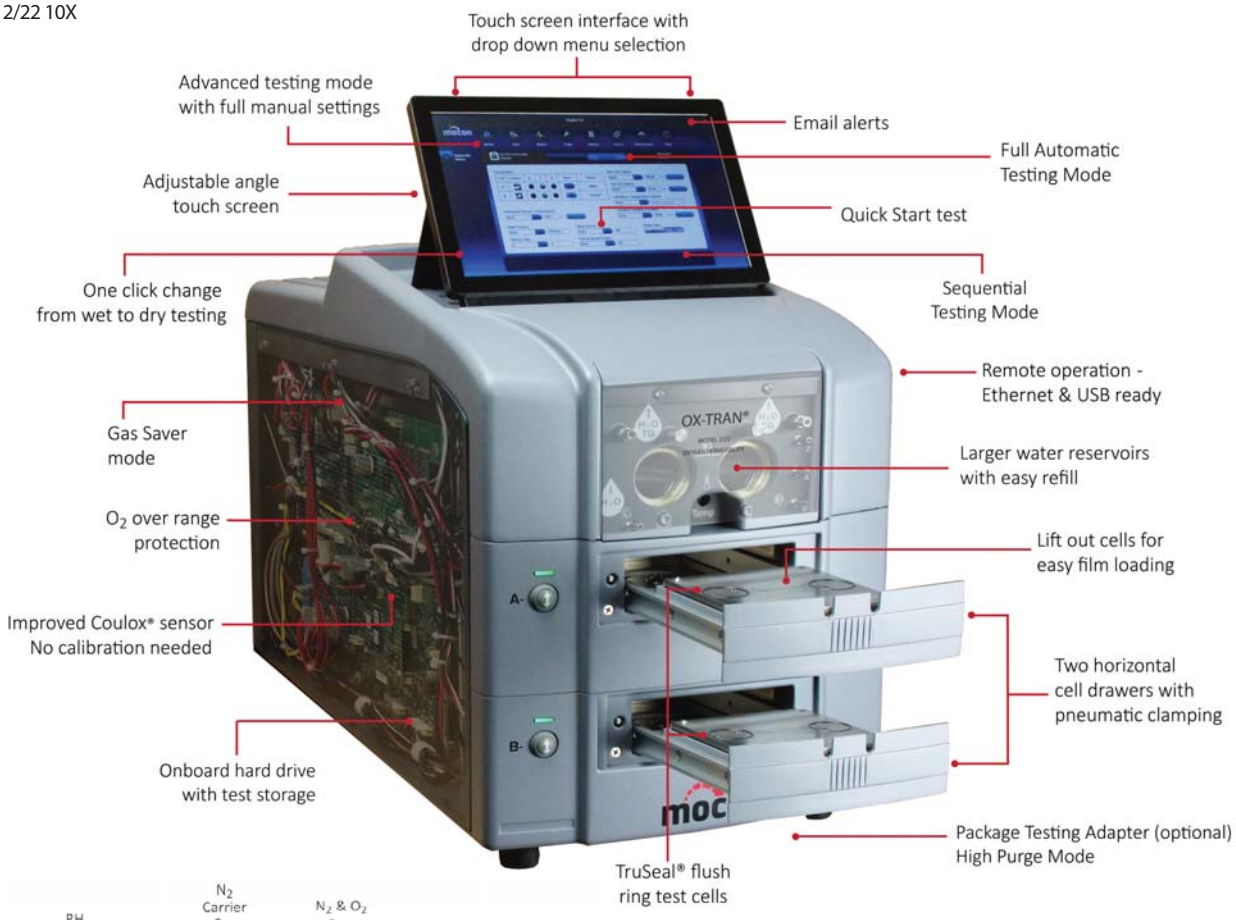
* Model 2/22 10X

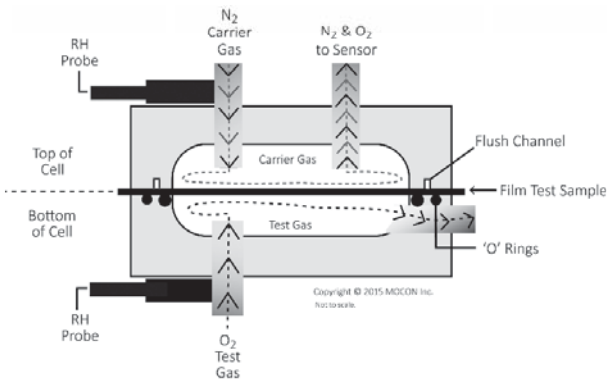
Advanced User Controls

Advanced users have the option to manually set all test parameters through the Advanced Testing Mode. These instruments also offer secure remote access to the instrument's dashboard, which is available via internet connection from anywhere in the world.

Automatic Sequential Testing

Extremely useful in R&D situations where there is a requirement to test a film at various RH and temperature levels. This feature allows the operator to establish up to 10 different RH and temperature conditions in a single test set-up, then automatically run all tests in sequence without further operator input.





OX-TRAN Model 2/22 TruSeal Test Cell

TruSeal™ flush ring test cell:
MOCON's patented TruSeal flush ring at the perimeter of the film ensures a leak-free seal every time. It also eliminates the possibility of ambient air entering the test area through or under the seal, increasing accuracy and repeatability.

Other Patents pending

OX-TRAN® Model 2/22 Specifications

O_2TR Test Ranges

		cc/(m² • day)	cc/(100 in² • day)	cc/(pkg • day)
O_2TR Test Range Model 10X	Unmasked	0.0005 to 200	0.000032 to 12.9	0.000003 to 1.0
	Masked	0.005 to 2,000	0.00032 to 129	N/A
O_2TR Test Range Model L	Unmasked	0.005 to 200	0.0003 to 12.9	0.000025 to 1.0
	Masked	0.05 to 2,000	0.003 to 129	N/A
O_2TR Test Range Model H	Unmasked	0.05 to 200	0.003 to 12.9	0.00025 to 1.0
	Masked	0.5 to 2,000	0.03 to 129	N/A

	Model 10X	Model L	Model H
Test Temperature Range:			
10°C to 40°C ± 0.2°C	X	X	X
Resolution:			
0.02 cc/(m² • day)			X
0.002 cc/(m² • day)		X	
0.0002 cc/(m² • day)	X		
Standard Testing:			
Films – Carrier gas 0% to 90% ± 3%, Test gas 0% to 90% ± 3%	X	X	X
Packages – Ambient	X	X	X
Films of Packages at unknown wet RH	X	X	X
Automatic Sequential Testing:			
Up to 10 different RH & temperature tests on same film	X	X	X
Controlled RH Testing Ranges:			
Films – Carrier & Test Gas: 0% to 90% ±3%	X	X	X
Packages – Ambient	X	X	X
RH and Temperature Controls:			
RH Plus Easy RH Control	X	X	X
Automatic Temperature Monitor & Control	X	X	X
Barometric Pressure Compensator	X	X	X
Test Sample Size:			
Films - 4.0" x 4.0" (10.2 cm x 10.2 cm)	X	X	X
Packages - Up to 3 liters per package	X	X	X
Test Database:			
Auto save up to 100 tests	X	X	X
Modules & Test Cells:			
2 x 50 cm² (pneumatic clamping cells)	X	X	X
Optional package testing adapter cells available	X	X	X
User Interface & Software:			
Touch screen with optional keyboard & mouse	X	X	X
Optional PermNet® Lite	X	X	X
Ethernet and USB Ready	X	X	X
Remote access capable	X	X	X

Standards:

ASTM D3985 films
ASTM F1927 films
DIN 53380-3 films
JIS 7126-B films
ASTM F1307 packages
ISO CD 15105-2
21 CFR Part 11 compliant - optional
Validation services available

Optional Edge Effect Cell

The accuracy of paper board testing can be greatly affected by permeation of ambient air through the edges of the board. This optional cell is able to recreate real life conditions by sealing off the edges from all ambient air, ensuring total accuracy of the transmission rates.

These instruments are UL and CSA listed using the ETL mark from Intertek Group plc. Conforms to the following internationally recognized safety standards: IEC 61010-1:2010 Third Edition, UL 61010-1: Third Edition, CAN/CSA-C22.2 No. 61010-1-12 Third Edition.

These instruments also comply with the following internationally recognized EMC standards: EN 61326-1:2006 - Class A Radiated & Conducted Basic Immunity Test Requirements, EN 61326-1:2006, EN 61000-3-2:2006, A1:2009, A2:2009, EN 61000-3-3:2008

Your Local MOCON Representative:

MOCON® Commitment

These analytical instruments are another example of MOCON's long-standing commitment to innovation and quality in the support of our customers.

Technical Support & Service

MOCON offers a variety of technical services designed to provide you with first class support. Whether you require technical support, next-day spare parts delivery, on-site training, N.I.S.T. certification or "turn-key" validation, our staff can tailor a service program to fit your needs. Our goal is to provide the best in product support services.

 Brochure # PPS-050916

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