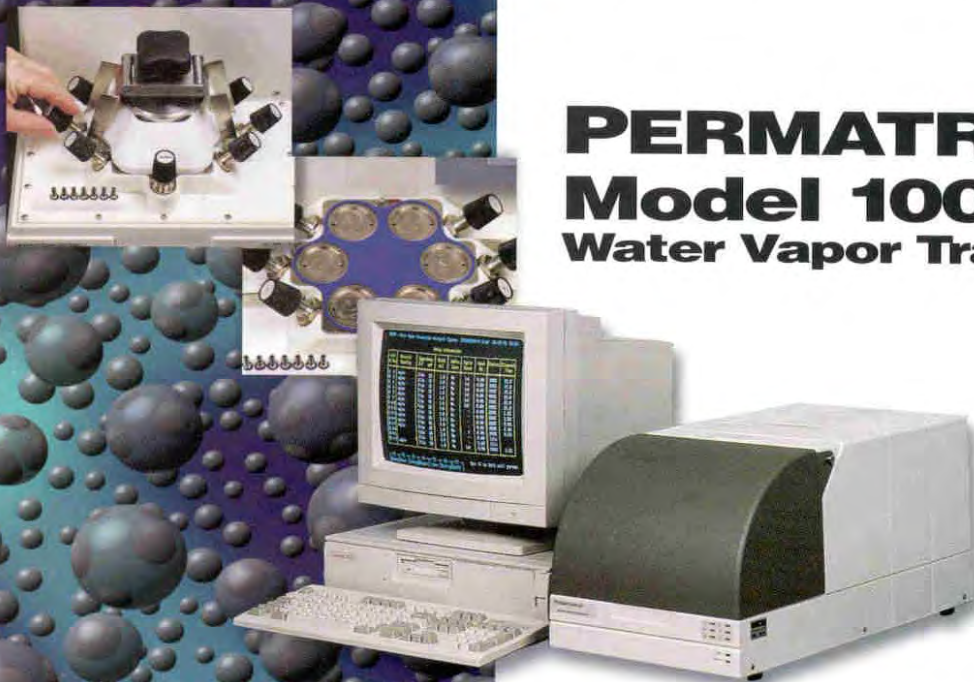


from MOCON. . .

System for Measuring High Transmission Water Vapor

**PERMATRAN-W[®]
Model 100K**
Water Vapor Transmission Rate



- Test non-wovens, fabrics, textiles, breathable membranes, plastic films and paper
- Permits testing of up to six samples simultaneously on a single system module



Equipos de control de calidad

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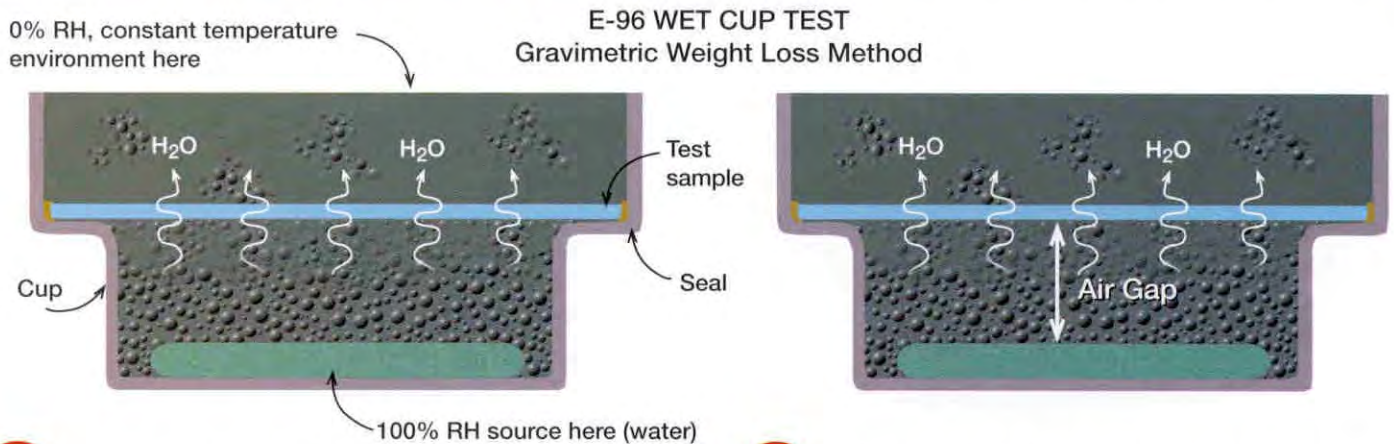
mocon[®]

At Last...

A System That Can Accurately Perform High

PERMATRAN-W[®] Model 100K

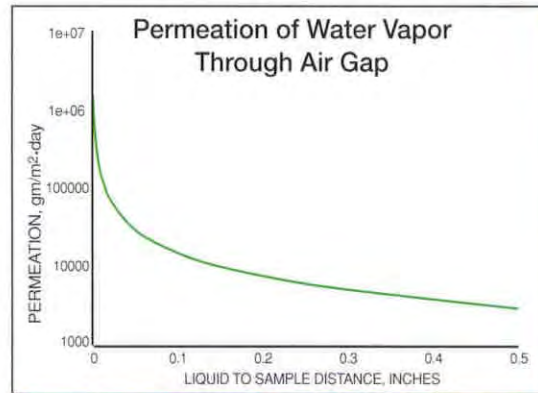
Traditional Test Methods to Measure WVTR through High Transmitting Barriers Are Inaccurate! Obsolete Methods.



1 Traditionally, even though there are known limitations, the gravimetric test method, better known as the Wet Cup and Dry Cup versions of ASTM E-96 has been used to measure moisture through high transmitting barriers.

2 The conditions of the standard cup test that are assumed are not true. With high WVTR transmitters, the actual RH concentration at the test sample is much lower than 100% RH dependent upon the distance of the air gap between the RH source and the test sample.

3 Both type of cup tests give inconsistent and erroneous answers because of the air gap. RH changes as you move a distance X from the source. The air itself is a significant barrier and it must be accounted for in measuring high water vapor transmission rate barriers.



With The **PERMATRAN-W Model 100K**, MOCON has developed a patented **solution** to account for the air gap to **provide true and accurate answers** for high transmitting moisture barriers.

Transmission Measurements For Water Vapor (Moisture)

What is the difference between POROSITY and PERMEABILITY?

Situation 1

Higher Static Pressure

Lower Static Pressure

Porosity

Gas Flow



Paper Sample

Situation 2

Static Pressure
Higher Partial Pressure

Same Static Pressure
Lower Partial Pressure

Permeability

Molecular Diffusion



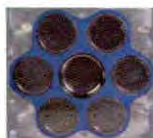
Let's consider the case of a porous material challenged by a test gas.

POROSITY is the measure of a gas flow (such as water vapor) through a barrier material (such as paper) when a static pressure difference exists across the barrier. This flow can be measured in different ways, and is usually expressed in Gurley seconds or Darcies. This is often not a real-life test because the sample doesn't have a different pressure on each side in field use. Also, this test does not measure permeability, diffusion, or transmission rate.

PERMEABILITY is a measure of the permeant moving through the barrier material when there is equal static pressure on both sides of the barrier, but the partial pressure is different (Fick's Law). This is a real-life situation with many non-wovens, textiles, microporous membranes, and papers. This type of test, as performed by the new PERMATRAN-W[®] Model 100K, measures the permeability or transmission rate of water vapor through barrier materials, porous or non-porous.

With The PERMATRAN-W[®] Model 100K, You Get Accurate Answers to Reflect Real-Life Situations.

- Sample test time in minutes (approx. 10 min /sample)
- Six test cells for maximum throughput
- Precise temperature measurement and control
- Flow and barometric pressure correction
- Reference films provided for calibration
- Computer controlled



Product Selection Information

	PERMATRAN-W® Model 100K
Test Temperature Range:	
20 C to 50 C	X
Sensitivity:	
500* g/m ² .day (32 g/100in ² .day) to 100,000 g/m ² .day (6,450 g/100in ² .day)	X
Test Sample Area:	
Six 10 cm ² test cells	X
Test Modules:	
1 - 6 test cells	X
Automatic Temperature Monitor & Control (standard)	X
Automatic Digital Barometric Pressure Compensator (standard)	X
Automatic Digital Flow Compensators (standard)	X

* depending upon material sample, lower sensitivity values can be obtained

Optional Software Capability

MOCON now offers a powerful software package, which allows the MOCON user the following features:

- Connect any configuration of late generation MOCON systems to a single computer or communication port.
(PERMATRAN-W® 3/60, OX-TRAN® 2/60, PERMATRAN-W® 3/31, OX-TRAN® 2/20, PERMATRAN-C 4/40, PERMATRAN-W® Model 100K, AROMATRAN 1A)
- Windows 95 user interface
- Powerful database including search capabilities of over 50 fields available for selection
- Report writer feature

MOCON Commitment

This new system is another example of MOCON's long-standing commitment to innovation and quality in the design of permeation testing systems for barrier material and package assessment.

Technical Support & Service

MOCON maintains an applications and testing laboratory to assist customers in realizing the full potential of their MOCON instrument. Seminars and intensive training classes are held for those interested in maximizing their understanding of the systems, technology, and operating procedures. Call your MOCON representative for more information on these programs or for a system quotation.

Conforms to INDA Standard IST 70.4 (99)

This instrument is ETL listed,
Conforms UL Standard 1262, is
Certified to CAN/CSA C22.2 No. 151, and
Complies with CE Product Safety, Electromagnetic
Emission & Susceptability



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