PRODUCT BROCHURE

PERMATRAN-W® 3/34 SERIES

WATER VAPOR PERMEATION ANALYZER

High Performance WVTR Testing for Barrier Films and Packages

AMETEK® | mocon®

HIGHEST PERFORMANCE

WVTR Barrier Measurements...
Done Right.

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

High Performance Water Vapor Permeation Analyzer

The PERMATRAN-W 3/34 Series high-performance analyzers are the industry's most trusted Water Vapor Transmission Rate (WVTR) instrument for testing low- to high-level barriers. The two different models are easy to use and offer the widest detection levels available in the market. They feature two independent cells with interchangeable horizontal test cartridges that allow a wide variety of sample sizes and types to be easily and accurately tested.

Models	Barrier Level	Detection Range
3/34 H	Low to high	0.05 to 100 g/(m^2 • day)
3/34 G	Lower to high	0.005 to 100 g/(m^2 • day)

Modulated IR Sensor

Using a patented modulated infrared (IR) technology, this sensor provides accurate and repeatable results. It has the longest life of any WVTR sensor on the market, and the only modulated IR sensor system to meet the ASTM F1249 standard.

Extensive Testing Capabilities and Applications

The accuracy and wide testing capability of the 3/34 Series make it an ideal WVTR instrument for both research and development or production support laboratories. It has the capability test flat barriers such as mono-layer to multi-layer films, coated films to coated paper board, and specialty applications such as gels or lotions.

With the optional adapter cartridge it can also test additional applications such as complete or partial packages, flexible or rigid containers, bottles and/or closures, and seals in the form of O-rings or gaskets.

The interchangeable cartridges also work with other Next Generation AMETEK MOCON permeation analyzers. These purpose-built cartridges increase accuracy, extend the range, or make it possible to test unique or difficult samples.

Removable Cartridges

- Easy sample prep on the benchtop
- One button release and loading
- Pneumatic clamping provides more repeatable results
- Interchangeable cartridge options

TruSeal®

- Gas flushing of sample mounting seal protects chamber integrity
- Lowers background levels reducing need to run individual zero
- Shortened testing time increases throughput
- More repeatable results

Control Features

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

TRUSTED RESULTS

Advanced Control System

The user friendly WinPerm 2 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. 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. 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.

Industry Standard in Water Vapor Permeation Testing

The PERMATRAN-W 3/34 Series features our exclusive test cell drawer design with two horizontal removable easy-to-load cartridges improve 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. All test cartridges incorporate AMETEK MOCON's exclusive TruSeal® design that utilizes 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.

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

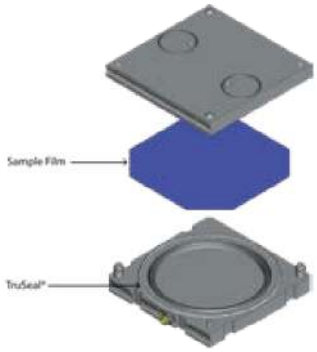
Sequential testing allows a series of tests to be performed on the same samples at different test conditions

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

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



Touchscreen Interface

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

Modulated IR Sensor

- Short exam times reduce overall test time to increase throughput
- Longest life water vapor permeation modulated IR sensor
- Accurate and repeatable results
- Most trusted modulated IR sensor that fully complies with ASTM F1249

Warranty

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

PERMATRAN-W 3/34 SERIES SPECIFICATIONS

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Industry Standards

- ASTM F-1249
- TAPPI T557
- JIS K7129
- ISO 15106-2
- GB/T 26253-2010
- GB/T 31355-2014

Conformance Standards

- CE, UL, CSA Safety Compliance

Performance Specifications

	3/34 H	3/34 G
Test Temperature Range	20° to 40° C ± 0.2° C	10°C to 40°C ± 0.2°C
Controlled RH Testing Ranges	100% and 50% to 90% RH ± 3 RH	100% and 5% to 90% ± 3 RH
Maximum Film Thickness	Up to 120 mil, 3 mm	
Carrier Gas	Nitrogen (99.7% N^2 or better)	

Connectivity

- Ethernet Port
- 2 USB Ports
- Optional PERM-NET 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 42,1 kg

Accessories

- Reduced area cartridge
- Edge effect cartridge
- Blister testing cartridge
- Package testing adapter
- Custom engineered test cartridges
- PermWare™ software for data collection and remote monitoring

Technical Specifications

Models		Test Ranges			Resolution	Repeatability
		g/(m2 • day)	g/(100 in^2 • day)	g/(pkg • day)	g/(m^2 • day)	g/(m^2 • day)
3/34 H	Normal (50cm^2)	0.05 to 100	0.003 to 6.45	0.00025 to 0.05	0.02	0.05 or 2%*
	Reduced Area Cartridge (5cm^2)	0.5 to 1000	0.03 to 64.5	-	-	-
3/34 G	Normal (50cm^2)	0.005 to 100	0.0003 to 6.45	0.000025 to 0.05	0.0002	0.005 or 2%*
	Reduced Area Cartridge (5cm^2)	0.05 to 1000	0.003 to 64.5	-	-	-

Whichever is higher

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