1-cell and 2-cell models

AQUATRAN® 3/34 SERIES
WATER VAPOR PERMEATION ANALYZER

High performance water vapor transmission testing for barrier films and packages.

High Performance Water Vapor Permeation Ana lyzer

The AQUATRAN 3/34 Series high-performance analyzers are the industry's most-trusted Water Vapor Transmission Rate (WVTR) instruments for testing low- to high-level barriers.
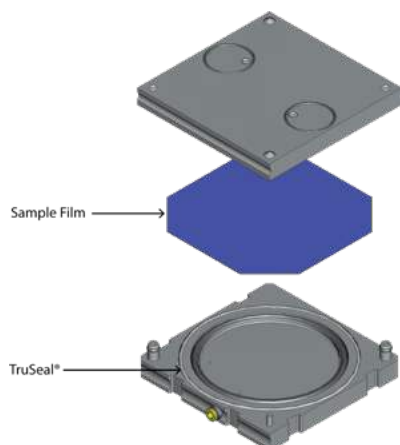
With multiple models available, you can choose the configuration and performance level to fit your needs. They feature either 1 or 2 cells with interchangeable horizontal test cartridges that allow a wide variety of sample sizes and types to be easily and accurately tested.

Models	Configuration		Barrier Level	Detection Range
3/34 A	1-cell		Low to moderate	0.1 to 100 g/(m² • day)
3/34 H	1-cell	2-cell	Low to high	0.05 to 100 g/(m² • day)
3/34 L		2-cell	Lower to high	0.005 to 100 g/(m² • day)

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

Interchangeable cartridges utilize central pneumatic clamp and TruSeal to provide repeatable results.

Sample Film →

TruSeal® →

Extensive Testing Capabilities and Applications

The accuracy and wide testing capability of the 3/34 Series make them ideal WVTR instruments for both research and development or production support laboratories. It has the capability to test flat barriers such as monolayer 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 MOCON® permeation analyzers. These purpose-built cartridges increase accuracy, extend the range and make it possible to test unique or difficult samples.

All test cartridges incorporate our MOCON exclusive TruSeal® design, using two seals and flushing 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.

TruSeal®

- Gas flushing of sample mounting seal protects chamber integrity

- Lowers background levels reducing need to run individual zero

- Shortened testing time increases throughput

Control Features

- Fully automated flow, temp and RH control throughout tests

- Automatic test method development and recommendations

- Built-in sensor protection

Precision Measurement With Our 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.

Modulated IR sensor meets the ASTM F1249 standard

Advanced Control System

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. The analyzer is compatible with PermWare®, our 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 touchscreen is easy to learn and use while the automated testing provides consistent results and fewer potential errors.

WinPerm™ 2.5 runs on Windows® 10 OS

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

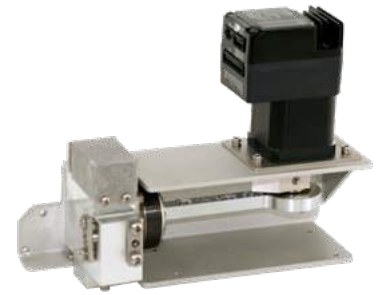Windows® is a registered trademark of the Microsoft Corporation.

Touchscreen Interface

• Intuitive automated operation requires less training

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

Modulated IR Sensor

• Short exam times reduce overall test time to increase throughput

• Longest life water vapor permeation modulated IR sensor

Warranty

• Full 100% parts and workmanship warranty for 12 months

• Exclusive 4-year warranty on the modulated IR sensor

Industry Standards

- ASTM F1249
- TAPPI T557
- JIS K7129
- ISO 15106-2
- GB/T 26253-2010
- GB/T 31355-2014

Conformance Standards

- CE, UL, CSA Safety Compliance

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 42.1 kg

Accessories

- PermWare® software for data collection and remote monitoring
- Custom-engineered test cartridges to expand testing capabilities. Options include:
  - Reduced area cartridge
  - Edge effect cartridge
  - Blister testing cartridge
  - Package testing adapter

Performance Specifications

	3/34 A 3/34 H	3/34 L
Test Temperature Range	20º to 40º C ± 0.2º C	10℃ to 40℃ ± 0.2℃
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)	

Technical Specifications

Models		Configuation		Test Ranges			Resolution	Repeatability
				$g/(m^2 \cdot day)$	$g/(100 \ in^2 \cdot day)$	$g/(pkg \cdot day)$	$g/(m^2 \cdot day)$ @ $50cm^2$	$g/(m^2 \cdot day)$
3/34 A	Normal ($50cm^2$)	1-cell		0.1 to 100	0.006 to 6.45	0.0005 to 0.5	0.0001	0.05 or 2%*
	Reduced Area Cartridge ($5.64cm^2$)			0.9 to 890	0.012 to 6.45	-	-	-
3/34 H	Normal ($50cm^2$)	1-cell	2-cell	0.05 to 100	0.003 to 6.45	0.00025 to 0.5	0.0001	0.05 or 2%*
	Reduced Area Cartridge ($5.64cm^2$)			0.44 to 890	0.027 to 57.2	-	-	-
3/34 L	Normal ($50cm^2$)		2-cell	0.005 to 100	0.0003 to 6.45	0.000025 to 0.5	0.0001	0.005 or 2%*
	Reduced Area Cartridge ($5.64cm^2$)			0.044 to 890	0.0027 to 57.2	-	-	-

Whichever is higher.