PRODUCT BROCHURE

AQUATRAN® MODEL 3

WATER VAPOR PERMEATION ANALYZER

High Performance WVTR Testing for Barrier Films & Packages

AMETEK® | mocon®

LOWEST DETECTION

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 AQUATRAN 3 analyzer is the industry's most trusted Water Vapor Transmission Rate (WVTR) instrument for high to ultra-high level barriers because it measures each molecule of water vapor. It features two independent cells with interchangeable horizontal test cartridges allowing a wide variety of sample sizes and types to be easily and accurately tested. This analyzer provides test results at the lowest detection level in the industry down to 0.00005 g/(m^2 · day).

AQUATRACE® Sensor

The AQUATRAN 3 uses the AMETEK MOCON's patented absolute coulometric pentoxide sensor that does not require calibration and conforms with ASTM F3299. It is the longest lasting sensor of its kind on the market. The sensor has a linear output which guarantees the highest accuracy and repeatability throughout its entire detection range.

Extensive Testing Capability and Applications

The accuracy and low detection capability of the AQUATRAN 3 make it an ideal WVTR instrument for research and development and can be used for production support for high to ultra-high barriers. It has the capability to test mono-layer to multi-layer films, coated films, and specialty high barrier films such as solar back sheets. With an optional adapter cartridge it can be used to test packages, flexible or rigid containers, bottles/closers, encapsulation materials, solar panels, windows, OLED, blister packs, and seals in the form of O-rings or gaskets. More challenging applications such as high moisture barrier OLED flexible displays, electronics, and pharmaceutical packaging are no problem for the AQUATRAN 3. The interchangeable cartridges also work with other Next Generation 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 improving accuracy at ultra-low detection levels
- 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

AMETEK MOCON's 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.

Accuracy in WVTR Permeation Testing

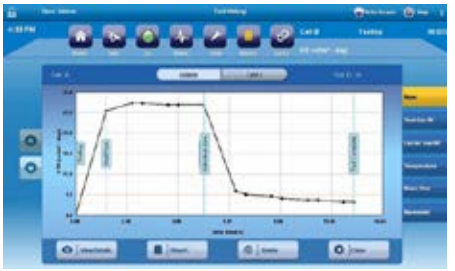
The AQUATRAN 3 features AMETEK MOCON's exclusive test cell drawer design with two horizontal removable easy-to-load cartridges improve test repeatability. A single button opens and closes the drawers, and the cartridge is automatically clamped in place with consistent and even force on any sample thickness. This approach provides greater test repeatability than manual or cam clamping methods. All test cartridges incorporate our 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.

Industry Pioneer

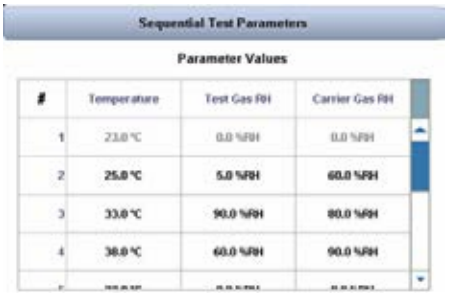
Over 40 years ago, we created the world's first multi-cell permeation instruments. For more than 14 years, MOCON's AQUATRAN analyzers have been the most trusted and longest lasting on the market. Whether you're testing high or ultra-high water vapor permeation rates for barrier films or packages, the AQUATRAN 3 analyzer is a high-performance solution for you.

Auto-Test mode automatically adjusts the testing parameters to provide results for unknown samples

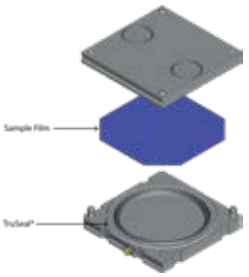
Advanced-Test mode is the most commonly used and is for specific parameters and conditions



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



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

AQUATRACE Sensor

- Lowest level of detection on the market down to 5 x 10^{-5} g/(m^2 · day)
- Longer sensor life than others on the market
- Accurate and repeatable results
- Most trusted P_2O_5 sensor complies with ASTM F3299 and ISO 15106-3

Warranty

- Full 100% parts and workmanship warranty for 12 months

AQUATRAN MODEL 3
SPECIFICATIONS

Industry Standards

- ASTM F-3299-18
- JIS K7129-3
- ISO 15106-3
- GB/T 21529-2008

Conformance Standards

- CE, UL, CSA Safety Compliance

Performance Specifications

Test Temperature Range	5°C to 50°C ± 0.2°C at 100% RH or 10°C to 40°C ± 0.2°C at 5 to 90% RH
Controlled RH Testing Ranges	100% and 5% to 90% RH ± 3 RH
Maximum Film Thickness	Up to 120 mil, 3 mm
Carrier Gas	Nitrogen (99.9999% N_2 or better)

Connectivity

- Ethernet Port
- 2 USB Ports
- Optional PERM-NET Lite™ for remote monitoring

Dimensions & Weight

Depth: 23" or 58,5 cm
Width: 23" or 58,0 cm
Height: 15.5" or 39,4 cm
Weight: 95 lbs. or 43,1 kg

Accessories

- Package testing adapter
- Custom engineered test cartridges
- PermWare™ software for data collection and remote monitoring

Technical Specifications

Models		Test Ranges			Resolution	Repeatability
		mg/(m² • day)	mg/(100 in² • day)	mg/(pkg • day)	mg/(m² • day)	mg/(m² • day)
AQUATRAN 3	Normal (50cm²)	0.05 to 5000	0.0032 to 322.6	0.00025 to 25	0.01	0.05 or 1%*
	Reduced Area (5cm²)	0.5 to 50,000	0.032 to 3226	-	-	-

** Whichever is greater*

MOCON, Inc.
7500 Mendelssohn Ave. N
Minneapolis, MN 55428 USA
info.mocon@ametek.com
www.ametekmocon.com

PB-PPS-0104 1.2 03/20/20
Copyright © 2020 MOCON, Inc. All rights reserved. MOCON, TruSeal, OX-TRAN and Coulox are registered trademarks of MOCON, Inc.