

WATER VAPOR TRANSMISSION RATE TESTER - WATER VAPOR PERMEABILITY TESTER



Water Vapor Transmission Rate Tester - Water Vapor Permeability Tester

Four WVTR methods, one supplier: gravimetric, infrared, electrolytic, and humidity-sensor testers for every barrier level.

A water vapor transmission rate tester measures the WVTR of films, foils, laminates, and membranes to gauge their moisture barrier. Also called a water vapor permeability tester, it helps packaging, pharmaceutical, electronics, and nonwoven labs qualify materials against standards such as ASTM E96, ASTM F1249, and ISO 15106. The ToronWVTR™ range spans four measurement methods so you can match sensitivity to your material.

Gravimetric models cover general barrier materials, infrared and electrolytic models reach high and ultra-high barriers, and the humidity-sensor model handles breathable, high-permeability materials. Cell counts span single-station benchtop units through twelve-station systems. Match the method to your barrier level and the cell count to your throughput.

Why Choose Torontech for Your Water Vapor Transmission Rate Tester

Torontech supplies testing and measurement equipment to laboratories and manufacturers across North America and worldwide, backed by responsive technical support and calibration service. The water vapor transmission rate tester range is built for reliable, standards-driven results, so you can standardize on one supplier as your testing needs grow. Our team helps you match the right configuration to your samples, applicable standards, and throughput, then supports you through installation and beyond.

Request a Quote

Tell us your material, its expected barrier level, and your daily test volume, and we will recommend the right water vapor transmission rate tester for your lab. [Contact the Torontech team](#) for pricing and lead times.

APPLICATIONS

Applications

Water vapor transmission testing supports quality control and R&D wherever moisture ingress or egress affects a product.

- **Food and Beverage Packaging:** measures the moisture barrier of films, foils, and laminates that protect dry and moisture-sensitive products.
- **Pharmaceutical and Medical Packaging:** verifies the moisture barrier of blister foils, sachets, and pouches for moisture-sensitive drugs.
- **Flexible Packaging and Converting:** qualifies laminates, metallized films, and coatings during development and production QC.
- **High-Barrier and Electronic Encapsulation:** tests ultra-high-barrier films for OLED, flexible electronics, and photovoltaic encapsulation.
- **Nonwovens and Breathable Materials:** measures water vapor transmission of nonwovens, hygiene fabrics, and breathable membranes.
- **Building and Construction Membranes:** tests breathable housewraps and vapor-permeable barrier membranes.

TECHNICAL SPECIFICATIONS

Water Vapor Transmission Rate Tester Range

The ToronWVTR™ range covers four measurement methods and a wide span of cell counts. Use the table to match a model to your material's barrier level and your test throughput.

Model	Method	Cells	Detection Range (g/m ² ·24h)	Best For
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ToronWVTR™ C1	Gravimetric	1	0.1 to 19,000	Entry-level, low-volume barrier testing
ToronWVTR™ C3	Gravimetric	3	0.1 to 19,000	R&D and material development
ToronWVTR™ C6	Gravimetric	6	0.1 to 19,000	High-throughput QC
ToronWVTR™ C12	Gravimetric	12	0.1 to 19,000	Production and contract labs
ToronWVTR™ Ir1	Infrared	1	0.005 to 1,000	High-barrier films, single sample
ToronWVTR™ Ir3	Infrared	3	0.005 to 1,000	High-barrier films, multi-sample
ToronWVTR™ E1	Electrolytic	1	0.001 to 1,100	Ultra-high-barrier, single sample
ToronWVTR™ E3	Electrolytic	3	0.001 to 1,100	Ultra-high-barrier, multi-sample
ToronWVTR™ H6	Humidity Sensor	6	5 to 100,000	Nonwovens and breathable membranes

How to Choose the Right Water Vapor Transmission Rate Tester

- **For general barrier films and a recognized reference method:** choose a gravimetric model (C1, C3, C6, or C12) by the throughput you need.
- **For high-barrier films and foils:** choose an infrared model (Ir1 or Ir3), which reads down to 0.005 g/m²·24h.
- **For ultra-high-barrier films and encapsulation:** choose an electrolytic model (E1 or E3), the most sensitive at 0.001 g/m²·24h.
- **For nonwovens and breathable, high-permeability materials:** choose the humidity-sensor H6, which handles rates up to 100,000 g/m²·24h.
- **For higher throughput:** step up the cell count, single-station benchtop through the twelve-station C12.
- **For regulated pharmaceutical labs:** the H6 adds GAMP5-aligned data-integrity controls.



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