

GAS PERMEABILITY TESTER



Gas Permeability Tester

Gas Permeability Tester | ASTM D1434 & ISO 15105-1 Differential Pressure GTR Testing

A gas permeability tester measures the gas transmission rate (GTR) of films, laminates, foils, and packaging by the vacuum differential pressure method. Built around test methods such as ASTM D1434 and ISO 15105-1, these instruments give packaging, food, pharmaceutical, and materials labs repeatable barrier data for oxygen, carbon dioxide, and other gases.

The ToronGPT™ range covers single-cell benchtop units for entry-level testing, three-cell systems for routine QC, a high-sensitivity model for demanding high-barrier films, and a fully automatic six-cell system for high-throughput labs. Match the model to your sample volume and barrier level.

Why Choose Torontech for Your Gas Permeability 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 gas permeability 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 sample type, target gas, and daily test volume, and we will recommend the right gas permeability tester for your lab. [Contact the Torontech team](#) for pricing and lead times.

APPLICATIONS

Applications

Gas permeability testing supports quality control and R&D wherever a barrier layer protects a product from oxygen, moisture, or gas exchange.

- **Food and Beverage Packaging:** confirms the oxygen and carbon dioxide barrier of films and laminates that protect flavor, freshness, and shelf life.
- **Pharmaceutical and Medical Packaging:** verifies the barrier of blister films, foils, and pouches around moisture- and oxygen-sensitive drug products.
- **Flexible Packaging and Converting:** qualifies multilayer laminates, metallized films, and coated structures during development and production QC.
- **Plastic Film and Sheet Production:** checks PE, PP, PET, and coated films against defined barrier targets at incoming and outgoing inspection.
- **Metal Foil and High-Barrier Materials:** measures low gas permeation through foil laminates, aluminized films, and coated high-barrier structures.
- **Rubber, Tires, and Membranes:** characterizes gas permeation through rubber sheeting, tire inner-liner compounds, and permeable membranes.

TECHNICAL SPECIFICATIONS

Gas Permeability Tester Range

The ToronGPT™ gas permeability tester range shares a common differential pressure measurement core and scales by chamber count, detection sensitivity, and automation. Use the table to match a model to your throughput and barrier level.

Model	Test Cells	Detection Range (cm ³ /m ² ·24h·0.1MPa)	Description
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ToronGPT™ 1	1	0.05 to 160,000	Compact benchtop single-cell tester for entry-level and low-volume labs. Optional temperature control keeps the footprint and cost down.
ToronGPT™ 3	3	0.05 to 190,000	Standard three-cell system that tests three specimens at once for routine batch QC, with water-bath temperature control and multiple test modes.
ToronGPT™ 3H	3	0.01 to 190,000	High-sensitivity three-cell model that reads down to 0.01 cm ³ for demanding high-barrier films, foils, and coated structures.
ToronGPT™ 6A	6	0.01 to 190,000	Fully automatic six-cell system for high-throughput labs, with one-button operation and an overlay display for six-sample comparison.

How to Choose the Right Gas Permeability Tester

- **For entry-level or low-volume testing:** choose the single-cell ToronGPT™ 1, a compact benchtop unit with optional temperature control.
- **For routine batch QC:** choose the three-cell ToronGPT™ 3 to test three samples at once at standard sensitivity.
- **For high-barrier films and very low transmission rates:** choose the high-sensitivity ToronGPT™ 3H, which reads down to 0.01 cm³.
- **For high-throughput labs:** choose the automatic six-cell ToronGPT™ 6A to run six samples per loading with hands-off operation.
- **For temperature- or humidity-dependent methods:** choose a three-cell or six-cell model with water-bath temperature control and the optional humidity generator.



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