

PERMEATIONS TESTER

Permeability Tester TotalPerm - O₂, CO₂ & H₂O

TotalPerm is the only instrument on the market, based on patented technology, that performs permeability measurements on three different kind of gases. TotalPerm is offered with three different sensors for oxygen, carbon dioxide and water vapour. In this way TotalPerm has the ability to characterize the barrier properties of the film with three different gases testing exactly the same surface, avoiding the need of substituting the sample.

With this instrument it is possible to measure plastic films, monolayer or multilayer barrier films, metallized or with surface coating, laminated or coextruded, especially those used for food, beverage, pharmaceutical and electronics packaging applications. TotalPerm, as well as performing tests of permeability through thin films, can be equipped with modular accessories to carry out measurements on packaging containers of various types such as bag-in-box, PET bottles and packages. TotalPerm stands as the ideal solution for companies that produce or use barrier packaging and want the highest performance in a single instrument at competitive prices. The special software TotalPerm ExtraSolution® guarantees maximum simplicity of operation.

TotalPerm complies with the norms DIN 53380-3, ASTM D3985, F2622, F1927, F1307, JIS K-7126, ISO 15105-2 for OTR measurements, with the norm ASTM F2476 for CO2TR measurements and with the norms ASTM F1249, TAPPI T557, JIS K-1729, ISO 15106-2 for WVTR measurements.

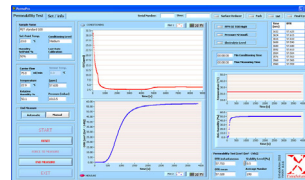
Features / Equipment:

- 3 sensors inside
- Sequential analysis
- Broad measuring range
- Long life detectors
- Barometric compensation
- Graphic software interface
- Automatic humidity adjustment
- No sample cutting required

Other versions:

- **Multi-Perm** with 2 sensors for O₂-CO₂, O₂-H₂O or H₂O-CO₂
- **Perme** with 1 sensor for O₂, CO₂ or H₂O
- **CarboPack BT** - Carbon dioxide permeability tester with embedded controls of temperature
- **PackPerm** - Oxygen permeability tester for flexible packages, stiff containers and PET bottles

Technical data:



	TotalPerm / MultiPerm / Perme
Characteristics	
Test range O ₂	0,01 - 1,000 cm ³ ·m ⁻² ·24h ⁻¹ ·bar ⁻¹ (unmasked) 0,2 - 25,000 cm ³ ·m ⁻² ·24h ⁻¹ ·bar ⁻¹ (masked)
Test range CO ₂	0,25 - 9,000 cm ³ ·m ⁻² ·24h ⁻¹ ·bar ⁻¹ (unmasked) 50 - 180,000 cm ³ ·m ⁻² ·24h ⁻¹ ·bar ⁻¹ (masked)
Test range H ₂ O	0.002 - 100 g·m ⁻² ·24h ⁻¹ (unmasked) 0.04 - 2,000 g·m ⁻² ·24h ⁻¹ (masked)
Specimen size	50 cm ² – max. approx. 2,5 mm thickness
Temperature range	10 - 50 °C ± 0.1 °C
Relative humidity carrier side (O ₂ /CO ₂)	0%, 30-90%
Relative humidity O ₂ /CO ₂ (gas test side)	0%, 5 - 95% ±1.5%
Relative humidity H ₂ O (wet side)	5 - 95% ±1.5%
Carrier Flow (N ₂)	12 - 36 ml/min, automatically controlled
Carrier gas	N ₂ 5.0 + 1% H ₂ mix
O ₂ /CO ₂ /purity gas	Purity ≥99.95% / ≥99.99%
N ₂ pressure	2.0 bar
O ₂ /CO ₂ pressure	1.5 - 2.0 bar
Power supply	110 - 220 AC 50 - 60 Hz
Apparatus size [cm]	41W/61D/31 H