

ExtraSolution

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PermeH₂ single cell

PermeH₂ is an instrument for testing the permeability through plastic films, monolayer or multilayer barrier films, metallised or with surface coating, laminated or coextruded used especially for electronics, battery, PEM, polymer membranes and hydrogen transport.

The software Perme ExtraSolution® allows the user to work with full autonomy after only a few hours of training.

The principal parameters such as temperature, relative humidity, conditioning time and automatic end of measurement, are requested at the start of the software and then it is all automatic.

Moreover it is possible to plan a list of measurements on the same sample at different test conditions that are going to be run automatically by the instrument. In this way any human action is reduced to the minimum and any possible errors eliminated.

The software stabilizes the parameters with high accuracy and precision over all the measurement.

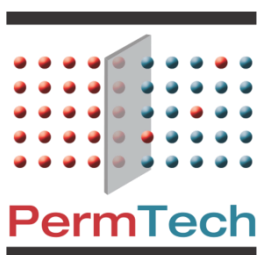
Testing conditions (temperature, relative humidity, concentration, ...) are shown both as numeric data and graphical representation and saved in an .pdf file and in text file to allow the full compatibility with any other software.

All the gas flows are electronically controlled so that the instrument is immune to changes of pressure both in the gas line and atmospheric.

The single point closure system and the special design of the chamber eliminates the need of cutting the samples to be tested.

The system is safe, the hydrogen gas before being reintroduced into the environment is premixed with nitrogen in order to eliminate possible risks of fire and explosion, the software completely manages all phases and controls flow rates, concentrations and all parameters in order to guarantee a practical, reliable and safe measurement.





Test Tange H ₂	0.3-9000 cm ³ ·m ⁻² ·24h ⁻¹ ·bar ⁻¹ (unmasked) (*) 70-180000 cm ³ ·m ⁻² ·24h ⁻¹ ·bar ⁻¹ (masked)
Test Sample Size	50 cm ² – About 2,5 mm thickness max
Test temperature range	10-50°C ±0.1°C
Relative humidity (N ₂ side)	0%, 30-90%
Relative humidity (H ₂ side)	0%
Carrier Flow (N ₂)	12-36 ml/min, automatically controlled
Carrier gas	N ₂ 5.0
H ₂ purity gas	5.0 or higher
N ₂ pressure	2.0 bar
H ₂ pressure	1.5 – 2.0 bar
Gas connections	2 x Standard Ham-Let 1/8"
Software	LabView based with USB interface
PC with preinstalled software	Windows™ OS and LCD monitor
Power supply	110 – 220 AC 50 – 60 Hz
Apparatus size	41W/61D/31 H

Supply contains

- 1 PermeH₂
- 1 Software PermeH₂
- 1 PC all in one with Windows OS
- 1 Pack vacuum grease
- 5 Reduction masks for mesurement of high permeability samples
- 1 plastic films for calibration
- O-rings, fuses, pipes with fittings
- Instruction manual

Starting from 2022 our instruments comply with the guidelines for compliance with the 21 CFR part 11 standard of the FDA. Our updated software complies with the requirements and procedures for access, control, inspection and security of data stored in electronic format.

(*) the actual measurement range may be slightly influenced by the calibration parameters, specific to each instrument.