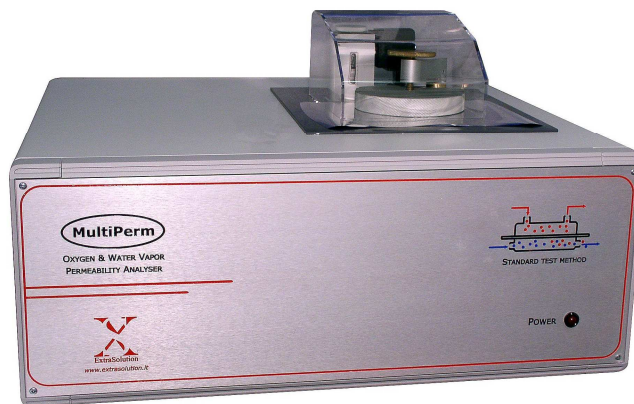


SINGLE
CELL
MODEL

MultiPerm
O₂, CO₂ & H₂O
FOR FILMS



Misuratore di permeabilità all'O₂, alla CO₂ e all'H₂O con controlli integrati di temperatura ed umidità relativa.

O₂, CO₂ and H₂O permeability tester with embedded controls of temperature and relative humidity.

MultiPerm è il primo ed unico strumento sul mercato con tecnologia brevettata in grado di eseguire misure di barriera a due diversi tipi di gas. MultiPerm viene infatti offerto con due sensori a scelta tra ossigeno, anidride carbonica e vapor d'acqua ed elimina la necessità di dover spostare il campione, consentendo così di caratterizzare le proprietà barriera a due distinti gas della stessa esatta superficie.

Con questo strumento è possibile misurare film plastici, film barriera monostrato o multistrato, metallizzati o dotati di speciali coating superficiali, laminati o co-estrusi utilizzati prevalentemente nell'industria alimentare, delle bevande, farmaceutica ed elettronica. Oltre a effettuare misure di permeabilità su film, MultiPerm, equipaggiato con accessori modulari può effettuare analisi su contenitori formati quali bag-in-box, bottiglie in PET e recipienti in genere.

MultiPerm rappresenta la soluzione ideale per le aziende che producono o utilizzano imballaggi barriera e vo-

MultiPerm is the first and unique instrument present on the market, based on patented technology, that performs permeability measurements on two different kinds of gases. In fact, MultiPerm is offered with two sensors to be chosen by the customers among oxygen, carbon dioxide or water vapour. In this way MultiPerm allows to characterize the barrier properties of the film at two 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, metallised or with surface coating, laminated or co-extruded used especially for food, beverage, pharmaceutical and electronics packaging applications.

MultiPerm, besides performing tests of permeability through thin films, can be equipped with modular accessories to carry out measurements on packaging containers of various types like bag-in-box, PET bottles and packages.



TECHNICAL DETAILS MULTIPERM

Test Range O₂

0.01-7500 cm³·m⁻²·24h⁻¹·bar⁻¹ (unmasked)
0.2-80000 cm³·m⁻²·24h⁻¹·bar⁻¹ (masked)

Test Range CO₂

0.25-18000 cm³·m⁻²·24h⁻¹·bar⁻¹ (unmasked)
20-360000 cm³·m⁻²·24h⁻¹·bar⁻¹ (masked)

Test Range H₂O

0.002-40 g·m⁻²·24h⁻¹ (unmasked)
0.04-800 g·m⁻²·24h⁻¹ (masked)

Test sample size

50 cm² - About 2,5 mm thickness max

Test temperature range

10-50 C ± 0.1 C

Relative humidity O₂/CO₂ (O₂/CO₂ side)

0%, 5-95%, 100% ± 1.5%

Relative humidity H₂O (moist N₂ side)

5-95%, 100% ± 1.5%

Carrier flow (N₂)

10-75 ml/min automatically controlled

Carrier gas

N₂ pure (5.0 or 5.5 P.A.)

O₂ / CO₂ purity gas

Purity ≥ 99.5%
Residual humidity required < 1%

N₂ pressure

1.5-2.0 bar

O₂ / CO₂ pressure

1.5 bar

Gas connections

2/3 x Standard Swagelok 1/8"

Software

LabView based with USB interface



MultiPerm è conforme alle norme DIN 53380-3 e ASTM F2622-07 per la misura di O₂TR, alla norma ASTM F2476-05 per le misure di CO₂TR ed alla norma ASTM F1249-06 per le misure di WVTR.

MultiPerm complies with the norms DIN 53380-3 and ASTM F2622-08 for OTR measurements, with the norm ASTM F2476-05 for CO₂TR measurements and with the norm ASTM F1249-06 for WVTR measurements.

PC with preinstalled software

Windows XP, LCD 17", colour ink-jet printer

Power supply

220 V, 50 Hz (800 W max.)

Apparatus size (cm)

53 W/58 D/30 H without PC

gliono le più alte prestazioni in un unico strumento, ad un prezzo competitivo. Lo speciale software MultiPerm ExtraSolution® garantisce la massima semplicità operativa. Scegliere MultiPerm significa operare una scelta intelligente che riduce i costi e libera gli spazi!

MultiPerm 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 MultiPerm-ExtraSolution® guarantees the highest working simplicity. Choosing MultiPerm means operate a smart choice that reduces both costs and room!

