



Porous Material Inc. (USA)

Diffusion Permeameter



Description

The PMI Diffusion Permeameter provides fully automated analysis of diffusion and gas permeability. PMI's Diffusion Permeameter tests materials that typically have very low permeability and are therefore difficult to measure by conventional means. The user-friendly PMI Diffusion Permeameter features non-destructive testing and can test a wide variety of samples.

Principles of operation

The PMI Diffusion Permeameter examines the pressure changes through a known volume to determine the permeability of the sample. The amount of gas that has flowed through the sample is calculated from the increase in pressure of the known volume. By analyzing the increase in pressure over time, the rate at which the gas passes through the sample can be found. Using this flow rate and the applied pressure, in conjunction with the sample's physical dimensions, we can calculate the permeability of the sample.

Applications / Features

Industries worldwide, ranging from the filtration to the ceramic to the battery industry, utilize the PMI Diffusion Permeameter for R&D and quality control. Samples tested include membranes, filters, and battery electrodes.

- ✚ Windows-based software handles all control, measurement, data collection, and report generation; complete manual control is also possible
- ✚ Compatible with Windows 95 or higher
- ✚ Real-time graphical test display depicts testing status and results throughout operation
- ✚ Non-destructive testing
- ✚ Length of test approximately 4 to 6 hours
- ✚ Wide range of acceptable sample types and sizes
- ✚ Multiple sample chambers available
- ✚ Transparent sample chamber for visual confirmation
- ✚ Minimal maintenance required

Specifications

Permeability Range	1×10^{-12} - 1×10^{-6} (Microflow in cc/sec/m/torr)
Sample Size	1.75" - 2.5" diameter
Pressure Range	Test specific
Pressurizing Gas	Water vapor, oxygen, or other non-corrosive gas
Pressure Transducer Range	1.0 - 1,000 Torr
Resolution	1 in 100,000
Accuracy	10^{-3} Torr
Power Requirements	110/220 VAC, 50/60 Hz
Dimensions	60" H x 30" W x 28" D
Weight	500 lbs

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