

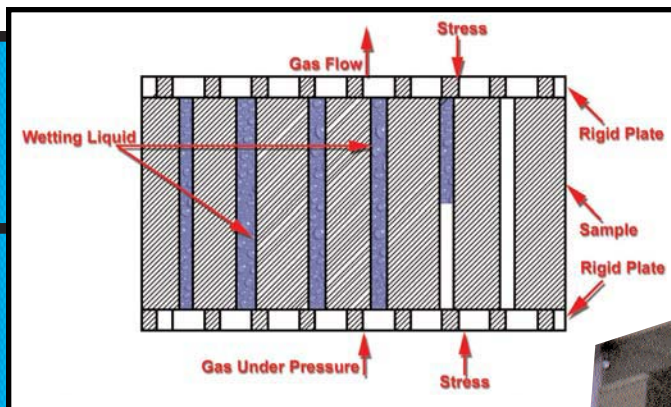
Compression Porometer

Application:

The Automated Compression Porometer is designed to characterize the pore structure of a material under compression. Industries world-wide, ranging from the filtration, to the non-wovens and battery use the PMI Compression Porometer for R&D and quality control. Samples often tested include: filter media, membranes, paper and battery separators. The instrument permits tests to be carried out under simulated true service conditions.

Principle of Operation:

A fully wetted sample sandwiched between two porous and rigid plates is placed in the sample chamber. Compressive stress is applied. Gas pressure behind the sample is increased. When the pressure is sufficiently high, the largest pore is emptied and gas starts to flow. With increase in pressure, smaller pores are emptied and the flow rate increases. The flow rate and pressure are measured using wet and dry samples. These data are used to calculate the effects of compressive stress on pore size and pore distribution. The Compression Porometer thus characterizes compressed material under the conditions of their actual use.



Features:

- ✦ Measures the effects of compressive stress on the largest pore diameter (bubble point), the mean flow pore diameter and permeability. and pore distribution.
- ✦ Fully Automated.
- ✦ Windows based software for data acquisition, storage and reduction.
- ✦ Nondestructive test leaves material intact.
- ✦ Compressive Stress adjustable by the operator.



Specifications:

Compressive Stress: 0-1000 PSI

Compressive Stress Accuracy: 0.25% of full scale

Test Pressure: 100, 200, and 500 PSI instrument-versions
700, 1400, 3500 kPa instrument-versions

Pressure Accuracy: 0.15 % of reading

Flow Rates: Up to 200 SLPM (standard liters per minute)

Pressure and Flow Resolution:

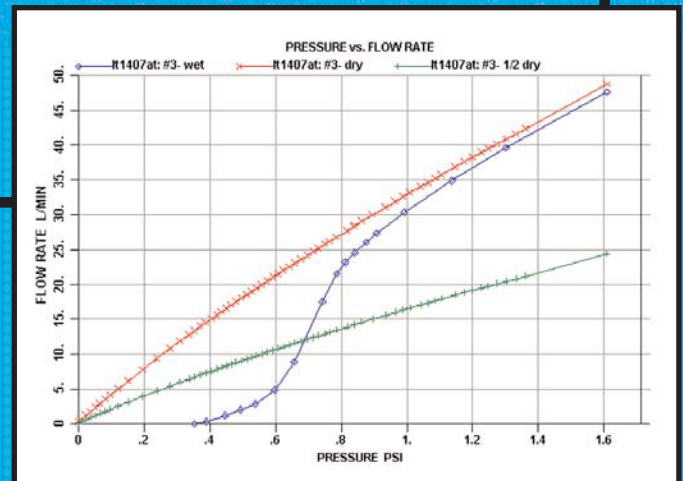
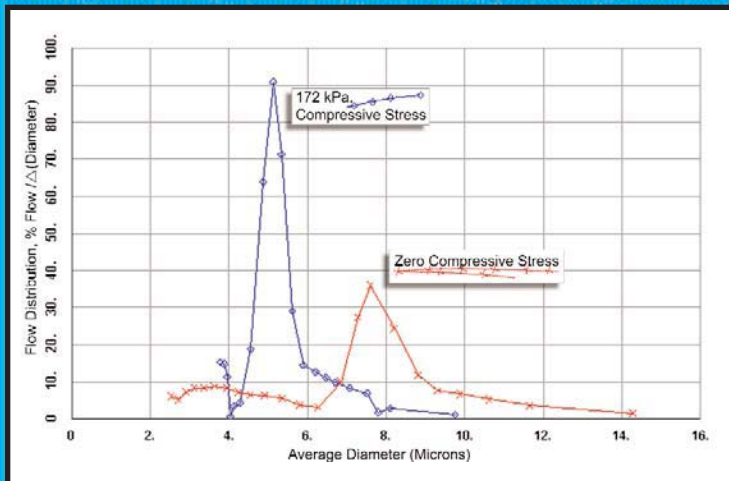
1/20,000 of full scale (1 part in 20,000)

Sample Size: standard: 0.25" to 2.5" diameter (up to 1.5 inches thick)
standard: 5 mm to 60 mm diameter (up to 40 mm thick)

Maximum Pore Size detectable:

600 microns (with water)

200 microns (with Porewick & Silwick)



Other Products From PMI:

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- ✦ Capillary Flow, Bubble Point, QC, On-line, Compression Porometers and Cyclic Compression Porometers.
- ✦ Liquid/Gas Permeameters.
- ✦ Envelope Surface Area Analyzer.
- ✦ Pycnometers.
- ✦ Mercury/Non-Mercury Intrusion Porsimeters.
- ✦ Liquid Extrusion Porosimeter
- ✦ BET Surface Area and Pore Analysis Sorptometers.
- ✦ Testing Services.



Porous Materials, Inc.

20 Dutch Mill Road
Ithaca, New York 14850 USA

Toll Free US & Canada: 1-800-TALK-PMI Phone: (607)257-5544

Fax: (607)257-5639 E-Mail: info@pmiapp.com Website: www.pmiapp.com