

PMI Advanced Bubble Point Tester



APPLICATION

PMI's Automated Bubble Point Tester (ABPT) provides reliable and accurate bubble point testing. Reproducibility of the test results is made possible by the fully automated, computer-controlled testing procedure and report generation. The ABPT is used to test for the largest through pore of materials such as filter media, filter cartridges, nonwovens, compact powders, membranes, separators, and other porous materials. The ABPT is controlled by Windows software so that data acquisition and system status display can be run with simple mouse movements.

PRINCIPLE

The sample of the material to be tested is soaked in a liquid that spontaneously fills the pores in the sample. Gas under pressure is applied on one side of the sample. Initially, gas does not flow through the sample because the pores in the sample are filled with the liquid. However, when the gas pressure is increased, the gas empties the largest pores of liquid at a certain level of pressure and gas begins to flow through the sample. The pressure at which the gas starts to flow through the sample is known as the bubble point pressure. Bubble point pore diameter is related to the bubble point pressure and surface tension of the liquid by the following relation.

$$D = 4 \gamma \cos \theta / p$$

Where:

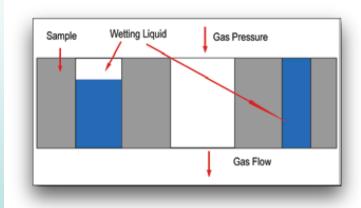
D = pore diameter

 γ = surface tension of liquid

 θ = contact angle of liquid

p = differential gas pressure

From measured pressure and flow rates, the pore throat diameters, pore size distribution, and gas permeability are calculated.

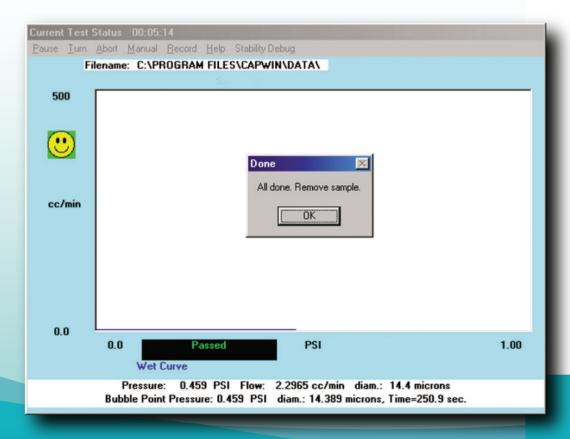


FEATURES

- Fast and accurate determination of largest pore size
- Use of almost any wetting fluid
- Determines largest pore size within the range of. 013-500 microns
- Provides consistent, objective and reproducible results
- Fully automated control reduces operation time
- Transfers data to commonly used spreadsheet programs
- Deluxe model performs integrity testing (diffusional flow)

OPTIONAL FEATURES

- Multi-head models may contain 10 or more sample chambers for high volume testing
- Go-No Go or Pass-Fail screening of samples
- Clamp-On Sample chamber. No need for cutting samples or damaging the product



SPECIFICATIONS

- Pore Size Range: 0.013-500, 0.03-500, 0.06-500 microns
- Sample Size: 0.5" 2.5" diameter (others available)
- Pressure Range: 0-500, 0-200, 0-100 psi
- Pressurizing Gas: Clean, dry, conpressed, non-corrosive air or gas
- Pressure Tansducer Range: 0-500, 22, 100, 25, 5 psi
- Accuracy: 0.15%
- Mass Flow Transducer Range: 30cc/minute (others available)
- Resolution: 1/60,000 of full scale (1 part in 60,000)
- Power Requirements: 110/220 VAC, 50/60 Hz (others available)
- Dimensions: 10.5" H x 20.5" W x 20.5" D
- Weight: 40 lbs

SALES & SERVICE

Our sales team is dedicated to helping our customers find which machine is right for their situation. We also offer custom machines for customers with unique needs. To find out what we can do for you, contact us. We are committed to customer support including specific service products, short response times & customer specific solutions. To quickly & flexibly meet our customer's requirement, we oller a comprehensive range of services.



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The most advanced, accurate, easy to use and reproducable Bubble Point Testers in the world.

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