

CARTRIDGE BUBBLE POINT TESTER

CBPT-101A



- *Conforms to ISO 4003*
- *Conforms to ISO 7198*
- *Conforms to ASTM F316*



Not just products...solutions!

DESCRIPTION

The cartridge bubble point tester accommodates cartridges having a wide range of sizes. It facilitates quick and easy loading and unloading of cartridges. Performs speedy high volume testing and measures pores on all sides of the cartridge. Conserves the wetting liquid by circulating from a storage tank, and ventilates the sample chamber. It has many applications throughout the filtration industry.

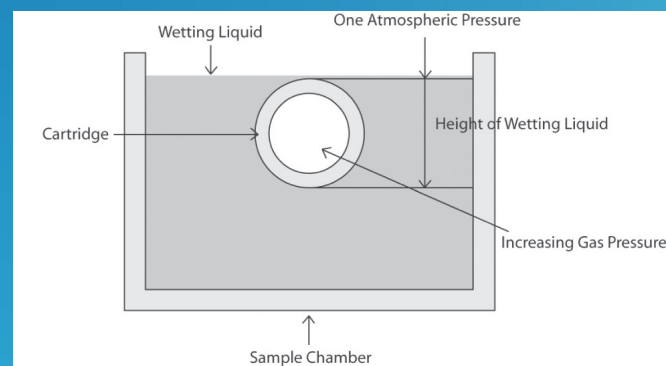


Figure 1
Wetting Liquid Sample Sizes

PRINCIPLE

A wetting liquid spontaneously fills the pores of a porous material. Wetting liquids is less than the surface free energy of the filtration media with air wetting liquid can be removed from the pores by increasing differential pressure of a nonreacting gas on the sample.

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

The testing technique involves measurement of gas flow rates through a wet sample as a function of differential pressure. The gas pressure needed to displace a wetting liquid from the largest pore is related to the pore diameter.

APPLICATION

The measured differential pressure yields the largest through pore throat diameter. The table on the below shows the range of wetting liquid sample sizes.

DETECTABLE PORE SIZES

Fluid	Surface Tension, Dynes/cm	Minimum Pore Size, μm	Maximum Pore Size, μm
Water	72	1	800
Mineral Oil	34.7	0.7	700
Petroleum Distillate	30	0.6	700
Denatrued Alcohol	22.3	0.5	600
Silwick	20.1	0.4	500
Porewick	16	0.33	400
Galwick	15.9	0.3	400

The table above gives an idea about the range of fluids that can be used and the related range of the largest pore diameter.

Figure 2
Detectable Pore Sizes

UNIQUE FEATURES

Accommodation of a wide range of Cartridge Sizes

- Deep sample chambers, detachable head attachments, and movable clamping heads make this an extremely versatile machine.

Quick Loading & Unloading of Cartridge for Speedy Testing

- The cartridges are loaded in the sample chamber simply by using two levers. The horizontal lever is used to move the clamping head forward and backward to allow for cartridge length, and the rotating lever is used to lock the cartridge

High Volume Testing

- one sample chamber can be loaded while the other sample chamber is running the test

Automatic Wetting of Sample

- The wetting liquid is automatically added to the sample chamber by an inlet inside the chamber. Enough liquid is added to adequately cover the sample

Testing of Pores on All Sides of the Cartridge

- A rotating cartridge holder allows for even and equal testing on all sides of the sample. The speed at which the sample rotates can be adjusted by the user.

Conservation of Wetting Liquid

- The liquid is automatically drained from the sample chamber and pumped to a storage tank, which is then used to fill the sample chamber again.

Ventilation of the Test Chamber

- A ventilation fan constantly removes vapor of the wetting liquid from the sample chamber. The vapor is disposed of in an appropriate manner, and the operator is prevented from inhaling the vapor from the wetting liquid.

Fully Automated Operation

- Little user involvement is needed. The bubble point is recorded and reported along with the testing liquid.

SPECIFICATIONS

- Pore Size Range: 0.1 - 500 microns (Models with pore size down to 0.013 microns also available)
- Sample Size: .5" to 8" diameter, .5" to 14" long
- Maximum Range: 0 - 50 psi
- Pressurizing Gas: Clean, dry, Compressed air or nonflammable, non-corrosive gas
- Pressure Transducer Range: 0-50 psi gauge pressure
- Resolution: 1 in 60,000
- Accuracy: 0.15% of reading
- Mass Flow Transducer Range: 0- 100 cc/minute
- Power Requirements: 220 VAC, 50/60 Hz

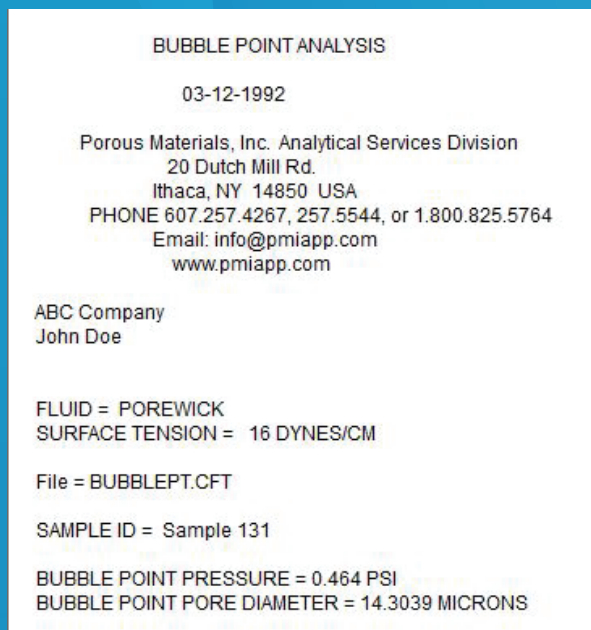


Figure 3
Data Report

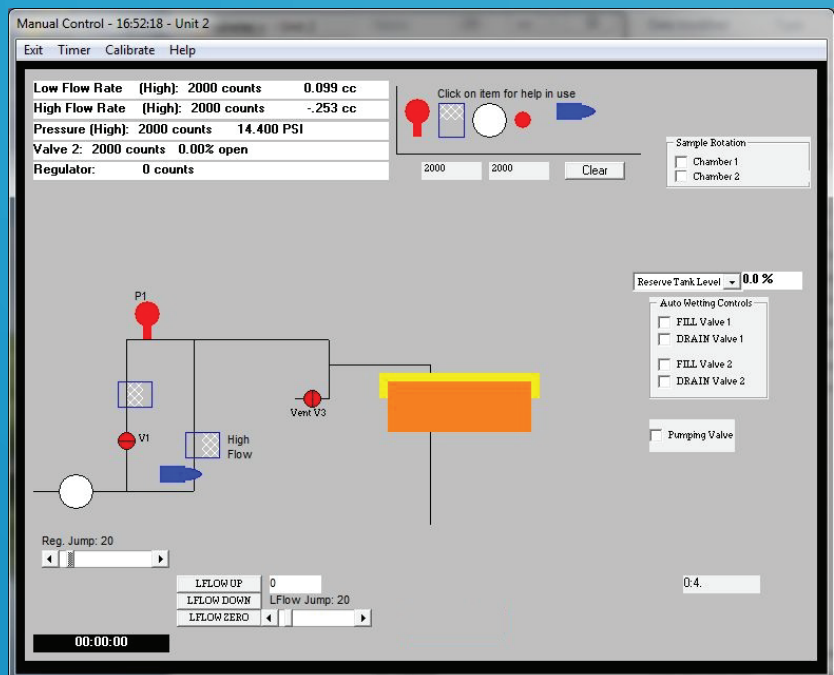


Figure 4
Manual Control Screen

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 offer a comprehensive range of services.



Disclaimer : Other specifications of this product are also available.
Design subject to change without notice.

The most advanced, accurate, easy to use and reproducible Bubbe Point Testers in the world

Celebrating



of solutions



20 Dutch Mill Rd, Ithaca, NY 14850, USA
Toll Free (US & Canada): 1-800-TALK-PMI (1-800-825-5764)
Phone: 607-257-5544 Fax: 607-257-5639

Email: info@pmiapp.com

www.pmiapp.com

