Porous Materials, Inc.

THE PMI ADVANCED MERCURY PYCNOMETER

DAB-100-1

Single Chamber
Bulk Density Analyzer

Not just products.solutions!

Description

PMI's Mercury Pycnometer provides the user with a measurement of bulk density. The Mercury Pycnometer is easy-to-use, provides accurate results in less than 10 minutes, and accommodates a wide range of samples.

Principle

Mercury does not wet many of the materials and requires pressure to enter the pores of the material. At atmospheric pressure, mercury cannot enter pores that are smaller than about 15 microns. Therefore, the weight of mercury in a sample chamber of known volume, containing a sample of known weight, is used to compute bulk density of the sample.

Instrument

The instrument consists of a glass sample chamber, a glass mercury reservoir , a glass mercury trapand four valves. The sample cell has a wide mouth for introducing samples, a vacuum-tight lid and a narrow stem that is connected to the instrument through an O-ring seal. Two valves are used to evacuate the cell, one is used to fill the cell with mercury and the fourth valve is used to drain the cell.

Operation

Sample cell is weighed. Cell with sample is weighed and placed in the instrument. An external vacuum pump is used to evacuate the cell. After sufficient vacuum is attained, mercury is allowed to surround the sample in the cell. The cell containing the sample and mercury is weighed. The bulk density is computed from the known weights, known volume of cell and the density of mercury. The volume of the cell is computed by a calibration experiment in which the sample is not used.

Applications

- Battery/Fuel Cell Industry
- Ceramic Industry

Features

- Single Chamber Density Analyzer
- Test Substance (Mercury)
- Length of test approximately 10 minutes
- Wide range of acceptable sample sizes and types
- Minimal maintenance required
- Mercury recovery possible
- Highly reproducible & accurate results
- Minimum oontact with mercury
- Pore Structure Characteristics:
  - Bulk Density
- Sample Cell: 1" Diameter x 1.5" Height (2.5 - 4 cm), Others available
- Reproducibility: Better than 0.5%
- Power: 110/220 VAC, 50/60Hz
- Dimensions: 25" H x 11" W x 15" D (64 cm H x 28 cm W x 38 cm D)
- Weight: 30 lbs (14 kg)
- Note: Specifications subject to variance in different models

Sales & Services

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.

Customize your machine today!

The most advanced, accurate, easy to use and reproducible Pycnometers in the world.

Celebrating

35 years

of solutions

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