Envelope Surface Area Analyzer

Description

PMI's External Surface Area Analyzer (ESA) offers a simple, fast, and reliable technique for external surface area measurement - a measurement not readily achieved by static nitrogen adsorption (BET) methods. The ESA's innovative use of flow permeametry combined with its sophisticated self-adjusting viscous-flow controller enables testing of a wide range of powders and other samples, including materials with surface areas of only several square meters per gram.

Applications

Providing the user with a surface area measurement in less than five minutes, the main application of the ESA is quality control. Samples tested include pharmaceutical powders, electrode components, ceramic powders, fibrous materials, and other porous substances.

The ESA is utilized for this function in several industries, such as:
Battery Separator Ceramic Chemical Pharmaceutical Powder Metallurgy

Principle

The ESA operates on the principle of flow permeametry. By measuring the flow of Nitrogen (or any non-corrosive gas) through a sample at various differential pressures, one is able to deduct, through a series of equations, the external surface area of the sample.

Optional Features

- The first porometer capable of testing samples with permeabilities as low as 10-6 Darcies
- MicroFlow models available that have the capability to determine pore sizes from 500 to 0.013 microns
- Flow is determined by measuring the pressure change in a sealed reservoir as pressurized gas is applied to the sample
- Inlet pressure is measured by a high accuracy differential pressure gauge
- Systems can be modified to accommodate specific needs

Specifications

Pore Size Range:
0.013-500, .03-500, 0.06-500 Microns
Sample Size:
0.5" - 2.5" diameter. Others available
Shape: Discs, hollow fibers, membranes, complete cartridges, etc.
Pressure Range:
0-500, 0-200, 0-100, psi
Pressurizing gas:
Clean, dry, compressed, non-corrosive air or gas
Pressure Transducer Range:
0-500, 200, 100, 25, 5 PSI
Mass Flow Transducer Range:
30 cc/minute. Others available
Power Requirements:
110/220 V AC, 50/60 Hz
Dimensions:
10.5" H x 20.5" W x 20.5" D
Weight:
40 lbs.
Pressure Accuracy:
0.15% of reading
Pressure Resolution:
1/60,00 of full scale (1 part in 60,000)

Other Products

Average Fiber Diameter Analyzer
Bubble Point Tester
Capillary Flow Porometer
Capillary Condensation Flow Porometer
Complete Filter Cartridge Analyzer
Clamp-On Porometer
Compression Porometer
Custom Porometer
Cyclic Compression Porometer
Envelope Surface Area Analyzer
Filtration Media Analyzer
High Flow Porometer
Integrity Analyzer
In-Plane Porometer
Microflow Porometer
Nanopore Flow Porometer
QC Porometer
Diffusion Permeameter
Gas Permeameter
Liquid Permeameter
Vapor Permeameter
Water Vapor Transmission Analyzer
Liquid Extrusion Porosimeter
Mercury/Nonmercury Intrusion Porosimeter
Vacuapore
Water Intrusion Porosimeter (Aquapore)
BET Liquisorb
BET Sorptometer
Gas Pycnometer
Mercury Pycnometer

Also Available:
Testing Services
Consulting Services
Short Courses

Buy Rent Lease

Porous Materials, Inc.
20 Dutch Mill Rd, Ithaca, NY 14850 USA
Tel: (607)-257-5544 Toll Free in USA & Canada: 1-800-TALK-PMI
Fax: (607) 257-5639 Email: info@pmiapp.com
WWW.PMIAPP.COM