

Envelope Surface Area Analyzer

Description

PMI's Envelope Surface Area Analyzer (ESA) offers a simple, fast, and reliable technique for envelope surface area measurement - a measurement not readily achieved by gas 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.

Principles of Operation

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 envelope surface area of the sample.

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, Nonwovens, Filtration, Pharmaceutical, and Powder Metallurgy.

Features

- Uses nitrogen or other non-corrosive gases; no expensive gas mixtures required
- Windows-based software handles all control, measurement, data collection, and report generation; manual control also possible
- Compatible with Windows 95 or higher
- Real-time graphical test display depicts testing status and results throughout operation
- Non-destructive testing
- Length of test approximately 5 minutes
- Wide range of acceptable sample types and sizes
- Minimal maintenance required



Specifications

Surface Area Range= 0.1 - 10 m²/g

Sample Size= 1 - 10 cm³

Pressure Range= 0 - 500 psi

Pressurizing Gas

Nitrogen or any non-corrosive gas

Pressure Transducer Range= 0 - 500 psi

Mass Flow Transducer Range= 10 cm³/min -100 cm³/min

Power Requirements= 110/120 VAC, 50/60 Hz
220/240 VAC 50/60/ Hz

Dimensions= 17" H x 7" W x 17" D

Weight= 30 lbs

Other Products From PMI

Porometers

Bubble Point Tester

Capillary Flow Porometer

Complete Filter Cartridge Analyzer

Clamp-On Porometer

Compression Porometer

Cyclic Compression Porometer

Envelope Surface Area Analyzer

Filtration Media Analyzer

In-Plane Porometer

Integrity Analyzer

Microflow Porometer

Multi-Chamber and Multi-Mode Porometer

QC Porometer

Permeameters

Diffusion Permeameter

Gas Permeameter (Frazier, Gurley, Rayl)

Liquid Permeameter

Vapor Permeameter

Water Vapor Transmission Analyzer

Extrusion Porosimeters

Liquid Extrusion Porosimeter

Intrusion Porosimeters

Mercury/Nonmercury Intrusion Porosimeter

Water Intrusion Porosimeter (Aquapore)

BET/Sorptometers

BET Liquisorb

BET Sorptometer

Pycnometers

Gas Pycnometer

Mercury Pycnometer

Also Available:

- Contract Testing Services
- Consulting Services

Instruments: Sale, Rent, Lease



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