

# THE PMI 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.

## Application

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.

## Features

- The first porometer capable of testing samples with permeabilities as low as 10<sup>-6</sup> 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
- Pressure Accuracy: 0.15% of reading
- Pressure Resolution: 1/60,00 of full scale (1 part in 60,000)
- Dimensions: 10.5" H x 20.5" W x 20.5" D
- Power Requirements: 110/220 V AC, 50/60 Hz
- Weight: 40 lbs

\* *Other specifications for this machine are available. Specifications are subject to change without notice.*

## 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!*



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and reproducible porometers in the world.



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