

AVERAGE PARTICLE SIZE ANALYZER



Description

Performance of many particulate products used in a number of industries such as filtration, mineral, chemical, cosmetic and chemical industries is determined primarily by the average particle diameter. For many applications quick estimation of the average particle diameter is required. The techniques that are used for particle diameter measurements are often involved and time consuming. The PMI's completely automated average particle size analyzer has the unique ability to measure average particle diameter of bulk samples in a few minutes. It is used in industry for production control, quality control, and performance evaluation.

Principles of Operation

The instrument accurately measures flow rate of gas through the sample as a function of differential pressure, calculates the envelope surface area, and uses these results to compute average fiber diameter. The envelope surface area is the external particle surface area that sees flow of gas through the sample. The envelope surface area is obtained from the flow rate and pressure drop using the Carman-Kozeny relation (Gerard Kraus, J.W. Ross and L.A. Girifalco, Surface Area Analysis by Means of Gas Flow Methods. I. Steady State Flow in Porous Media, Phys. Chem., V330-333). The average fiber diameter is obtained from the envelope surface area using the following equation:

$$D = 6 / S \rho$$

where D is the average fiber diameter, S is the envelope surface area per unit mass of the powder, and ρ is the true density of the powder.

Applications

Providing the user with an average particle diameter measurement in less than five minutes, the main application is quality control. Samples tested include pharmaceutical powders, electrode components, ceramic powders, chemical powders, metallic powders, and other porous substances.

The instrument is utilized for this function in several industries, such as:

- Chemical and Mineral
- Battery
- Pharmaceuticals
- Fuel Cell
- Powder Metallurgy
- Ceramic

Features

- Uses nitrogen or other noncorrosive 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
- Nondestructive testing
- Length of test approximately 5 minutes
- Wide range of acceptable sample types and sizes
- Minimal maintenance required

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!



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

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



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