

Title:

Determination of Particle Size and Particle Shape by Dynamic Image Analysis (DIA).

Abstract:

The determination of particle size distribution (PSD) of a material is crucial since it can impact up to 80% of the performance of the material. There are several techniques to determine PSD targeting different size ranges based on different principles. Among the technologies capable of sizing microns to millimeter-range particles, image analysis is the only one capable of performing morphology, which drastically increases the material's characterization level.

The Fritsch ANALYSETTE 28 is a dynamic image analyzer that takes pictures of thousands of particles dispersed using free fall gravity or a dispersion liquid. The software sizes each particle based on different size definitions such as diameter, width, and length. It also calculates several shape parameters such as aspect ratio, circularity, convexity, etc. These features make DIA a very powerful tool in characterization of material such as fertilizers, refractory products, glass and ceramics, salts, sand, abrasives and cements, catalysts, metals, ores and more.

Key Applications:

The A28 is used in a wide variety of industries from pharmaceuticals, chemicals, and materials science where particle characterization and morphology are important to QC/QA and R&D. Ideal for the analysis of fertilizers,

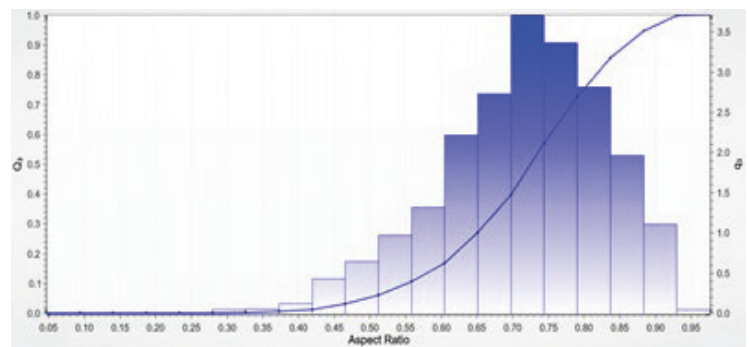
refractory products, glass and ceramics, salts, sand, abrasives and cements, carbon products, catalysts, polymers, metal, ores and more. Additionally, DIA is a replacement for sieving providing time and cost savings along with reproducible, expanded resolution and repeatable results.

Sample Types:

Dry free-flowing powders and bulk solids. Size range 20 μ m to 20 mm.

Wet dispersion is ideal for measurement of particle shape and size of suspensions and emulsions, with a measuring range of 5 μ m – 3 mm.

FRITSCH ANALYSETTE 28 ImageSizer



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