Ankersmid Ltd Eyetech Series

Beyond Particle Size

Measurement Principle

A unique time domain measurement called Laser Obscuration Time (LOT) is used by the Eyetech. A rot

Obscuration by Laser-Particle Interaction

Data is collected on single particles

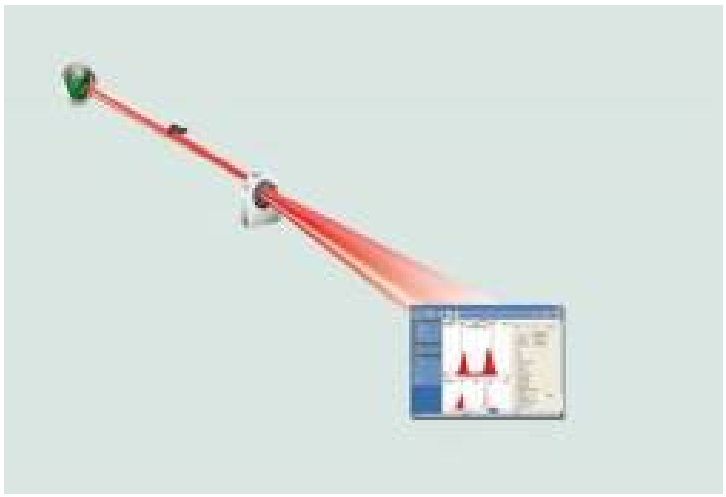
Direct measurement of true particle size

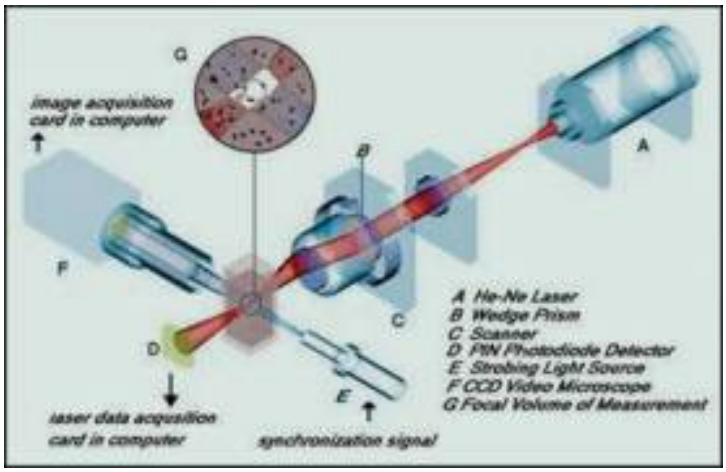
Wide range with high resolution Independent of optical or other properties

Particle size and concentration measurement

Broad concentration range. Higher but also lower concentrations than laser diffraction and electrical zon

No need for alignment or calibration

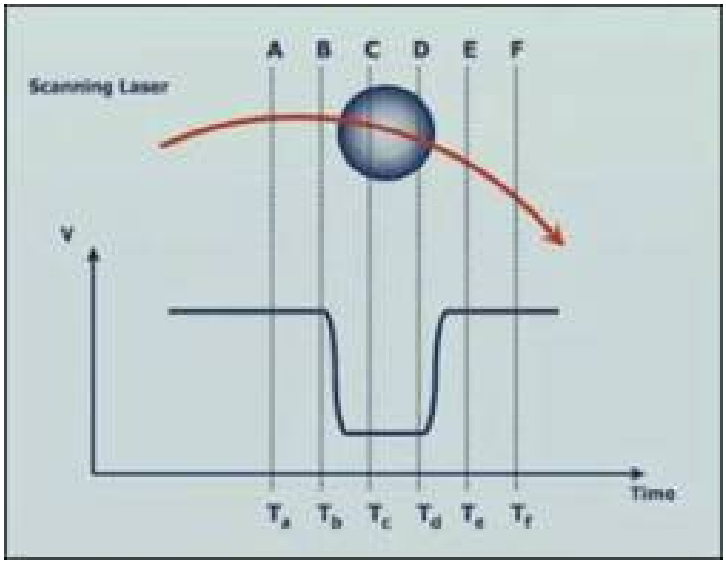




The Ultimate Particle Analyser

Eyetech Concept:

- Best of both worlds: Laser and Video
- Fast and accurate Particle Size Analysis with the unique Laser Obscuration Time Technique
- Accurate description of non spherical materials with sophisticated Dynamic Image Analysis
- The measurement relates solely and directly to the particle size
- Results are independent of physical or optical properties of the particle or medium



Combined Laser and Video Channel

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Unique combination of technologies based on Laser Obscuration Time and sophisticated Dynamic Shape Analysis

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Accurate analysis and characterisation of spherical, non-spherical and elongated particles

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Simultaneous results of Particle Size, concentration and Shape

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Modular design for a range of dry and wet applications

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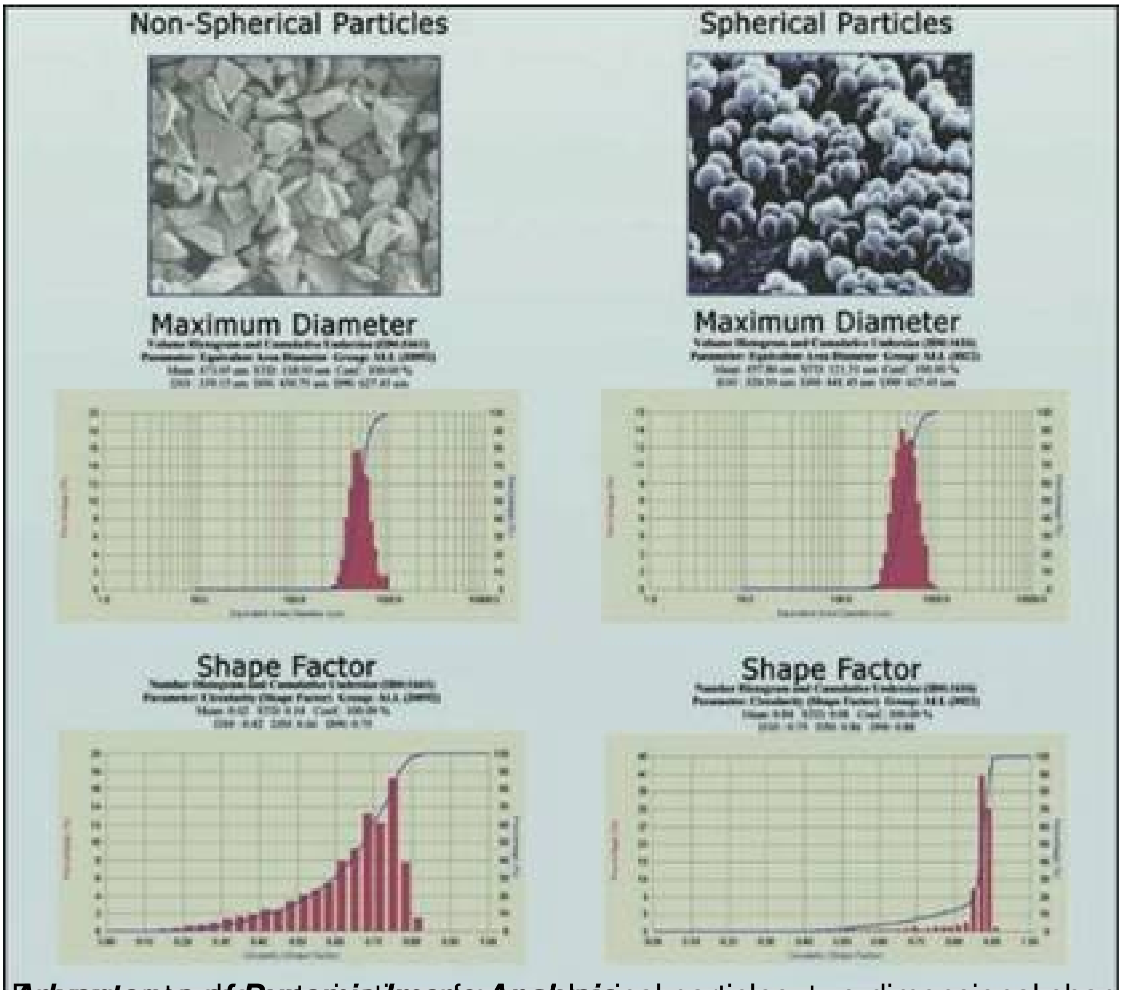
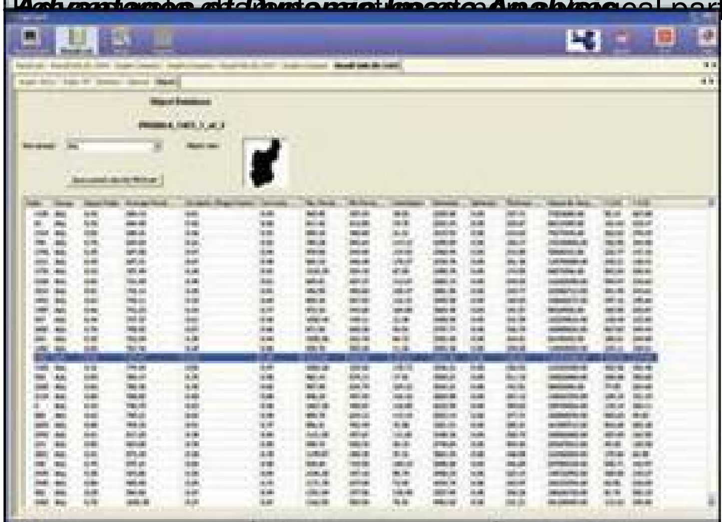
Real-time visualisation of the sample during operation

Measurement of Single particles

To measure particle size distribution accurately, the Eyetech records on-centre and in-focus interactions only. This is achieved by filtering the shape of the Pulse Profile via sophisticated algorithms. When a particle is hit by the laser beam straight on, the slope of the Pulse Profile approaches an angle of 90 degrees, resulting in short pulse transitions. In off-centre or out-of-focus hits, the angle between the laser path and the particle boundary is significantly less then 90 degrees. Consequently, the rise and fall times of these interactions are longer and the derivative signals of the pulse transition are wider have smaller amplitude and can therefore be easily discarded. One benefit of the Laser Obscuration Time principle is that there is no assumption of particles sphericity. Furthermore, the particle size measurement is solely based on the length of the cord crossed by the laser, regardless the shape of the particle thus guaranteeing a true measurement of the particle diameter without assumptions.



[illegible] ical particles, two-dimensional shape information is essential.



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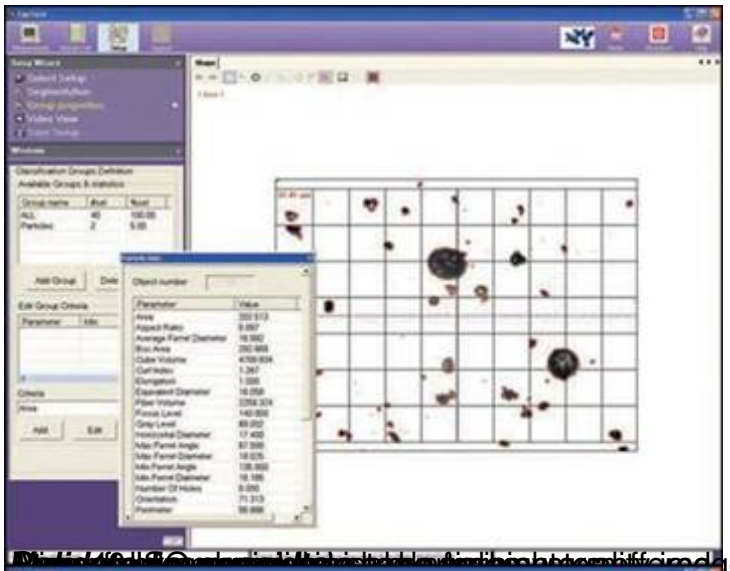

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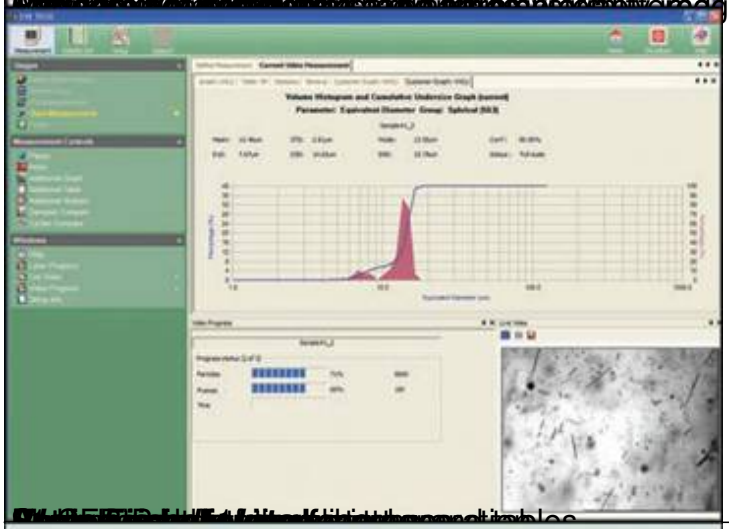

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