CLICK IMAGE FOR
PRODUCT
DEMONSTRATION

OCCHIO 500nanoXY

Particle size & shape analysis DRY/WET mode

0.2 µm - 3000 µm
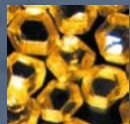
www.occhio.be

OCCHIO SA: Since 2001, your partner in imaging particle analysis

Since 2001, through the efforts of an international and multidisciplinary **team of engineers**, **OCCHIO** offers you a **complete range of imaging particle analyzers**, starting from **200 nanometers up to several centimeters**. Whether it is for laboratory instrumentation, « AT LINE » or even « ON LINE » solutions, OCCHIO is prepared to be your partner in high-level powder characterization. OCCHIO bring you accuracy, profit and innovation.

OCCHIO 500nanoXY technology

OCCHIO 500nano XY is an **automatic imaging particle analyzers** dedicated to **powder quality characterization**. You can analyze **powders for particle size from 0.2 μm up to 3000 μm; suspensions and emulsions** in particle size range

0.8 micron – 300 μm.

The system combines an **integrated vacuum dispersion** device and a **high resolution optical bench** (Camera 10 Mpixels + specific LED light); The blue light allows to detect smallest particles

DRY MODE
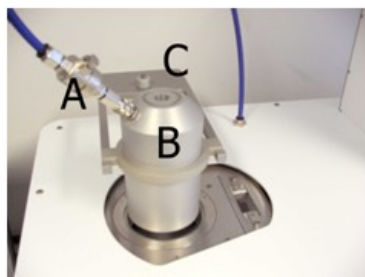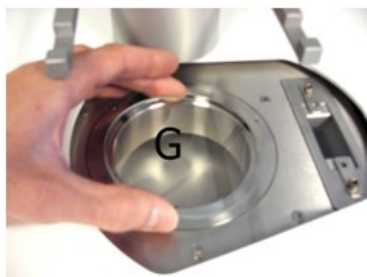
G: Glass plate ; A: Vacuum check valve ; B: Vacuum chamber ; C: Vacuum chamber holder; D: Sample cup

This patented disperser provides perfectly prepared slide glass. **Without any sample contamination or damage**, this vacuum disperser will gently deposit **millions of individual grains** of powder on a slide glass within a few seconds.

With the new automatic X-Y plate, the device allows analyzing automatically all particles to bring particle size measurement and shape characterization

WET MODE

OCCHIO 500nanoXY offers possibility of making a **real analysis in wet mode**. With **« O-Flowcell »,** user can make **particle size** measurements, **particle shape** analysis and also **particle counting** (Number of particles / mL)
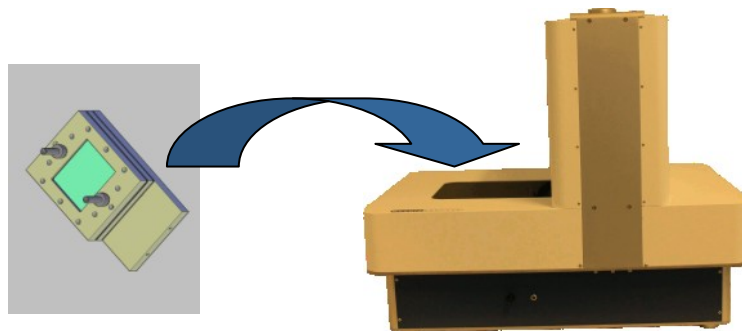
A **specific pump** allows to **control perfectly flow rate** in order to have the best accuracy on particle counting.

CALLISTO™ : Software for particle analysis
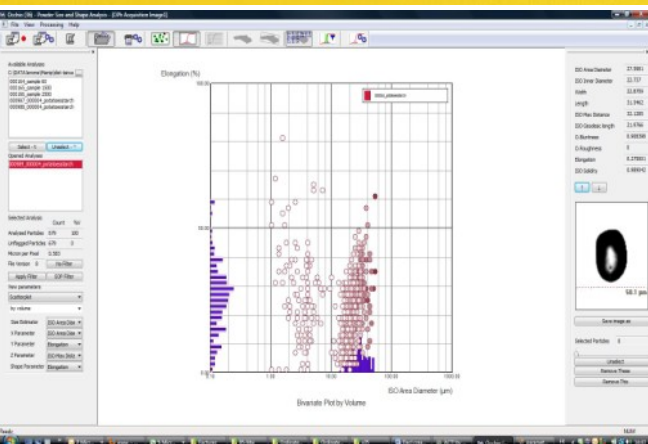
Since 2001, OCCHIO develops revolutionary systems by image analysis technique to study all particles types (powders, suspensions, emulsions and foams). These new systems, associated to the **powerful software**

CALLISTO™, allow particle size measurements, shape analysis & particle counting. Now , more than 43 parameters are available …

PARTICLE SIZE PARAMETERS

Area diameter

Inner diameter - Length

Width - Geodesic lenght - Mean diameter

PARTICLE SHAPE PARAMETERS

O. Aspect Ratio and Elongation: The Elongation is defined as *1-AspectRatio with AspectRatio* being the ratio between the width and the length of the particle

ISO Straightness: For very elongated particles, the straightness is ratio between the maximal distance and the Feret Length

ISO Compactness and ISO Roundness : Compactness and roundness are related to the degree to which the particle is similar to a disc. Roundness is less robust than compactness

ISO Circularity: Degree to which the particle (or its projection area) is similar to a circle

ISO Solidity: Solidity is the object area divided by the area enclosed by the convex hull (perfect to detect aggregates)

O. Bluntness : The Bluntness Index is the expression of a "maturity in the abrasion process"

O- Roughness: Amount of material to be removed from the shape before getting a smooth surface

Luminance: The luminance is the mean greyscale level of the particle

O-Porosity; Porosity estimator

SCATTERPLOT: Possibility of **having a representation** of the **particle size**

parameters versus morphologic estimators. According to the particle size classes chosen by the operator, all plots are corresponding to particles. Operator can visualize each particle in clicking on each plot.

MICROSCOPE MODE: Display of each parameters and picture for selected particle on Scatterplot or live pictures. Operator can save picture for individual particle in Bitmap format.

(Particle size & shape distribution, trends, Excel export, sieves correlation…)
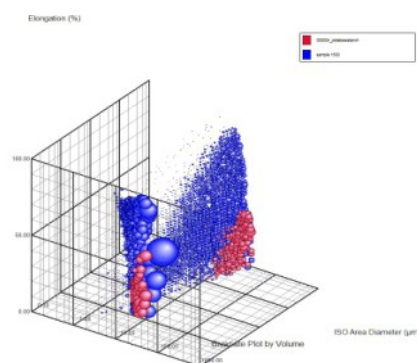
Special 500nanoXY module

SURFACES ANALYSIS

OCCHIO 500nanoXY allows to analyze surfaces as polymers, membranes, filters, fibers… with this dedicated module.

Model	500nano XY
Particle size range	DRY: 0.2 µm up to 3000 µm (recommended range 0.3 µm - 2000 µm) WET: 0.8 µm up to 300 µm
Measurement time	2 up to 10 minutes (sample depending)
Parameters	**ISO 9276-6; 7; 8 norms + OCCHIO parameters** **SIZE**: ISO Area diameter; ISO Inner diameter; Mean diameter; Perimeter diameter;Crofton diameter; Half Crofton diameter; Width; Length; Ellipse Width; Ellipse Length; ISO Max Distance; ISO Geodesic Length; **SHAPE**: Occhio Bluntness; Occhio Roughness; Elongation; ISO Aspect Ratio; Ellipsoid Elongation; Ellipsoid Roundness; Ellipse Ratio; ISO Eccentricity ISO Straightness; ISO Roundness; ISO Compactness; ISO Extent; ISO Solidity; Convexity; ISO Circularity, Luminance mean Luminance var.
Dimensions and weight	
Disperser	Patented vacuum disperser
Optics and imaging device	10 Mpixels Camera , ; Blue light ; Autofocus; Adjustable magnification
Validation	IQ,OQ,PQ in option
Computer specifications	VISTA, 7, , Intel Core i5-650 @3.2GHz, 4MB cache ; 4 GB @ 1156MHz , HD 500GB
Power supply	110-240 V 50/60 Hz
Working conditions	Temperature 5°C – 45°C, HR 35-80 %
Images format	Bitmap
Data storage	'.oph' binary Occhio files format contains:Full size distribution valuesShape and size percentiles Outline and greyscale levels of each particle
Statistics tools (distribution in number & volume)	Acquisition info (short overview of the used SOP) ; Size distribution; Size percentiles; Shape percentiles; Shape distribution; Mean shape by size; 2D scatter-plot (fully selectable particles map); 3D scatter-plot (animation inncluded); Percentiles sample images; Sample images (BMP exportable format); Id card for each particle (BMP exportable format); Morphological and size filtering procedure ; Raw data export (text format); Table distribution export (text format); Table distribution and percentile export (Excel format); Automatic or custom reporting; Full image export (bmp format); Single particle image export (bmp format); Figure and graph export(bmp format)

Do not hesitate to contact us for more informations and to know about new developments

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Specifications can be modified following last developments

Pictures in this document are just for example