

500 Nano XY

THE COMPLETE SOLUTION FROM
DRY TO LIQUID DISPERSED SAMPLES,
INCLUDING MONOCHROME
AND COLOR ANALYSIS

Particle imaging 

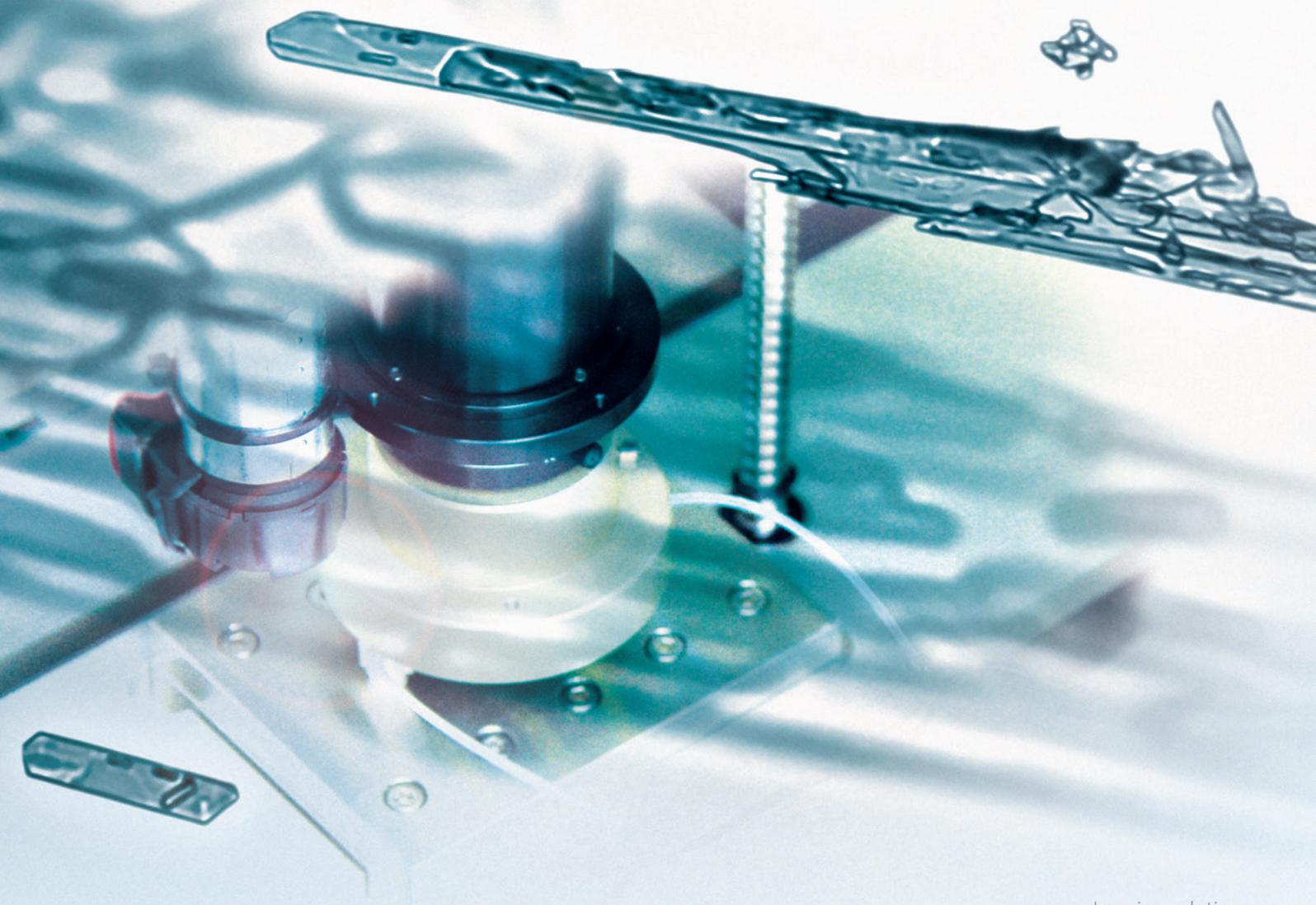
Particle size 

Particle shape 

Particle counting 

Dry application 

Wet application 



- Particle size, particle shape, particle color
- Monochrome-transmitted light analysis
- Color-reflected light analysis
- Integrated vacuum dispersion device
- Dry applications from 0.2µm to 3000µm
- Wet application from 0.8 to 300µm

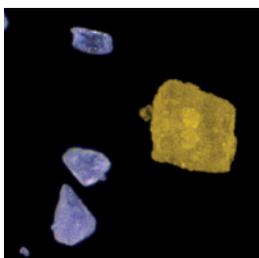
500 Nano XY

The complete solution from dry to liquid dispersed samples, including monochrome and color analysis



How it works

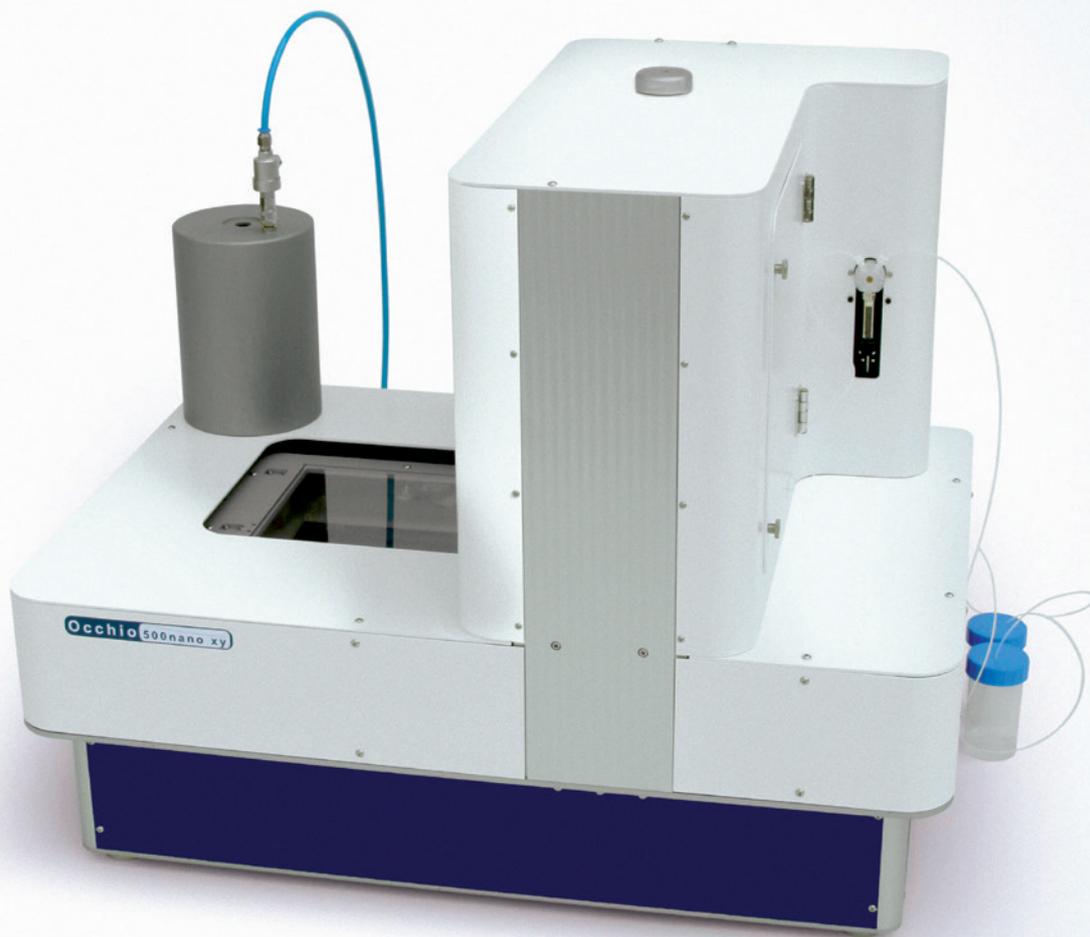
For dry samples, a special vacuum device disperses particles directly on the glass plate. After dispersion, the instrument checks the calibration value by an integrated reference reticule and begins the analysis by capturing the images on the glass plate. For liquid suspensions or emulsions, particles pass through an integrated flow cell and images are captured during the process. Liquid flow is controlled by an internal syringe. The Standard Operating Procedure includes the full control of each method starting from sample dispersion to final report printing for both dry and liquid applications.



Why chose Occhio 500 Nano XY

- The sample is dispersed on a large surface by using a 200 x 200-mm square glass plate, the biggest on the market, which improves analysis reliability.
- Dispersion is achieved by using a vacuum that, compared with over-pressure, delivers a much better homogeneity and does not damage fragile particles
- Instrument features include: upper light for color analysis, backlight for transmitted analysis, integrated dispersion device, multi-magnification lenses, integrated syringe and flow cell for liquid samples.
- Thanks to the appropriate optical bench, expressly settled for particle characterization, focusing the sample is fast and stable. In one shot, particles in nanometer range are in focus together with millimeter-size range particles.
- High-resolution camera, 10 Megapixels, allow the user to switch from color to monochrome.
- Very fast analysis, less than 5 minutes, for hundreds of thousands of particles
- Innovative software platform.
- Few consumables
- CFR21 part 11 compliant software
- Training and maintenance support





Key points

Instrument calibration

The *Occhio 500 Nano XY* includes a calibration slide. A calibration procedure is available during the Standard Operating Procedure. Light, background and size calibration can be done in a few seconds before each analysis. For an advanced calibration procedure, with the use of NIST traceable glass beads, a 'calibration table' can be charged by the software automatically before each analysis.

Dry sample preparation

One or more samples can be prepared and sealed in small caps. After four simple steps and in just a few seconds, your samples are ready for the analysis

Dry sample dispersion

500nano XY is equipped with a sample dispersion device that includes: vacuum pump, dispersion chamber, sample support and tube fitting. Dispersion is homogeneous and particularly efficient for humid and sticky samples. Place the glass on its holder, place the sample cup into the dispersion chamber and run your S.O.P.

Monochrome or colour analysis

Choose your analysis settings and easily switch from monochrome to color analysis

Wet samples analysis

Switching from dry to liquid dispersion is fast and simple. Prepare the flow cell module by connecting the tubing, insert the flow cell in the inner holder, close the side door and start the analysis.



Acquisition and statistic software

Callisto 3D is the newest software version developed by our engineers. A new graphic interface, expressly designed to integrate the innovative three-dimensional characterization of particles offers a wide range of data presentations.

- Calibration procedure for each method.
- Employing accurate and inclusive parameters based on the latest development in mathematical morphology.
- Compare different measurements.
- Share complete results with a colleague or clients who are connected to your network.
- Understand your production perfectly with individual ID CARD and images of each particle.
- Summarize measured parameters of hundreds of thousands of particles with the click of a mouse.
- Visualize your product in innovative, morphological space. Recognizing and filtering foreign particles, based on size, shape and color parameters.
- Print the report you have designed to fulfill your quality policy requirement.
- Three-dimensional characterization of particles.
- Correlate with other measurement methods (light obscuration particle counting, sieving, laser diffraction).
- CFR21 part 11 compliant.

Technical specifications



Dimensions and weight	<i>Length</i>	805 mm
	<i>Width</i>	550 mm
	<i>Base height</i>	280 mm
	<i>Include tower (total height)</i>	670 mm
	<i>Weight</i>	49 kg
Working conditions	<i>Working temperature</i>	5-40 °C non-condensing
	<i>Power Supply</i>	Instrument: 5Vdc; 12Vdc; 24Vdc Universal external power module OCC010: 100-230Vac 50-60Hz 300W
External computer <i>Supplied by OCCHIO - minimum specification</i>	<i>Processor</i>	Intel Core i7 @3.3GHz
	<i>Ram</i>	32GB DDR4 2.133MHz
	<i>Hard Disk</i>	1 TB + SSD 256GB
	<i>Display</i>	LCD, FullHD, 21.5"
	<i>Mouse, keyboard</i>	USB (English)
	<i>Operating system</i>	Windows 7pro 64 bit or 10 pro 64 bit
Instrument main features	<i>Model</i>	500 Nano XY
	<i>Sample support</i>	Monolayer dispersion on a plate
	<i>Sample particles size range</i>	From 200 nm to 3 mm** in Dry mode (sample dependent) (Recommended range 0.3 µm – 2000 µm) **max object size From 0.8µm up to 300 µm in Wet mode
	<i>Sample dispersion</i>	By vacuum on a glass support
	<i>Sample analysis</i>	Size distribution cumulative and proportional curve Quantity distribution or volume weighted distribution Shape characterization
<i>Standard Operating Procedure includes (dry analysis)</i>	Clean glass plate check Automatic optical size calibration Color and monochrome analysis Controlled light intensity (transmitted and diffused lights) Auto focus Vacuum dispersion Particles quantity measurement	
<i>Standard Operating Procedure includes (wet analysis)</i>	High precision control of flowing liquid Integrated syringe with three ways valve (fully computer controlled) Transmitted light intensity control Particle counting	