

# Exploring Nanoparticles with Particle Metrix Analyzers



With Stabino®, mapping of nanoparticle zeta potential versus fluid parameters is quick. Associated aggregation can be spotted with a NANO-flex® size measurement. Complementary, nanoparticle tracking with ZetaView® is ideal for low concentrations. Advances in nanoparticle measurement techniques like these are needed for naturally occurring as well as human-generated nanoparticles. The interdependence between nanoparticles and their surrounding fluid can be studied with particle charge / polyelectrolyte titrations. Stabino® with its titration efficiency opens a new field of particle charge fingerprinting.

Viewing the number of upcoming questions regarding new materials, selection criteria like reliability, applicability, information content and speed of the measurement techniques become important. With its remarkable colloid analyzers Particle Metrix is in a good position for efficient nanoparticle characterization.

Comprehensive nanoparticle characterization Particle Metrix's Stabino®, NANO-flex® and ZetaView® offer complementary answers and extraordinary benefits. Size and zeta potential distributions as well as particle concentration can be measured in widest ranges of size, concentration and conductivity.

	Stabino®	ZETA-check	NANO-flex®	ZetaView®
Size			X	X
Zeta potential	X	X		X
Streaming potential	X			
Conductivity	X			X
Concentration			X	X
Viscosity	X			
Counting				X
Titration	X			

## Applications

Nanoparticles occur as proteins, colloids in beverages, extracellular vesicles, exosomes, humic acids, liposomes, nano-bubbles, inks, metal oxides, metal colloids, antibacterial silver, polyelectrolyte solutions, chitosan, nano-additives, glass, ceramic and diamond slurries, filtrates. Nanoparticles are the subject of various activities like reagglo-

meration control, functional end group formulation, core shell design, colloid stability optimization, dispersing efficiency development, optimum coating applications. In clinical biochemistry and water research the concentration of nanoparticles is an important parameter.



# Nanoparticle Analyzers



## Colloid Analysis

Zeta Potential Titration  
& 180° DLS Size



## Life Science

Scanning NTA  
& 180° DLS Size



Particle Metrix GmbH  
Am Latumer See 11-13  
40668 Meerbusch / Germany

Phone: +49 (0)2150-705679-0  
Fax: +49 (0)2150-705679-29  
E-Mail: [info@particle-metrix.de](mailto:info@particle-metrix.de)  
Web: [www.particle-metrix.de](http://www.particle-metrix.de)

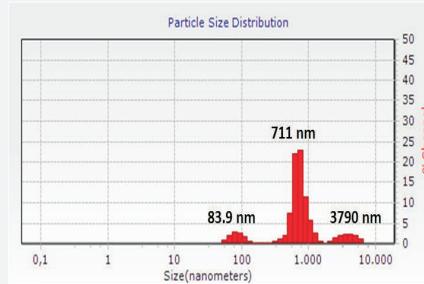
Particle Metrix.  
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# Colloid

## NANO-flex® 180° DLS Size



- Dip-in Sensor
- Online / Inline
- Up to 40% vol.
- DLS Size compliant to ISO 22412
- 0°C to 90°C, not condensing

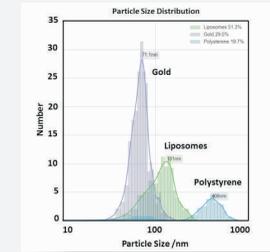


# Life Science

## ZetaView® Scanning NTA



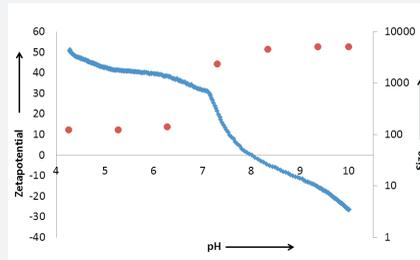
- Single Particle Tracking
- Analysis of 1000 particles/min
- Size, zeta potential, concentration, fluorescence option
- Auto-focus
- Compliant to ISO 19430
- Scientific Particle Explorer Software Package



## Stabino® Zeta Potential Titration



- Rapid zeta potential titrations (pH, polyelectrolyte, conductivity)
- High concentrations & conductivities
- Parameter monitoring: pH, temperature, conductivity, concentration, viscosity, size (with NANO-flex®)
- Temperature control from 0° C to 90° C



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