MICROTRAC
a VERDER company



ZETA POTENTIAL ANALYZER

STABINO ZETA

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For the accurate determination of the zeta potential and colloidal stability, the STABINO ZETA is the first choice. It can replace the classical zeta potential measurement and is able to perform very fast titrations.



Nowadays, particle surface charge and interface potentials, such as the zeta potential and the streaming potential, are widely used to characterize the stability of suspensions, emulsions and nanoparticles. These parameters have established as a typical measure representing the electrostatic repulsion between particles.

The STABINO ZETA has a high resolution and data point density, which allows very fast, precise and reproducible zeta potential measurements. It is possible to measure the zeta potential of particles in the range of 0.3 nm to 300 µm in a concentration range of up to 40 volume percent. Regarding the optimized measurement technology, the STABINO ZETA can measure up to 5 parameters simultaneously and within a few seconds: Zeta potential, streaming potential, conductivity, pH value, and temperature. In combination with our unique NANOTRAC FLEX, the particle size can also be measured as a sixth parameter simultaneously in the same sample.

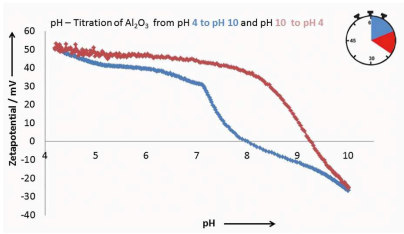
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FLAWLESS TITRATION

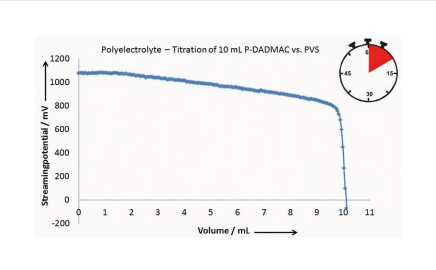
The STABINO ZETA also has a built-in titration function in which all parameters are determined simultaneously at each titration dosing step. The determination of the isoelectric point is one of the titration options and is determined within a few minutes. Your titration options are:

PH TITRATION



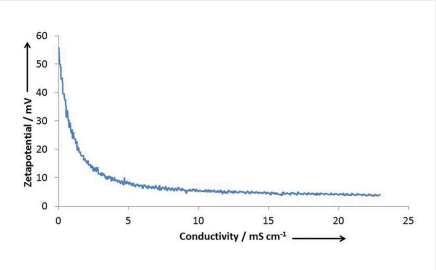
- Determination of the isoelectric point
- Stable pH ranges

POLYELECTROLYTE TITRATION



- Statements about stability
- Charge density
- Dispersant optimization
- Optimization in the formulation of your products

TITRATION WITH SALTS



- Zeta potential as a function of conductivity

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YOUR ADVANTAGES AT A GLANCE

5 MEASUREMENT PARAMETERS AT THE SAME TIME

To determine the quality of your samples, do you need more than just one measurement parameter? The STABINO ZETA provides you with information about the conductivity, zeta potential, streaming potential, temperature and pH of your sample with each measuring point.

"MIX AND MEASURE" - AN ENORMOUS ADVANTAGE

Due to the continuous and rapid mixing of the sample and the titration solution, a charge titration is completed in minutes and additionally prevents sedimentation.

MEASURING DURING TITRATION

With the STABINO ZETA software you can follow your entire titration or measurement in real time by means of the curve progression, because for each titrated drop you receive a measuring point with all 5 measuring parameters.

ADJUSTED TITRATION SPEED

The titration speed of the STABINO ZETA can be adapted to the reaction speed of your sample. For this purpose, the software offers the possibility to define standard operating procedures (SOPs) as desired.

FAST MEASUREMENT TIME

Most known analytical systems are based on the zeta potential of electrophoresis, where titrations are often too inaccurate and time-consuming. For high sample throughput and thus valuable time savings, the STABINO ZETA has been optimized so that parameters required for quality assurance, for example, can be determined within seconds. For a polyelectrolyte or pH titration, the STABINO ZETA requires only 5 - 15 minutes and can record several hundred data points.

SIMPLE OPERATION

To focus only on the results, the software has been made as easy-to-use as possible. Just pour in 1 - 10 mL sample into the Teflon beaker of the STABINO ZETA, open the software and start the measurement.

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NANOTRAC DUO – PRECISION IN PARTICLE AND ZETA POTENTIAL ANALYSIS

The DUO unites two proven technologies – NANOTRAC FLEX and STABINO ZETA – into one complete characterization suite. This integration allows simultaneous measurement of size and zeta potential within the same sample, enhancing efficiency and providing comprehensive data.

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Experience the DUO Advantage:

- Comprehensive Analysis: Simultaneous size and stability measurements
- Sample Preservation: No additional dilution required
- Time Efficiency: Rapid, sequential measurements in one workflow
- Data Correlation: Direct correlation between particle size distribution and zeta potential results
- Flexible Use: Each instrument can be operated independently or seamlessly together as a single integrated solution



Applications:

- Nanomaterials & Advanced Materials
- Pharmaceutical Suspensions & Biotech Solutions
- Coatings, Paints, and Pigments
- Food, Beverages, and Nutraceuticals
- Chemical Manufacturing & Polymers
- Environmental Water Testing

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ZETA POTENTIAL ANALYZER STABINO ZETA

ACCESSORIES



Measuring cell 1 ml and 3 ml with pestle



Measuring cell 10 ml - black -



Tempered measuring cell 0 - 90 °C



Piston set: 100 µ - 200 µ - 400 µ - 1000 µ - 1200 µ - 1500 µ - 2000 µ - conical

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ZETA POTENTIAL ANALYZER STABINO ZETA

TYPICAL APPLICATIONS

The STABINO ZETA is a highly versatile solution for rapid and reliable zeta potential and stability analyses. Designed to meet the demands of modern industries, it empowers users to optimize performance across a wide range of applications, including inks and pigments, ceramics, food and beverages, colloidal systems, polymers, microemulsions, cosmetics, battery slurries, chemicals, and carbon materials. Whether improving product quality, accelerating development, or ensuring process consistency, the STABINO ZETA delivers fast, actionable insights where they matter most.



pigments / inks



battery slurries



environment

- pigments / inks
- ceramics
- food + beverages
- colloids
- polymers
- microemulsions
- cosmetics
- battery slurries
- chemicals
- carbon
- environment
- adhesives
- industrial minerals
- pharmaceuticals

... and many more!

To find the best solution for your particle characterization needs, visit our application database

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TECHNICAL DATA

Method	Zeta streaming potential
Calculation model	none, as calibrated
Measurement angle	none, as mechanical measurement
Size measurement	yes (only in combination with NANOTRAC FLEX)
Sample cell	Teflon (10 ml, 3 ml, 1 ml)
Zeta potential analysis	yes
Zeta streaming potential analysis	yes
Zeta measurement range (charge)	-3000 mV - +3000 mV
Zeta measurement range (size)	0.3 nm - 300 µm
Electrophoretic mobility	Max. 14 (µm/s) / (V/cm)
pH measurement	yes
pH measurement range	1 to 14
Conductivity measurement	yes
Conductivity range	Up to 350 mS cm^-1
Temperature range	0°C - 90°C
Temperature accuracy	± 0.1°C
Temperature control	yes
Titration	yes
Titration endpoints	pH, zeta potential, conductivity, volume and time
Reproducibility (size)	Refer to NANOTRAC FLEX
Reproducibility (zeta)	2% with standard dispersion
Sample volume zeta measurement	0.95 ml - 10 ml
Sample concentration	Up to 40 %
Carrier fluids	Water, polar organic solvents, acid and base
Humidity	90 % non-condensing
Dimensions (W x H x D)	180 x 300 x 260 mm

www.microtrac.com/stabino-zeta

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