

ZetaProbe™



ZetaProbe - the easiest to use most accurate zeta potential analyzer for research, QA/QC & plant optimization!

The ZetaProbe is the easiest to use, most accurate zeta potential analyzer available. Samples can be measured without dilution or sample preparation at concentrations up to 60% volume. Even the direct measurements of pastes, gels, cements, and other difficult materials are possible with the ZetaProbe.

Traditional characterization techniques require sample dilution and sample preparation which are both time-consuming and error-prone. Our patented multi-frequency electroacoustic technology eliminates these problems. The ZetaProbe measures zeta potential directly, under true sample conditions, at concentrations as high as 60% volume.

The ZetaProbe features a compact design with built-in titration, versatile dip probe sensor, and software wizards. Automatic titration offers unattended rapid isoelectric point determination, as well as optimum dispersant or flocculant level control in a click of a button. The ZetaProbe offers many advances not found in other analyzers including automatic correction for particle size and double layer distortion. Yet, its easy to use software & rugged design makes the ZetaProbe ideal for use in research and plant optimization!

Parameters Measured

- Zeta Potential
- Dynamic Mobility
- Conductivity
- pH
- Temperature
- Isoelectric Point (IEP)

Features and Benefits

- Measures directly in concentrated colloids and emulsions
- Delivers the most accurate IEP determination available
- Measures samples up to 60% volume
- Offers versatile & rugged dip probe design with no moving parts
- Dip probe stirred cup & flow through sensor options
- Features axial bottom stirring for highly efficient mixing
- Eliminates time consuming and error-prone sample preparation steps
- Utilizes our patented multi-frequency electroacoustic technology
- Automates potentiometric and volumetric titration
- Operates without the need to enter particle size
- Simplifies cleaning procedure with disposable sample containers
- Features advanced software wizards for easy set-up & operation
- Measures difficult samples such as pastes, gels, & cements
- Offers rapid cycle times; analysis in seconds
- Stores data in easy-to-use MS Excel spreadsheet files

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Colloidal Dynamics

Colloidal Dynamics offers a wide range of services to help you take advantage of this powerful new measurement device. ZetaProbe can be used for plant optimization, QA/QC, and research for major industrial and academic applications including:

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| <ul style="list-style-type: none">• ceramics• paint and inks• coal slurries• cmp slurries• pigments• natural latexes• light phosphors | <ul style="list-style-type: none">• food colloids• emulsions• cement• minerals processing• clay minerals• bio-colloids• paper coatings | <ul style="list-style-type: none">• pharmaceuticals• filtration/de-watering• wet milling/grinding• control of surface coating• control of homogenization• catalysts and zeolites• abrasives and polishing compounds |
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ZetaProbe™ Specifications

Technology

Electroacoustic Spectral Analysis

Sample Characteristics

Particle Concentration	0.5 to 60 volume percent (max concentration subject to viscosity limits)
Sample Volume	30 - 270 ml depending on sample handling options.
Maximum Viscosity.....	Up to 10,000 cP slurry viscosity, varies by application
Conductivity Range.	0 to 5 S/m
pH Range.	1 – 13
Temperature Range.	10 to 50 °C
Measurement Range.	+/- 200 millivolts
Analysis Time.	less than 60 seconds, with selectable time delays between analysis

Performance

Particle Size Range for Zeta Measurements....	1 nm to greater than 30 microns (varies by application)
Titration Capabilities.	Potentiometric & Volumetric
Titration Module.....	0.1 microliter resolution, dual syringe pump

Other Characteristics

Wetted Surface Materials	Polypropylene, Niobium, PTFE, Kalrez
Sample Options	Stirred cell and flow through sensor options available
Power Requirements	100 - 240 VAC, 50/60 Hz, 5 Amps @ 120 VAC, 3 Amps @ 240 VAC
Dimensions (HxWxD).	17" x 20" x 14" (440 x 505 x 410mm)
Shipping Weight.	50 lbs (23 Kg)

Minimum Computer Specification (if supplied by customer)

Pentium III class or better PC, minimum 512 Mb RAM, 1 Gb hard disk space available, one serial or USB port available, high resolution color monitor (17" display recommended), Microsoft Excel 2000 or higher installed,

Windows 2000/XP/7

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