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Find the *Brookhaven ZetaPlus* at our website: *Click HERE*

Brookhaven *ZetaPlus*

Zeta Potential and Particle Size Analyzer

- Easy to Use
- Fast
- Automatic
- Expandable



ZetaPlus—— Simply the Best

The Brookhaven **ZetaPlus** is the simplest, most accurate particle electrophoresis system available.

This revolutionary instrument has been designed to eliminate shortcomings inherent in other zeta potential instruments. The **ZetaPlus** measures complete electrophoretic mobility distributions in seconds, including multi modals, from which zeta potential distribution is calculated.

And, as the name implies, the **ZetaPlus** is more than just a zeta potential analyzer. It also measures particle size distributions.

The **ZetaPlus** software will tabulate or graph any appropriate pair of parameters, allowing the determination of the isoelectric point. Statistical process control software is standard.

The **ZetaPlus** is truly cost effective. Its capabilities offer you competitive advantages and savings in both time and labor.

Best of all, the **ZetaPlus** has the highest performance/price ratio of any zeta potential analyzer.

Unique Cell Design

The unique cell configuration eliminates the electroosmotic effect: hence no stationary levels, no alignment and no calibration are required, as evidenced by the excellent agreement with NIST1980, a standard reference material.

The **ZetaPlus** uses low cost, disposable sample cells. There is no assembly or maintenance required: cross contamination is eliminated. Glass and quartz cells are available optionally.

The same basic cell design is used with the ZetaPALS for measurements of very low mobility–in solvents, in oils, at very high salt concentrations, or very near the I.E.P. With the BI-PALS option to the **ZetaPlus** low mobilities can also be measured.

The standard electrodes are palladium; however, for reactive samples, gold may be substituted.

The precision Peltier temperature controller allows measurements from 5 °C to 75 °C.

With or Without a Computer

The **ZetaPlus** is a compact single unit incorporating a computer, color monitor and printer.

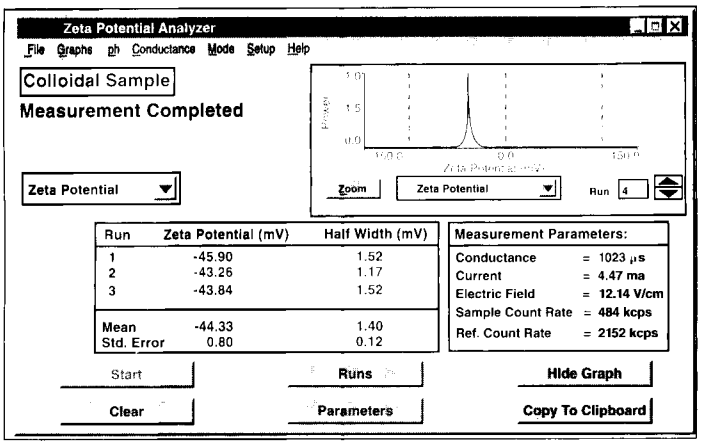
The internal computer is Windows compatible, and may be used as a stand-alone computer. Optionally, an external computer may be used.

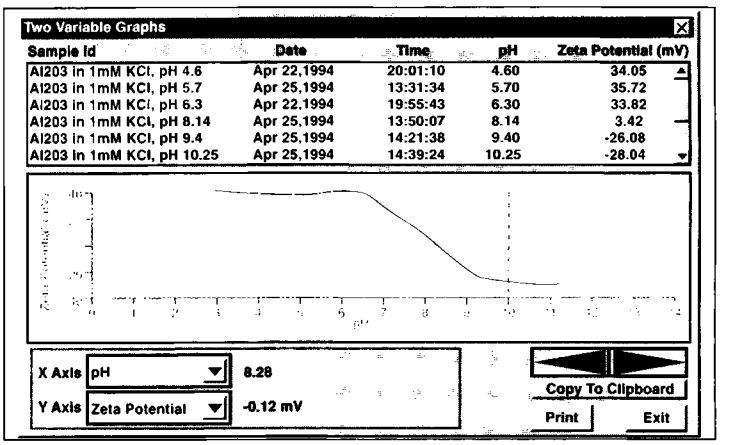
Particle Sizing Option

An optional feature of the **ZetaPlus** is the measurement of particle size by dynamic light scattering. Based on the well established technique used in the Brookhaven 90Plus particle size and distribution information are obtained in minutes.

Particle size measurement and zeta potential determination are made in the same cell. There is even a choice of two scattering angles, 15° or 90°, for particle sizing.

ZetaPlus
Zeta Potential and Particle Size Analyzer





Principles

The ZetaPlus utilizes electrophoretic laser light scattering in the reference beam mode with realtime, on-screen data acquisition and display. The measured frequency shift provides the highest resolution without the operator bias found in manual systems. Even multimodal distributions can be measured.

Since stationary levels are eliminated in the **ZetaPlus** design, the cell may be removed/replaced without the need for careful positioning.

Low angle (15°) measurements virtually eliminate broadening by diffusion while maintaining ease of measurement.

The **ZetaPlus** provides readout of pH, conductance, and temperature. All three parameters are necessary to fully understand dispersion behavior.

Specifications

Sample

Type: Most colloidal samples suspended in water or polar solvents.
Size Range: Material dependent
Electrophoresis: 0.005 to 30 µm
Particle Sizing: 0.002 to 5 µm
Volume: 1 mL to 1.5 mL, optional 0.2 mL (particle sizing only)
pH Range: 2 to 12
Conductivity Range: 10^{-5} to 2 S/m
Mobility Range: 10^{-9} to 10^{-7} m^2/V-s
Temp. Range: 5 °C to 75 °C
Measurement Duration: 1 to 4 s/cycle, typically 10 cycles/run

Laser: 30 mW

Electrophoresis Chamber

Field Strength: 0 to 3.2 kV/m, automatically selected
Temperature Control: ±0.2 °C
Electrodes: Solid Pd or Au
Cells: Styrene or Quartz
Supports: Acrylic or Kevlar

Power Requirements

100/115/220/240 VAC, 50/60 Hz
300 Watts
Dimensions*
Size:
267(H) X 625(W) X 445(D) mm
Weight: 37 kg
*excluding monitor

Options

BI-PALS: Allows mobility distribution measurements in nonpolar or viscous liquids and in very high salt concentrations.
BI-MAS: Particle size analysis
BI-DPSS: High power diode laser.

Applications

Numerous technical and biological processes are substantially affected by changes in the zeta potential. It is often the key to solving aggregation and dispersion problems.

CE Marked

A policy of continual improvement may lead to specification changes

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