

# AcoustoSizer IIs™



*Laboratory and online  
measurement of  
zeta potential and  
particle size!*

The new AcoustoSizer IIs provides thorough and complete characterization of concentrated colloidal dispersions. Directly measuring particle size, zeta potential, pH, conductivity, and temperature, it furnishes the most comprehensive analysis available in a single, turnkey instrument.

Traditional characterization techniques require sample dilution. Unfortunately, sample preparation is time-consuming and error-prone. The AcoustoSizer's patented multifrequency electroacoustic technology eliminates both problems. The AcoustoSizer IIs measures particle size and zeta potential directly, under true sample conditions, in concentrations as high as 40 volume percent.

The AcoustoSizer IIs features a corrosion-resistant polypropylene cabinet design and convenient industry-standard 3/8-inch flare connections for both laboratory use and pilot plant process monitoring. The versatile AcoustoSizer IIs platform can be customized to meet the specialized requirements of your unique application. Features include automated sample titration, low-maintenance design, and connections for continuous slipstream monitoring of colloidal processes.

## Parameters Measured

- Particle Size Distribution
- Zeta Potential
- Dynamic Mobility Spectrum
- Ultrasonic Attenuation Spectrum
- pH
- Conductivity
- Temperature
- % solids concentration (optional)

## Features and Benefits

- Size and Zeta Potential in concentrated colloids and emulsions
- Flow-through cell for continuous monitoring of colloid processing
- 3/8 flare sensor connections for external flow loop
- Sample volumes as small as 20 ml
- Broad particle size range: 0.02 to 10 microns – using both electroacoustics and attenuation
- Fully automated potentiometric and volumetric titration
- No moving parts in the sensor
- Easily cleaned
- Advanced size analysis – bi-disperse and log normal size distributions
- Wide temperature and viscosity range
- Powerful, easy-to-use Windows 95/98/NT software

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## Colloidal Dynamics

Colloidal Dynamics offers a wide range of services to help you take advantage of this powerful new technology. AcoustoSizers are in use worldwide at major industrial and academic research laboratories. Applications include:

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

### Technology

Electroacoustic Spectral Analysis

Acoustic Absorption Spectral Analysis

### Sample Characteristics

Particle Concentration .....	1.0 to 40 volume percent (depending on viscosity – see below)
Sample Volume.....	150 ml (flowing): 20ml (static)
Maximum Viscosity.....	2,500 centipoise using peristaltic pump
Conductivity Range.....	zero to 5 S/m
pH Range.....	1 – 13
Temperature Range.....	10 to 50 °C
Measurement Range.....	1 – 20 MHz
Ultrasonic Attenuation.....	0.1 – 10 dB/mm attenuation

### Performance

Particle Size Measurement Range .....	0.02 to 10 microns
Particle Size Range for Zeta Measurements.....	1 nm to 10 microns
Titration Module.....	0.1 µl resolution, dual syringe pump

### Other Characteristics

Wetted Surface Materials .....	PPS, PTFE, Kalrez™, platinum, borosilicate glass, peristaltic tubing
Sample Pump Options.....	built-in peristaltic or PTFE diaphragm, or user-supplied pump in external flow circuit
Dimensions (HxWxD).....	33" x 31½" x 20" ( 840 x 800 x 510mm)

### Minimum Computer Specification (if supplied by customer)

Pentium II class or better PC, minimum 64 Mb RAM, 200 Mb hard disk space available, one serial port available, high resolution color monitor (17" display recommended), Microsoft Excel 97 or higher installed, Windows 95/98/NT

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