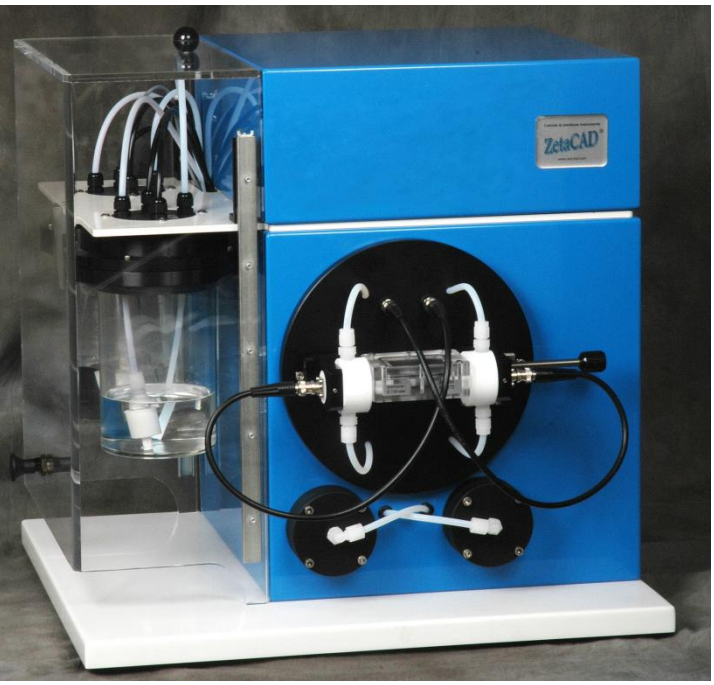
ZetaCAD®



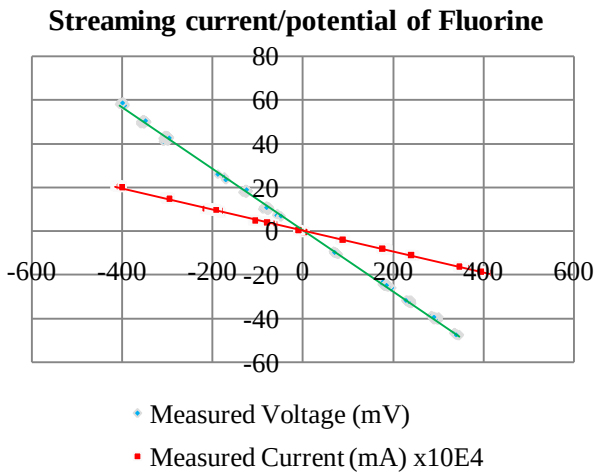
An electrolyte is forced to pass through a capillary or porous plug by a pressure gradient. The excess charges around the particles or wall are carried along by the liquid.

Their accumulation downstream causes the build-up of an electric field which drives an electric current back (by ionic conduction) through the liquid, against the direction of the liquid flow.

A steady state is quickly established and the measured potential across the capillary is called the streaming potential.

ZetaCAD®

Zeta Potential Analysis by Streaming Potential or Current Determination using the Porous Plug Technique



Parameters Measured

- Streaming Potential
- Streaming current (optional)
- Plug resistance
- Electrical-Conductivity
- Temperature

Features and Benefits

- Applicable to particles above 50 µm diameter and flat surfaces.
- Reliable and simple to setup. Measurement and rinsing of the system are fully automated.
- Menu driven software Windows based.
- Data acquisition creates ASCII files which are directly compatible with common spreadsheets.

CAD Instrumentation **Web www.cad-inst.com** **Email cad@cad-inst.com**
Hameau St Hubert - rue de la Haie aux Vaches
78690 LES ESSARTS LE ROI - FRANCE
Tel : 0033 (1).34.84.93.94 – Fax : 0033 (1).34.84.66.44

CAD Instruments

CAD Instrumentation offers wide range of services to help you take advantage of this new measurement device. The ZetaCAD can be used for major industrial and academic applications including:

- Ceramics
- Fibre and Textile
- Membranes
- Water treatment
- Pulp & Paper
- Polymers
- Geology

ZetaCAD® Specifications

Technology

Zeta Potential analysis by streaming potential determination using the porous plug technique

Characteristics

Conductivity meter	0 – 20mS/cm
Communications	USB bi-directional interface
Power supply	100V to 240V – 50 to 60Hz – 50 VA
Dimensions	W 600mm x D 600mm x H 600mm
Weight	40kg

Measuring Cells

Standard cell diameter	15 mm, Other upon request
Variable cell dimensions	from 10 to 150 mm Length
Tangential cell	Surface specimen chamber: L40 x L50 x H10 mm
Flow through cell	Ø 47mm Variable thickness

Specifications

• Differential pressure range	+/- 500 mBar
• Streaming potential range	+/- 2400 mV
• Streaming current range	+/- 240 µA

Minimum Computer Specifications (if supplied by customer)

- Pentium IV class, 512 Mb RAM, WINDOWS 2000, XP

Note: These specifications may change in the interest of product development
The ZetaCAD was designed in cooperation with University of NANCY. FRANCE

CAD Instruments