ZETACAD: ZETAMETRY USING STREAMING POTENTIAL OR CURRENT

ZETA POTENTIAL MEASUREMENT USING THE POROUS PLUG TECHNIQUE

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.

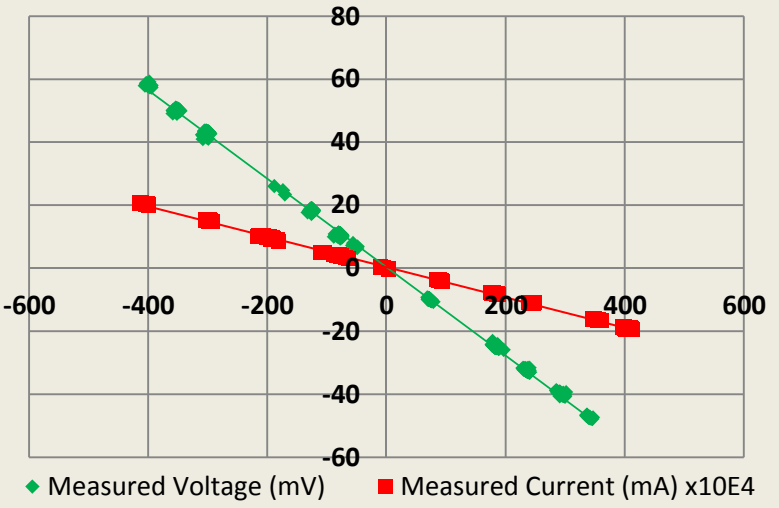
Parameters Measured

- 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.

Streaming current/potential of Fluorine



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CAD Instruments 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

Specifications Range

Differential Pressure	± 500	mbar
Streaming Potential	± 2400	mV
Streaming Current	± 240	µA

Measuring Cell

Standard cell diameter (others upon request)	15	mm
Variable cell length	10 -150	mm
Tangential cell (surface specimen chamber	40 mm x 50 mm x 10 mm (W x D x H)	
Flow through cell diameter (variable thickness)	47	mm

Characteristics

Conductivity meter	0 – 20	$mS.cm^{-1}$
Power Supply	100 – 240 V // 50 – 60 Hz // 50 VA	
Dimensions	600 mm x 600 mm x 600 mm (W x D x H)	
Weight	40	kg
Communication	USB bi-directional interface	

Requirements

- Minimum computer specification: Pentium 4 with Windows® 2000, XP or Seven – 512 MB

Note: These specifications may change in the interest of product development
The ZetaCAD was designed in cooperation with University of Nancy, France

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