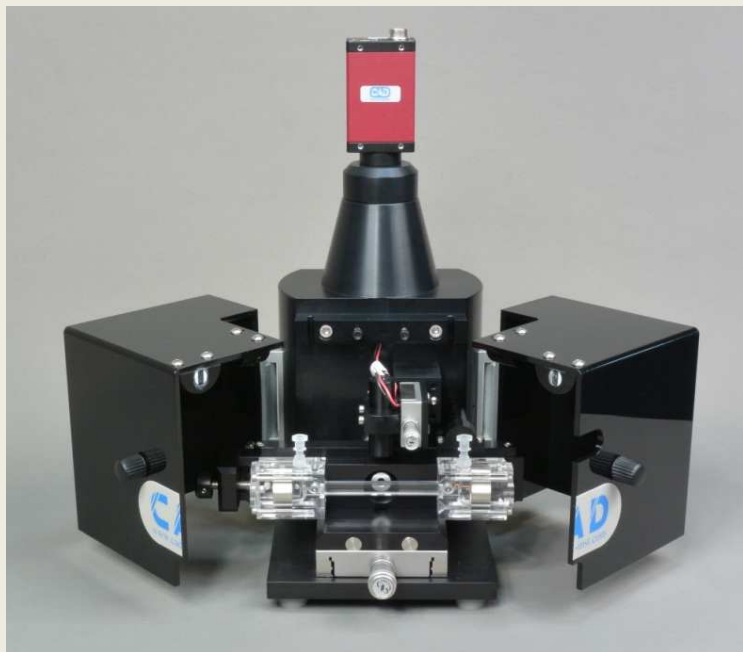


ZETACompact®: FROM NANO TO MICRO PARTICLES ZETAMETRY USING VIDEO TRACKING



ZETA POTENTIAL MEASUREMENT

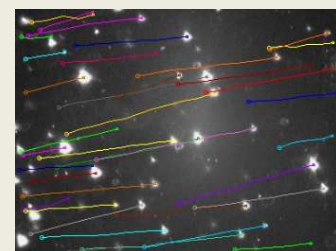
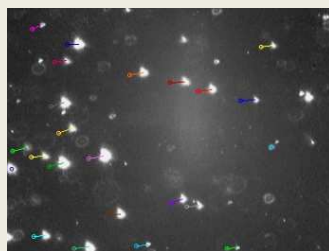
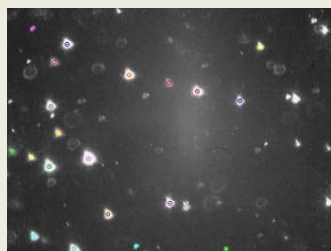
Particles having a high density or large diameter will settle on the bottom of the measuring chamber.

ZetaCompact® measures the distribution of electrophoretic mobilities of particles in suspension in a vertical plane. It uses high accuracy image analysis with angular path finding resolution.

Measured Parameters

- > Electrophoretic Mobility distribution
- > Zeta Potential
- > pH
- > Electrical Conductivity
- > Temperature
- > Cell Position

up to 5 000 tracks/sequence



Features and Benefits

- > A modular tool designed to tackle all the problems encountered when measuring the electrophoretic mobility of particles from 10 nm up to 50 μm^* and calculating the Zeta Potential (ζ) of colloidal suspensions.
- > Laser illumination and video interface allows sub-micronic particle measurement.
- > The CELL consists of two pairs of palladium electrodes fitted into perfectly symmetrical chambers.
- > A kinematic mounting gives easy access to the quartz chamber. It allows rapid and precise positioning of the cell after cleaning.
- > Sample temperature is measured in-situ by a fast response micro-probe.
- > Fully automatic tracking of particles with state of the art image analysis software.

* Sample dependant

ZETACompact® : FROM NANO TO MICRO PARTICLES ZETOMETRY USING VIDEO TRACKING

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

- > Ceramics
- > Polymer latex
- > Nanoparticles
- > Cement

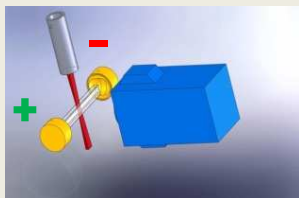
- > Emulsion
- > Micro-emulsion
- > Liposomes
- > Water treatment
- > Pulp & Paper

- > Clays
- > Pigments
- > Flotation
- > Biology
- > Immunology

ZETACompact® SPECIFICATIONS

Technology

- > Micro-Electrophoresis with enhanced video tracking with laser sheet illumination



Numeric CCD, high resolution algorithm

Threshold
Particle detection

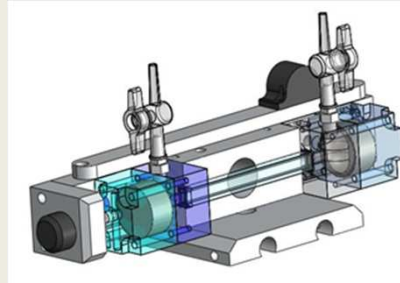
Linking
Tracking

Mobility
distribution



Measuring Cell

- | | |
|--------------------------------|---------------------------------------|
| > Cell | Quartz interchangeable capillaries |
| > Rectangular section | 5 x 2 x 70 mm |
| > Main electrodes | Palladium |
| > Secondary electrodes | Platinum for measuring electric field |
| > Temperature sensor precision | 0.1°C |
| > Sample volume | 6 mL |



Electronics Units

> Electric field generator	250 V – 10 mA
> Conductivity meter	0.01 – 100 mS.cm ⁻¹
> Positioning sensor resolution	1 µm
> Communications	Ethernet for CCD and USB for electronic
> Power supply	100 V to 250 V
> Dimensions	450 mm x 300 mm x 150 mm (W x D x H)
> Weight	13 kg

Note: These specifications may change in the interest of product development