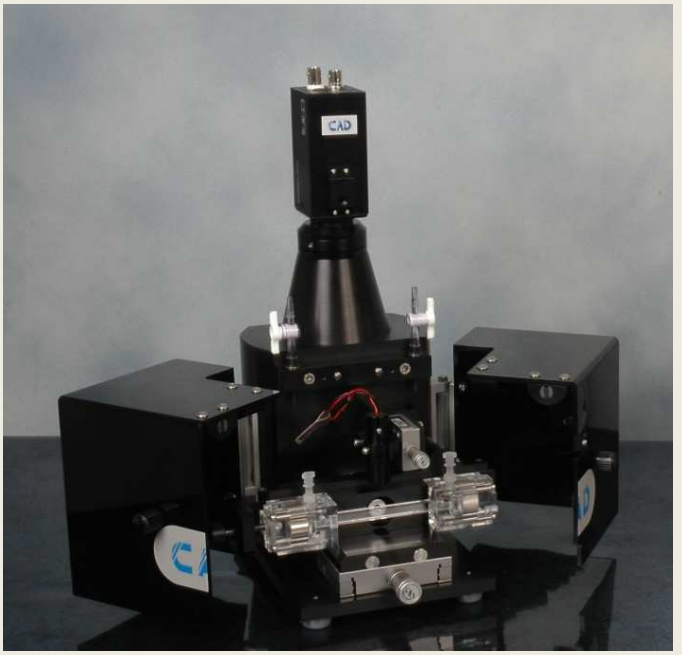
ZETACOMPACT®: FROM NANO TO MICRO PARTICLES ZETAMETRY USING VIDEO TRACKING



up to 5 000 tracks/sequence

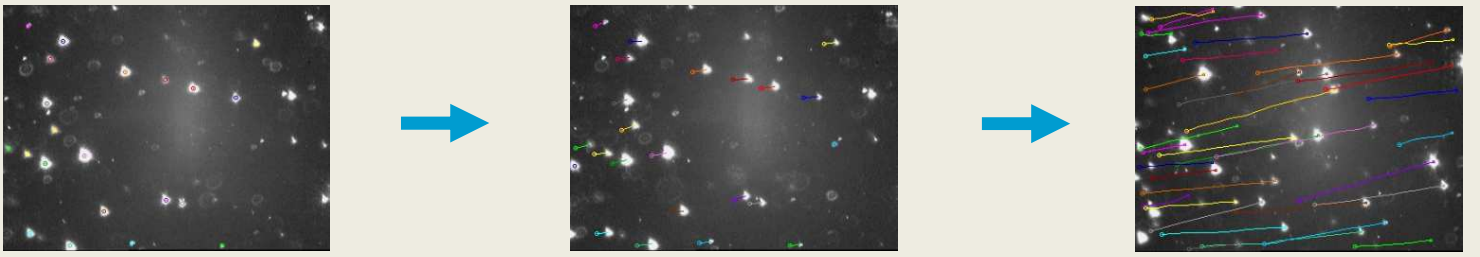
ZETA POTENTIAL MEASUREMENT

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



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

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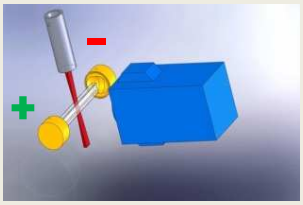
CAD Instruments offers a wide range of services to help you take advantage of this new measurement device. The **ZetaCompact** can be used for major industrial and academic applications including:

- 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

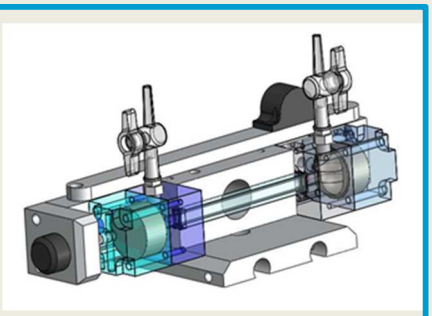


Numeric CCD, high resolution algorithm

Threshold Particle detection → **Linking Tracking** → **Mobility distribution** → ζ

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

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