

Well-known for its sophisticated high-end R&D systems, Thermo Electron Corporation expands its family of wettability measurement instruments to include a system suitable for QC, Product Development and Teaching Labs.

Cahn DCA 300 Analyzers

Simple Solutions
for Complex Surfaces



Applications:

- Films/Fibers
- Powders
- Composites
- Adhesives
- Biomedical Polymers
- Inks
- Paints
- Oil Recovery
- Shampoos
- Detergents
- Pharmaceuticals
- Eye-Care Products
- Moisture Barriers

Whether you need to monitor cleaning solutions or the cleanliness of your parts, the spreading and adhesion of coatings, or the interaction of fluids with biomaterials and pharmaceuticals, the Cahn DCA 300 provides solutions for determining the:

- Surface Tension of Liquid
- Contact Angle of the Liquid-Solid Interface
- Effect of Liquid Absorbency on Textiles, Powders and other Porous Materials
- Surface Homogeneity of Solid Sheets and Films

Wilhelmy Plate Method

When measuring the surface tension of liquids, the method employs a thin vertical plate, usually a platinum plate or glass slide of known perimeter, attached to a microbalance. In case of a clean glass or platinum plate, we assume a zero contact angle, the surface tension can be determined

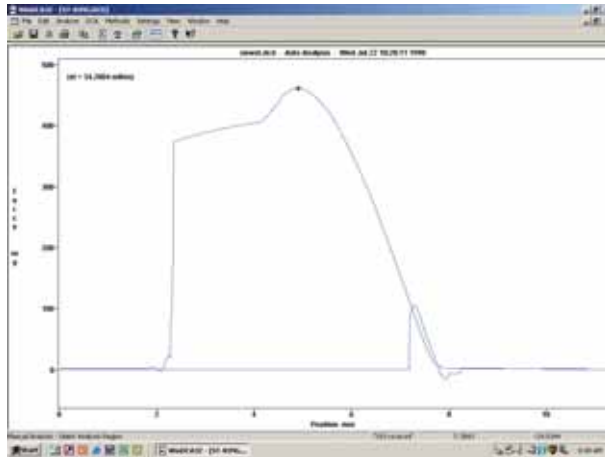
by measuring the weight of the meniscus formed on the perimeter of the plate divided by the plate's perimeter.

A similar approach is used to measure the contact angle formed when the solid sample is immersed in a liquid of known surface tension.

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Windows drop down menus or dialog boxes guide the user through method development step by step.

Automatic features allow you to analyze a dynamic hysteresis curve, complete on-screen advancing, receding and zero depth of immersion results for contact angle or surface tension.



One Easy Standard Computer Connection

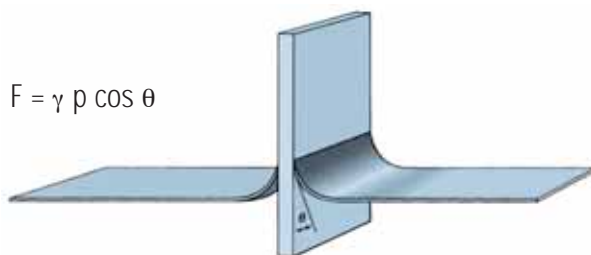
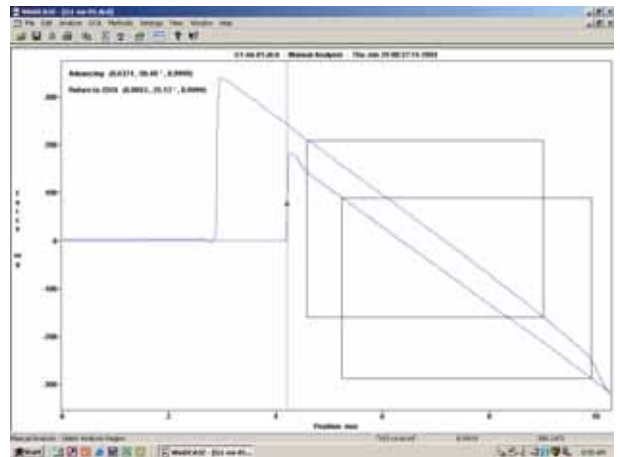
One simple connection directly to the computer's serial port gives you complete instrument control. The Windows-based Cahn WinDCA 300 software allows method storage and development, automatic calibration and a complete range of analyses.



Specifications	Cahn DCA 300
Measurement Range:	
Surface Tension	1-500 mN/cm
Contact Angle	0-180 degrees
Measurement Precision:	
Surface Tension	± 0.2 mN/m
Contact Angle	± 0.5 degrees
Balance Precision:	1 mg
Sample size:	
Max Weight	60 g
Max Diameter	75 mm
Stage Travel:	
Total Range	45 mm
Programmable Range	15 mm
Resolution	0.01 mm
Max Speed	328 µm/sec
Min Speed	21 µm/sec
Temperature Range:	10°C for 30°C

The Cahn WinDCA 300 Data Analysis software expands your capabilities by offering options like these:

- A full range of probe types like Rods, Discs, Tubes and Spheres
- GLP, Good Laboratory Practices, will flag any changes to the original data
- An Administrator mode to protect standard methods from unauthorized modification
- Real-time buoyancy correction



$$F = \gamma p \cos \theta$$

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