

# DCA 300 Analyzer

Simple Solutions for Complex Surfaces

## Thermo Material Characterization

A Thermo Electron business

Surface tension to  
ASTM and DIN

Dynamic Contact angle

Absorption Analysis

Wettability of Solid  
Sheets and Films

### Thermo Cahn Surface Science Systems

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

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

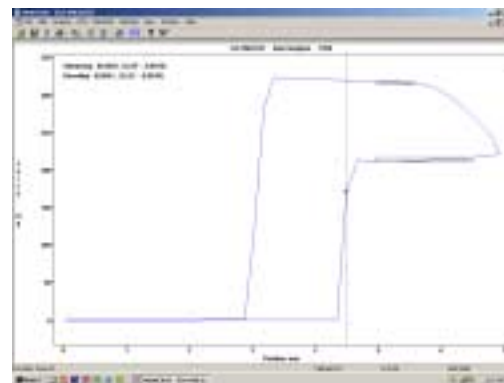
- Surface Tension of Liquid
- Contact Angle of the Liquid-Solid Interface
- Effect of Liquid Absorbency on Textiles, Powders and other Porous Materials
- Surface Homogeneity of Solid Sheets and Films

### Applications

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



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



### Wilhelmy Plate Method

The method employs a thin vertical plate, usually a platinum plate or glass slide of known perimeter, attached to a microbalance. In case of the platinum plate assuming 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 glass slide is immersed in a liquid of known surface tension.



**For More Information,  
Please see:**

[www.ThermoCahn.com](http://www.ThermoCahn.com)

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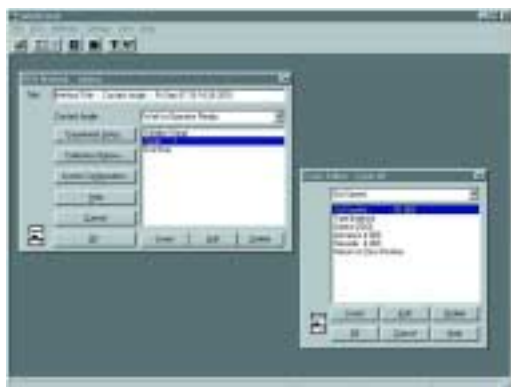
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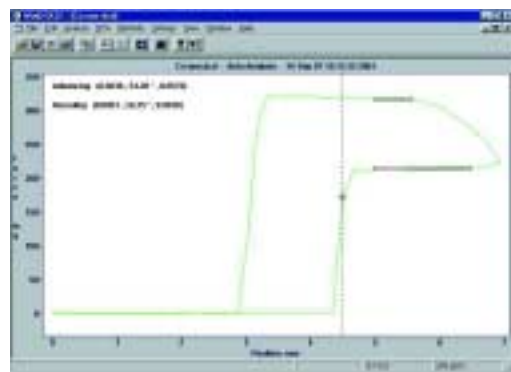
Windows drop down menus or dialog boxes guide the user through method development step by step.

### One Easy Standard Computer Connection



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

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



The 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

Du Nouy Ring and Wilhelmy Plate.



### Specifications

**Model**

**DCA 300**

#### Measurement Range:

Surface Tension 0.1-500 mN/m

Contact Angle 0-180 degrees

#### Measurement Precision:

Surface Tension  $\pm 0.2$  mN/m

Contact Angle  $\pm 0.5$  degrees

Balance Precision: 1 mg

#### Sample size:

Max Weight 60 g

Max Diameter 75 mm

#### Stage Travel:

Total Range 15 mm

Programmable Range 15 mm

Resolution 0.01 mm

Max Speed 328  $\mu\text{m}/\text{sec}$

Min Speed 21  $\mu\text{m}/\text{sec}$

#### Temperature Range:

10 °C to 30 °C

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