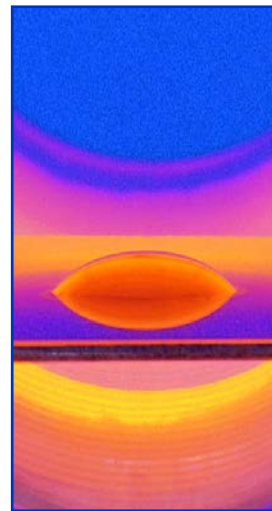
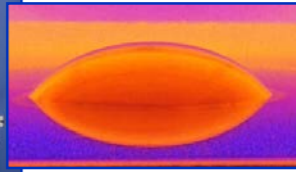


# OCA 25

The all-purpose contact angle measuring and contour analysis system

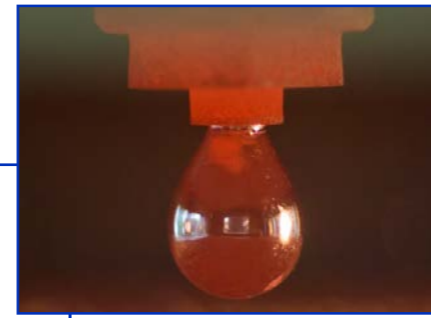


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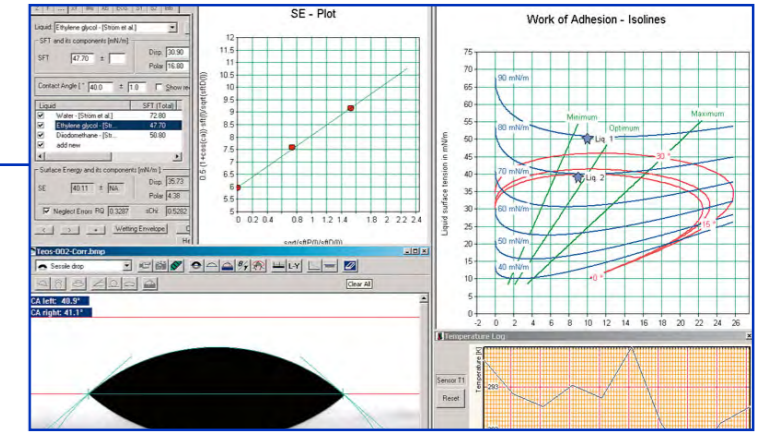


Molten glass on ceramic substrate

High temperature contact angle measuring system with vacuum or inert gas OCA 25-HTV 1800

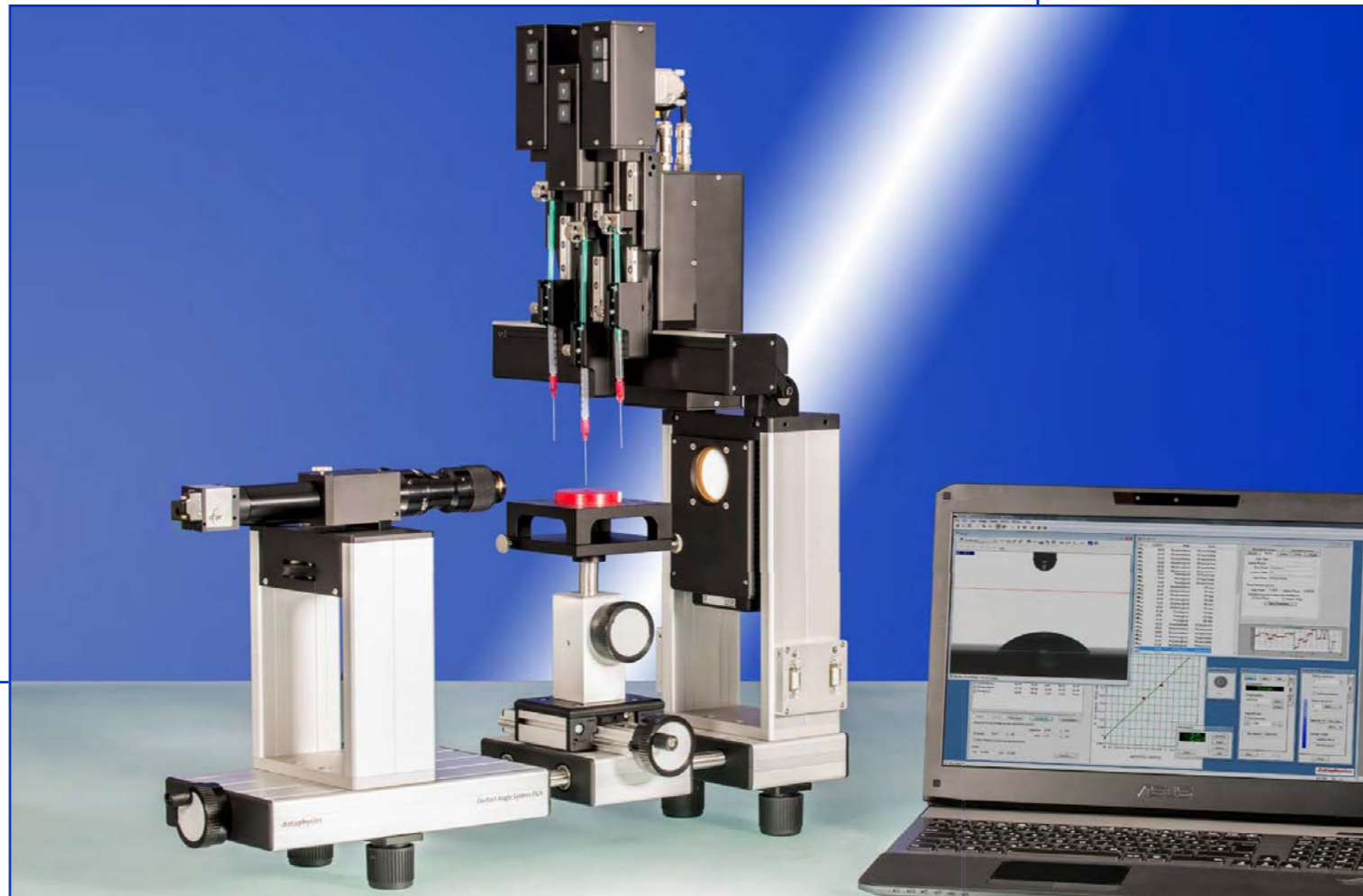


Molten aluminium drop at a needle heating device NHD 700



SCA 20 and SCA 21 — analysis of the wetting behaviour

The **OCA 25** is the all-purpose measuring device for contact angle measurements and the drop shape analysis. For large samples the **OCA 25L** is equipped with long x- and y-axis. To cope with special requirements of the measuring environment e.g. for aeronautic or enhanced oil recovery research, special models of the OCA 25 are available to measure at high temperatures, low or high pressures.



Determination of the surface free energy with an OCA 25 with electronic direct dosing system DDE/3 and three ES-D

### Software for efficient work

The SCA software, designed for Microsoft Windows®, is the modular program for all OCA instruments. The available software modules for the OCA 25 are:

#### SCA 20 — contact angle

- video based measurement and presentation of the static and dynamic contact angle on plane, convex, and concave surfaces
- automatic measurement of the contact angle hysteresis
- record/store of image sequences
- statistics and measurement error analysis
- liquids and solids database

#### SCA 21 — surface free energy

- analysis of the surface free energy of solids as well as its components (e.g. dispersive, polar and hydrogen bond parts, acid and base portions) according to nine different theories
- calculation and representation of wetting envelopes and work of adhesion/contact angle diagrams

#### SCA 22 — surface/interfacial tension

- analysis of the surface and interfacial tension, as well as their polar and dispersive parts, based on the analysis of the shape of pendant drops

#### SCA 23 — liquid bridge analysis

- analysis of the surface and interfacial tension based on the evaluation of the lamella contour
- innovative liquid bridge analysis of 3 phase systems

#### SCA 26 — oscillation / relaxation

- analysis of the real and imaginary part of the interfacial dilatational modulus based on the oscillating or relaxing contour of pendant drops

### Special models:

The **OCA 25-HTV 1800** allows for measurements of contact angles in a high temperature furnace at temperatures of up to 1800 °C and under vacuum down to 10<sup>-5</sup> mbar or inert gas atmosphere respectively.

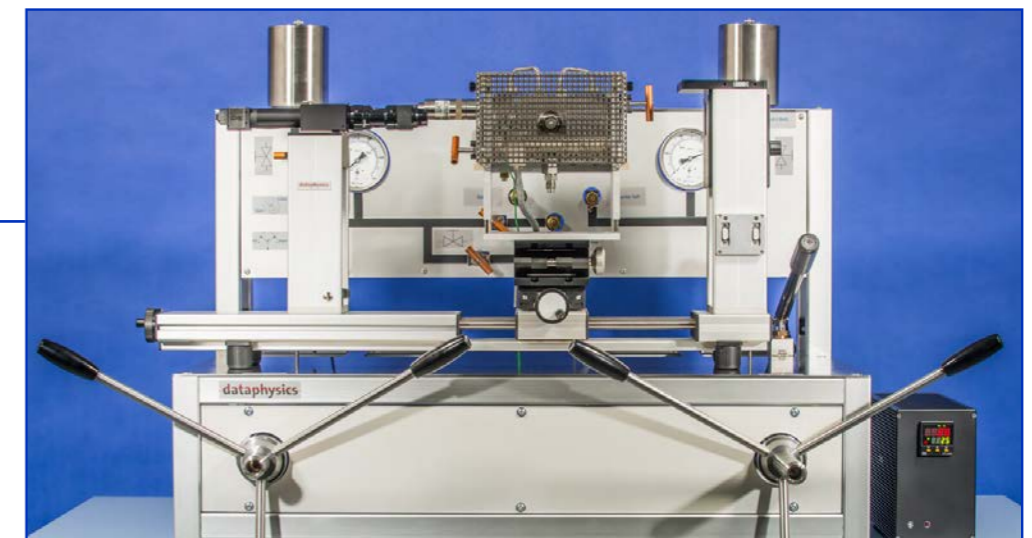
The **OCA 25-PMC 750** allows for measurements of interfacial tension and contact angles under high pressure (up to 750 bar) and high temperature conditions (up to 200 °C).

### Main features of the OCA 25:

- sample table adjustable in all three axis with precision mechanics
- high performance 6-times zoom lens
- integrated continuous fine focus, and adjustable observation angle
- video measuring system with USB 3.0 camera (max. 1220 frames/s), high-speed camera easily upgradable (up to 3000 frames/s)
- LED-lighting with manual and software controlled intensity including automatic temperature drift compensation



Analysis of the roll of angle with an OCA 25 and electronic tilting base unit TBU 95



High pressure measuring system OCA 25-PMC 750

## Technical data

Max. sample dimensions (L x W x H):	<ul style="list-style-type: none"> <li>• 220 x ∞ x 70 mm<sup>3</sup></li> <li>• 330 x ∞ x 70 mm<sup>3</sup> (OCA 25L)</li> </ul>
Sample table dimensions (L x W):	• 100 x 100 mm <sup>2</sup>
Traversing range of sample table in X-Y-Z direction:	<ul style="list-style-type: none"> <li>• 100 x 104 x 42 mm<sup>3</sup></li> <li>• 220 x 159 x 42 mm<sup>3</sup> (OCA 25L)</li> </ul>
Measuring range for contact angles:	• 0...180°; ± 0.1° measuring precision of the video system
Measuring range for surface and interfacial tensions:	• 1·10 <sup>-2</sup> ... 2·10 <sup>3</sup> mN/m; resolution: min. ± 0.01 mN/m
Max. sample weight:	• 3.0 kg; 15.0 kg with clamped sample table
Optics and image processing system:	<ul style="list-style-type: none"> <li>• LED-lighting with manual and software controlled intensity including automatic temperature drift compensation</li> <li>• USB 3.0 camera, max. resolution 2048 x 1088 pixel, max. frame rate 1220 frames/s</li> <li>• 6-fold zoom lens with integrated fine focus (± 6 mm)</li> <li>• field of view: 2.50 x 1.32...16.09 x 8.54 mm<sup>2</sup></li> <li>• optical distortion: &lt; 0.05 %</li> </ul>
Dimensions (L x B x H):	<ul style="list-style-type: none"> <li>• 660 x 220 x 365 mm<sup>3</sup></li> <li>• 725 x 285 x 365 mm<sup>3</sup> (OCA 25L)</li> </ul>
Weight:	<ul style="list-style-type: none"> <li>• 16 kg</li> <li>• 18 kg (OCA 25L)</li> </ul>
Power supply:	• 100...240 V AC; 50...60 Hz; 70 W

## Accessories (excerpt)

manual direct dosing systems **SD-DM** and **DD-DM** • electronic direct dosing systems **DDE/x** • up to six electronic syringe units **ESr** • electronic tilting base unit **TBU 95** • electronic turn table with vacuum fixation **ETTr/VAC** • temperature and environmental control chambers (-30...700 °C) • needle heating device **NHD** (up to 700 °C) • holders for foils or papers **FSH 30** and **FSC 80/150** • sample table with holding clamps **STC 100** • film or foil sample stage **FHM 100** • holder for single fibres **FHO 40plus** • suction plate **SP 100** for holding thin flexible samples flat on the stage • oscillating drop generator **ODG 20** • electro wetting platform **EWP 100** • top view video system **TV-VS**

**For more information about a tailor made solution to your surface chemistry requirements, please contact us. We will be pleased to provide a quotation, obligation free, for your instrument system.**

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