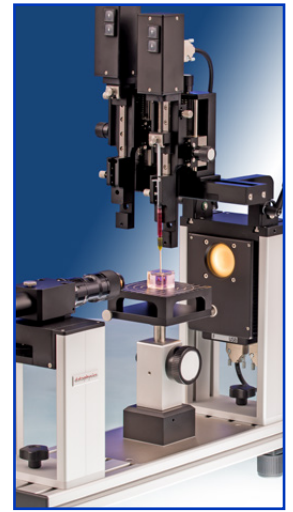
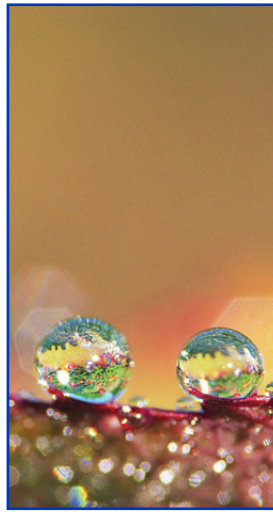


# OCA 15EC

The entry level contact angle measuring and contour analysis system





analysis of the roll off angle with an OCA 15EC on electronic tilting base unit TBU 95

The **OCA 15EC** is the entry level measuring device for professional contact angle measurements and drop shape analysis. The OCA 15EC can be easily disassembled for transportation in the optional case. For a convenient access to the surface and interfacial measurement techniques two pre-configured packages are available which include all necessary components to start right away.



Contact angle measurement with an OCA 15EC with double direct dosing system DD-DM

The **OCA 15EC Package 1** consists in addition to the base unit of a single direct dosing system SD-DM, one electronic syringe unit ESr-N and the software module SCA 20.

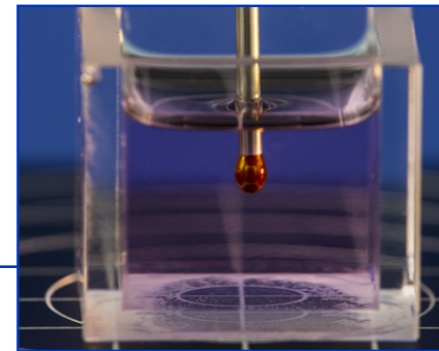
The **OCA 15EC Package 2** consists in addition to the base unit of a double direct dosing system DD-DM, two electronic syringe units ESr-N and the software module SCA 20.

**Main features:**

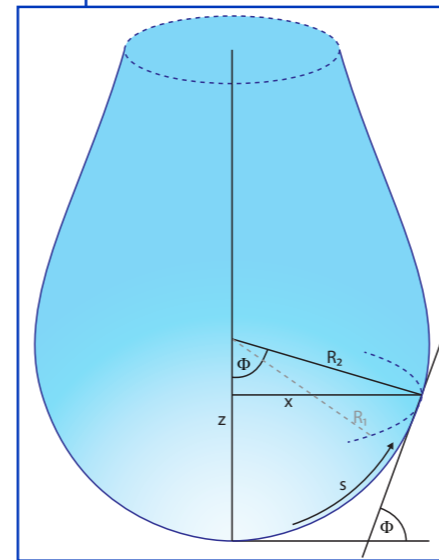
- Sample table horizontally movable (magnetic slide system) and adjustable vertically with precision mechanics
- high performance 6-times zoom lens
- integrated continuous fine focus, and adjustable observation angle
- video measuring system with USB camera
- LED-lighting with manual and software controlled intensity including automatic temperature drift compensation



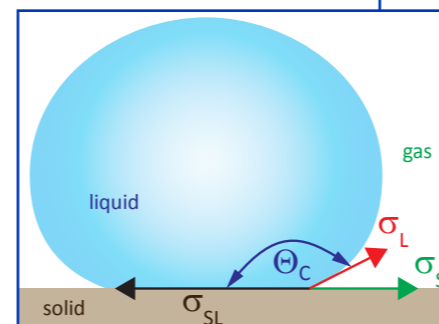
liquid temperature control unit TFC 100Pro for temperatures of -10...100 °C



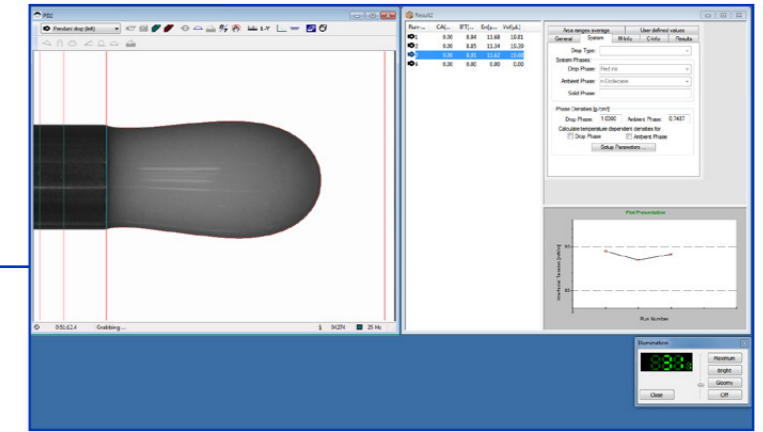
interfacial tension determination with pendant drop method



schematic contour analysis of a pendant drop



contact angle of a sessile drop



SCA 22 — analysis of the interfacial tension

**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 15EC 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**

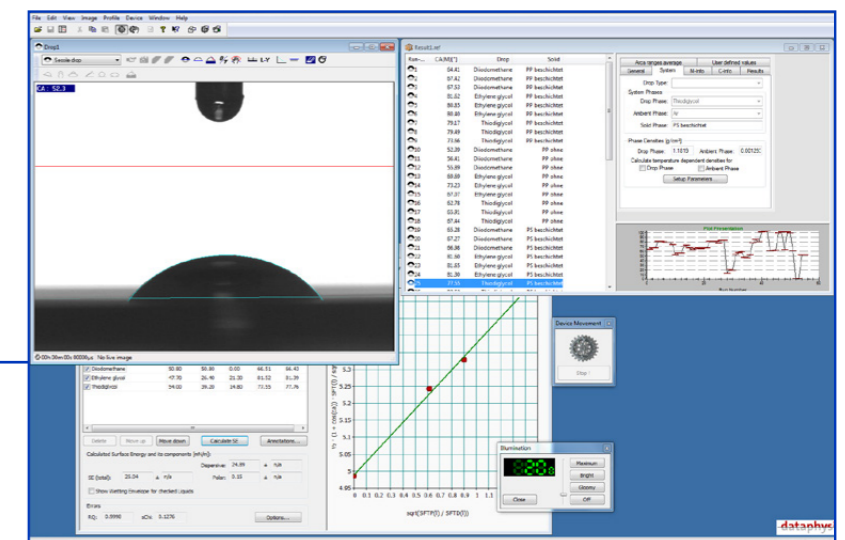
- analysis of the surface and interfacial tension, as well as their polar and dispersive parts, based on the analysis of the shape of pendant drops

**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



SCA 20 and 21 — contact angle measurement and surface free energy determination

## Technical data

Max. sample dimensions (L x W x H):	• 220 mm x ∞ x 70 mm
Sample table dimensions (L x W):	• 100 mm x 100 mm
Traversing range of sample table in X-Y-Z direction:	• 110 mm x 90 mm x 42 mm
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 2.0 camera, max. resolution 752 x 480 pixel, max. frame rate 311 frames/s, higher frame rates possible with upgrade options (on request)</li> <li>• 6-fold zoom lens with integrated fine focus (± 6 mm)</li> <li>• field of view: (1.05 x 0.66) mm<sup>2</sup> ... (6.72 x 4.25) mm<sup>2</sup></li> <li>• optical distortion: &lt; 0.05 %</li> </ul>
Dimensions (L x W x H):	• 550 mm x 160 mm x 365 mm
Weight:	• 14 kg
Power supply:	• 100 ... 240 V AC; 50 ... 60 Hz; 70 W

## Accessories (excerpt)

manual direct dosing systems **SD-DM** and **DD-DM** with corresponding electronic syringe units **ESr** • electronic tilting base unit **TBU 95** • temperature and environmental control chambers (-30 ... 700 °C) • syringe heating device **SHD** (up to 90 °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** • suction plate **SP 100** for holding thin flexible samples flat on the stage • electro wetting platform **EWP 100**

**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.**

DataPhysics Instruments GmbH • Raiffeisenstraße 34 • 70794 Filderstadt, Germany  
 phone +49 (0)711 770556-0 • fax +49 (0)711 770556-99  
[sales@dataphysics.de](mailto:sales@dataphysics.de) • [www.dataphysics.de](http://www.dataphysics.de)

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