

OCA 11

Entry level optical contact angle measuring and contour analysis system

dataphysics
Understanding Interfaces

The **OCA 11** is the **entry level measuring device** of the OCA product series of optical contact angle measuring and contour analysis systems.

The sample table of the OCA 11 can slide freely in **X- and Y-direction** and is locked into position with its **switchable magnetic base**. In **Z-direction** the sample table is adjustable using **precision mechanics with a hand wheel**.

The **fixed focal length lens** with manual focus and adjustable observation angle in combination with the **camera with USB 3 interface** ensures pin-sharp drop images and facilitates the effortless analysis with the SCA software.

With a **single direct dosing system SD-DM/2** a liquid can be positioned and dosed with one **electronic syringe module ESr-N**.

The OCA 11 is upgradable to the **more advanced OCA 15EC**. For more information on the OCA product series of optical contact angle measuring and contour analysis systems please refer to the corresponding brochure or website.

Software for an efficient workflow

The SCA software, designed for Microsoft Windows®, is the modular program for all OCA instruments. The **modern user interface** is highly customisable and offers every user an individual and ideally suited overview during measurements.

A software-integrated **extensive database** comprises important physical and chemical parameters of a multitude of liquids and solids. The SCA software features **recording and storing of movie sequences** which allows for a controlled evaluation of even the fastest processes. For the OCA 11 the following modules are available:

SCA 20 — contact angle

- measurement and presentation of the static contact angle on plane, convex and concave surfaces according to the sessile drop and the captive drop method
- automatic baseline detection on flat and curved surfaces
- surface roughness correction with optional Surface Profile Analyzer SPA 25
- measurement of dynamic contact angles (advancing and receding angle, contact angle hysteresis) according to the needle-in-drop method and the tilting method



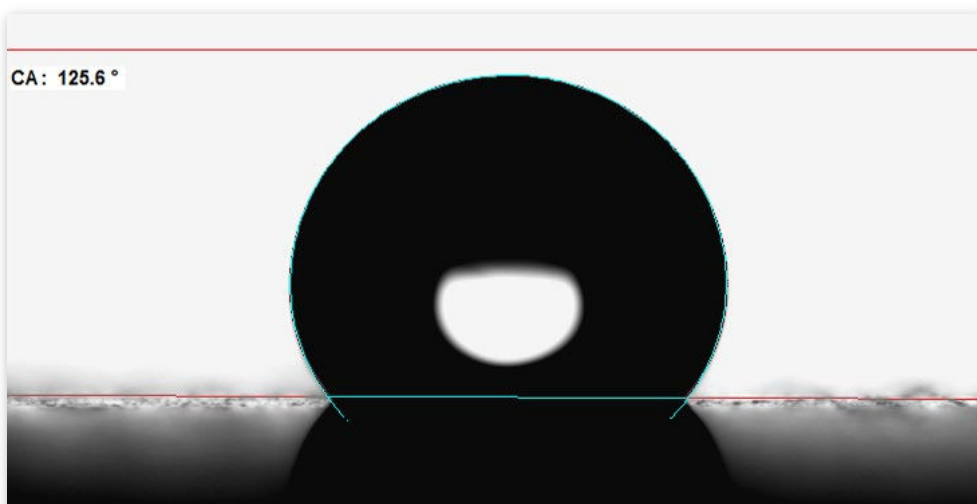
OCA 11 with SD-DM/2 and ESr-N

SCA 21 — surface energy

- determination of the surface energy of solids as well as of 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

- determination of the surface and interfacial tension, as well as of their polar and dispersive parts, based on the Young-Laplace evaluation of pendant drops



contact angle measurement with SCA 20

Available measuring methods and technical data

Contact angle measuring range accuracy resolution	requires SCA 20 0 ... 180° ± 0.1° ± 0.01°
Surface and interfacial tension measuring range resolution	requires SCA 22 0.01 ... 2000 mN/m ± 0.01 mN/m
Surface energy	requires SCA 21
Sample table traversing range (X-Y-Z-axis) max. sample weight	sliding magnetic base 110 mm x 90 mm x 42 mm 3.0 kg (locked Z-axis: 15.0 kg)
LED-lighting Type	manual and software-control including automatic temperature drift compensation warm-white (3000 K); optional monochromatic red (660 nm) or blue (465 nm)
Temperature and environmental control temperature chambers (-30 °C to 400 °C) electrical needle heating device (RT ... 400 °C) humidity generator of the HGC series	optional optional optional
Optics field of view (X x Y)	fixed focal length prime lens with integrated manual focus (± 6 mm) 7.78 mm x 5.83 mm
Camera system	USB 3 camera, 1/3" sensor max. resolution 1448 x 1086 pixel with 156 frames/s, max. frame rate 3246 frames/s with 1448 x 60 pixel
Connecting sockets for accessories/extensions	3
Device Control	via software or optional TP 50 control panel
Dimensions (L [mm] x W [mm] x H [mm])	550 x 160 x 365
Weight	14 kg
Power supply	100 ... 240 VAC; 50 ... 60 Hz; 70 W

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

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