

OCA 25-HTV 1800

Video-based contact angle measuring and contour analysis system for high temperatures and vacuum

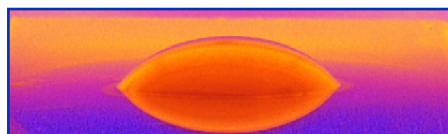


OCA 25-HTV 1800 with optional trolley cart

Features of the OCA 25-HTV 1800

The video-based optical contact angle measuring system **OCA 25-HTV 1800** is a device for measurements of contact angles at high temperatures of up to 1800 °C and under vacuum down to 10^{-5} mbar or inert gas atmosphere respectively.

Being able to measure contact angles and the wetting behaviour under high temperature and low pressure atmosphere offers new unique insights for materials which are for example used in aeronautics. With the optional dosing system the OCA 25-HTV 1800 can additionally be used at room temperature to feature all standard measurements, like surface free energies and interfacial tension.



molten glass on a ceramic substrate

Components and accessories

The OCA 25-HTV 1800 consists of the following components:

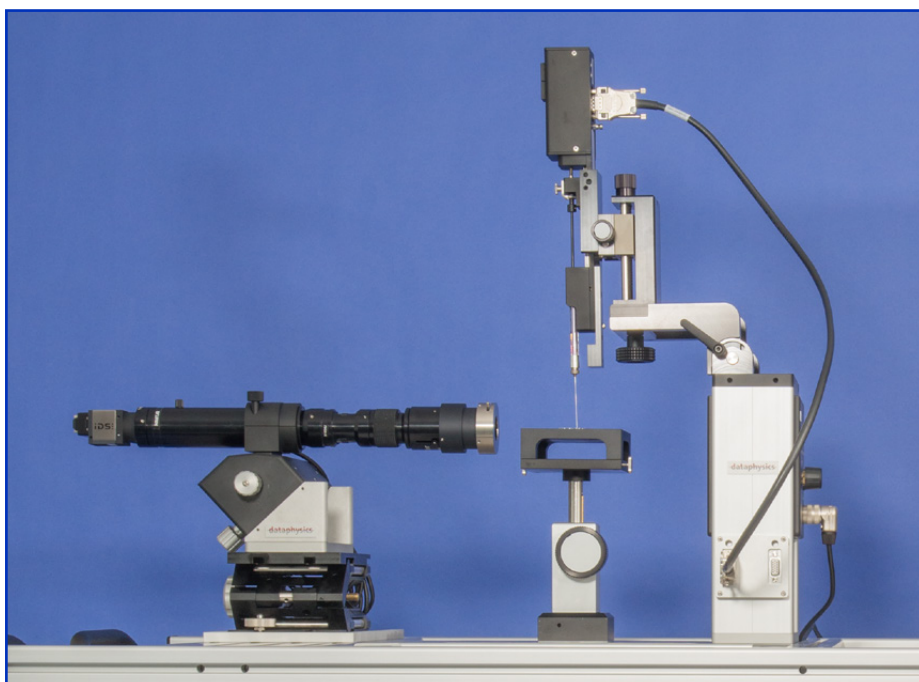
- high temperature furnace up to 1800 °C
- vacuum tight flanges with connectors to an optional turbomolecular pump for low pressures down to 10^{-5} mbar (flanges require a water counter cooling)
- inlets and gas supply system for Ar and N₂
- high power supply and control electronics
- optical measuring system with adjustable observation angle, focus and zoom extender
- LED-lighting
- optional dosing system for measurements at room temperature
- optional trolley cart for easy transport of the whole system



gas supply system

Technical data

Temperature range:	<ul style="list-style-type: none"> • room temperature ... 1800 °C (max. 1450 °C @ 10⁻⁵ mbar)
Pressure range:	<ul style="list-style-type: none"> • 10⁻⁵ mbar ... atmospheric pressure
Max. sample dimensions (L x W x H):	<ul style="list-style-type: none"> • 50 mm x 34 mm x 20 mm (inside furnace) • 210 mm x ∞ x 70 mm (on external table)
Traversing range of external sample table in X-/Y-/Z-direction:	<ul style="list-style-type: none"> • 100 mm x 75 mm x 42 mm
Measuring range for contact angles:	<ul style="list-style-type: none"> • 0 ... 180°; ± 0.1° measuring precision of the video system
Measuring range for surface and interfacial tensions:	<ul style="list-style-type: none"> • 1·10⁻² ... 2·10³ mN/m resolution: ± 0.01 mN/m
Optics and image processing system:	<ul style="list-style-type: none"> • LED-lighting with manual and software controlled intensity including automatic temperature drift compensation • USB 3.0 camera, max. resolution 2048 x 1088 pixel with 75 frames/s, max. frame rate 2450 frames/s with 640 x 60 pixel • 6-fold zoom lens with integrated fine focus (± 6 mm) and zoom extender • field of view: (12.46 x 6.62) mm² ... (80.14 x 42.56) mm² • working distance: 130 ... 970 mm • optical distortion: < 0.05 %
Dimensions (L x W x H):	<ul style="list-style-type: none"> • 1685 mm x 680 mm x 624 mm (OCA 25-HTV 1800) • 700 mm x 400 mm x 700 mm (electrical cabinet) • 1690 mm x 680 mm x 970 mm (trolley cart)
Weight:	<ul style="list-style-type: none"> • 145 kg (OCA 25-HTV 1800) • 120 kg (trolley cart)
Power supply:	<ul style="list-style-type: none"> • 240 VAC; 50 Hz; 3120 W



OCA 25-HTV 1800 configured for measurements at room temperature with optional dosing system

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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