

OCA 25-PMC 550 / 750

Contact angle and interfacial tension measurement
under high pressure and low to high temperature conditions

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Understanding Interfaces

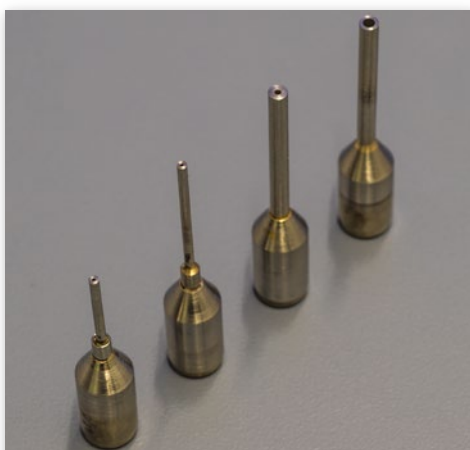
Due to the shortage of fossil fuel resources and the general increase in extraction costs, **enhanced oil recovery (EOR)** methods are being used to access crude oil from less forgiving materials, such as oil shale. One EOR method “washes” the oil out by pumping surfactant solutions, under high pressure, into the oil reservoir.

The OCA special models with **high pressure chamber** present the ideal solution to investigate the interfacial tension between surfactant solution and crude oil using the pendant drop method or the contact angle between rock, oil and surfactant solution using the sessile drop method under **reservoir conditions**.

The **OCA 25-PMC models** are special models of the OCA 25. With their high pressure measuring chamber they provide the opportunity to measure interfacial tensions and contact angles at high pressures and under low to high temperature conditions.

The OCA 25-PMC models feature:

- high pressure chamber with optical sapphire glass
- high pressure unit for generation and control of bulk liquid/gas pressure and drop liquid/gas pressure (manual or automatic)
- temperature controller for control of chamber temperature (for electric heating)



dosing needles with different diameters



magnetic positioning system for solids

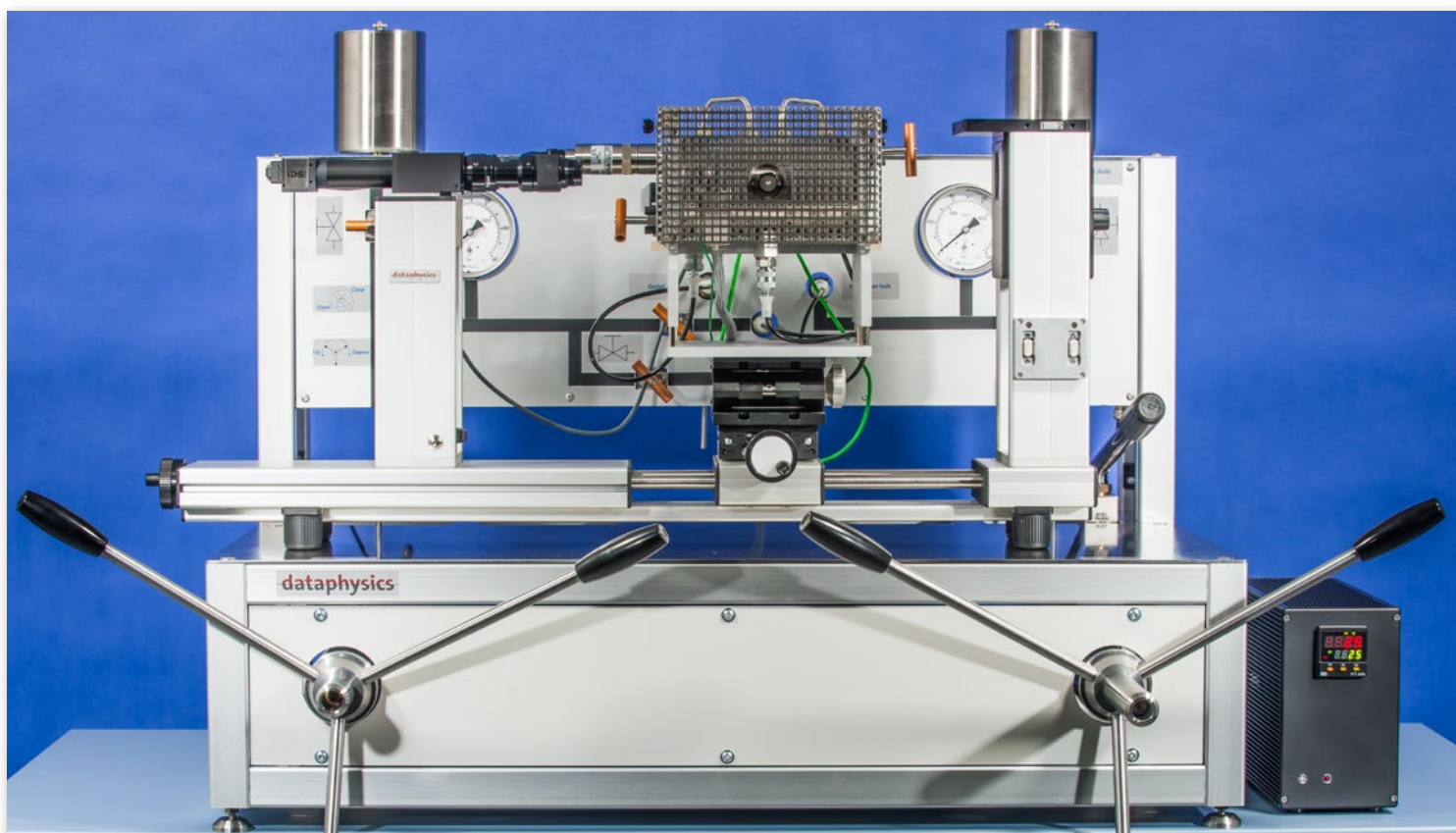
- removable magnetic positioning system for solid samples
- a set of needles with different diameters for various interfacial tension ranges
- high performance 6-times zoom lens
- integrated continuous fine focus, and adjustable observation angle
- video measuring system with high-performance camera using USB 3.0 interface
- LED-lighting with manual and software controlled intensity including automatic temperature drift compensation

OCA 25-PMC 550

The pressure chamber of the OCA 25-PMC 550 is made of **Hastelloy C-276** and hence, features an extraordinary **corrosion-resistance**. It can operate at pressures of up to **550 bar** and temperatures ranging from **-30 °C** to **200 °C**.

OCA 25-PMC 750

The pressure chamber of the OCA 25-PMC 750 is made of **stainless steel 1.4980** and hence, can withstand **even higher pressures**. It can operate at pressures of up to **750 bar** and temperatures ranging from **-30 °C** to **200 °C**.



OCA 25-PMC 750

Technical data

	OCA 25-PMC 550	OCA 25-PMC 750
Max. pressure	up to 550 bar (7977 psi)	up to 750 bar (10878 psi)
Temperature control via electric heating via liquid circulator ⁽¹⁾	room temperature ... 200 °C; heat up rate: 5 K/min -30 °C ... 200 °C	
Max. solid sample size (L [mm] x W [mm] x H [mm])	15 x 20 x 3	
Internal chamber volume	25 ml	
Material	Hastelloy C-276	stainless steel 1.4980
Camera system	USB 3 camera, max. resolution 2048 x 1088 pixel with 180 frames/s, max. frame rate 3250 frames/s with 2048 x 60 pixel	
Optics field of view (X min x Y min) ... (X max x Y max)	6.5-fold zoom lens with integrated manual focus (± 6 mm) (2.50 mm x 1.32 mm) ... (16.09 mm x 8.54 mm)	
Dimensions (L [mm] x W [mm] x H [mm])		
Pressure unit	1000 x 900 x 800	
High pressure chamber	200 x 200 x 250	
Temperature controller (for electric heating)	350 x 120 x 210	
Weight		
Pressure unit	88 kg	
High pressure chamber	10 kg	
Temperature controller (for electric heating)	18 kg	
Power supply	115/230 VAC; 50 ... 60 Hz; 1000 W	

⁽¹⁾effective range depends on the used liquid circulator and utilised liquids

**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.**

DataPhysics Instruments GmbH · Raiffeisenstraße 34 · 70794 Filderstadt, Germany
phone +49 (0)711 770556-0 · fax +49 (0)711 770556-99
sales@dataphysics-instruments.com · www.dataphysics-instruments.com

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