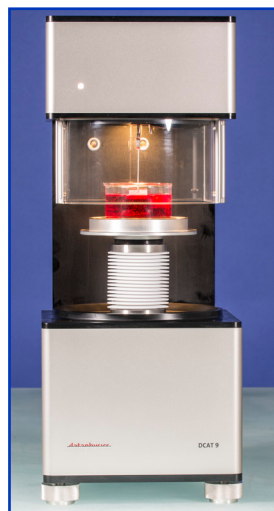
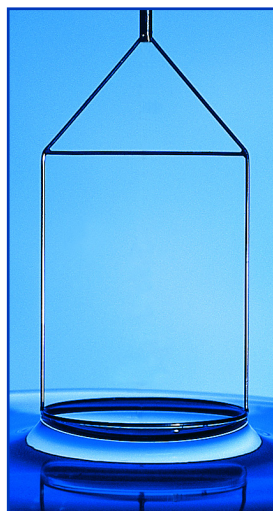
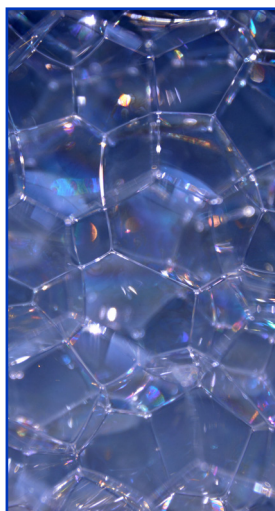
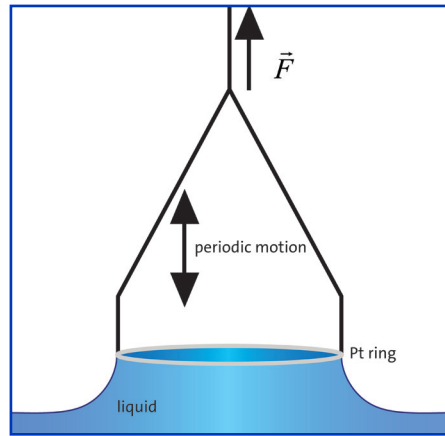


# DCAT 9

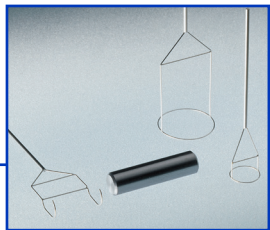
The fully automated tensiometer



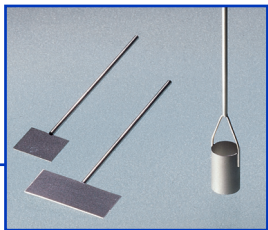


schematic of surface tension measurement with a Du Noüy-ring

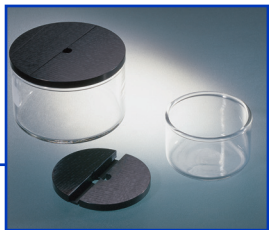
The **DCAT 9** is the powerful fully automated tensiometer for a small budget. It is capable of measuring the surface and interfacial tension and the density of liquids and solids. The tensiometer is equipped with a weighting system, which features internal and alternatively external calibration with certified reference balance weights.



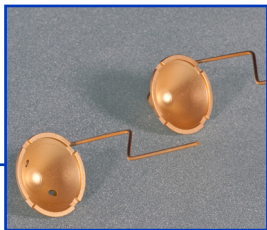
DIS 11 — RG 11 — RG 10



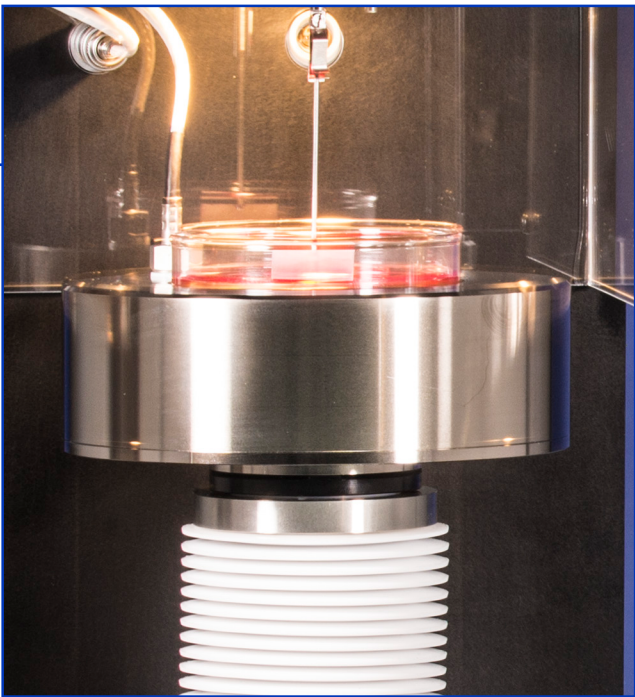
PT 9 — PT 11 — PT 10



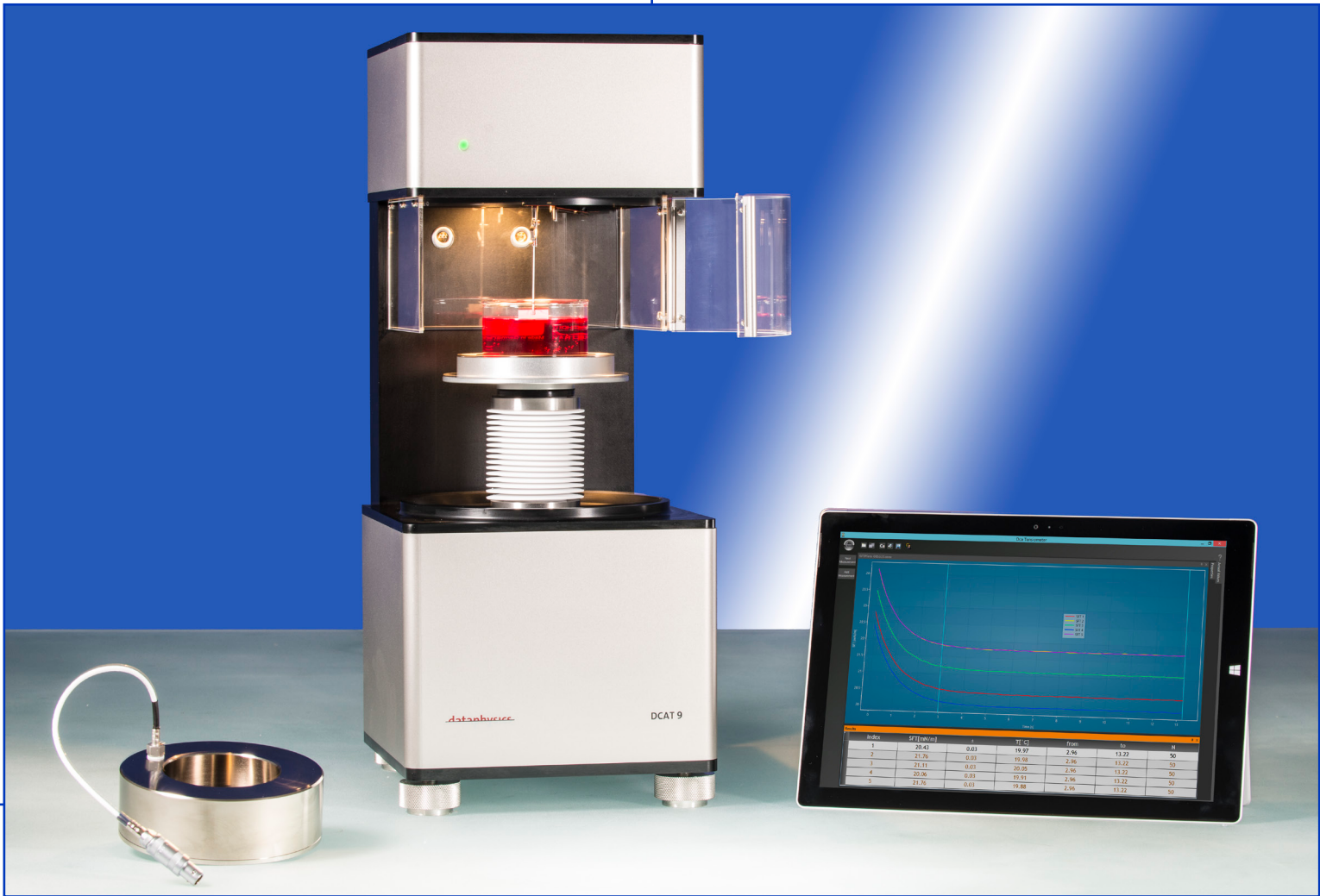
GS 70/CP 70 — CP 50 — GS 50



DSS 11 — DSS 12



liquid temperature control unit TV 70



DCAT 9 with standard table SVH, Wilhelmy-plate and optional liquid temperature control unit TV 70

#### SCAT 31

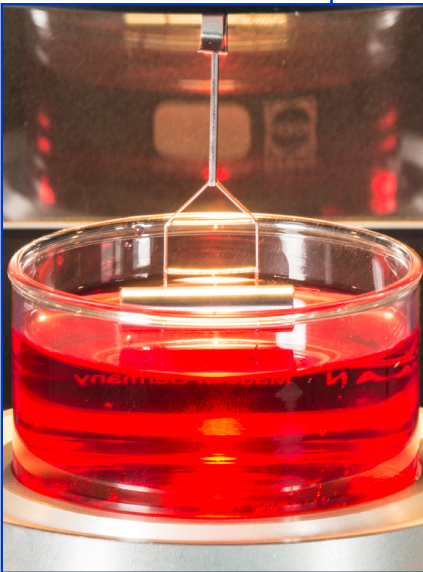
- measurement of the static, time- and temperature-dependent surface and interfacial tensions according to the Du Noüy-ring method, the Wilhelmy plate and the wire hoop method
- automatic ring corrections according to Zuidema & Waters, Mason & Huh and Harkins & Jordan
- gas-, liquids- and solids data base

#### SCAT 34

- determination of the density of liquids with the optional available density determination set DIS 11

#### SCAT 36

- determination of the density of solids with the optional available density determination set DSS 11 / 12



density determination of liquids with density determination set DIS 11

#### Standard components

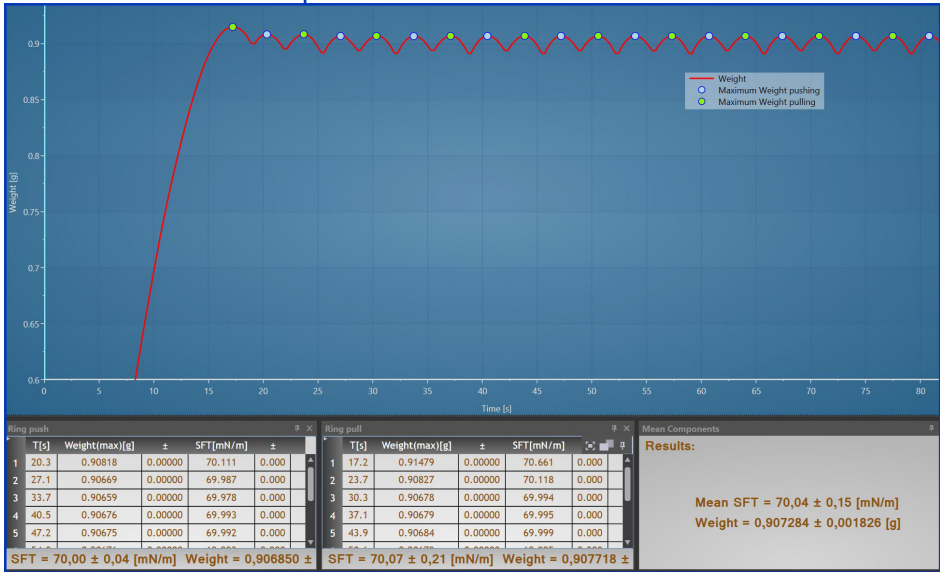
- high-precision electrodynamic compensation weighing system with automatic or manual calibration
- software controlled, motor-driven height positioning of the sample receptacles with variable speed
- automatic electronic coupling lock for the balance
- integrated measurement and control electronics with connections for two Pt 100 temperature sensors
- illuminated sample chamber

#### Accessories and measuring bodies

- liquid temperature control unit with integrated magnetic stirrer and Pt100 probe
- sample vessels made of glass and PTFE as well as cover plates
- wide range of measuring bodies like Du Noüy-rings, Wilhelmy- and cylindrical plates, density determination sets for liquids and solids

#### Software for control, measurement, analysis and presentation

The SCAT software, developed for Windows® 7/8, is available in various discrete usable modules. The latest version is also easily usable with a tablet-PC. Every software module includes the control of the DCAT and its accessories, the measurement, the analysis, and the presentation of the results.



SCAT 31 measurement according to Du Noüy-ring method

## Technical data

|                                                       |                                                                                                                                          |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Measuring range for surface and interfacial tensions: | • 1 ... 1000 mN/m; $\pm 0.1$ mN/m resolution                                                                                             |
| Measuring range for densities:                        | • 0.50 ... 2.50 g/cm <sup>3</sup> ; $\pm 0.002$ g/cm <sup>3</sup> resolution                                                             |
| Weighing range:                                       | • 0.1... 220 g                                                                                                                           |
| Measuring value range:                                | • up to 50 weighing values per second                                                                                                    |
| Travel speed of sample table:                         | • 2 $\mu$ m/s ... 20 mm/s                                                                                                                |
| Programmable travel for sample table:                 | • 74 mm                                                                                                                                  |
| Travel resolution:                                    | • 1 $\mu$ m                                                                                                                              |
| Receiver for sample receptacles:                      | • optional 50 mm, 70 mm, or 100 mm diameter (TV 50 / 70 / 100)                                                                           |
| Self-check and system diagnostics:                    | • external & internal                                                                                                                    |
| Automatic stirrer for CMC measurements:               | • magnetic stirrer integrated in TV 50 / 70 / 100                                                                                        |
| Temperature range:                                    | • -10 ... 130 °C with optional refrigerated and heating circulator                                                                       |
| Temperature measurement and range:                    | • 2 x Pt 100 inputs for -60 ... +450 °C (Pt 100 as option); $\pm 0.01$ K resolution; precision 1/3 DIN IEC 751 ( $\pm 0.03\%$ ), Class B |
| Dimensions (L x W x H):                               | • 250 x 205 x 500 mm                                                                                                                     |
| Weight:                                               | • 14 kg                                                                                                                                  |
| Power supply:                                         | • 100 ... 240 VAC; 50 ... 60 Hz; 55 W                                                                                                    |

## Standards

The high degree of accuracy of the DCAT devices complies with all related international standards, for example:

- **ISO 6295** Determination of interfacial tension of oil against water
- **ISO 6889** Surface active agents - determination of interfacial tension by drawing up liquid films
- **ASTM D971-99a** Standard test method for interfacial tension of oil against water by the ring method
- **ASTM D1417-03a** Standard method of testing rubber latices - synthetic
- **DIN EN 14210** Surface active substances; determination of interfacial tension of surface active solutions by frame and ring method

## Accessories

• liquid temperature control unit for sample vessels with diameters of 50 mm (**TV 50**), 70 mm (**TV 70**), and 100 mm (**TV 100**) with integrated magnetic stirrer and Pt100 probe • sample vessels made of glass **GS xx** and PTFE **GS xxP** as well as cover plates **CP xx** • sample vessel with inert gas connector **GTR 70** • Du Noüy-ring **RG 11** and **RG 10** • Aligning tool **R-AT** • Wilhelmy plate **PT 11** and **PT 9** • cylindrical plate **PT 10** • density determination set for liquids **DIS 11** • density determination set for solids **DSS 11/12**

**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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