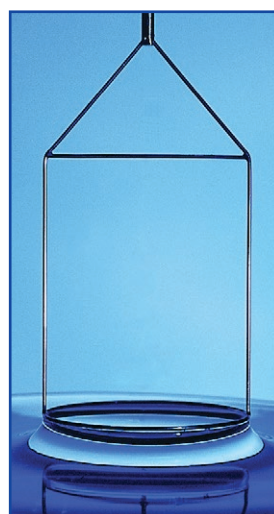
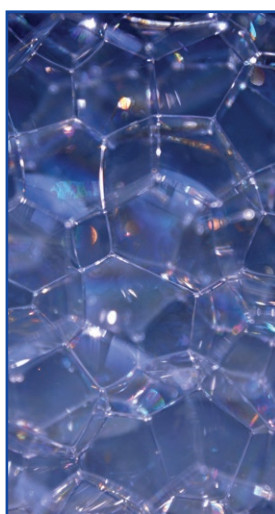
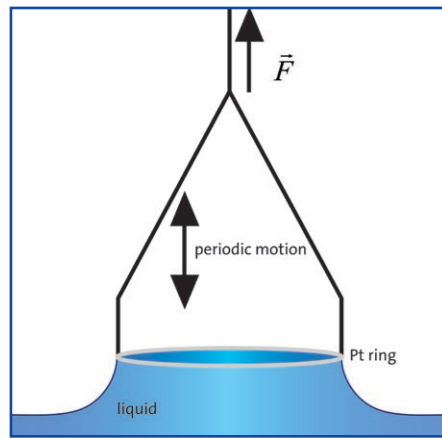


DCAT 9

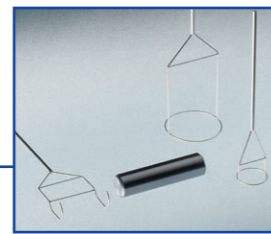
The fully automated tensiometer



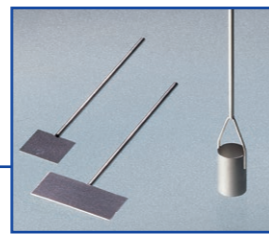


schematic of surface tension measurement with a Du Noüy-ring

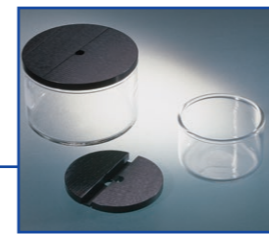
The **DCAT 9** is the powerful fully automated tensiometer for a small budget. It is capable of measuring the surface and interfacial tension and the density of liquids and solids. The tensiometer is equipped with a weighing system, which features internal and alternatively external calibration with weight and mass standards. The **DCAT 9T** features an additional digital thermometer and a liquid temperature control unit TV 70 instead of the standard sample vessel holder SVH 50/70.



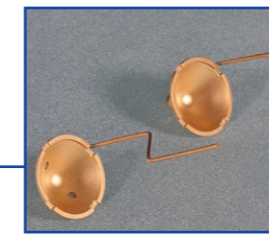
DIS 11 — RG 11 — RG 10



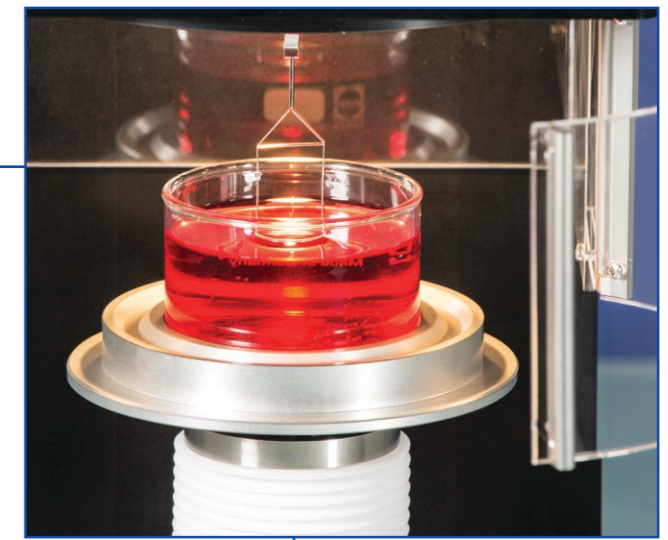
PT 9 — PT 11 — PT 10



GS 70/CP 70 — CP 50 — GS 50



DSS 11 — DSS 12



DCAT 9, measurement of surface tension with Du Noüy-ring RG 11



DCAT 9T with optional Wilhelmy-plate PT 11 and multi-touch Notebook with software

- 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 or DSS 12



set of 3 reference weights, holder, and tweezers

Standard components

- high-precision electrodynamic compensation weighing system with automatic or manual (external) 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
- illuminated sample chamber
- software controlled magnetic stirrer
- sample vessel holder SVH 50/70 (DCAT 9)
- liquid temperature control unit TV 70 with Pt100 probe (DCAT 9T)
- digital thermometer with connections for two Pt 100 temperature sensors (DCAT 9T)

Accessories and measuring bodies

- wide range of measuring bodies like Du Noüy-rings, Wilhelmy- and cylindrical plates, density determination sets for liquids and solids
- liquid temperature control unit
- sample vessels made of glass and PTFE as well as cover plates
- set of reference weights

Software for control, measurement, analysis and presentation

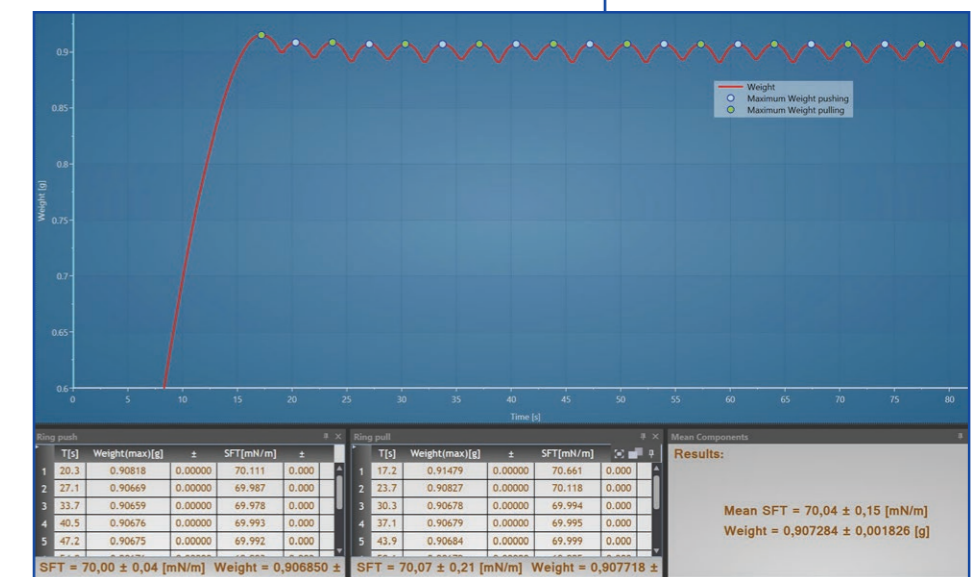
The newly developed, Windows® based, SCAT software is available in various discrete usable modules, and is operable traditionally, using mouse and keyboard or with multi-touch notebooks/pads by finger/pen. Every software module includes the control of the DCAT and its accessories, the measurement, the analysis, and the presentation of the results.

SCAT 31

- measurement of the static, time- and temperature-dependent surface and interfacial tensions according to the Du Noüy-ring and the Wilhelmy plate method



density determination of liquids with density determination set DIS 11



SCAT 31 measurement according to Du Noüy-ring method

Technical data

Measuring range for surface and interfacial tensions:	• 1 ... 1000 mN/m; ± 0.01 mN/m resolution
Measuring range for densities:	• 0.50 ... 2.50 g/cm ³ ; ± 0.002 g/cm ³ resolution
Weighing range:	• 100 μ g... 220 g
Measuring value range:	• up to 50 weighing values per second
Travel speed of sample table:	• 46 nm/s ... 12 mm/s
Programmable travel for sample table:	• 70 mm
Travel resolution:	• 24 nm
Sample vessel holder:	• SVH 50/70 DCAT 9 • TV 70 DCAT 9T
Balance calibration:	• automatic internal and external with reference weights
Automatic stirrer:	• integrated, software controlled
Temperature measurement and range:	• -10 ... 130 °C DCAT 9T • 2 x Pt 100 inputs for -60 ... +450 °C (Pt 100 as option); ± 0.01 K resolution; precision 1/3 DIN IEC 751 ($\pm 0.03\%$), Class B DCAT 9T
Dimensions (L x W x H):	• 250 x 205 x 500 mm
Weight:	• 14 kg DCAT 9 • 15 kg DCAT 9T
Power supply:	• 100 ... 240 VAC; 50 ... 60 Hz; 70 W

Standards

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

- **ISO 6295** Petroleum products -- Mineral oils -- Determination of interfacial tension of oil against water -- Ring method
- **ISO 6889** Surface active agents; Determination of interfacial tension by drawing up liquid films
- **ASTM D971** Standard Test Method for Interfacial Tension of Oil Against Water by the Ring Method
- **ASTM D1417** Standard Test Methods for Rubber Latices-Synthetic
- **DIN EN 14210** Surface active agents - Determination of interfacial tension of solutions of surface active agents by the stirrup or ring method
- **ASTM D1331** Standard Test Methods for Surface and Interfacial Tension of Solutions of Paints, Solvents, Solutions of Surface-Active Agents, and Related Materials
- **ISO 304** Surface active agents; Determination of surface tension by drawing up liquid films
- **DIN ISO 1409** Plastics/rubber - Polymer dispersions and rubber latices (natural and synthetic) - Determination of surface tension by the ring method
- **OECD 115** OECD Guidelines for the Testing of Chemicals: Surface Tension of Aqueous Solutions

Accessories

- set of Reference Weights **RWS** • set of Reference Weights, DKD certified **RWS-C** • 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 Pt100 probe • sample vessels made of glass **GS xx** and PTFE **GS xxP** as well as cover plates **CP xx** • 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** and **DSS 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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