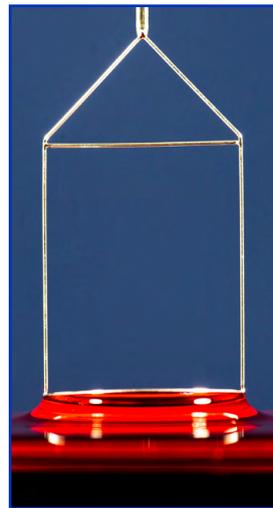
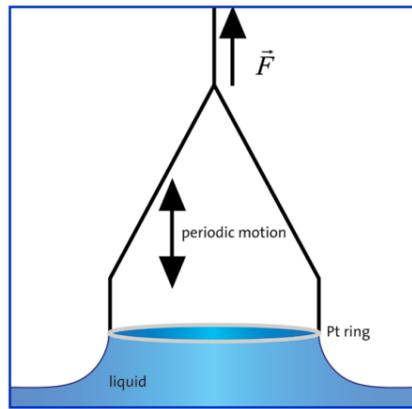


DCAT 9

The fully automated tensiometer

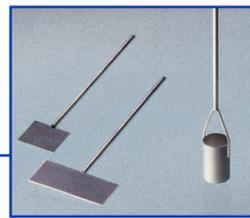




schematic of surface tension measurement with a Du Noüy ring



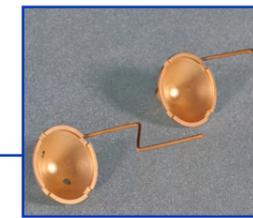
density determination set DIS 11 and Du Noüy rings RG 11/10



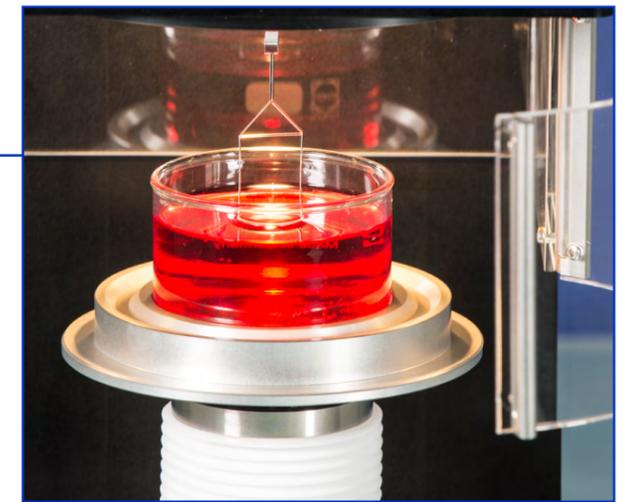
Wilhelmy plates PT 11/9 and cylindrical plate PT 10



sample vessels GS 70/50 and cover plates CP 50/70



density determination set for solids DSS 11/12



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

The **DCAT 9** is the powerful fully automated tensiometer for the weight-based measurement of surface and interfacial tension and the density of liquids and solids.

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.



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

Software for efficient work

The newly developed, Windows® based, **DCATSoftware** is available in various discretely usable modules, and is operable traditionally, using mouse and keyboard, or on multi-touch notebooks/pads by finger/pen. The available software modules for the DCAT 9 models are:

DCATS 31 — surface/interfacial tension

- determination of the surface and interfacial tension according to the Du Noüy ring and the Wilhelmy plate method

DCATS 34 — liquid density

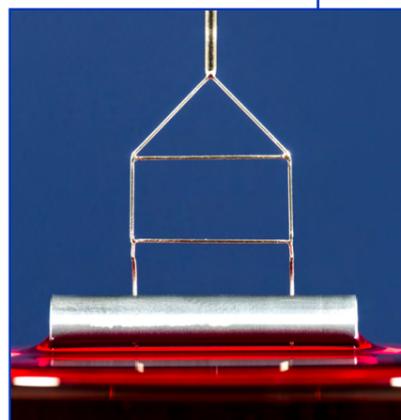
- determination of the density of liquids

DCATS 36 — solid density

- determination of the density of solids



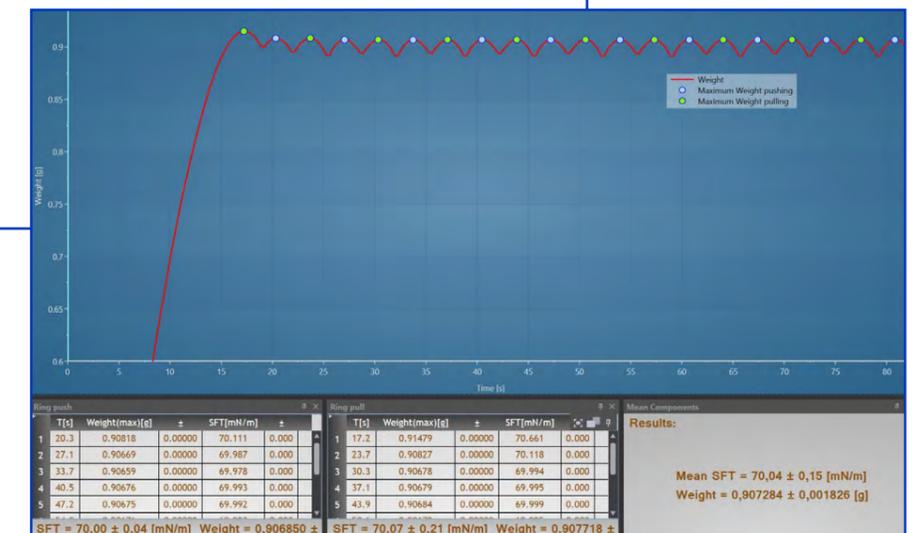
set of 3 reference weights RWS, holder, and tweezers



density determination of liquids with density determination set DIS 11

Main features of the DCAT 9

- high-precision electrodynamic compensation weighing system with automatic and manual calibration
- software controlled, motor-driven height positioning of the sample receptacles with variable speed
- automatic coupling lock for the balance
- automatic crash protection for measuring probes during measurement
- illuminated sample chamber
- integrated magnetic stirrer
- standard sample vessel holder SVH 50/70 (DCAT 9)
- liquid temperature control unit TV 70 with Pt 100 probe (DCAT 9T)
- digital thermometer with connections for two Pt 100 temperature sensors (DCAT 9T)



DCATS 31 — determination of the surface tension with the 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
Traversing range and speed for sample table:	• 80 mm • 46 nm/s ... 12 mm/s
Travel resolution:	• 24 nm
Sample vessel holder:	• SVH 50/70 (DCAT 9) • TV 70 (DCAT 9T)
Balance calibration:	• automatic internal and manual 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 ³
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 (excerpt)

set of Reference Weights **RWS** • set of Reference Weights, DKD certified **RWS-C** • sample vessels made of glass **GS xx** and PTFE **GS xxP** as well as cover plates **CP xx** • Du Noüy rings **RG 11/10** • Aligning tool **R-AT** • Wilhelmy plates **PT 11/9** • 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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