



Excellence in Surface Chemistry

Sigma 700

Modular ST/CA Tensiometer

Sigma 700 is a modular high performance surface tension/contact angle meter. It expands from a basic all round Tensiometer into a highly sophisticated precision measuring system for R&D applications. Sigma 700 covers most of known force balance based methods in today's modern surface chemistry laboratory while meeting international norms and standards set by ISO and ASTM.

Basic Unit, modules and accessories

Sigma 700 is designed modular in order to meet wide variety of measurement needs. Modularity means ability to tailor the instrument's hardware, software and performance to meet with exact need. Many tensiometers do not offer enough flexibility or the upgrading the basic set up is made very expensive. Sigma 700 design philosophy is straight forward - the desired configuration is built around the Sigma 700 basic unit using extensive selection of software and hardware modules and accessories.

Basic Sigma 700

In its basic configurations Sigma 700 measure surface and interfacial tension of liquids (ST/IT) using Wilhelmy plate or Du Nouy ring. All necessary hardware, software and accessories are included making it possible to take the instrument into use directly from its shipping crate. All details from setting the system up, running test experiments and getting familiar to the use are being well taught out, step by step. Comprehensive operation and installation manuals secure smooth and trouble free start up the instrument.

Modules

Modules consist of independent software or hardware units that can be added on to basic set up to increase its versatility and performance. Which modules and accessories to select depend on application. First step is to decide what is requested as regards to performance and need. Which type of measurements are to be done. Modules consist of:

- ST/IT - surface/interfacial tension (standard feature)
- CA for contact angle measurement
- CMC for critical micelle concentration
- Density determination
- SFW, single fibre wettability
- Density, liquid density determination





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Accessories

Accessories are provided for improving mechanical performance of the Sigma 700. Main accessory items are:

- Thermostatic water jacket for sample liquid temperature control
- PC temperature control of water bath
- Water bath circulator
- Dispenser for CMC
- Stirrer
- Sample holders of different design
- Consumables, glassware

Performance

- surface and interfacial tension measurements push and pull modes
- dynamic advancing and receding contact angle measurements (DCA)
- contact angle on powders and single fibres
- automatic critical micelle concentrations (CMC) determination
- surface energy and adsorption measurement
- density of liquids and sedimentation



Features

- full computer control and automatic operation of all measuring modes
- Wilhelmy plate or Du Nouy ring method
- super sensitive fibre-range balance
- software controlled sample thermostation and stirring
- direct reading of sample temperature
- fully automatic dispenser for CMC measurements
- automatic calculation of ring correction values
- automatic calibration, zeroing, taring and reset to start point
- result and graphics presented on screen, printer or plotter
- data export to Lotus 1-2-3 or equivalent, hard disk data storage



Specifications

Measuring range	1 - 2000 mN/m
Resolution	+/- 0.001 mN/m
Maximum load	200 g
Weighing resolution	0.01 mg
Stage speed	0.01 - 500 mm/min (others by request)
Stage positioning resolution	0.015 ∞ m
Temperature range	-10 -130 C



Instruments

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