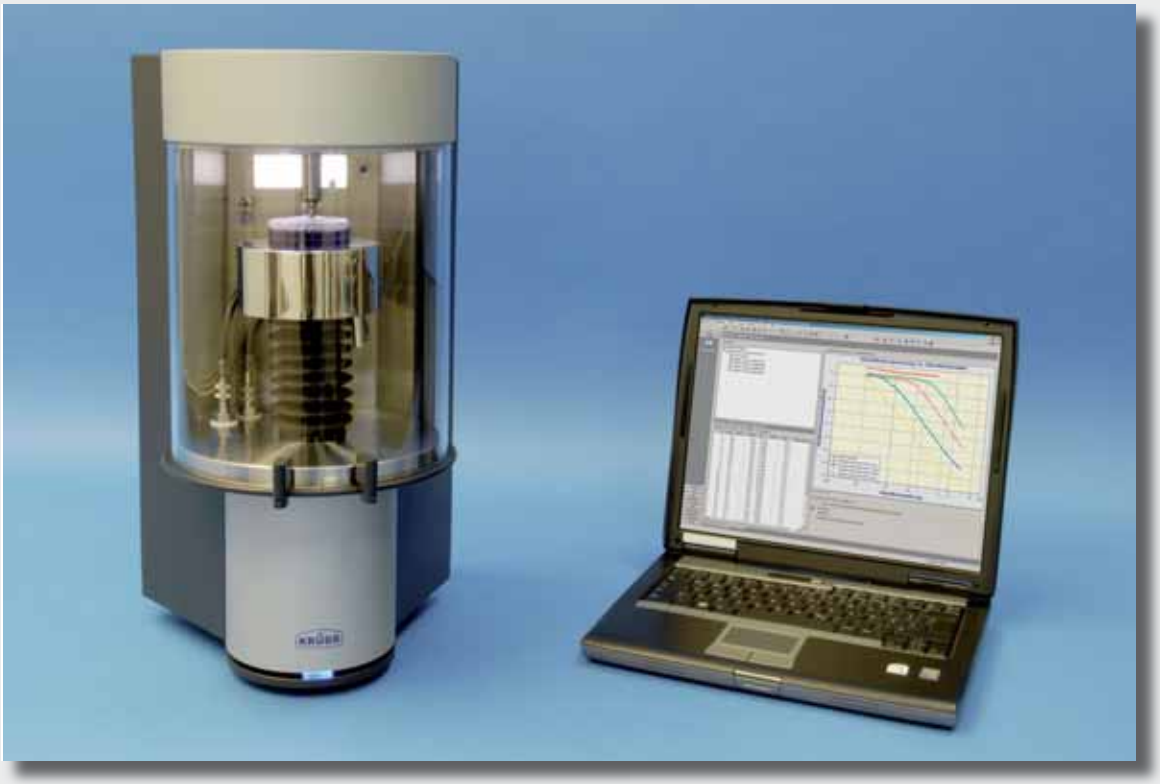
INFORMATION

Bubble Pressure Tensiometer BP100



Printing – bonding – spraying – cleaning: processes such as these require surfactants that are already effective in fractions of a second – and an instrument that can record their effectiveness. The Bubble Pressure Tensiometer BP100 determines the dynamic surface tension as a function of the surface age. Thus the instrument provides information about wetting and drop formation in rapid processes.

- **Measurement of the dynamic surface tension at constant or variable surface age**
- **Wide range of surface age: 5 ms (high dynamic) up to 100 s (almost static)**
- **Fully automatic measuring process by software-controlled immersion of the capillary**
- **Determination of the adsorption and diffusion coefficient**
- **Integrated compressor - no compressed air supply necessary**

Bubble Pressure Measurement with the BP100

A software-controlled flow of air emerging from a capillary produces air bubbles in the sample. A high-precision pressure sensor determines the maximum pressure during bubble formation, from which the surface tension is calculated. Thanks to its built-in compressor the instrument does not need an external compressed air connection. Thermostatted measurements are possible without any problems.

Scans with an almost unlimited resolution over a wide range of surface ages are controlled automatically by the LabDesk™ software. In addition to the time-dependent surface tension, the measurement also supplies the equilibrium value according to Hua & Rosen. Diffusion and adsorption coefficients can be calculated from surfactant concentration series – these are important parameters where the mobility of surfactants is concerned. Measurements at constant bubble ages allow further insights, e.g. for concentration or temperature comparisons.

After a minimal preparation period the measurement is carried out fully automatically up to data output in the form of a plot. With a mouse-click measuring parameters, results and evaluations appear in a comprehensive report. Thanks to the LabDesk™ software platform for all KRÜSS tensiometers data from other instruments can be included.

Applications

- Surface-active agent development
- Optimization of spraying processes
- Development of detergents and cleansing agents
- Optimization of coating and printing processes
- Electroplating bath concentration control

Technical Specification

Measuring range:	
- SFT (1):	10 to 100 mN/m
- Temperature:	-10 to 100 °C
Resolution:	
- SFT:	± 0.01 mN/m
- Temperature:	± 0.01°
Surface age (1):	5 ms - 100 s
Interfaces:	USB, RS232C
Power consumption:	max. 30 W
Power supply:	100 – 240 V AC; 47 – 63 Hz
Weight:	15 kg
Dimensions:	320 x 300 x 540 mm (LxWxH)

(1): depending on capillary and liquid

Measuring Methods

- Measurement of surface tension at constant surface age
- Measurement of surface tension at any surface ages from 5 to 100,000 ms

Accessories

- Various thermostats
- Capillaries made of glass or PTFE
- Coating Kit to renew the hydrophobicity of the glass capillaries
- Thermostattable jacket with built-in magnetic stirrer

Technical specifications are subject to change without notice.

KRÜSS

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