KRÜSS

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KRÜSS K100 Tensiometers

NEWEST TECHNOLOGY FOR HIGHEST MEASURING PERFORMANCE

Advancing Surface Science

Single Fibre Tensiometer K100SF

EXTREMELY ACCURATE

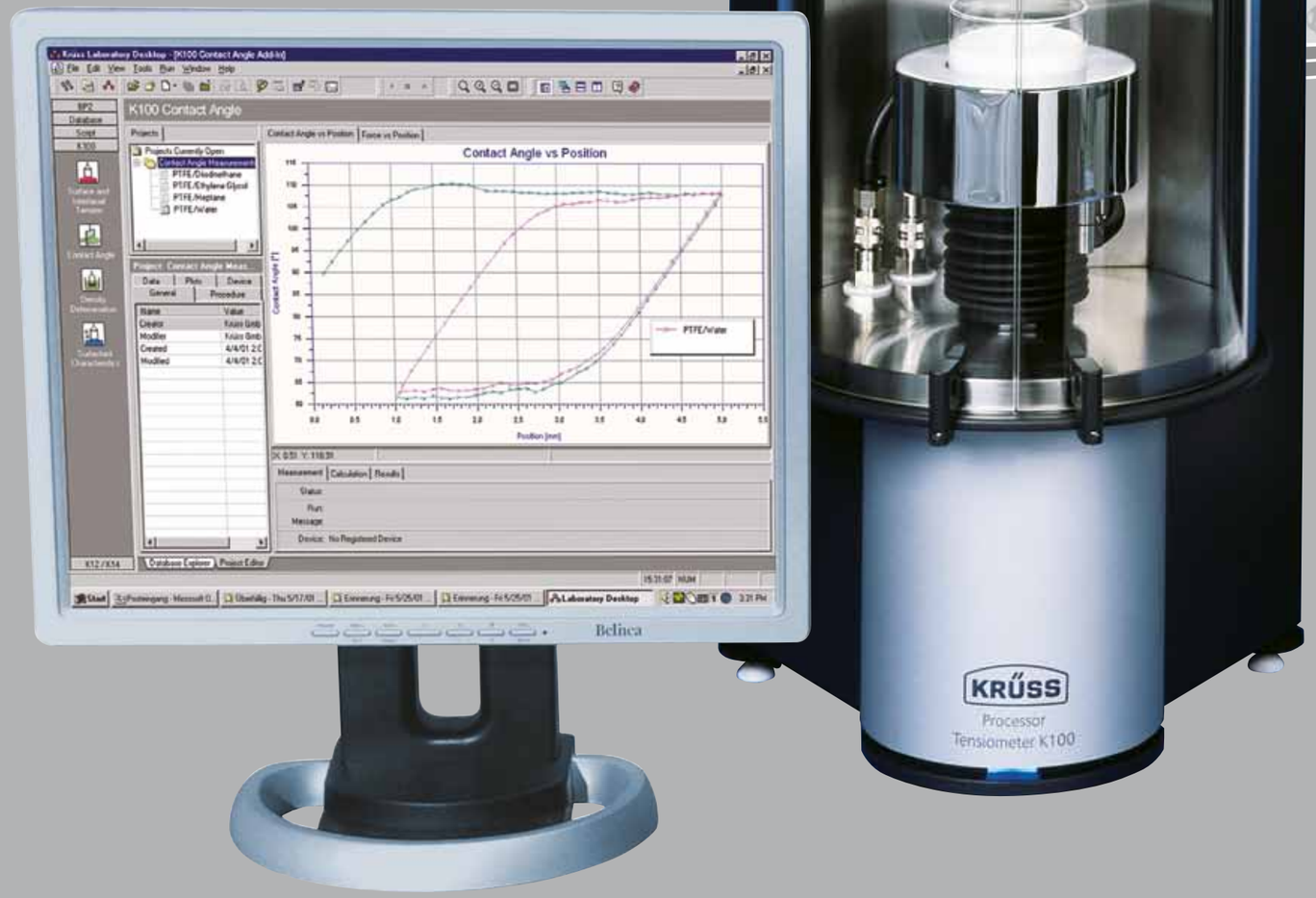
Precision in a new dimension: the PC-controlled measuring system **K100SF** determines the surface and interfacial tension of liquids and solids with the highest effectiveness and efficiency. The built-in ionizer ensures optimal measuring conditions. The high accuracy of the measuring instrument guarantees the exact characterization of the finest single filaments.

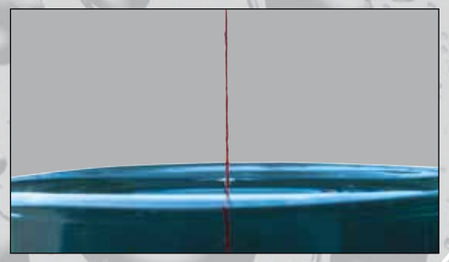
FEATURES

- Fully automatic measurement of contact angle and sorption, even on single filaments
- Surface energy determination on powders, small plates and single fibres
- Extended CMC determination with new innovative double dosing system
- Surface and interfacial tension measurements of liquids
- Determining the density of liquids
- Built-in ionizer for eliminating electrostatic charges
- Controlled by LabDesk™ software

APPLICATIONS

- Characterization of natural and synthetic fibres
- Development of carbon and glass fibres
- Optimization of hair care products
- Prediction of interactions between fibre and matrix





- Surface energy determination on single fibre and bundles of fibres

- Development of high-technology synthetic fibres

The Basic Version

Processor Tensiometer K100C

The **K100C** is limited to the essentials, without neglecting the quality. The **K100C** offers a wide range of measuring methods with high precision and simple handling.

Measuring and Analysis Software LabDesk™

All KRÜSS tensiometers of the **K100** series are controlled by the modularly constructed LabDesk™ software.

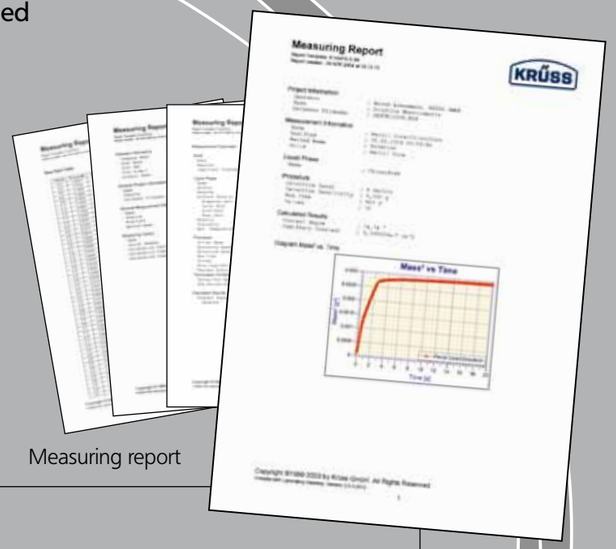
- The whole range of the available Add-Ins has a uniform user interface that guarantees the simplest operation of all KRÜSS tensiometers. Each Add-In contains one or more measuring methods. The advantage: different Add-Ins can be used in parallel to control several, even different instruments. In this way all the tensiometers from KRÜSS can be operated with the same user interface.

- Measuring programs can be stored separately so that the **K100** tensiometer can be rapidly set up for the routine procedures of day-to-day lab work.

- The established evaluation methods for the analysis of the measuring data, such as for calculating the CMC, the surface energy or the contact angle, are incorporated in LabDesk™.

- The graphical presentations are clearly arranged and can also be defined to be user-specific. For a quick and accurate overview of the measuring data.

- All raw data is available for carrying out a check or for using user-specific evaluation methods. Gapless documentation ensures GLP-conforming work.



Measuring report

THE DATABASES

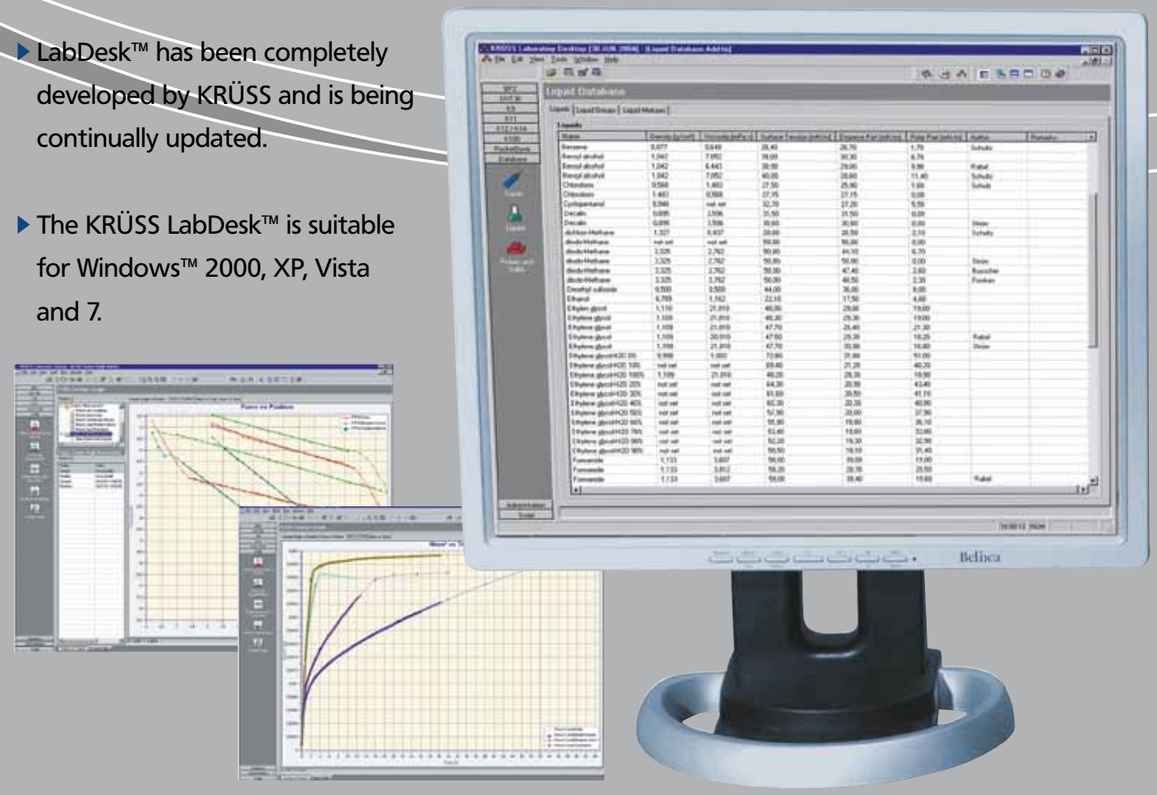
A comprehensive gas, liquid and solids database provides you with a large amount of substance data. This data can be entered into the corresponding input field for defining a new measurement with a mouse-click. Reference sources are given for each substance data, so that you, the user, can check the quality of the data yourself. All databases are editable, so that you can add further data records at any time.

- Export functions allow further processing of the measuring data and the incorporation of the diagrams in other software products.

- Measuring methods adapted to be customer-specific can be programmed.

- LabDesk™ has been completely developed by KRÜSS and is being continually updated.

- The KRÜSS LabDesk™ is suitable for Windows™ 2000, XP, Vista and 7.



The K100 Measuring Modules

The measuring modules always contain measuring methods from similar fields of application.

Contact Angle
Measuring the dynamic contact angle and the surface free energy on plates, disks, powders and pigments

Sedimentation and Penetration
Determining the sedimentation speed and sedimentation resistance of dispersions

Surface and Interfacial Tension
Surface and interfacial tension measurements by the ring, plate and rod methods

Surfactant Characteristics
CMC measurement with Dosimat control, for almost unlimited concentration ranges

Density Determination
Determining the density of liquids

Technical Data

K100SF

	K100SF
SFT/ IFT	
Range	1-1000 mN/m
Resolution	0.0001 mN/m
Position	
Range	>110 mm
Resolution	0.1 µm
Speed	0.09 … 500 mm/min
Weight Measurement	
Maximum Load	3 g + 3 g
Resolution	0.1 µg
Data Rate	~ 50 Hz
Calibration/Adjustment	automatic (int. weigh)
Temperature Control	
Range	-10 to 90 °C
Temperature	
Range	-60 ... 450 °C
Resolution	0.01 °C
Probes	2
Measuring Methods	
CMC (Single Dosimat)	•
CMC (Double Dosing System)	•
Modified Washburn Method	•
Single Fibre Contact Angle	•
Dynamic Wilhelmy Method	•
Wilhelmy Plate Method	•
Du Noüy Ring Method	•
Lenard Frame Method	–
Ring Method (small samples)	•
Plate Method (small samples)	•
Rod Method	•
Density	•
Sorption	•
Sedimentation	–
Sediment Resistance	–
Sample Vessel	50 mm, 70 mm, 100 mm inverse CMC
Housing	
Size (L x W x H)	390 x 300 x 585 mm
Weight	24 kg
Interface	
PC	RS232, USB (Adapter KA10)
Auxiliary Ports	2 x RS232
Ionizer	•
Power Supply	90-264 VAC, 40 W

Technical data are subject to change without notice.

Norms & Standards

K100 TENSIOMETER

During the programming of the LabDesk™ control and evaluation software great value has been placed on compliance with the GLP guidelines (Good Laboratory Practice). The report generated after a measurement meticulously protocols all the measurement parameters and analysis conditions. Together with its high degree of accuracy, the K100 tensiometer complies with the following Standards and Norms:

ASTM D 0971 – 91	Standard test method for interfacial tension of oil against water by the ring method
ASTM D 1331 – 56	Standard test method for surface and interfacial tension of solutions of surface active agents
ASTM D 1417 – 83	Standard method of testing rubber latices-synthetic
ASTM D 1590 – 60	Standard test method for surface tension of water
DIN 53593	Prüfung von Latex: Bestimmung der Oberflächenspannung
DIN 53914	Prüfung von Tensiden; Bestimmung der Oberflächenspannung
DIN EN 14210	Grenzflächenaktive Stoffe – Bestimmung der Grenzflächenspannung von grenzflächenaktiven Lösungen mittels Bügel- oder Ringverfahren
DIN 14272	Schaummittel: Wasserfilmbildende Schaummittel zur Erzeugung von Schwerschaum für Löschzwecke
ISO 1409 – 1995	Plastics/rubber – Polymer dispersions and rubber latices (natural and synthetic) – Determination of surface tension by the ring method
ISO 6295	Determination ofinterfacial tension of oil against water
ISO 6889	Surface active agents – Determination ofinterfacial tension by drawing up liquid films
Amtsblatt der EU L251/37 (1984)	Oberflächenspannung

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