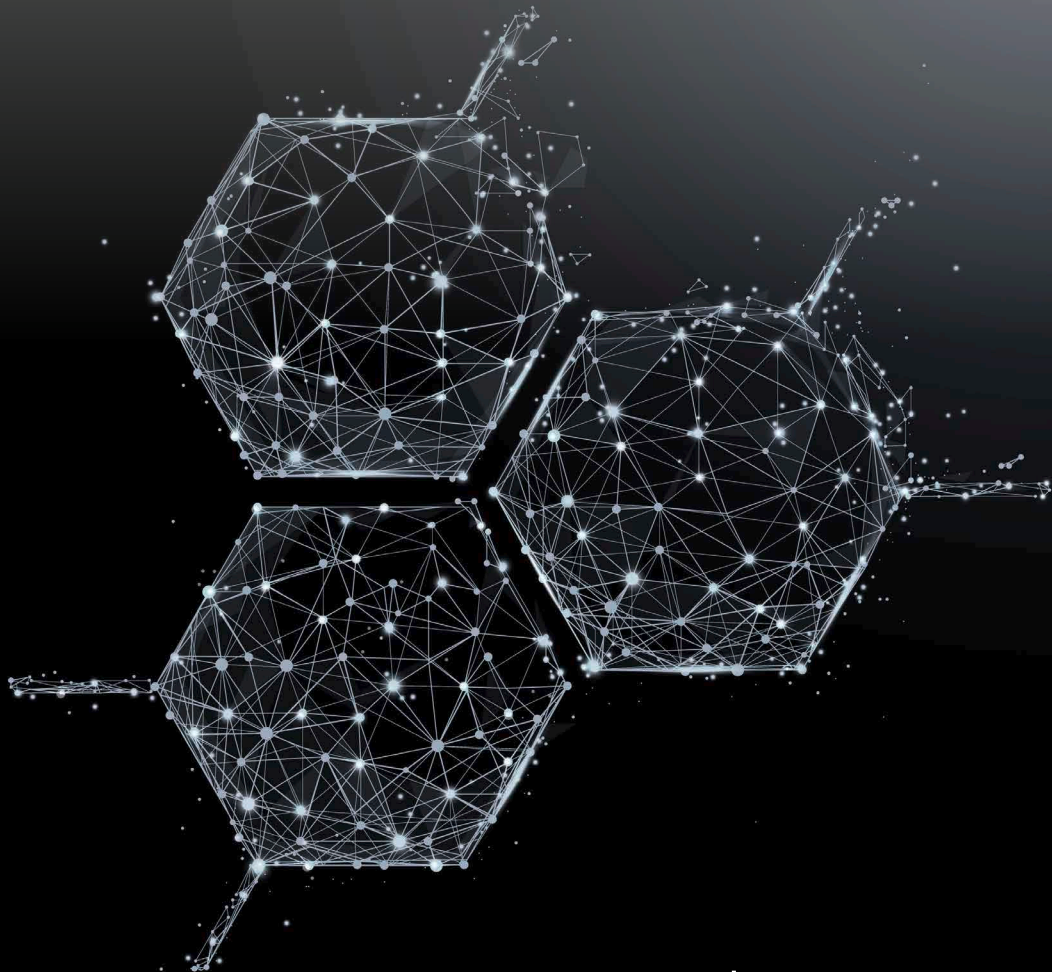


**Precise measuring instruments for
viscosity and surface science**

Product range 2023 / 2024

Version 2023-09-01

Tensiometer TD5



Precise data. Constant values.

TD5 the compact scientific instrument with perfect control and new methods

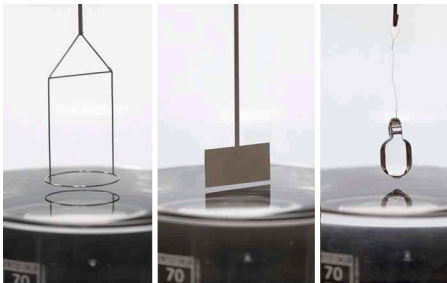
The Du Noüy-ring/Wilhelmy-plate method for the measurement of surface and interfacial tension in liquids is an established method for the characterization of surfactant solutions, oils and other liquids. With the TD5 and its powerful Surface.Meter software you have full control of the measurement as you see all raw data in real time. On top of this, the TD5 offers unique methods like the drop adhesion force measurements. The latter is of specific interest as it allows to directly measure the liquid-solid interactions. With this and other features the TD5 is one of the most compact research-grade tensiometer on the market.



Special Features:

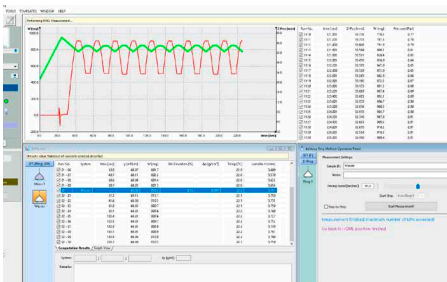
- || Extremely compact research tensiometer
- || Surface/Interfacial tension measurement with full control
- || Powerful Surface.Meter software
- || Advanced analytical methods like drop adhesion force tests

For research, quality control and product development



Measurement modes and options

- || Surface tension and interfacial tension measurements according to the respective norms
- || Surface and Interfacial tension measurements using the Pull-through method
- || Density measurement software and tool included
- || Drop adhesion measurements to determine solid liquid interactions
- || Micro-Penetration measurements optional
- || Internal and external calibration. External calibration weight included
- || Temperature range 5...80°C, optional temperature sensor available



Comprehensive Software with full control

- || Surface.Meter software for standard surface and interfacial tension measurements and drop-adhesion force measurements
- || Complete control over all parameters like weight and position
- || Easy data handling and export for all QC and research purposes
- || Integrated liquid database
- || Integrated calibration procedure with the option to use an external calibration weight
- || Sample area is protected by windshield and the sample spacers allow measurement of small sample volumes

Accurate temperature with TDJ 80 temperature control unit and LOOP

- || Low space requirement with convenient controls within the Surface.Meter software
- || Temperature-controlled measurements between 5 and 80 °C



Innovative drop-adhesion force measurement

- || Precise measurement of solid-solid and liquid-solid interactions
- || With the help of a cuvette various environmental phases are possible, allowing also the measurement of bubble-solid interactions
- || Precise measurement of solid-solid and liquid-solid interactions



Scope of supply:

- || TD5 automatic tensiometer, incl. Surface.Meter software
- || Measuring ring acc. to Du-Nouüy, 2-legged (Pt/Ir) (EZ 325)
- || Calibration weight 500 mg (EZ 033-1) and tweezers (EZ 034)
- || Density measurement set (UD 320)
- || Sample beakers, \varnothing 6 cm, 10 units (EG 011)

Technical features	TD5 (LMT 880)
Surface tension measuring range	0,75...2000 mN/m (ring) 0...999 mN/m (plate)
Surface tension resolution	0.01 mN/m
Density resolution	0.002 g/cm ³
Weighing system resolution	0.1 mg
Maximum Weight	210 gr
Table movement	Motor driven PC controlled (precision drive)
Ring correction	Automatic (acc. to Zuidema and Waters)
Temperature range with PTT+ TDJ 805	5...80 °C
Dimensions (WxDxH)	226x 189x 360 mm
Power consumption	15 W
Weight, net	11.3 kg

LMTZ936 Drop-adhesion force tool

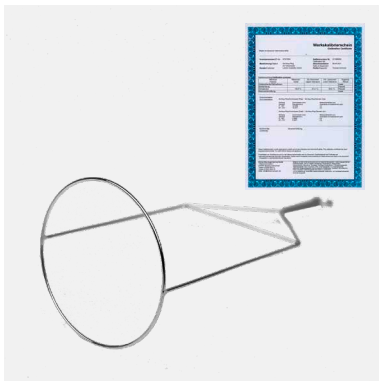
For the measurement of solid-solid and liquid-solid interactions
Consisting of:

- || Needle holder (LMTZS100)
- || LNE 23 (EZ 532), LNE 20 (EZ 529), LNE 18 (EZ 527)

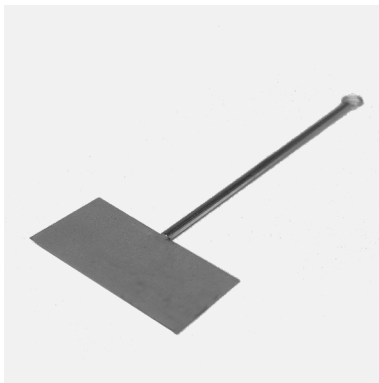
General accessories

- LMTZ934** Sample spacer L50, Height 32 mm
- LMTZ935** Sample spacer S50, Height 16 mm
- LMTZ937** Sample spacer L70, Height 25 mm
- LMTZ938** Sample spacer L80, Height 19 mm

Accessories for ring / plate tensiometers



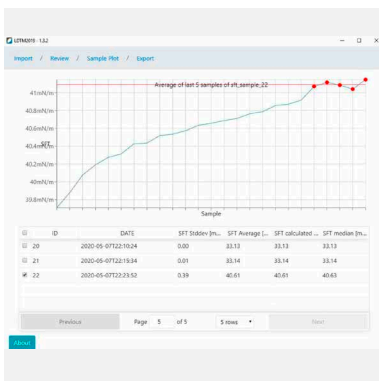
SDK 006
Certificate for measuring ring



EZ 324
Wilhelmy plate



LMTZ934



LDTM2019

Certified calibration

SDK 005 Calibration for tensiometers

Meas. method acc. to standard DAkkS-DKD-R 3-3, meas. range up to 2,5g, calibration certificate issued by an accredited testing laboratory

SDK 006 Certificate for measuring ring

Calibration certificate issued by an accredited testing laboratory (ring has to be ordered separately)

EZ 033-2 Calibration weight (500 mg) with DKD certificate

General accessories

EZ 325 Measuring ring 2-legged

According to Du Noüy (Pt/Ir), platinum, length 48 mm

EZ 326 Measuring ring 4-legged

According to Du Noüy (Pt/Ir), platinum, length 48 mm

EZ 324 Wilhelmy plate

Platinum, height 48 mm (incl. shaft)

EZ 033-1 Calibration weight (500 mg)

UD 320 Density measurement set

EG 004 Sample beakers

For density measurement, 50 ml, 10 units

EG 011 Sample beakers

ø6 cm, 10 units

EG 081 Sample beakers

ø7 cm, 10 units

EG 010 Sample beakers

ø8 cm, 10 units

EG 047-1 Double-walled glass thermostating vessel

For TD / TC tensiometers, height 30 mm

EZ 286 Bunsen burner

For cleaning ring and plate

Data output

LMC 820 Matrix printer

For data logging

EAZ 041 Print ribbon

Spare for matrix printer (LMC 820)

EAZ 035 Paper rolls

For matrix printer (LMC 820), 10 rolls

Software

LDTM2019 Data transfer software

For data export from a TC1 / TD4 to a PC (e.g. to Microsoft Excel)



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