SITA Lab Solutions

SITA *pro line t15+*

Allround Tensiometer for Analysis and Optimisation



SITA pro line t15+

Features

Versatile

- **Auto-Mode**
  Automatic measurements of the surfactant dynamic
- **Online-Mode**
  Continuous measurement of the surface tension
- **Single-Mode**
  Single measurement for up to 50 concentration curves

Precise

- Measures the surface tension using the SITA differential pressure method: independent of immersion depth
- Large bubble lifetime range: 15 ms (highly dynamic) to 30,000 ms (quasi-static)
- 150 measuring methods for repeatable measuring tasks



Flexible

- Patented and optimised capillaries for process use
- Comfortable case with stand for transport and device storage
- Battery capacity of min. 10 operating hours

Mobile

- Simple measurement at the touch of a button
- Mobile measurement without PC or laptop
- Data interface via USB

The SITA pro line t15+ efficiently supports analysing surfactant-containing liquids in the laboratory.

Measuring surface tension, analysing surfactants

Windows-Software SITA LabSolution

- Comfortable report function for creating measurement protocols and reports
- Intuitive operation
- User-defined sequences for recurrent measuring and controlling tasks (templates)
- Efficient preparation of experiment control sequences
- Automation of laboratory measurements and active ingredient analyses
- Controlling accessories for sample preparation and conditioning
- Measurement of temperature curves
- Simple generation of individual concentration curves



Applications

- Control of surface tension and surfactant concentration in industrial parts cleaning
- Monitoring of the wetting agent concentration in galvanic coating and etching processes
- Quality inspection of ink-jet inks as well as paints and varnishes
- Measuring surface tension on the line or in the laboratory
- Product development for cleaning, electroplating, inks, paints, etc.
- Analysis of the temperature behaviour of process chemicals

single online auto

Single-Mode

- Concentration quickly controlled
- Fast and reliable for control tasks
- Measures a value at defined parameters

Online-Mode

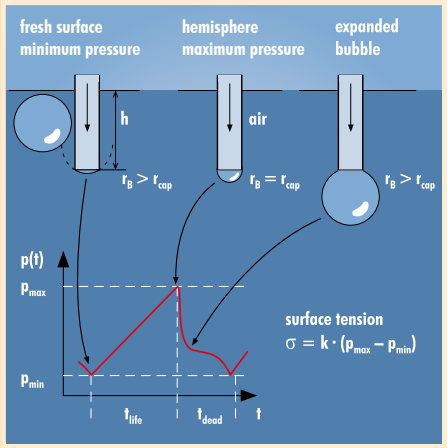
- Automatic continuous measurement over a period of time
- Continuous process monitoring
- Analysis of temperature influence

Auto-Mode

- Comfortable mode for R&D
- Automated scan of surfactant dynamics
- Characterisation of wetting behaviour

SITA *pro line t15+*

Measuring principle



Measuring the dynamic surface tension with the SITA bubble pressure method enables high precision and flexibility without a requirement for exact immersion depth. This is done by pumping air through a capillary into the liquid being analysed. The pressure within the bubble changes continuously with its radius. Therefore, the surface tension is calculated from the deviation between pressure maximum and minimum. A calibration is automatically carried out with water, establishing a known capillary radius for further calculation.

Technical data

Surface tension

Measuring range	(10...100) mN/m (dyn/cm)
Measuring deviation	max. 1% of full scale value
Resolution	0.1 mN/m
Reproducibility	0.5 mN/m

Bubble lifetime/surface age

Adjustable range	(15...30,000) ms
Measuring deviation	max. 1 ms
Resolution	1 ms
Control deviation	adjustable, 1 to 10 %

Liquid temperature

Measuring range	(0...100) °C
Measuring deviation	max. 0.5 %, adjustable
Resolution	0.1 °C
Reproducibility	0.3 K

Power supply

Mains adapter / USB	100...240 V / 5 V
Li-Ion Battery	3.6 V / 2,000 mAh min. 10 h operating time
Power consumption	2.5 W max.

General data

USB-interface	data transfer and device operation
Display	LCD, illuminated
Measuring methods	50 each for auto, online, singe
Memory	up to 1,000 memory spaces per measuring method
Acceptable ambient temperature (storage/operation)	(-20...50) °C / (10...40) °C
Measuring gas	Ambient air
Dimensions (HxWxD)	168 x 75 x 35 mm
Weight	270 g

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