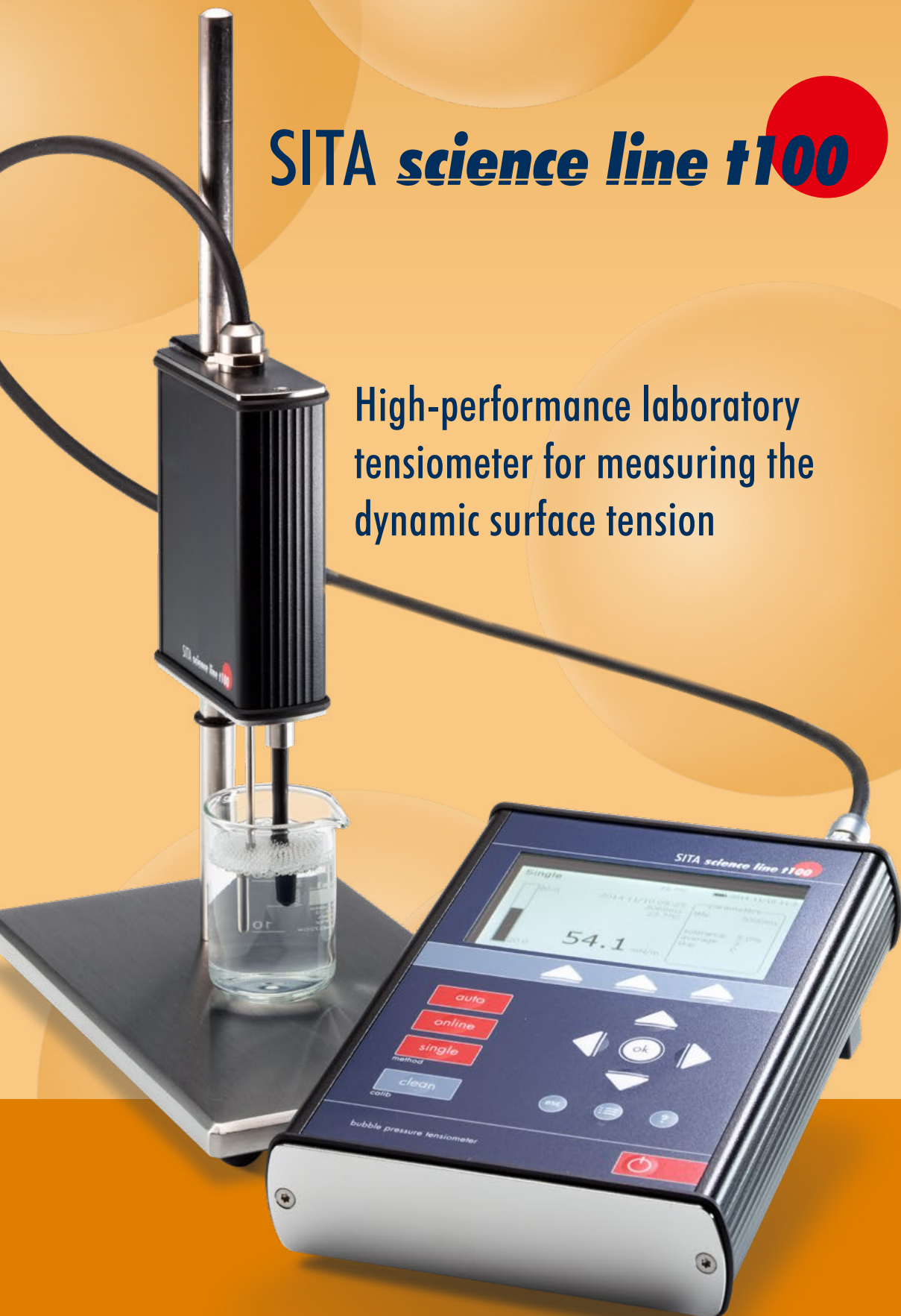


SITA

Lab Solutions

SITA *science line t100*

High-performance laboratory
tensiometer for measuring the
dynamic surface tension



SITA *science line* t100

High-performance laboratory tensiometer

Multifunctional

Auto-Mode – Measurements within an adjustable bubble lifetime range

- Evaluation of surfactant effects
- Analysis of surfactant kinetics

Online-Mode – Continuous measurement

- Measurement of temperature dependencies
- Analysis of aging behavior
- Evaluation of sample stability

Single-Mode – Single measurement

- Control and testing tasks
- Concentration measurements

Precise

- Measures the surface tension using the SITA differential pressure method – independent of immersion depth
- Large bubble lifetime range: 15 ms (highly dynamic) to 100,000 ms (quasi-static)
- Automatic calibration using water

Flexible

- Fast and easy device set-up
- Intuitive operation
- Portable and secure in storage case
- Battery operated



Optimized for R&D and quality control

Cleaner, wetting agents, inks, paints and coatings, lubricants, cosmetics

Measuring the surface tension, analysing surfactants

Windows-Software SITA-LabSolution

- Automation of laboratory measurements and active ingredient analyses
- User-defined sequences for recurrent measuring and controlling tasks (methods)
- Intuitive operation
- Efficient preparation of experiment control sequence
- Comfortable report function for creating measurement protocols and reports



- ✓ Analysis of surfactant kinetics in research & development
- ✓ Quality control through comparison with reference and limit values
- ✓ Automation of measuring and analysis tasks
- ✓ Large bubble lifetime range from highly dynamic to quasi-static
- ✓ Precise and flexible through innovative measuring method
- ✓ Robust, application-optimised capillaries

Laboratory automation

Controlling a wide range of accessories with the Windows-Software SITA-LabSolution for sample preparation and conditioning of automated measurements

- Analysis of active substances
- Determination of concentration curves
- Measurement of temperature curves
- Quality control with high throughput



Burette (fluid dosing unit)

Dosing of additives



Sampler

Automatic change of a large quantity of samples



Thermostat

Precise temperature control of samples by cooling and heating

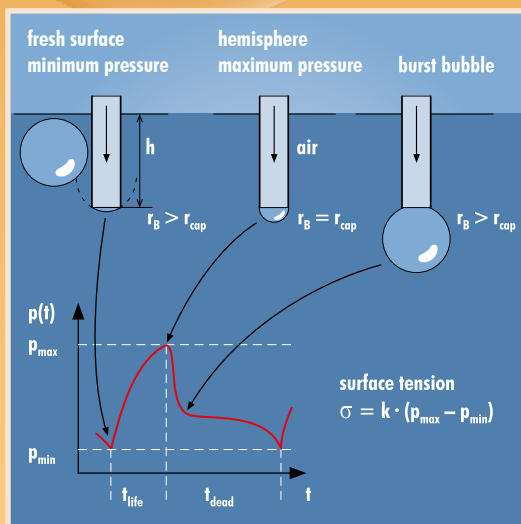


Magnetic stirrer, (heating) stirrer

Homogenisation and temperature control of samples

SITA science line t100

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 analyzed. 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...100,000) ms
Measuring deviation	max. 1 ms
Resolution	1 ms
Control deviation	adjustable

Liquid temperature

Measuring range	(-20...125) °C
Measuring deviation	max. 0.5 %, adjustable
Resolution	0.1 °C
Reproducibility	0.3 K

General data

Power supply	5 V/500 mA (USB), integrated battery
Acceptable ambient temperature (storage/operation)	(-20...50) °C/(10...40) °C

Measuring gas

Ambient air, depressurized alternatively: inert gases

Display

Colour LCD, illuminated

Storage

4 GByte, 64 methods

Dimensions (HxWxD)

Main unit: 200 x 140 x 60 mm³
Sensor: 200 x 35 x 90 mm³

Weight

1,870 g

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