

# SVT 15N Package

Spinning Drop Video Tensiometer



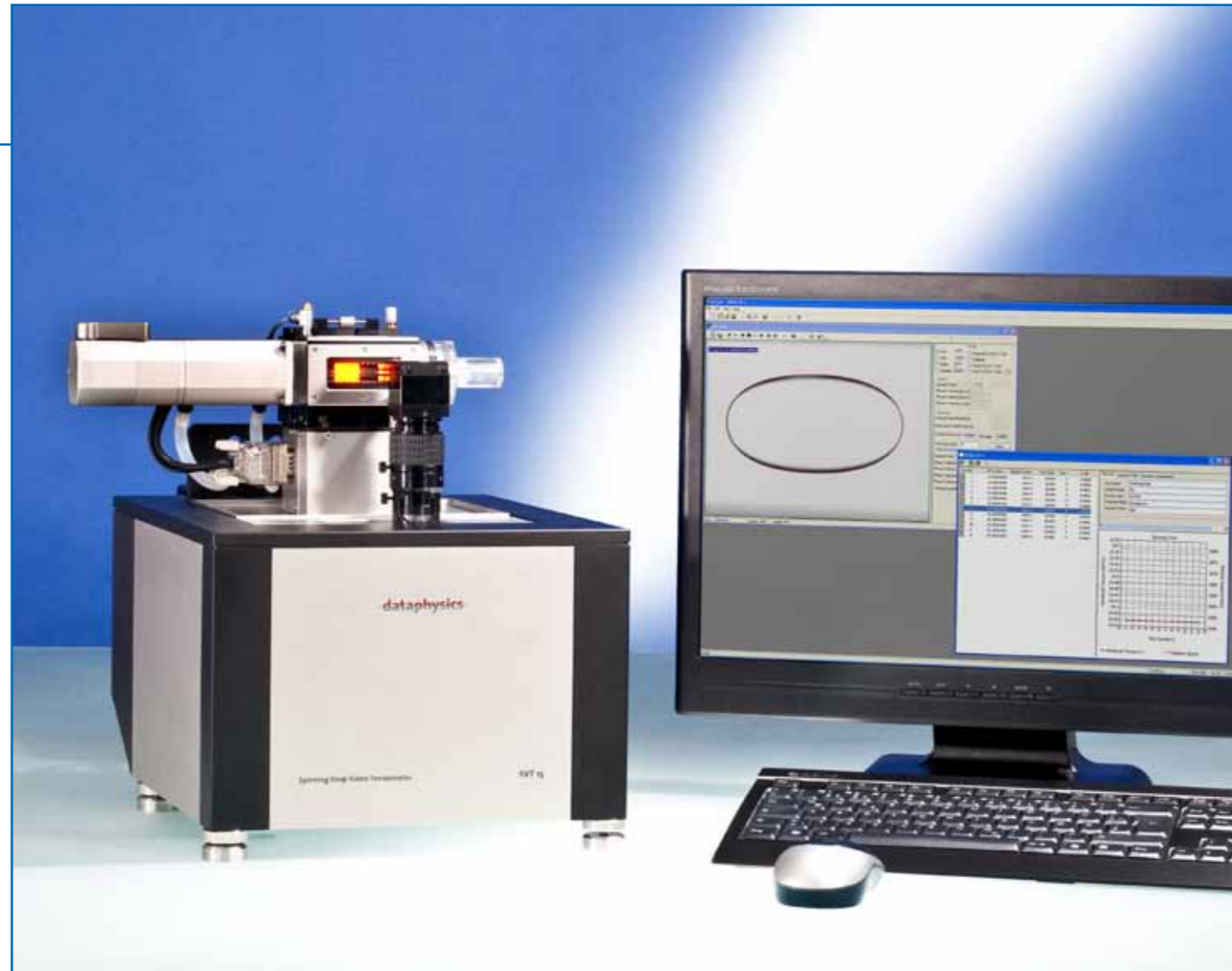


Calibration standard DCS-SVT

**Properties of the SVT 15N Package**

The **SVT 15N Package** comprises the SVT 15N base instrument, the innovative liquid/gas-temperature controlled measuring cell **MC-TFC 130**, a fast-exchangeable glass capillary **FEC 622/400-HT**, and the software **SVTS 20**.

The spinning drop video tensiometer **SVT 15N** is a special-purpose optical instrument for measuring of conventional to extremely low interfacial tensions. A high-precise optics, a fast image processing system, and an electronically commuted direct-drive combined with the very compact instrument design allows fast and precise results.



Spinning drop video tensiometer SVT 15N Package

**Standard components**

- high-performance 6-fold power zoom lens with an integrated continuous fine focus and adjustable observation angle
- video measuring system with USB-camera (max. 52 images/s sample rate)
- software-controlled electronic tilting base for the measuring cell
- LED lighting with software controlled adjustable intensity
- automatic calibration function
- innovative liquid/gas-temperature controlled measuring cell **MC-TFC 130**; temperature range -10 ... 130 °C
- fast-exchangeable glass capillary **FEC 622/400-HT**

**Optional accessories**

- fast-exchangeable glass capillaries **FEC 622/400-HT** (outer diameter 6.22 mm, inner diameter 4.0 mm, working length (optically) 50 mm)
- cost-effective, fast-exchangeable PMMA capillaries **FEC 780/400-PMMA** (outer diameter 7.80 mm, inner diameter 4.0 mm)
- Injection cap for fast exchange capillaries **IC-FEC**
- Set of silicone septum **IC-SE** for the injection cap IC-FEC
- dosing syringes **DS xx**
- dosing needles **SNS xx**
- calibration standards **DCS-SVT** made of polypropylene



Fast exchange capillary FEC 622/400-HT

**Software for control, measurement, analysis and presentation**

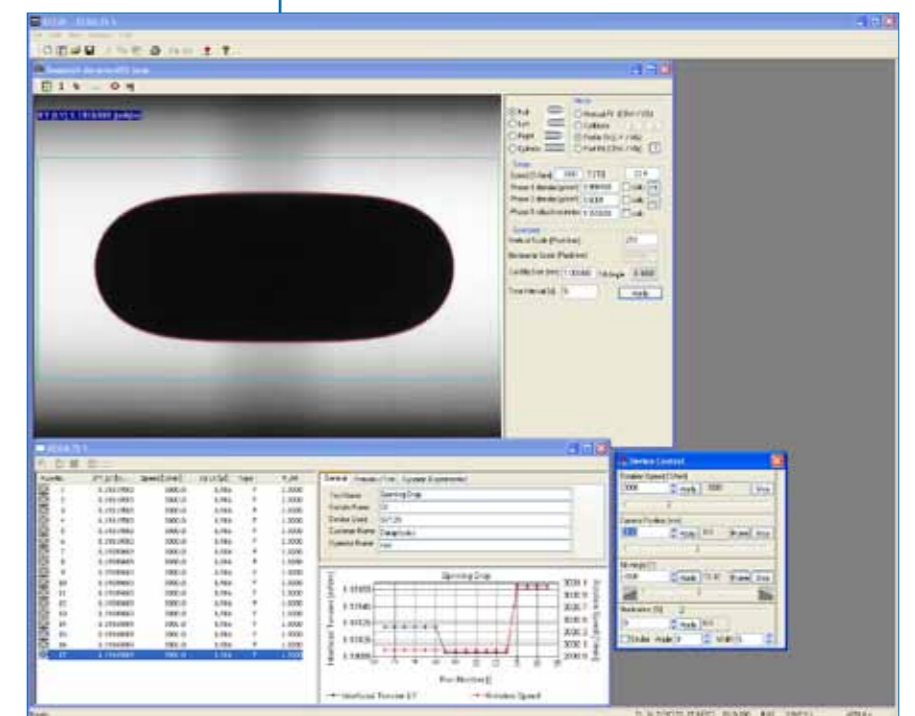
The **SVTS 20** software, developed for Windows® 7®/XP®, designed for intuitive control of the SVT 15N and the measurement of the interfacial tension.

- video based measurement and presentation of the time and temperature-dependent interfacial tension
- presentation and export of measurement values as well as the storage of video sequences for the calculation of fast processes
- control of the rotational speed, the inclination of the tilting base with the measuring cell and the camera position

- calculation of interfacial tension based on spinning drop contours according to various methods including the Young-Laplace method
- automatic calibration of the magnification of the drop
- automatic "drop hold" function
- automatic temperature recording
- automatic compensation of density and refractive index as well as of temperature dependent changes
- statistical evaluations and error analysis
- liquids database



Spinning drops in SVT 15N capillary



SVTS 20 — calculation of interfacial tension

## Technical data

Interfacial tension measuring range:	• $1 \cdot 10^{-6}$ ... $2 \cdot 10^3$ mN/m
Rotational-speed range:	• 0 ... 17 000 rpm
Rotational-speed resolution:	• $\pm 0.01$ rpm
Speed long term stability:	• $\pm 0.5$ rpm
Tilt angle of capillary block:	• $\pm 10^\circ$ , resolution $\pm 0.0023^\circ$
Optics:	<ul style="list-style-type: none"> <li>• 6-fold zoom lens (0.7 ... 4.5 magnification) with integrated continuous fine focus (<math>\pm 6</math> mm) and high light transmitting capacity</li> <li>• LED lighting with software controlled adjustable intensity</li> </ul>
Image processing system:	• USB-CCIR camera, max. pixel 768 x 576 resolution, max. sample rate 52 images/s,
Measuring methods:	• Spinning Drop Method
Diameter of fast exchange capillary:	<ul style="list-style-type: none"> <li>• outer 6.22 mm, inner 4.0 mm (FEC 622/400-HT)</li> <li>• outer 7.80 mm, inner 4.0 mm (FEC 780/400-PMMA)</li> </ul>
Measuring cell:	• liquid/gas-temperature controlled measuring cell MC-TFC 130 for -10 ... 130 °C heat up and cool down rate dependent on liquid circulator bath
Dimensions (L x W x H):	<ul style="list-style-type: none"> <li>• SVT 15N base unit: 420 x 290 x 370 mm</li> <li>• Power supply unit: 300 x 120 x 210 mm</li> </ul>
Weight:	<ul style="list-style-type: none"> <li>• SVT 15N base unit: 25 kg</li> <li>• Power supply unit: 10 kg</li> </ul>
Power supply:	• 100 ... 240 VAC; 50 ... 60 Hz; 450 VA

## Accessories

• liquid/gas-temperature controlled capillary chamber **MC-TFC 130** • fast-exchangeable high-temperature glass capillaries (up to 180 °C) **FEC 644/400-HT** • fast-exchangeable capillaries made of PMMA (up to 60 °C) **FEC 780/400-PMMA** • optical calibration standard **DCS-SVT** • dosing syringes **DS xx** • dosing needles **SNS xx** • refrigerated/heating circulators

**For more information about a tailor made solution to your surface chemistry requirements, please contact us.**  
**We will be pleased to provide a quotation, obligation free, for your instrument system.**

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