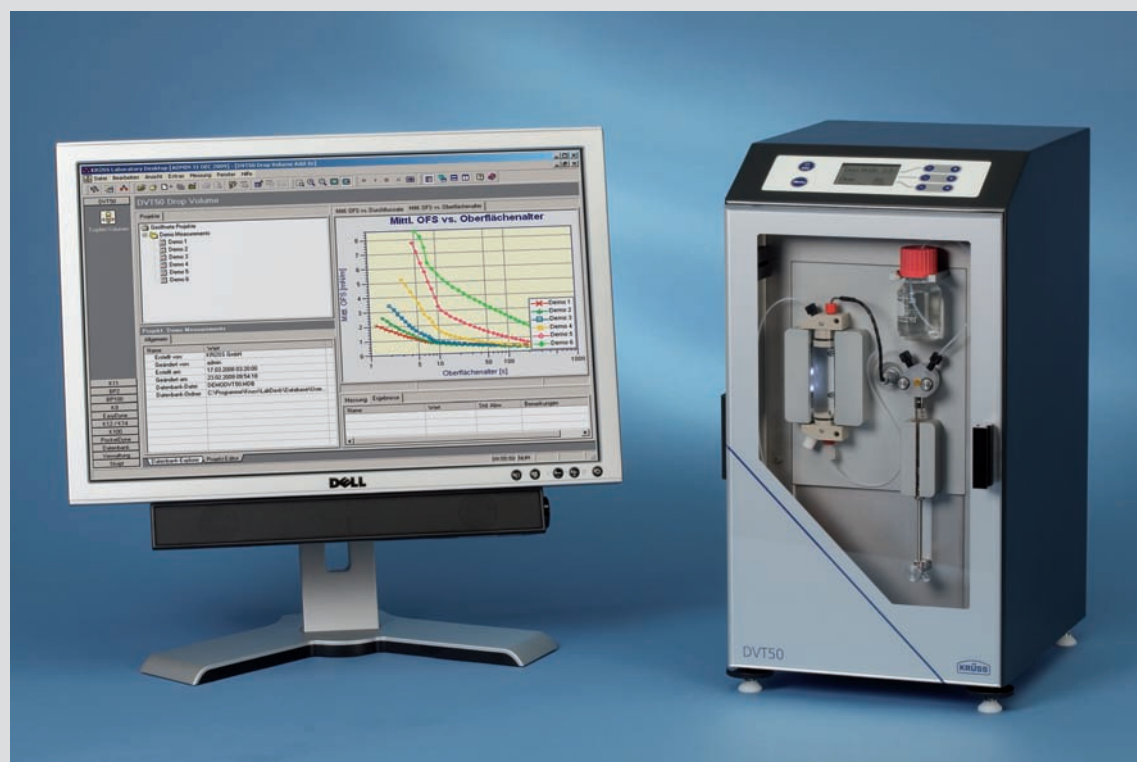




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# Drop Volume Tensiometer DVT50



The interfacial tension value is often a question of time and speed. The DVT50 measures the dynamic interfacial tension as a function of the interface age and provides important information about the adsorption kinetics of surface-active substances.

- **Measuring range from 0.1 to 100 mN/m**
- **Measurement of dynamic interfacial and surface tension**
- **Defined measuring conditions by thermostating both the dispensed phase and the surrounding phase**
- **Small sample amounts of the dispensed phase**
- **Rapid sample exchange thanks to simple filling and cleaning procedures**
- **High reproducibility thanks to fully automated measuring procedure**



## Solutions for a lot of applications

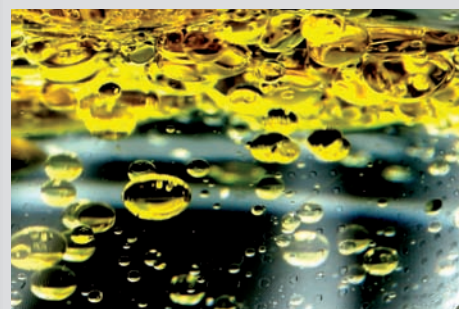
Whether pumping, stirring or flooding - oil-water interfaces are always in motion. This is why speed is important: an effective surfactant in static tests may be unsuitable for technical use if it is too slow. A concentration that is adequate for stationary interfaces may turn out to be too low under dynamic conditions.



- **Emulsification in the pharmaceutical and cosmetic industries**
- **Food manufacture**
- **Cleaning**
- **Oil production**
- **Surfactant formulation**
- **Purity testing of hydrophobic liquids**
- **Solvent-free degreasing**

The DVT50 is a speedometer for surfactants. It approaches dynamic process conditions and measures the interfacial tension as a function of the interface age.

The DVT50 can also be used wherever surfactants interfere because even trace impurities are visible in the measuring curve.

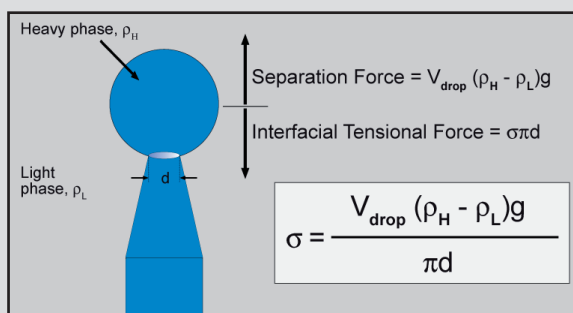


## Technology with a lot of ideas

A drop that is dispensed through a capillary into a surrounding phase is initially held at the tip due to interfacial tension. It is only released when, at a certain drop volume, the buoyancy or weight compensates for the interfacial tension.

The DVT50 detects the release of each drop and determines the volume that passes between two detector signals.


The time difference between two drops corresponds to the interface age. By varying the drop phase flow rate, a plot of interfacial tension against interface age can be obtained.



Force equilibrium at the capillary tip





Technical data		DVT50	
			
<b>Dynamic SFT / IFT</b>			
Measuring range		0.1 to 100 mN/m	
Resolution		0.001 mN/m	
Reproducibility (Rel. SD at 45 mN/m)		< 0.2 %	
<b>Syringe Drive</b>			
Flow rate (with 500 µl syringe)		0.27 to 660 µl/min	
Resolution		0.1 µm	
Automatic Refill		Yes	
<b>Temperature Control</b>			
Temperature range		-10 to 90 °C	
Components under control		Cell, Syringe, Reservoir	
<b>Housing</b>			
Size (L×W×H)		280×240×455 mm	
Weight		13 kg	
<b>Power</b>			
Power supply		12 V DC, 100 to 240 V AC (47 to 63 Hz)	
Power consumption		Typical 6 W, max. 10 W	
<b>Interfaces</b>			
PC		USB, RS232	
Auxiliary		RS232	

## Measuring methods

- Surface tension
- Interfacial tension (rising drops)
- Interfacial tension (falling drops)

## Standards

- ISO 9101
- ASTM D2285
- UNE 55840:1989-11-21
- GOST R 50097

## Accessories

- Temperature probe for measurement of surrounding temperature
- Various dosing cylinder
- Various capillaries
- Various thermostats

Technical specifications are subject to change without notice.



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