

Top View Analyzer TVA100B



Instrument for measurements in depressions and on concave surfaces

The Top View Analyzer – TVA100B is the only instrument in the world to use the top view distance method for measuring the contact angle of a liquid on a solid from above. The innovative measuring method is particularly suitable for measurements in depressions and on concave surfaces where drops cannot be analyzed using the conventional side view.

Tasks and applications

- Measurements in depressions of well plates
- Measurement between electronic components on populated boards
- Measurement on concave optical lenses
- Surface investigations for the interior of tubes and hoses

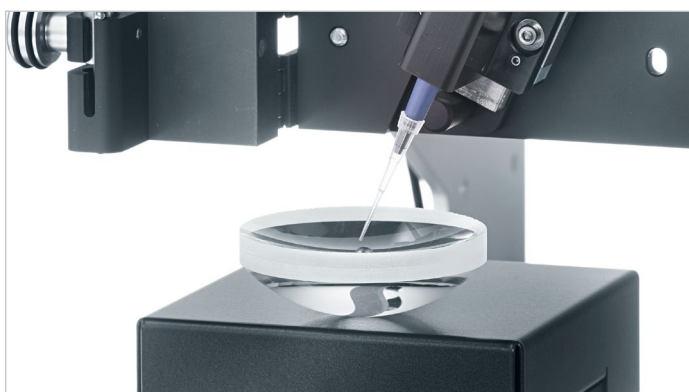
Measuring methods and options

- Measuring the contact angle using our top view distance method
- Special contact angle method for measuring in recesses
- Surface free energy from contact angles of several test liquids using all common models
- Particularly good resolution in the range of small contact angles
- Available as stand-alone instrument or as a measuring head module for DSA100, DSA30, or DSA25
- Easy measurements in patterns such as well plates

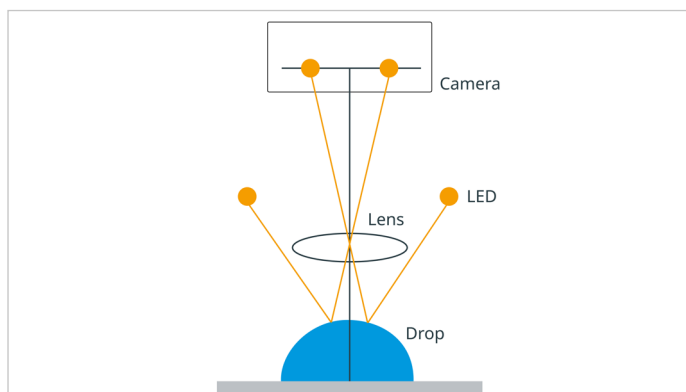
Our exclusive top view distance method: how it works

With the top view distance method, the curvature of the surface of a drop, which correlates with the contact angle, is determined from the distance of reflected light spots in a video image. These light spots originate from LEDs, which are arranged above the drop.

Calculating the contact angle only requires variables which are determined by the setup: the working distance, the distance of the LEDs from one another, the optical enlargement, and the dosed drop volume.



Measuring on a concave surface



Principle of the top view distance method

Quality components for accurate measurements

The TVA100B is equipped with high-quality optics and a high-resolution camera for the exact measurement of the point distances. The volume of the drop is dosed with the same precision. Quick changes of the liquid allow for the surface free energy of the sample to be determined.

Specifications

Camera system

Connection	USB 3.0
Performance	CF04: 2.3 Mpix, up to 2300 fps

Optics

Zoom	6.5× zoom, manual
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Illumination

Type	LED, adjustable
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Dosing system

Dosing	electronic pipette for precise drop generation
Resolution	0.01 μL
Minimum drop volume	0.2 μL
Capacity	10 μL

Contact angle

Range	3.5° to 75°
Accuracy	$\pm 0.1^\circ$ (3.5° to 23°) $\pm 1^\circ$ (23° to 75°)