

Drop Shape Analyzer DSA100M



The precision contact angle measuring instrument for microscopically small samples

Using precise microscope optics and a high-resolution, high-speed camera, the special micro configuration of our versatile DSA100 system solution is well-prepared for analyzing wetting for the smallest samples. The instrument enables drops in the picoliter range to be accurately dosed, which is additionally supported by separate observation optics for accurate positioning. The shape of the droplets is analyzed in order to measure the contact angle precisely. The DSA100M helps you to optimize wetting and coating processes on very small surfaces such as hair or on microchip contacts.

Tasks and applications

- Wettability measurement on small electronic parts
- Contact angle on hair and synthetic single fibers
- Investigating biocompatibility of dental implants
- Wetting of nozzles of an inkjet print head

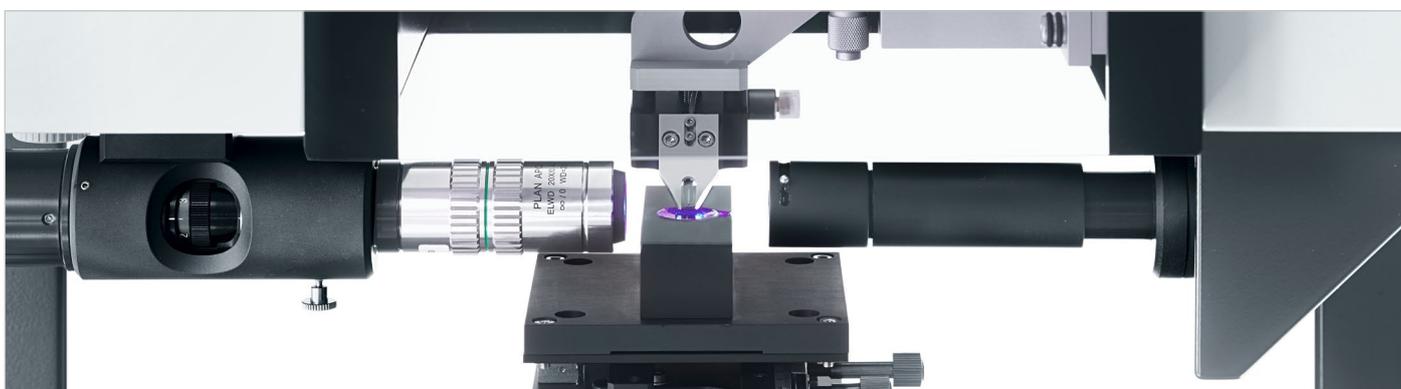
Measuring methods and options

- Contact angle between a liquid and a solid
- Surface free energy from contact angles of two test liquids using all common models
- Static contact angle, advancing angle

Perfectly equipped for microdrop analysis

The available dosing units for 20 or 60 picoliter minimum volume dispense microscopically small drops of test liquid onto the sample. The fine positioning of the dosing unit and the sample allows precise placement of the drops. This step is particularly easy with the included observation optics which shows the sample in a second camera image.

Working with two test liquids also enables the surface free energy to be calculated. This result provides important information for the adhesion, e.g. of fiber coatings.



Dosing and analyzing picoliter drops with DSA100M

Providing optimum image quality for precise analyses

Thanks to the high-quality microscopic lens and powerful illumination, the DSA100M has high image quality that enables reliable measurement results from image analysis. With the help of the instrument's high-speed camera, even ultra-small, rapidly evaporating drops can be easily analyzed.

Specifications

Camera system		Dosing system	
Performance	CF04: 2.3 Mpix, up to 2300 fps CF10: 5.3 Mpix, up to 3450 fps	Dosing	software-controlled
		Resolution	fixed
Optics		Contact angle	
Zoom	6.5× microscope zoom, manual	Range	0 to 180°
		Resolution	0.01°
Illumination			
Type	high power monochromatic LED		