

Drop Shape Analyzer DSA30M



Precise wettability analysis on extremely small surfaces

The Micro configuration of our DSA30 was specially designed to investigate the contact angle on surfaces which require very small drops for analyzing them. The DSA30M solves this task with a picoliter dosing system and powerful microscope optics. The result is a versatile instrument that provides precise contact angle and surface free energy results for samples such as hairs or the screw windings of dental implants.

Tasks and applications

- Wettability measurement on small electronic parts
- Contact angle on hair and synthetic single fibers
- Investigating the biocompatibility of dental implants
- Micromechanical components, e.g. in watches

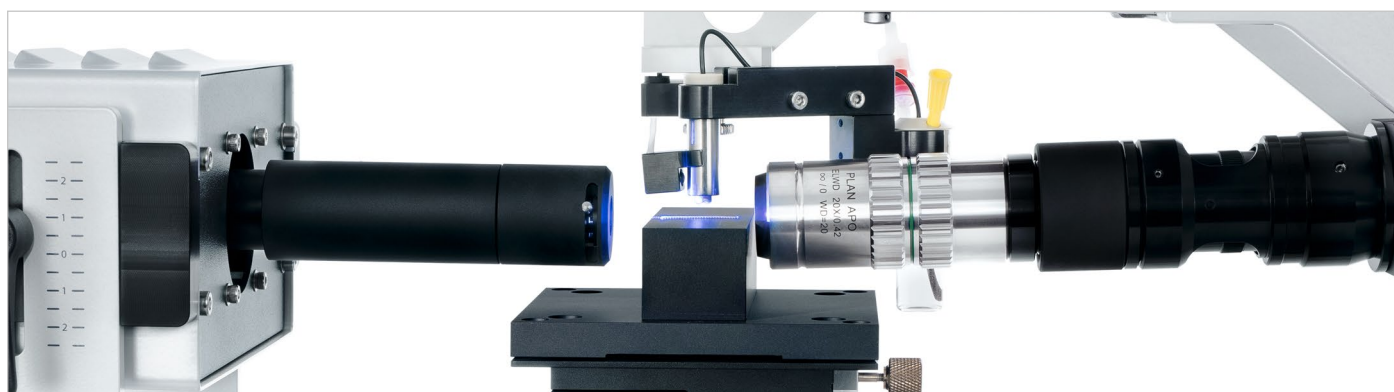
Measuring methods and options

- 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. The dosing unit for 20 picoliters can also be heated.

The standard equipment for water dosing can be expanded to include modules for diiodomethane and glycerine in order to determine the surface free energy with contact angles of two or three liquids. Together with other evaluation options, this result provides important information for adhesion, e.g. of fiber coatings.



Dosing and analyzing picoliter drops with DSA30M

Providing optimum image quality for precise analyses

Thanks to the high-quality microscopic lens and powerful illumination, the DSA30M 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 or absorbed droplets 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
		Minimum drop volume	20 pL
Optics		Contact angle	
Zoom	6.5× microscope zoom, manual	Range	0 to 180°
		Resolution	0.01°
Illumination			
Type	high power monochromatic LED		