

Drop Shape Analyzer

DSA30M Flexible Liquid

Specifications



Product group specifications

DSA30M Flexible Liquid

Camera system CF04 (standard)

Connection	USB 3.0
Resolution	1920 × 1200 px
Frame rate	2300 fps
Dark noise	7 electrons
Dynamic range	73 dB

High speed camera system CF06 (optional)

Connection	USB 3.0
Resolution	640 × 480 px
Frame rate	3400 fps
Dark noise	10.5 electrons
Dynamic range	56.6 dB

Optics

Focus	manual
Zoom	6.5 × zoom, manual & 20× zoom micro optics
View angle	±3°
Field of view	with CF04: 3.2 × 3.2 to 18.5 × 18.5 mm with CF06: 1.4 × 1.0 to 8.1 × 6 mm
Resolution	with CF04: 2.5 to 16.2 μm with CF06: 2.1 to 13.3 μm

Observation optics (optional)

Field of view	with CF04: 2.3 mm × 2.3 mm
Resolution	with CF04: 2 μm

Illumination

Type	high power monochromatic LED with integrated strobe light
Wave length, dominant	460 nm
Field of light	Ø 12 mm

Product group specifications
DSA30M Flexible Liquid
Dosing system

Dosing	software-controlled		
Reservoir, volume	150 µL		
Minimum drop volume	10 µL		
Speed of dosed drop	depends on the viscosity of the liquid		

Stages

Control	manual		
Length	30 mm	50 mm	45 mm
Resolution	20 mm/turn	4 mm/turn	16 mm/turn

Software

ADVANCE	contact angle surface free energy of solids		
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Software languages

Chinese (simplified), English, French, German, Japanese, Korean, Portuguese, Russian, Spanish

Measurement specifications
DSA30M Flexible Liquid
Sessile drop

Result	contact angle		
Range (software-based)	0 to 180°		
Resolution (software-based)	0.01°		
Accuracy (instrument-based)	0.3°		
Models	conic section, polynomial, circle, Young-Laplace, height-width		
Types	static, dynamic		

Surface free energy of solids (optional)

Result	surface free energy, polar & disperse part, acid & base part, H-bond part		
Models	equation of state, Zisman, Fowkes, Wu, Owens-Wendt-Rabel-Kaelble, extended Fowkes, acid-base theory		

General specifications
DSA30M Flexible Liquid
Sample dimensions

Maximum sample space	320 mm × ∞ × 275 mm (W × D × H without axes)		
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Temperature control (optional)

Equipment	temperature-controlled sample stage		
Type	liquid		
Range	-10 to 130 °C		
Temperature-controlled area	26 mm × 90 mm (W × D)		
Resolution	0.1 °C		
Flow-through thermostat	with liquid		

Temperature measurement (optional)

Range	-50 to 400 °C		
Resolution	0.1 °C		
Precision	0.1 °C		
Accuracy	1/3 DIN B (±0.1 °C at 0 °C to ±0.8 °C at 400 °C)		
External sensor	2 connectors (PT100)		
Locations	sample stage		

Housing and peripherals

Levelling	yes		
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General specifications
DSA30M Flexible Liquid
Environment

Operating temperature	10 to 40 °C
Humidity	without condensation

Instrument dimensions

Footprint	610 mm × 250 mm (W × D)
Height	610 mm
Weight (without accessories)	10 kg

Power supply

Voltage (AC)	88 to 264 V
Power consumption	100 W
Frequency	50 to 60 Hz

Interfaces

PC	USB 3.0
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