

Drop Shape Analyzer

DSA30M

Specifications



Product group specifications

DSA30M

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
Wave length, dominant	460 nm
Field of light	Ø 12 mm

Product group specifications
DSA30M
Dosing system

Dosing	software-controlled		
Reservoir, volume	4mL		
Minimum drop volume	20 pL		
Speed of dosed drop	2 m/s		

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
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
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
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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