

DROP SHAPE ANALYZER – DSA30M

SPECIFICATIONS



Product group specifications
DSA30M
Camera system

Connection	USB 3.0
Performance	CF03: 150 fps at 1200 × 1200 px 500 fps at 1200 × 350 px 800 fps at 1200 × 200 px 2000 fps at 1200 × 60 px
	CF06 ¹⁾ : up to 3400 fps at 640 × 50 px
Dark noise	CF03: 7 electrons CF06: 10.5 electrons
Dynamic range	CF03: 73 dB CF06: 56.6 dB

Optics

Focus	fixed focus
Zoom	6.5× microscope zoom, manual
View angle	2°
Field of view	CF03: 0.2 mm × 0.2 mm to 0.9 mm × 0.9 mm (7× to 45×) CF06 ¹⁾ : 0.1 mm × 0.1 mm to 0.4 mm × 0.3 mm (7× to 45×)
Resolution	CF03: 0.1 to 0.8 μm CF06 ¹⁾ : 0.1 to 0.7 μm

Observation optics

Field of view	CF03: 2.3 mm × 2.3 mm
Resolution	CF03: 2 μm

Illumination

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

Dosing system

Dosing	software-controlled
Syringes, volume	4 mL
Resolution	fixed
Speed of dosed drop	2 m/s

Stages	x-axis	y-axis	z-axis
Control		manual	
Length	30 mm	50 mm	38 mm
Resolution	20 mm/turn	4 mm/turn	16 mm/turn

Software

ADVANCE	contact angle surface free energy of solids
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¹⁾ optional

Measurement specifications

DSA30M

Sessile drop/captive bubble

Result	contact angle
Range ²⁾	0 to 180°
Resolution ²⁾	0.01°
Accuracy ³⁾	0.3°
Model	conic section, polynom, circle, Young-Laplace, height-width
Type ⁴⁾	static, dynamic

Surface free energy of solids ¹⁾

Result	surface free energy
Model	equation of states, Zisman, Fowkes, Wu, Owens-Wendt-Rabel-Kaelble, extended Fowkes, acid-base theory

²⁾ software-based³⁾ instrument-based⁴⁾ additional accessories may be required

General specifications

DSA30M

Sample dimensions

Maximum sample space ⁵⁾ 320 mm × ∞ × 275 mm (W × D × H)

Temperature control

Device temperature-controlled sample stage
Type liquid
Range -10 to 130 °C ⁶⁾
Tempered area 26 mm × 90 mm (W × D)
Resolution 0.1 K
External circulator with liquid

Temperature measurement

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) ⁷⁾
Location sample stage, chamber, cuvette

Housing and peripherals

Compartment test liquids protected against light
Control keyboard PC keyboard for ADVANCE software operation available (KB20)
Levelling yes

Environment

Temperature operating: 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

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

Interfaces

PC USB 3.0

⁵⁾ without axes

⁶⁾ with Tempering Chamber – TC3240

⁷⁾ retrofittable