

# 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
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/CF04C (color): 2.3 mm × 2.3 mm
Resolution	with CF04/CF04C (color): 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		
Syringes, volume	4 mL		
Resolution	fixed		
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		
---------	--	--	--

**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)
----------------------	--

**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
-----------	-----

**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
----	---------