

Drop Shape Analyzer

DSA30R

Specifications



Product group specifications

DSA30R

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 to 8.1 × 6 mm
Resolution	with CF04 : 2.5 to 16.2 μm with CF06 : 2.1 to 13.3 μm

Illumination

Type	high power monochromatic LED
Wave length, dominant	470 nm
Field of light	Ø 42 mm

Product group specifications
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Dosing system

Control	software-controlled
Drop deposition	manual
Syringes (volume)	glass (450 μ L)
Resolution	0.1 μ L with provided syringe
Speed	10 to 900 μ L/min with provided syringe
Maximum volume variation	2.5 μ L
Viscosity range	max. 5000 mPas with NE45 needle, max. 10 mPas with NE44 needle
Frequency	0.001 to 30 Hz

Stages

z-axis

Control	manual
Height	45 mm
Resolution	16.4 mm/turn

Software

ADVANCE	interfacial and surface tension (IFT/SFT, pendant and rising drop)
	interfacial rheology
	IFT/SFT (Constrained Sessile Drop, optional)

Measurement specifications
DSA30R
Pendant drop/rising drop

Results	interfacial and surface tension
Range (software-based)	0.01 to 2000 mN/m
Resolution (software-based)	0.01 mN/m
Precision (instrument-based)	0.2 mN/m
Model	Young-Laplace
Types	static, dynamic

Oscillating drop

Results	E, E', E'', phase shift
Programmable wave forms	sine
Model	Lucassen

General specifications
DSA30R
Temperature control

Equipment	temperature-controlled syringe, chambers, cuvette
Type	liquid
Range	-10 to 70 °C
Resolution	0.1 °C
Flow-through thermostat	with liquid

Temperature measurement

Range	-10 to 70 °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	syringe, chamber, cuvette

Housing and peripherals

Levelling	yes
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Environment

Operating temperature	10 to 40 °C
Humidity	without condensation

Instrument dimensions

Footprint	610 mm × 250 mm (W × D)
Height	750 mm
Weight (without accessories)	13 kg

Power supply

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

Interfaces

PC	USB 2.0 or 3.0
Camera	USB 3.0
Oscillating Drop Module – ODM	USB 2.0 or 3.0