



# Drop Shape Analyzer – DSA30R

Specifications



**Product group specifications****DSA30R**

<b>Camera system</b>	
Connection	USB 3.0
Resolution	CF04: 1920 x 1200 px CF06 <sup>1)</sup> : 640 x 480 px
Frame rate	CF04: 2300 fps CF06: 3400 fps
Dark noise	CF04: 7 electrons CF06: 10.5 electrons
Dynamic range	CF04: 73 dB CF06: 56.6 dB
<b>Optics</b>	
Focus	manual
Zoom	6.5× zoom, manual
View angle	±3°
Field of view	CF04: 3.2 mm × 3.2 mm to 18.5 mm × 18.5 mm CF06 <sup>1)</sup> : 1.4 mm × 1 mm to 8.1 mm × 6 mm
Resolution	CF04: 2.5 to 16.2 μm CF06 <sup>1)</sup> : 2.1 to 13.3 μm
<b>Illumination</b>	
Type	high power monochromatic LED
Wave length, dominant	470 nm
Field of light	Ø 42 mm
<b>Dosing system</b>	
Dosing	software-controlled
Drop deposition	manual
Syringes (volume)	glass (450 μL)
Resolution	0.1 μL with SY70
Speed	10 to 900 μL/min with SY70
Maximum volume variation	2.5 μL
Viscosity range	max. 5000 mPas with NE45, max. 10 mPas with NE44
Frequency	0.001 to 30 Hz
<b>Stages</b>	
Control	manual
Height	45 mm
Resolution	16.4 mm/turn
<b>Software</b>	
ADVANCE	interfacial and surface tension of liquids rheology

<sup>1)</sup> optional

**General specifications****DSA30R****Sample dimensions**

Maximum sample space <sup>4)</sup> 320 mm × ∞ × 275 mm (W × D × H)

**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) <sup>5)</sup>

Locations syringe, chamber, cuvette

**Housing and peripherals**

Control keyboard	PC keyboard for ADVANCE software operation available (KB20)
Levelling	yes

**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	88 to 264 VAC
Power consumption	100 W
Frequency	50 to 60 Hz

**Interfaces**

PC	USB / RS232
Camera	USB 3.0
Oscillating Drop Module – ODM	USB

<sup>4)</sup> without axes

<sup>5)</sup> retrofittable

**Measurement specifications****DSA30R****Pendant drop/Rising drop**

Results	interfacial and surface tension
Range <sup>2)</sup>	0.01 to 2000 mN/m
Resolution <sup>2)</sup>	0.01 mN/m
Precision <sup>3)</sup>	0.2 mN/m
Model	Young-Laplace
Types	static, dynamic

**Oscillating drop**

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

<sup>2)</sup> software-based

<sup>3)</sup> instrument-based

