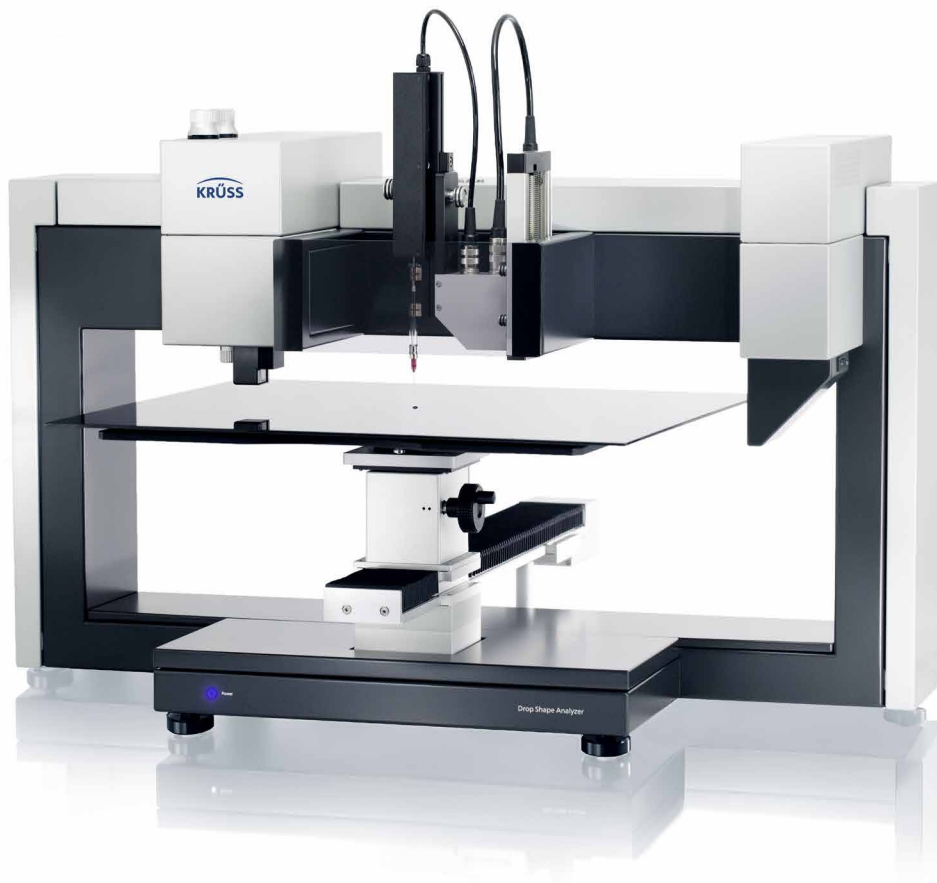


# DROP SHAPE ANALYZER – DSA100L

## SPECIFICATIONS



**KRÜSS**

Advancing your Surface Science

**Product group specifications**
**DSA100L**
**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 <sup>1)</sup> : 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	manual
Zoom	7× zoom, manual
View angle	±4°
Field of view	CF03: 3.9 mm × 3.9 mm to 24.7 mm × 24.7 mm CF06 <sup>1)</sup> : 1.7 mm × 1.3 mm to 10.8 mm × 8.1 mm
Resolution	CF03: 3.1 to 21.7 μm CF06 <sup>1)</sup> : 2.5 to 17.8 μm

**Illumination**

Type	high power monochromatic LED
Wave length, dominant	470 nm
Field of light	46 mm × 46 mm (D × H)

**Dosing system**

Dosing	software-controlled
Drop deposition	software-controlled
Syringes, volume	glass (450 μL), disposable (900 μL)
Resolution	0.1 μL with glass syringe
Speed	10 to 1400 μL/min

**Double pressure dosing system<sup>1)</sup>**

Drop deposition	software-controlled
Cartridge, volume	disposable (1 mL)
Resolution	0.1 μL
Speed	fixed

Stages	y-axis		z-axis		rotation axis
Control	software-controlled		manual	software-controlled <sup>1)</sup>	software-controlled
Range	350 mm		45 mm	38 μm	360°
Resolution	10 μm		16 mm/turn	10 μm	0.1°
Accuracy	100 μm		-	100 μm	1°

**Software**

ADVANCE	contact angle surface free energy of solids
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<sup>1)</sup> optional

**Measurement specifications****DSA100L****Sessile drop/Captive bubble**

Result	contact angle
Range <sup>2)</sup>	0 to 180°
Resolution <sup>2)</sup>	0.01°
Accuracy <sup>3)</sup>	0.3°
Models	conic section, polynom, circle, Young-Laplace, height-width
Types <sup>4)</sup>	advancing, receding, static, dynamic, tilting

**Surface free energy of solids**

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

**Pendant drop/Rising drop <sup>1)</sup>**

Results	interfacial and surface tension
Range	0.01 to 2000 mN/m
Resolution	0.01 mN/m
Accuracy	0.3 mN/m
Model	Young-Laplace
Types	static, dynamic

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

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

<sup>4)</sup> additional accessories may be required

**General specifications****DSA100L****Sample dimensions**

Maximum sample space <sup>5)</sup>	700 mm × ∞ × 275 mm (W × D × H)
Maximum measuring surface	500 mm × 500 mm (W × D)

**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) <sup>6)</sup>
Location	environment air

**Housing and peripherals**

Compartment	test liquids protected against light
Needle protection shield	yes
Camera and optics housing	yes
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	1000 mm × 375 mm (W × D)
Height	490 mm
Weight (without accessories)	34 kg

**Power supply**

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

**Interfaces**

PC	USB 3.0
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<sup>5)</sup> without axes<sup>6)</sup> retrofittable