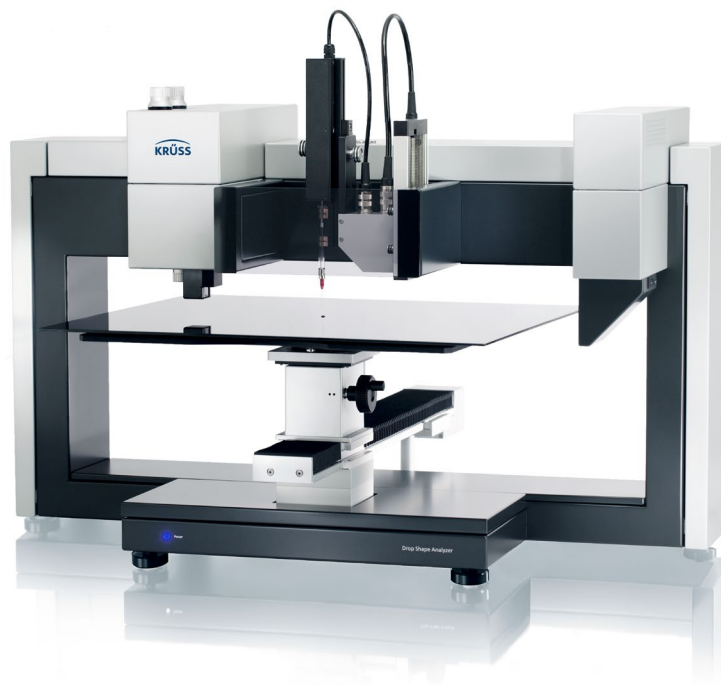


Drop Shape Analyzer

DSA100L

Specifications



Product group specifications

DSA100L

Camera CF04 (standard)

Connection	USB 3.0
Resolution	1920 × 1200 px
Frame rate	up to 2300 fps
Dark noise	7 electrons
Dynamic range	73 dB

5 megapixel high speed camera CF10 (optional)

Connection	USB 3.0
Resolution	2592 × 2048 px
Frame rate	up to 3450 fps
Dark noise	9.3 electrons
Dynamic range	60 dB

Optics

Focus	manual
Zoom	7× zoom, manual
View angle	±4°
Field of view	with CF04: 3.9 × 3.9 to 24.7 × 24.7 mm with CF10: 7.1 × 5.6 to 49.8 × 39.4 mm
Resolution	with CF04: 3.1 to 21.7 μm with CF10: 2.7 to 19.2 μm

Illumination

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

Product group specifications
DSA100L
Dosing system

Dosing	software-controlled
Drop deposition	software-controlled
Syringes, volume	glass (450 µL), disposable (900 µL)
Resolution	20 nL
Speed	0.004 to 25 µL/s

Liquid Needle double pressure dosing (optional)

Control	software-controlled
Speed	fixed (fast jet)
Resolution	0.1 µL
Cartridge, volume	disposable, 1 mL

Stood-up Drop pressure dosing (optional)

Control	software-controlled
Speed	fixed (fast jet)
Resolution	fixed (≈ 0.4 µL)
Cartridge, volume	disposable, 1 mL

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

Tilting (optional)

Type	internal
Control	software-controlled
Range	0 to 90°
Resolution	0.01°
Accuracy	0.3°

Software
ADVANCE

Contact angle	recommended
Surface free energy of solids	recommended
Interfacial and surface tension of liquids	pendant drop, rising drop (optional) Constrained Sessile Drop (optional)
Receded contact angle	Stood-up Drop (optional)

Software languages
ADVANCE

Chinese (simplified), English, French, German, Japanese, Korean, Portuguese, Russian, Spanish

Measurement specifications
DSA100L
Sessile drop/captive bubble

Result	contact angle
Range (software-based)	0 to 180°
Resolution (software-based)	0.01°
Accuracy (instrument-based)	0.1°
Models	conic section, polynomial, circle, Young-Laplace, height-width
Types	advancing, receding, static, dynamic, tilting

Surface free energy of solids

Results	surface free energy (SFE), 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

Measurement specifications
DSA100L
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
Model	Young-Laplace
Types	static, dynamic

Stood-up Drop

Results	receded contact angle
Range (software-based)	0-180°
Resolution (software-based)	0.01°
Models	conic section, polynomial, circle, Young-Laplace, height-width

General specifications
DSA100L
Sample dimensions

Maximum sample space	700 mm × ∞ × 275 mm (W × D × H, without axes)
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)
Location	environment air

Housing and peripherals

Compartment	test liquids protected against light
Needle protection shield	yes
Camera und optics housing	yes
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 (AC)	88 to 264 V
Power consumption	100 W
Frequency	50 to 60 Hz

Interfaces

PC	USB 3.0
----	---------