DROP SHAPE ANALYZER – DSA100L

SPECIFICATIONS

KRÜSS

Advancing your Surface Science

Product group specifications	DSA100L			
Camera system				
Connection	USB 3.0			
Performance	CF04: 160 fps at 1200 x 1200 px 320 fps at 1200 x 600 px 600 fps at 1200 x 300 px 1440 fps at 1200 x 100 px 2300 fps at 1200 x 50 px CF06 [1]: up to 3400 fps at 640 × 50 px			
Dark noise	CF04: 7 electrons CF06: 10.5 electrons			
Dynamic range	CF04: 73 dB CF06: 56.6 dB			
Optics				
Focus	manual			
Zoom	7× zoom, manual			
View angle	±4°			
Field of view	CF04: 3.9 mm × 3.9 mm to 24.7 mm × 24.7 mm CF06 [1]: 1.7 mm × 1.3 mm to 10.8 mm × 8.1 mm			
Resolution	CF04: 3.1 to 21.7 µm CF06 [1]: 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 [1]				
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 [1]	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°
Software				
ADVANCE	contact angle surface free energy of solids			

[1] optional

Measurement specifications	DSA100L
Sessile drop/Captive bubble	
Result	contact angle
Range [2]	0 to 180°
Resolution [2]	0.01°
Accuracy [3]	0.1°
Models	conic section, polynom, circle, Young-Laplace, height-width
Types [4]	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 [1]	
Results	interfacial and surface tension
Range	0.01 to 2000 mN/m
Resolution	0.01 mN/m
Model	Young-Laplace
Types	static, dynamic

[2] software-based
[3] instrument-based
[4] additional accessories may be required

General specifications	DSA100L
Sample dimensions	
Maximum sample space [5]	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) [6]
Location	environment air
Housing and peripherals	
Compartment	test liquids protected against light
Needle protection shield	yes
Camera und 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

[5] without axes
[6] retrofittable