Drop Shape Analyzer
DSA100HP
Specifications

Drop Shape Analyzer – DSA100HP
(DSA100HP690 configuration)

Product group specifications	DSA100HP40	DSA100HP690	DSA100HP1750
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		7× zoom, manual	
View angle		±4°	
Field of view		with CF04: 3.9 × 3.9 to 24.7 × 24.7 mm with CF06: 1.7 × 1.3 to 10.8 × 8.1 mm	
Resolution		with CF04: 3.1 to 21.7 µm with CF06: 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		manual	
Drop deposition		manual	
Piston, volume	2.5 mL	2.5 mL	11 mL

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Stages		x-axis (optional)	
Control		manual	
Length		10 mm	
Software			
ADVANCE		contact angle	
		interfacial and surface tension of liquids	
Software languages			
		Chinese (simplified), English, French, German, Japanese, Korean, Portuguese, Russian, Spanish	

Measurement specifications	DSA100HP40	DSA100HP690	DSA100HP1750
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	
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	

General specifications	DSA100HP40	DSA100HP690	DSA100HP1750
Sample dimensions			
Maximum sample space	40 cm³	25 cm³	25 cm³
Maximum measuring length		10 mm	
Pressure control			
Maximum pressure	40 bar (580 psi)	690 bar (10 000 psi)	1750 bar (25 000 psi)
Temperature control			
Type	liquid	electrical	electrical
Range	20 to 200 °C	20 to 200 °C	20 to 250 °C
Flow-through thermostat	yes	-	-
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 length)	
Locations		sample stage, chamber, cuvette	
Housing and peripherals			
Camera und optics housing		yes	
Levelling		yes	
Environment			
Operating temperature		10 to 40 °C	
Humidity		without condensation	
Instrument dimensions			
Footprint		900 mm × 600 mm (W × D)	
Height		900 mm	
Weight (without accessories)		80 kg	
Power supply			
Voltage (AC)		88 to 264 V	
Power consumption		100 W	
Frequency		50 to 60 Hz	
Interfaces			
PC		USB 3.0	