



# Drop Shape Analyzer – DSA100 HP

Specifications



Product group specifications	DSA100HP40	DSA100HP690	DSA100HP1750
<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		7× zoom, manual	
View angle		±4°	
Field of view		CF04: 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		CF04: 3.1 to 21.7 μm CF06 <sup>1)</sup> : 2.5 to 17.8 μm	
<b>Illumination</b>			
Type		high power monochromatic LED	
Wave length, dominant		470 nm	
Field of light		46 mm × 46 mm (D × H)	
<b>Dosing system</b>			
Dosing		manual	
Drop deposition		manual	
Piston, volume	5 mL	5 mL	11 mL
<b>Stages</b>			
Control		manual	
Length		10 mm	
<b>Software</b>			
ADVANCE		contact angle interfacial and surface tension of liquids	

<sup>1)</sup> optional

General specifications	DSA100HP40	DSA100HP690	DSA100HP1750
<b>Sample dimensions</b>			
Maximum sample space	40 cm <sup>3</sup>	25 cm <sup>3</sup>	25 cm <sup>3</sup>
Maximum measuring surface	10 mm × 0 mm		
<b>Pressure control</b>			
Maximum pressure	40 bar (580 psi)	690 bar (10 000 psi)	1750 bar (25 000 psi)
<b>Temperature control</b>			
Type	fluid	electrical	electrical
Range	20 to 200 °C	20 to 200 °C	20 to 250 °C
Flow-through thermostat	yes	-	-
<b>Temperature measurement</b>			
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>5)</sup>		
Locations	sample stage, chamber, cuvette		
<b>Housing and peripherals</b>			
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		
<b>Environment</b>			
Operating temperature	10 to 40 °C		
Humidity	without condensation		
<b>Instrument dimensions</b>			
Footprint	900 mm × 600 mm (W × D)		
Height	900 mm		
Weight (without accessories)	80 kg		
<b>Power supply</b>			
Voltage	88 to 264 VAC		
Power consumption	100 W		
Frequency	50 to 60 Hz		
<b>Interfaces</b>			
PC	USB 3.0		

<sup>5)</sup> retrofittable

Measurement specifications	DSA100HP40	DSA100HP690	DSA100HP1750
<b>Sessile drop/Captive bubble</b>			
Result		contact angle	
Range <sup>2)</sup>		0 to 180°	
Resolution <sup>2)</sup>		0.01°	
Accuracy <sup>3)</sup>		0.1°	
Models		conic section, polynom, circle, Young-Laplace, height-width	
Types <sup>4)</sup>		advancing, receding, static, dynamic	
<b>Pendant drop/Rising drop</b>			
Results		interfacial and surface tension	
Range		0.01 to 2000 mN/m	
Resolution		0.01 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

