



Drop Shape Analyzer – DSA Inkjet

Specifications



Product group specifications**DSA Inkjet****Camera system**

Type	color
Connection	USB 3.0
Resolution	CF04C: 1920 × 1200 px
Frame rate	CF04C: 2000 fps

Optics

Focus	fixed focus
Zoom	6.5× microscope zoom, manual
Field of view	CF04C: 0.3 × 0.3 to 1.9 × 1.9 mm (3.5× to 22.5×)
Resolution	CF04C: 0.3 to 1.6 μm

Observation optics

Focus	fixed focus
Resolution	CF04: 1920 × 1200 px

Illumination

Type	2 high power monochromatic LEDs
Strobe pulse width	180 ns
Wave length, dominant	470 nm, 625 nm

Print head positioning

	x-axis	y-axis	z-axis	tilt
Control	manual	manual	manual	manual
Range	100 mm	10 mm	14 mm	x: 0.8° y: 0.75° z: 1.05°

Software

ADVANCE

Inkjet

Measurement specifications**DSA Inkjet****Measurement modes**

drop watcher mode
 waveform tuning*

Drop watcher mode

Supported print heads _____ any
 Synchronization options _____ quadrature signal out in TTL and differential (EIA 422) form

Waveform tuning mode*

Supported print heads _____ RICOH MH5420/5440, MH5421/5441, MH5220
 Waveform _____ adjustable in ADVANCE waveform editor
 Print head safety features _____ adjustable voltage limits
 _____ voltage slope protection
 Temperature control of the print head _____ included
 Resolution of temperature control _____ 0.1 °C

General features

two-color double strobe velocity measurement
 drop generation visualization
 print stability evaluation

Optical measurement

Calibration _____ fully automatic
 Accuracy of the reference target _____ 1 µm

Timing

Accuracy _____ < 100 ns
 Precision _____ < 10 ns

Measurement range

Drop volume _____ 1 to 500,000 pL
 Drop speed (center, leading edge) _____ 0 to 40 m/s
 Print frequency _____ drop on demand to 50 kHz

Additional results

trajectory (center, leading edge)
 number of drop parts
 drop dimensions (horizontal/vertical)
 drop position (center, leading edge)

Statistics

mean value & standard deviation for all results

Additional features

analysis of first jetted drop
 automatic drop identification
 nozzle plate observation optics included
 ink vapor suction device included

*only for supported print heads

General specifications

DSA Inkjet

Sample dimensions

Print head space 95 × ∞ × 200 mm (W × D × H)

Housing and peripherals

Compartment UV protected
Camera and optics housing yes
Levelling yes

Environment

Temperature operating: 10 °C to 40 °C
storage: -10 °C to 70 °C
Humidity without condensation

Instrument dimensions

Footprint (W × D) 540 × 250 mm
Height 440 mm
Weight (without accessories) 10 kg

Power supply

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

Interfaces

PC USB 3.0

