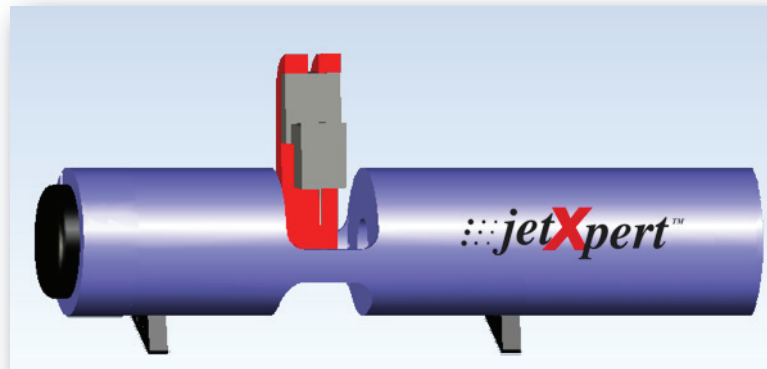
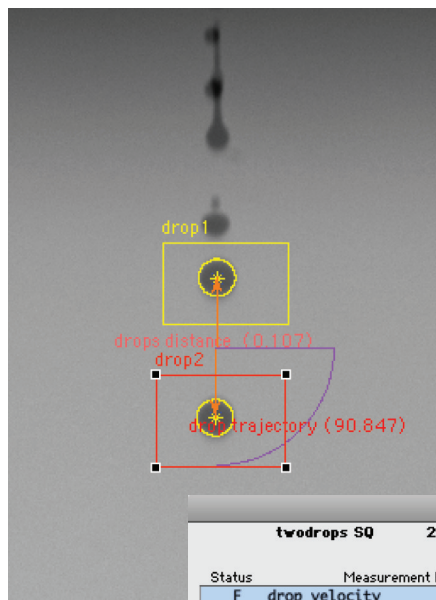


jetXpert™

Drop analysis for dispensing systems



- Very small footprint for use in labs and production. Can be integrated into dispensing equipment
- Measure drop volumes from microliter to picoliter
- Real time measurements of volume, trajectory and velocity
- Works with any frequency-based dispensing technology that ejects free drops (non-contact dispensing systems)
- Single strobe event imaging for analysis of single drops
- Analysis of single drops, drop streams, ligaments
- Optional second camera for inspection of dispensing tips



ImageXpert: Measurement Report

twodrops SQ 2 Run 2 Fail OK

Status	Measurement Name	Value	Nominal	Min. Tolerance	Max. Tolerance
F	drop velocity	9.8002	0.0000	0.0000	0.0000
F	drop trajectory	90.8472	0.0000	0.0000	0.0000
F	drop volume 1	11.6438	0.0000	0.0000	0.0000
F	drop volume 2	11.4881	0.0000	0.0000	0.0000

for measurement of drops-in-flight

for measurement of drops-in-flight

JetXpert uses a synchronized strobe positioned behind dispensed droplets and a camera in front to capture images of drops in flight. Images are taken in silhouette allowing for evaluation of both translucent and opaque fluids.

Strobing can be slaved to the dispensing head drive frequency. Strobe pulse delays, widths, and intensities are controlled via a GUI. The user can choose single strobe event (one strobe per frame), or a set number of strobes per frame. The strobe can also be triggered by an internal clock.

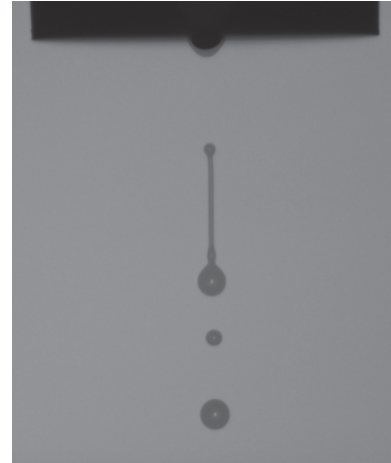
Single and double dots can be imaged for analysis of attributes such as drop volume, radius, velocity and trajectory.

Image series can show drop performance in flight and movies can be saved.

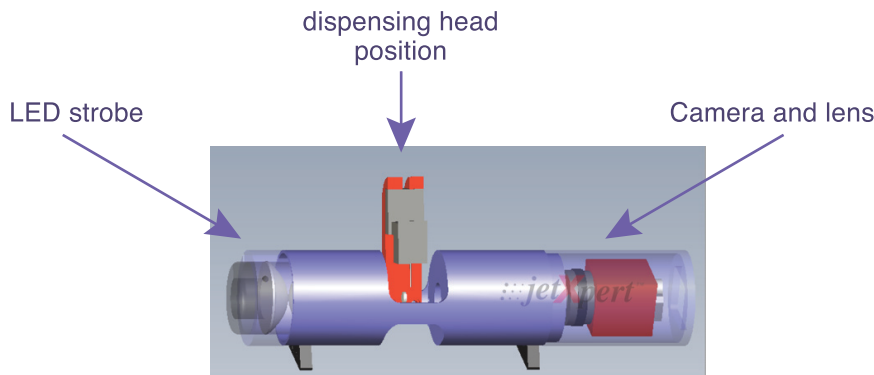
Optional motion system available for fully automatic scanning and sequential analysis of all dispensing tips.

Optional second camera for monitoring of build-up of material on dispensing tips, and optional second camera for full trajectory analysis.

Custom system configurations are available.



System power requirements	Built-in 110-220V switch mode type
Light source	LED strobe
Interface	Digital control of settings for repeatable drop imaging and analysis.
Camera	Black and white firewire camera, 1024 x 768 pixels, manual focus. 2-camera option available for full trajectory analysis, or imaging of dispensing tips during firing.
Lens	Fixed focal length lens. Resolution dependent on application requirements.
Calibration	Calibration target with 1 micron accuracy.
Analysis	ImageXpert image analysis software for real-time analysis
Data	Data can be shown on the screen and saved to a file. Statistics also available.
Images	Images, image series and movies can be captured and saved.
Drops-in-flight movie view	On-screen animation of droplet formation and flight via automatic incremental adjustments in delay time. Movies can be saved.
Motion options	Manual stages available with micrometer for dispensing head fixture positioning. Full motion system available for sequential analysis of all dispensing tips.
System dimensions: Optical system	7.5" wide x 2" deep x 2" high (actual system dimension might vary based on components).
Strobe control box	14" wide x 12" deep x 3" high



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