imageXpert®

jetXpert jr.™

Drop-in-Flight Analysis for Dispensers

Total Volume(nL)	Number of Drops
537.874	3

SatellitesAutoDrops
drop1
drop2
drop3   drop4
drop5

| Total Volume(nL)	Number of Drops
744.040	5

Core Features and Benefits

Easily integrate drop analysis and verification into your system

- Measure drop volume, velocity, trajectory, and satellites

- Visualize drop formation, consistency, and stability

- Analyze streams, oblong drops (top), or multiple drops (bottom)

- Produce accurate statistics and capture transient effects with single event imaging of individual drops

- Study the effects of adjusting fluid and dispenser parameters for ease of optimization

- Eliminate risk of evaporation, misfires, and operator weighing error of traditional volume measuring techniques

- Identify misdirected satellites to prevent cross-contamination

- Integrate with any dispensing technology that produces discrete drops
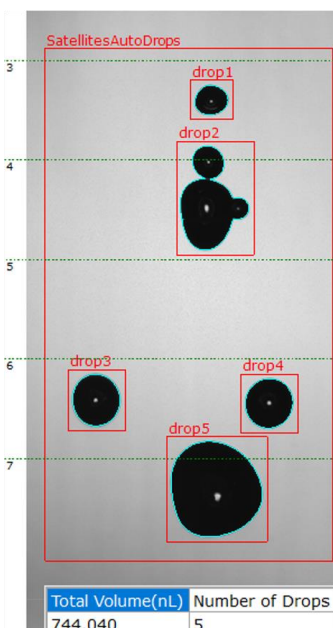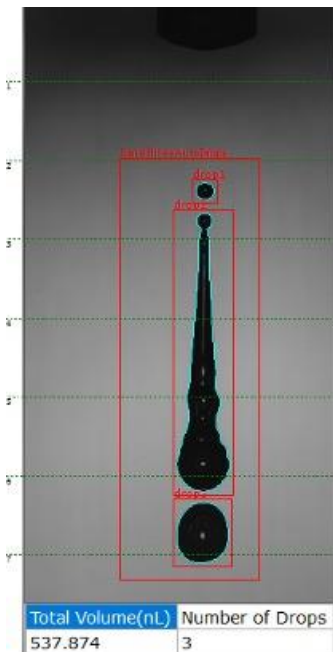
Strobe-based Capture System

JetXpert Jr uses a synchronized strobe positioned behind the dispensed droplets and a camera in front to capture images of drops in flight in silhouette, allowing for evaluation of translucent and opaque fluids.

Strobing is slaved to the dispensing head drive frequency or external frequency generator

System Optimization

Measuring the in-flight characteristics of fluid droplets under different conditions can aid in optimizing dispensing system settings, fluid formulation and system performance. Manufacturers of print heads, dispensing tops and heads, driver electronics and actuator, fluids, and integrated material deposition systems can benefit from analysis of drops-in-flight

Dispenser
LED strobe
Lens
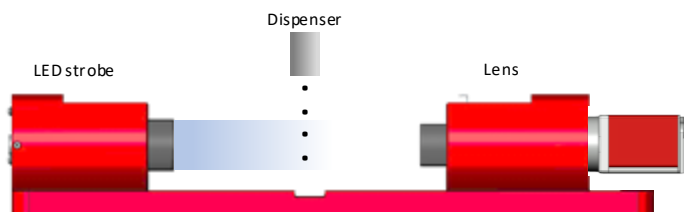
System Configuration

Light Source	High-powered LED strobe, proprietary lens for maximum image brightness
Camera	Digital camera, 1292 x 964 pixels, <1μm/pixel resolution available
Lens	Fixed magnification lens, offered in 0.5x, 1x, 2x, and 4x (vertical FOV 1.2-9.6mm)
Calibration	Factory calibrated with calibration target included to recalibrate in the field
Strobe Pulse Width	100ns to 1000ns (1μs) in increments of 50ns
Analysis	Built-in analysis for drop volume, velocity, trajectory, satellites, and statistics thereof
Sync Signal	Nominal TTL (0-5VDC) input signal via dispenser controller or external signal generator. Accepts input (low) between 0-1V, and input (high) between 3-5V
Frequency Range	Minimum: <1Hz Maximum: 100kHz, 50% duty cycle
Data	Includes PC based GUI with graphical feedback and automatic data reporting file
Frame Rate	Up to 6 frames per second
Dimensions	15.5" L x 2.5" W x 3" H (39.4cm L x 26.3cm W x 7.6cm H)
Operating System	Windows

Contact Us!

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