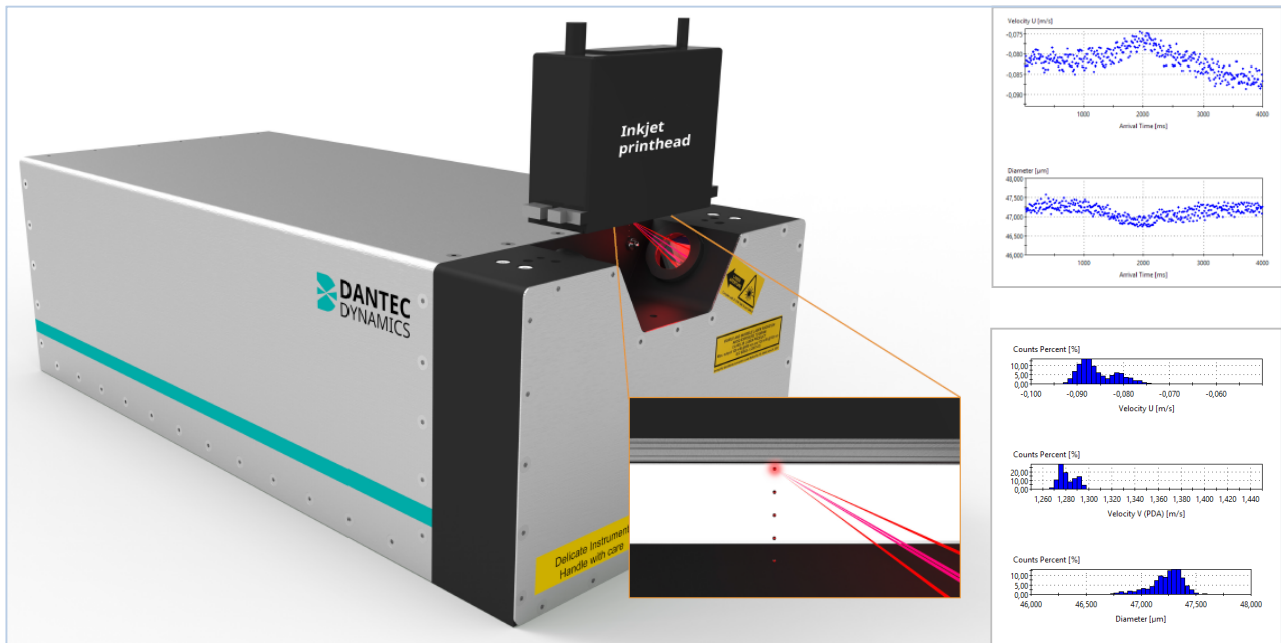


IDS - Inkjet Droplet Sizer

Droplet measurement solution for inkjet printing quality control



The ultimate tool for inkjet printing, monitoring, calibration and control

New applications of inkjet printing of miniature electronics, OLED display printing, printing of sensors etc. require extraordinary accuracy, precision and control of droplet size, velocity, and position to meet the demands. Typically, every nozzle needs to be checked after a run with a minimum downtime to assure the final product meets specs before wasting time and material on a failed run. The IDS has been developed to meet these strict requirements

This non-intrusive optical measurement solution provides real-time results of diameter, velocity, and direction of each droplet ejected from every one of the potentially thousands of print head nozzles. This on-the-fly information creates input/data to guide the optimization of the ejection process parameters. As an integrated part of your inkjet printing process, our solution helps you to create and maintain a stable, high-quality printing that allows you to exploit the full potential of your inkjet-printing setup.

Key benefits

- Fastest droplet measurements minimizes production down-time
- Real-time measurement of droplet characteristics
- Data on droplet size (diameter and volume), velocity and trajectory
- Droplet volume/size down to 0.0005pl/1 µm and velocity up to 100+ m/s
- Ultra-high resolution and precision of measurement results

The solution in brief

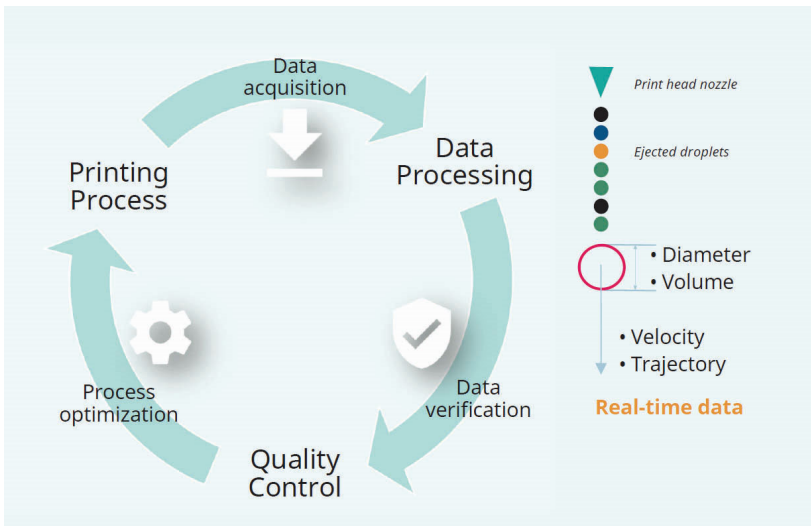
The IDS provides online, real-time information on droplets ejected from the nozzles in modern inkjet printers with the best resolution and accuracy commercially available. The real advantage it is that the solution can be used for effective monitoring, calibration and control of the inkjet-printing process thereby securing a smooth operation of the printing production line and a continuous high printing quality that all together reduces the production scrap volume/value.



IDS solution: high performance processor, measurement software and IDS unit,

Quantitative droplet characteristics measurement

The measurement system consists of a sealed optical unit allowing rapid measurement of print heads, in combination with a high performance processor and advanced, yet user-friendly measurement software. Signal processing via the high performance processor provides real-time measurements of each single droplet with up to 100,000 droplets per second. The processor and software can be customized to meet the unique requirements of your inkjet printing system platform/software.



Real-time measurement of droplet characteristics allows quality control of the inkjet printing application

The solution provides online, real-time characteristic information as droplets are ejected from the nozzles. The measurement resolution is better than 0.1 μm , making it able to detect the subtle differences from drop to drop during the jetting process. This ultra-high resolution and precision of the IDS in combination with the accuracy and

stability of the instrument have been welcomed and approved by the particle and droplet measurement community.



The IDS solution helps optimizing the inkjet printing process of OLED-displays

Higher printing quality & reduced downtime

The acquired real-time information on droplet characteristics can be used for controlling nozzle settings. Corrective actions can be implemented at an early stage to optimize the production performance and output quality, removing the need for costly shut-downs of printing lines for calibration purposes. Also, continuous monitoring helps identify and rectify droplet characteristics which are out of tolerance early on that otherwise would have led to a poor quality production batch – reducing waste and process costs.

Key Specifications

System	Specification
Droplet diameter/volume	Down to 1 μm / 0.0005 pl
Velocity	Up to 100 m/s
Diameter resolution	Better than 0.1 μm
Data rate	Up to 100,000 droplets/s (100 kHz)
Velocity components	Up to 3
Data processing	Real-time
Droplet capturing rate	100%
Application software/driver	For customer integration



Solution Sheet #0532_v3. Subject to change without notice. Copyright © 2018. Dantec Dynamics. All Rights Reserved. www.dantecdynamics.com