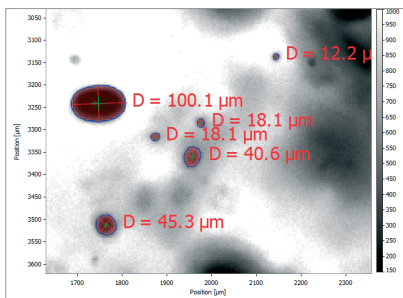
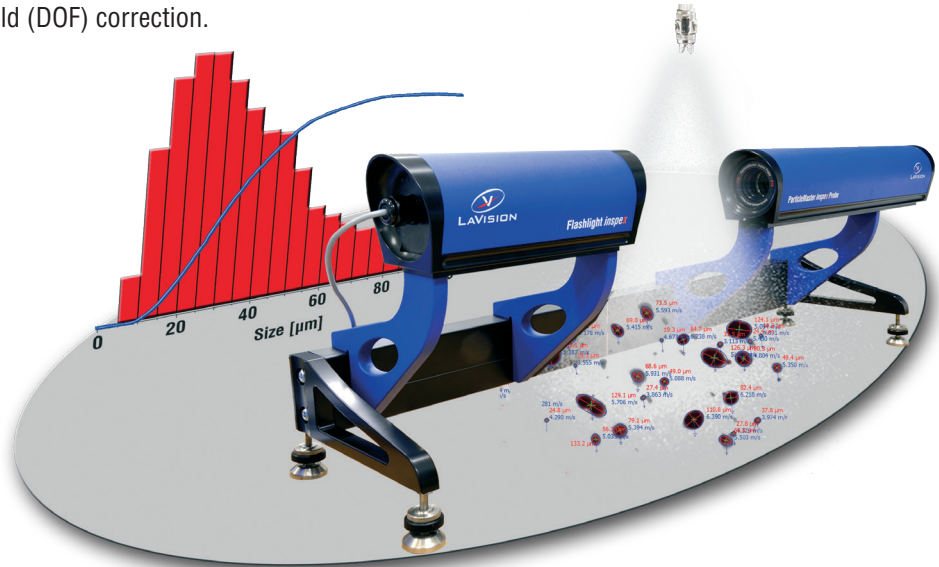


ParticleMaster *inspex*

In-situ droplet and particle
analysis

The **ParticleMaster inspex** is a new member of the **ParticleMaster** product family. It serves as a highly integrated laboratory and testing tool for measurement of size, shape and velocity of spray droplets, particles and granules. The systems deliver accurate Digital Image Analysis (DIA) of particle shadow images out of the box thanks to factory calibrated probes, featuring advanced Depth-Of-Field (DOF) correction.



- Size, shape, orientation, perimeter of individual particles and droplets
- Velocity and mass flux from dual frame images
- Cumulated statistics D10, D32, percentiles Dv10, Dv50, Dv90
- Size histogram, scatterplots

The **ParticleMaster inspex** combines the advantages of dynamic image analysis with an easy-to-use design.

Features

- In-situ measurement
- Compact self-contained probes and lights
- Fully factory aligned - no customer calibration required
- Includes size and depth-of-field calibration
- Splash proof (IP54) design
- Eye-safe LED operation without laser

Laboratory and testing

The compact and highly integrated design of the **ParticleMaster inspex** aims for daily laboratory use and Q.C. testing. The system is ready to use out-of-the-box. A well-defined mechanical interface allows the integration into existing test benches.

The **ParticleMaster inspex** probe contains a camera and a high-magnification lens. It captures the shadow images of droplets and particles illuminated with the **ParticleMaster inspex** LED flashlight. With the "flux" option, the motion of particles is captured from dual frame images.

The **ParticleMaster inspex** controller comprises the software, all necessary computing power and electronics to directly run the system without any setup or calibration procedure.

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Size and velocity probes



ParticleMaster *inspex* Probe

The probe is available for two different working distances: a model for a convenient 400 mm stand-off distance and a short-distance probe for maximum resolution down to 10 μm .

All probes are available with an option to measure particle velocity, achieved through ultra-fast shutter dual-frame image sensors.

The probes are splash proof (IP54) to be used in direct vicinity of sprays and dust.

Model	PM inspex S10	PM inspex F10	PM inspex S25	PM inspex F25
Size Range	10-1000 μm		25-2500 μm	
Working Distance	150 mm		400 mm	
Velocity	x	✓	x	✓
Interface	2x CoaXpress-12			
Compliance	IP54 splash proof, CE mark			
Cable	2x 5 meter HD BNC cable			

Ultra-fast illumination



ParticleMaster *inspex* Flashlight

The backlight illumination is optimized for ultra-short exposure time to avoid any motion blur. The LED flashlight allows eye-safe operation without the use of a laser and supports an automatically activated high-power mode for pulses shorter than 10 μs .

LED flashlight	
Optimized working distance	150 mm - 400 mm
Min. exposure time	100 ns
Double pulse	$\Delta t > 100$ ns for velocity measurements
High power mode	up to 10 μs
Max. frequency	10 kHz single & double pulse
Compliance	IP54 splash proof, CE mark

Integrated controller



ParticleMaster *inspex* Controller

The **ParticleMaster *inspex*** controller includes all computer and electronics components to run **ParticleMaster *inspex*** system.

- ▶ 32 GB RAM, 512 GB system SSD, 2 GB data SSD
- ▶ Robust, fast CoaXpress **ParticleMaster *inspex*** probe interface
- ▶ Compatible with generation 1 **ParticleMaster *inspex*** USB probes
- ▶ Dedicated controller for operating 1 **ParticleMaster *inspex*** probe only
- ▶ Internal timing unit for ultra-precise control and versatile triggering
- ▶ External triggering with 5V TTL (BNC connection)

The **ParticleMaster *inspex*** system works with DaVis software for data acquisition and the **ParticleMaster** software package for particle characterization.

Data provided by LaVision is believed to be true.
However, no responsibility is assumed for possible inaccuracies or omissions. All data are subject to change without notice.

Jul-25

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