

Online Particle Monitoring

Particle sizing and mass flux
for production monitoring
and quality control

Food stuffs, chemicals, pharmaceuticals, cosmetics and building materials are often provided in the form of powders and granulates. The production of these is a central part of many processes. Online monitoring of the product and process is essential to reduce production costs and ensure quality.



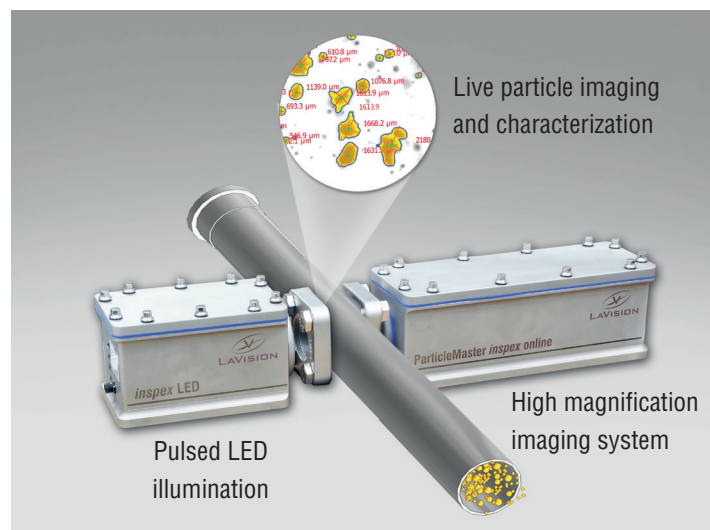
User benefits

Online particle monitoring in production processes reduces costs, downtime and wastage while increasing product quality through:

- ▶ Instantaneous indication of process status
- ▶ Continuous monitoring of product quality
- ▶ Online control loop to optimize production parameters
- ▶ Immediate warning when production errors occur

Inline and online monitoring

The **ParticleMaster inspex online** provides a complete solution for production monitoring of particles. Hardware and software are optimized for seamless integration into production environment for 24/7 automatic quality control, supporting common communication interfaces, such as Modbus, TCP/IP or 24 V I/O.



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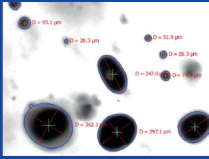
Features


- The **ParticleMaster inspexonline** combines the advantages of **Dynamic Image Analysis (DIA)** with an easy-to-use design.
- ▶ Online in-situ particle imaging
 - ▶ No sample preparation required
 - ▶ Simple integration at process sight glass
 - ▶ Rugged sensor design IP67
 - ▶ Fully factory pre-calibrated
 - ▶ 24/7 automated operation
 - ▶ Hygienic housing available for food production areas



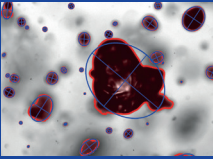



Size



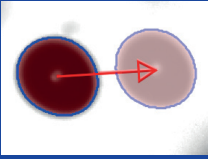



Shape



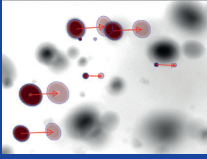


Velocity

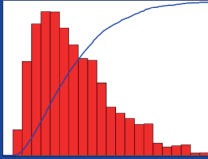




Mass Flux



Distribution



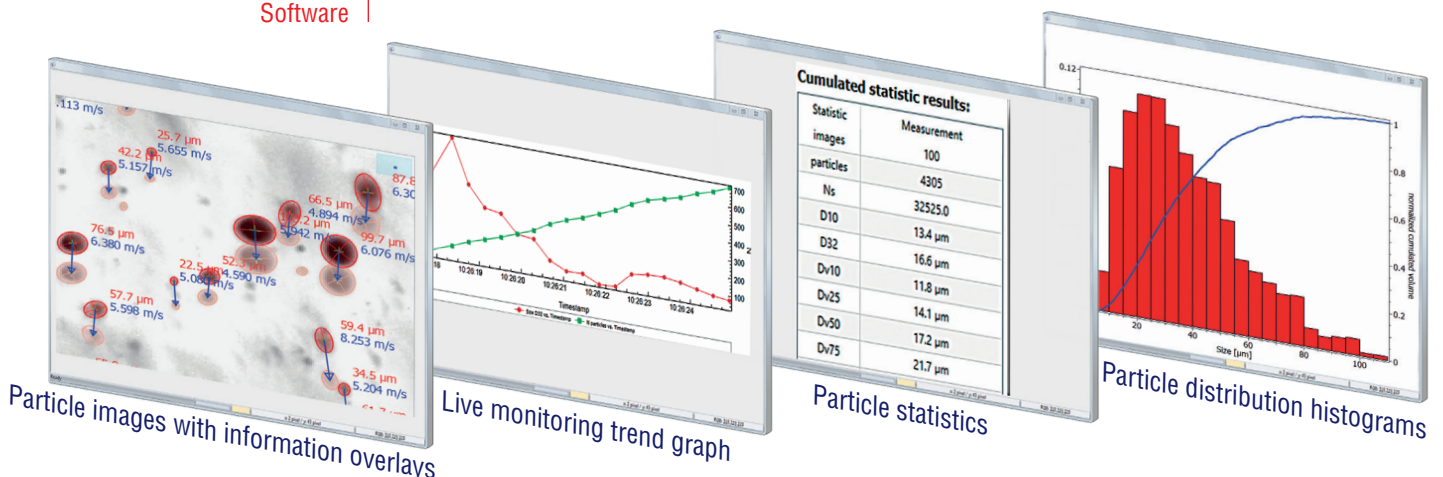
Cumulated Statistics

Statistic	Value
D10	57.5 µm
D32	274.6 µm
Dv10	144.2 µm
Dv50	392.6 µm
Dv90	887.6 µm

Particle characterization

- The **ParticleMaster** imaging systems can fully characterize all types of particles, droplets and bubbles independent of material, shape, opacity. Information from discrete, individual particles is measured and statistical information is derived from this:
- ▶ Size, shape, orientation, perimeter of individual particles and droplets
 - ▶ Velocity and mass flux
 - ▶ Cumulated statistics D_{10} , D_{32} , percentiles D_{v10} , D_{v50} , D_{v90}
 - ▶ Particle size down to 4 µm

Software



Particle images with information overlays

Live monitoring trend graph

Particle statistics

Particle distribution histograms

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

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