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LFI LINSPRAY[®] Process Monitoring

(Luminous Flux Imaging)

Principal functionality of LFI:

Luminous Flux Imaging (LFI) is a diagnostic tool for industrial serial production.

Process monitoring of non-luminous particles or liquid drops is the application field of the system. Relevant process variations in velocity, gas flow rate, particle flux or particle density are detected online. A computer displays the information about the actual state of the ongoing process (good or bad). Appropriate and timely interactions by the user in case of errors become possible. Simultaneously all data are stored for a complete process report.

Set-up of the system:

A small dust-protected CCD camera with an integrated double laser system is mounted close to the gun on the gun bracket and moves with the gun during the ongoing process. The camera images the reflexion pattern of the Laser illuminated particles in front of the nozzle. By a patented measuring and comparing image-algorithm a very fast and permanently process analysis is realised.

Characteristics of the system:

- in-situ monitoring during the running process
- measurement time with result ~ 5s robust set-up
- simple program use
- small integration effort
- **Application fields:**
 - cold gas spraying
 - varnishing process

- no process disturbance
 - low amount of service

- grit blasting process

Technical characteristics:

Computer unit:

industrial Panel- Computer with touch screen 3½" disc, CD- Rom, USB, LAN10/100Mbits keyboard and mouse integrated camera control unit digital ports (SPS- standard): 2 x OUT, 1 x IN, 20...24V Windows 2000 Professional/Windows XP power rating: 100~127VAC, 60Hz, 5A; 200~240VAC, 50Hz, 2.5A

Camera and Laser unit:

integrated optic cleaning by compressed air automatic adjustment of

- filter - integration tin	ne - shutter - laser unit
dynamic of camera:	I5Lux
mass:	815g
dust protection:	IP65
dimensions $(I \times w \times h)$:	150 x 50 x 57mm
distance camera - process:	2580cm
software:	LFI Process Monitoring
optical output power:	2x 2mW (controlled)
laser protection class:	3B (En60825)

Software:

- LFI Process Monitoring
- easy process adjustment by just one button
- flexible communication protocol (OPC, DDE, TCP/IP)
- suitable for remote control
- host/client functionality
- data export compatible with Microsoft Excel

