

Photon

industrial laser applications

WireScope

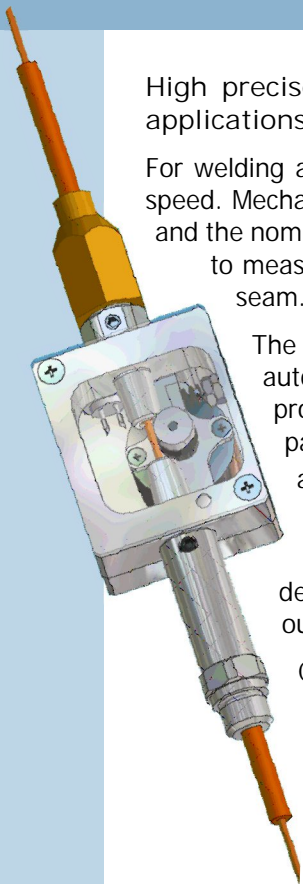


Everything in hand

The Photon group offers the entire value-added chain of industrial laser applications with high performance lasers. Our vast technical know-how, custom-tailored solutions and products have already been appreciated by such blue-chip clients as Audi, BMW, DaimlerChrysler, Deutsche Bahn, Krauss-Maffei, Krone, MAN, Nissan, Siemens, Deutsche Telekom, Volkswagen, Volvo and other satisfied clients.

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WireScope



High precise measurement of the filler wire discharge flow for brazening and welding applications

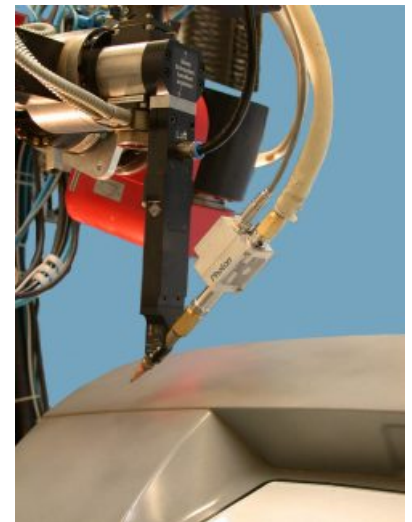
For welding and brazening applications using filler wire the process quality depends on the filler wire speed. Mechanical problems in the wire feed system can cause deviations between the real wire speed and the nominal value. The result of these deviation are seam errors (e.g. pores). Without the possibility to measure the real discharge flow of the filler wire it is hard to explain and correct errors on the seam.

The Photon WireScope is a high precise measurement system acquiring the real wire speed for automated welding and brazening applications. The measurement head is mounted near to the process inside the wire feed and acquires independent from the fire feeder and the tube package the real discharge flow of the filler wire. The measured wire speed is written to an analogue output for further usage (e.g. recording and analysing with the FokusMonitor®).

Besides the measurement functions the WireScope monitors the wire speed, detects the violation of user definable limits and signals these violations using digital outputs.

Connectors to all well-established fire feeders and laser working heads are available. Adaption to other systems can be done easily due to the modular design.

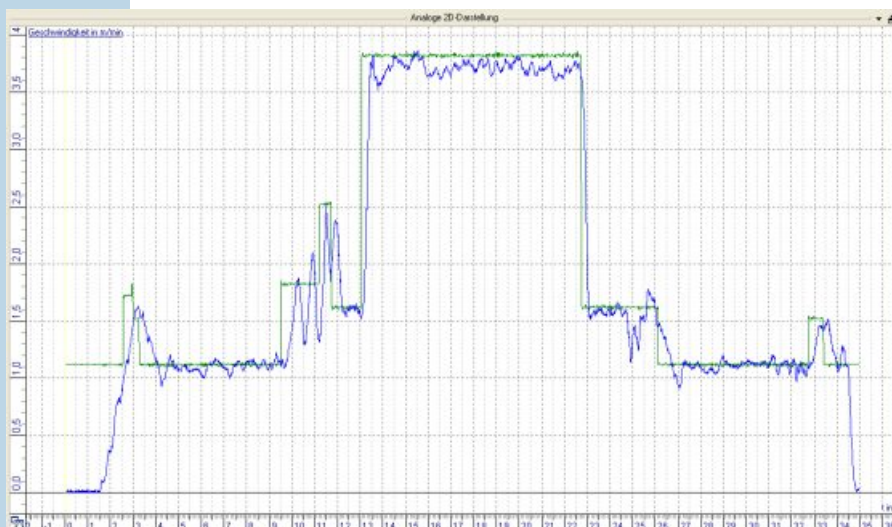
The WireScope is therefore an essential tool for process optimisation, error analysis and quality management.



WireScope mounted to a laser working head

Overview of functions

- Acquisition of the filler wire speed for welding and brazening:
 - Measurement range: 0.3 to 10 m/min
 - Measurement resolution: 0.2 m/min
 - Measurement rate: max. 200 Hz
- Compact measurement head:
 - Size: 60 x 38 x 36 mm (L x B x T)
 - Weight: ~100g
- Direct integration into the wire feed
- Integrated limit monitoring
- Protocol of the total wire feed amount
- Different connection possibilities for a seamless facility integration:
 - Analogue and digital I/O
 - Fieldbus integration (e.g. Interbus-S)



Visualisation of the filler wire speed with the FokusMonitor® system
Green graph: nominal value
Blue graph: measured value

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