

plasmo profileobserver series:

The high-performance process monitoring system for industrial welding processes

- Online process monitoring during laser welding, cutting and drilling
- Automatic quality assurance in real-time
- Error evaluation during the machining process
- Detection of defects such as pores/seam narrowing, spitting/weld spatter, changes in welding depth, insufficient connection and contaminants
- Documentation and storage of measurement data according to ISO 9001/2

processobserver advanced

- Process monitoring via two independent channels
- Process monitoring and power measurement in one device

plasmo processobserver

The plasmo processobserver series is an on-line process monitoring system used during laser material processing (welding, cutting, drilling and soldering). Monitoring involves the surveillance of the visible and non-visible (NIR) process light occurring during the machining process. Fast signal and RISC processors analyse and evaluate the errors on-line in real time during the machining process. A higher-level workstation takes care of the visualisation and parameterisation. The processobserver series quickly and reliably detects irregularities and faults such as welding defects, pores (also within materials), etc.

Wide range of applications

Numerous customers from a wide range of sectors in the production industry are already convinced by the qualities of the processobserver classic. The plasmo processobserver carries out inspection tasks during welding applications in bodyshell lines and power train systems as well as the manufacturing processes of:

- pipes and profiles
- sensors and switches
- sheet metals/tailored blanks
- architectural hardware, furniture and window fittings
- car seats and seatbelt tighteners
- turbine blades
- white goods - from fridges to dishwashers and washing machines
- ...

Evolution: processobserver advanced

The plasmo process**observer** advanced is an enhancement of the process**observer** classic. The plasmo process**observer** advanced is based on the latest technologies. It is used for the non-contact and non-destructive real-time inspection and complete documentation of cutting and drilling processes. All recorded data is available for detailed off-line analysis.

Process monitoring and power measurement are now available in one device. An enhancement designed to meet customer demands 100%. "We develop our products for and with the customer", says Arnold Braunsteiner, plasmo Industrietechnik CEO. "The dual channel process monitoring capability offers our customers numerous new opportunities to further increase the quality of their products, to make quality assurance more efficient and therefore offer their customer the best possible product," adds Thomas Grünberger, plasmo Industrietechnik CTO.

What is the plasmo processobserver advanced capable of?

It is an automated process monitoring system integrated in the production process.

- Defects are detected in real-time; analysis is entirely non-contact and non-destructive.
- Full documentation of all measurement data according to ISO 9001/2.
- Two independent channels (process monitoring and power measurement).
- The statistical long-term evaluation of the process**observer** is an effective means for process optimisation!
- Optimisation of the entire welding process. Subsequent reduction in production costs.
- Off-line analysis software packages for diagnosing welding defects.

How does the processobserver advanced work?

The process light is transmitted to a RISC processor (Power PC) by means of an optical fiber via an optical adapter, a fiber mounting or an integrated fiber in a machining head. The digitised and conditioned signal is analysed and evaluated by the RISC processor. The result is indicated in real-time at the end of the weld by an IO/NIO-evaluation (IO = In Order; NIO = Not In Order) on the front display and at one of the digital PLC outputs. In addition, the recorded signal data are forwarded to a higher-level workstation for visualisation over the RS232 or Ethernet interface. For the workstation there are parameterisation tools available as well as visualization software (online/offline). Besides a statistics module for short-term and long-term evaluation, there are other helpful software tools available.

Photo download and other information: <http://www.plasmo.eu>