

PRESS RELEASE

Laser Drilling in the μm Range: Five Axes Do It Better

New micro processing sub system makes technological leap industrially suitable

Puchheim, Germany, June 18, 2015 – As the technology-leading OEM manufacturer of laser scan systems, SCANLAB AG is introducing a 5-axis micro-processing subsystem to the market. This scanner-based solution enables highly dynamic and precise fabrication of flexibly definable geometries. precSYS's five axes deliver a true technological leap with maximum flexibility and entirely new possibilities to develop and execute processes superior to typical percussion drilling, spiral drilling and trepanning. The system can, for example, create bore holes with positively/negatively conical or cylindrical walls, as well as round or elliptical entries/exits accompanied by high aspect ratios. Designed for ultra-short-pulse (USP) lasers, precSYS's bore holes are exceptionally clean cut and don't require post-processing. The very robustly constructed scan system is optimized for industrial usage. Its Ethernet interface and an industry-proven connector facilitate straightforward integration into automated production.



Numerous industries require processing in the micrometer region: Applications range from ultra-fine bore holes for fine mechanics or automotive-industry injection nozzles all the way to electronics-industry micro-structuring and fabrication of textile-industry spinnerets. In conjunction with USP lasers, diverse materials such as glass, hard metals, ceramics and plastics can be processed burr-free and molten-free. There are no limits to creativity anymore, because SCANLAB's precSYS newly defines the prior limits.

This micro processing sub system lets you freely define geometries for bore-hole creation that's both precise and long-term stable. The possibility of rotary motion, coupled with flexibly adjustable angles of laser incidence, enables fabrication of negatively conical, cylindrical and elliptical bore holes far finer than $80\ \mu\text{m}$. And they can possess very high aspect ratios (small bore diameter with large depth at the same time).

Designed for Automated Series Manufacturing

When developing the 5-axis micro-processing subsystem, SCANLAB placed great emphasis on industrial suitability. The system has modular construction and active water cooling. Its sealed, gas-purged beam path always ensures cleanliness. This makes precSYS a low-maintenance product with resilience against fluctuating temperatures, ablation particles, dust etc. It is very precisely factory-pre-calibrated and can be

equipped with optional automatic fine alignment. The system offers two observation ports for process-monitoring add-ons.

The standardized interface for XML data exchange allows straightforward remote connectivity to SPS controls, and thus integration into modern automated manufacturing environments. Operation and management of one or several systems can be performed via user-friendly and intuitive control software. Graphical 3D visualization of laser motion paths facilitates effortless job programming and verification.

"Initial feedback from customers who've tested precSYS is consistently positive," says SCANLAB CEO Georg Hofner. "All users particularly praised the wide-ranging freedom in fabrication strategies, as well as the high-quality processing results and quick installation thanks to stable system construction."

Test systems are available upon request. precSYS series production is scheduled for early 2016.

Print-quality images can be downloaded at www.scanlab.de/en/ /Archive/Image_Library.

Current SCANLAB Event Calendar:

LASER World of PHOTONICS, June 22-25, 2015 in Munich, Germany,
Hall A2 - Booth 322.

About SCANLAB:

With over 20,000 systems produced annually, SCANLAB AG is the world-leading and independent OEM manufacturer of scan solutions for deflecting and positioning laser beams in three dimensions. Its exceptionally fast and precise high-performance galvanometer scanners, scan heads and scan systems find application in industrial materials processing and the electronics, food and beverage industries, as well as biotech and medical technology.

For 25 years, SCANLAB has secured its international technology leadership through pioneering developments in electronics, mechanics, optics and software, as well as the highest quality standards.

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