

FLEXIBLE LAB-SCALE LASER SCRIBING

LPKF PRESTO

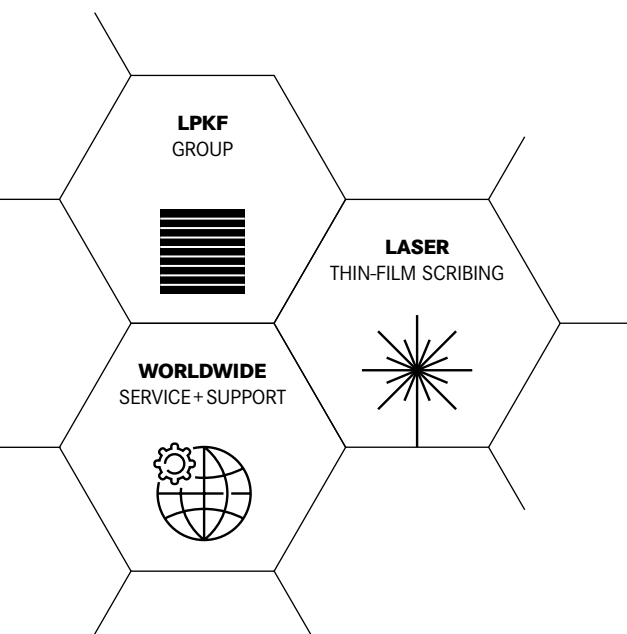


LPKF
Laser & Electronics



FLEXIBLE PROCESS EVALUATION FOR OPTIMUM EFFICIENCY

Flexibility built-in: the LPKF Presto laser scriber can handle just about anything the large Allegro production systems do, on compact glass formats. It can be adapted to various requirements using a small footprint. Even fractions of a percentage are crucial in the efficiency factor of thin-film solar modules. Only the ideal combination of laser and machine parameters yields optimal results.

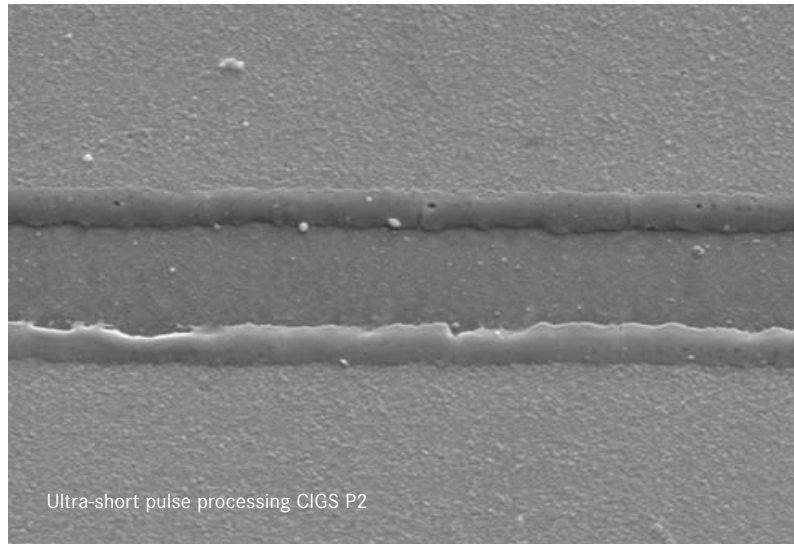




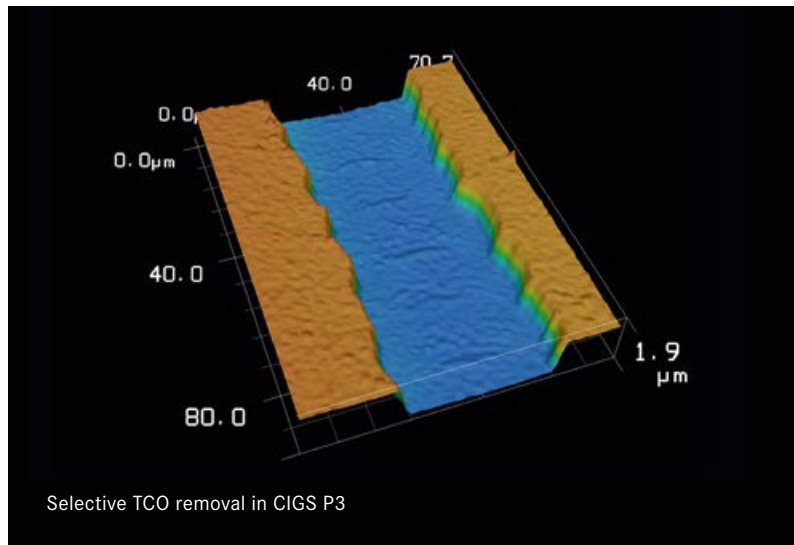
LPKF PRESTO

LPKF offers a system for Research & Development with the Presto laser scriber. It was developed specifically to check and optimize promising parameter combinations on existing and new thin-film technologies for suitability for series production.

LPKF Presto is a laser system based on the design and components of the LPKF Allegro high performance production system. The two have much in common so that Presto results can easily be transferred to series production.



Ultra-short pulse processing CIGS P2



Selective TCO removal in CIGS P3

THE SWISS POCKET KNIFE FOR EVALUATION

The LPKF Presto laser scriber unites series production and application development experience. This system is flexible in meeting all the requirements of process development and optimization.

This approach is evident in the design of the machine. Flexible frames allow Presto to machine various substrate sizes. The axes' dynamics (material and working head movement) corresponds to that of the Allegro series. Depending on the material type and layer composition the laser scribes from the film side or through the glass. Built-in extraction removes ablation products from both sides, safely filtering them.

LPKF Presto can be equipped with lasers with wave lengths down to UV and pulse lengths down to the femtosecond range. Up to three laser sources can be installed in parallel. Lenses can be easily exchanged and the optical path can be configured in a variety of ways. Integrated power measurement provides information on laser output active on the material. Existing patterns are referenced.

The easy-to-use graphical user interface SolarMaster controls all the system functions on the LPKF Presto and facilitates determining optimal processing parameters by special supporting functions. The same GUI is also used in the Allegro system.

LPKF Laser & Electronics – Pioneer in Laser Technology

LPKF Laser & Electronics AG is a leading provider of laser-based solutions for the technology industry. Founded in 1976, the technology company is globally active, with four production locations in Europe, subsidiaries in the USA, China, Japan, and Korea, and capable sales partners in numerous countries and various industries. Laser systems from LPKF are key elements in the manufacturing of printed circuit boards, microchips, automotive parts, solar modules, and many other components.

LPKF SolarQuipment GmbH is a segment of LPKF. At the Suhl (Thuringia) location, the company has been developing, building, and selling sophisticated laser systems for the photovoltaics market for 15 years now. As a leading provider of highly specialized laser systems for structuring thin-film solar modules, SolarQuipment combines expertise in laser, control, and drive technology with extensive experience in laser micromachining of various materials. In this way, the company can offer innovative, high-quality, state-of-the-art systems to demanding customers around the world.

SolarQuipment supports manufacturers of thin-film modules on their paths to successful and efficiency-optimized end products. The company attaches great importance to joint technology and application development as well as analysis and configuration of optimal manufacturing processes. SolarQuipment also provides support in installation and commissioning.

LPKF engineers are at customers' disposal as contact persons during the production process and carry out the necessary service and maintenance work on site. Every day, more than a hundred laser scribes in 24/7 operations around the world ensure successful thin-film module production and hence satisfied customers.

LPKF PRESTO	
Substrate dimensions	Up to 470 mm x 370 mm
Laser wavelength	355 nm, 532 nm and/or 1064 nm
Scribing line width	Depending on wavelength and optical configuration
Processing	From film and sunny side
Substrate thickness	2 mm – 6 mm
Substrate material	Float glass
Particle extraction	From film and sunny side
Thin-film technologies	CdTe, CIS, CIGS, Perovskite, functional surfaces
Alignment	Pattern recognition
System dimensions (W x H x D)	Approx. 1600 mm x 1700 mm x 2100 mm
Control cabinet (W x H x D)	Approx. 1200 mm x 1940 mm x 800 mm
Weight	Approx. 3500 kg



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