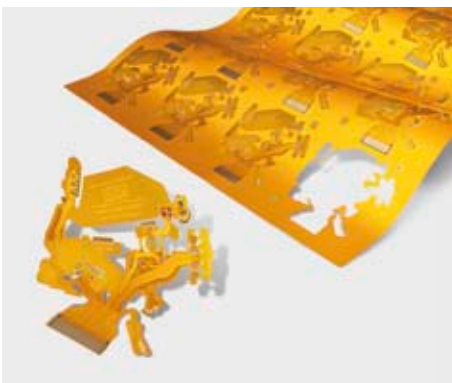
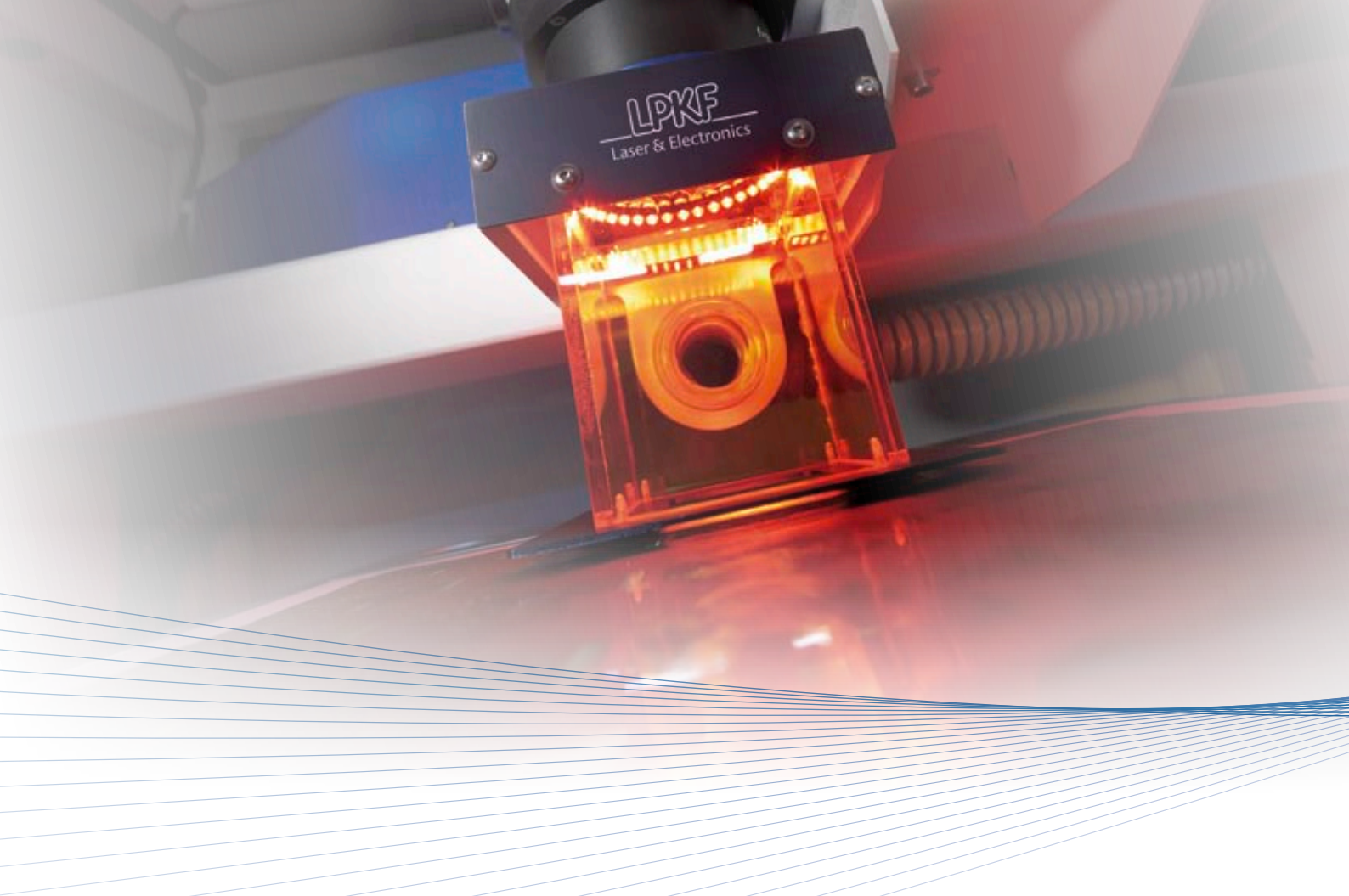


Affordable UV-Laser Cutting
of FPCs and Cover Layers
Small and Powerful: LPKF MicroLine 1000 P





Precise Laser Cutting

Low cost meets high quality. The newly designed UV laser system, the LPKF MicroLine 1000 P, has been developed for a low cost entry into laser cutting of flex circuits and cover layers – laser precision with an excellent price/performance ratio.

No Stress, no Burr, no Particles

Take advantage of the proceedings in laser and motion technology for accuracy and a faster time to market in the FPC industry.

Ready for complex shapes: eliminating limitations of tooling the UV laser cuts complex contours with tightest tolerances in flexible base material right from layout data. LPKF's special exhaust system provides clean cuts and avoids pollution in the work environment. The MicroLine 1000 P produces virtually neither burr nor particles.

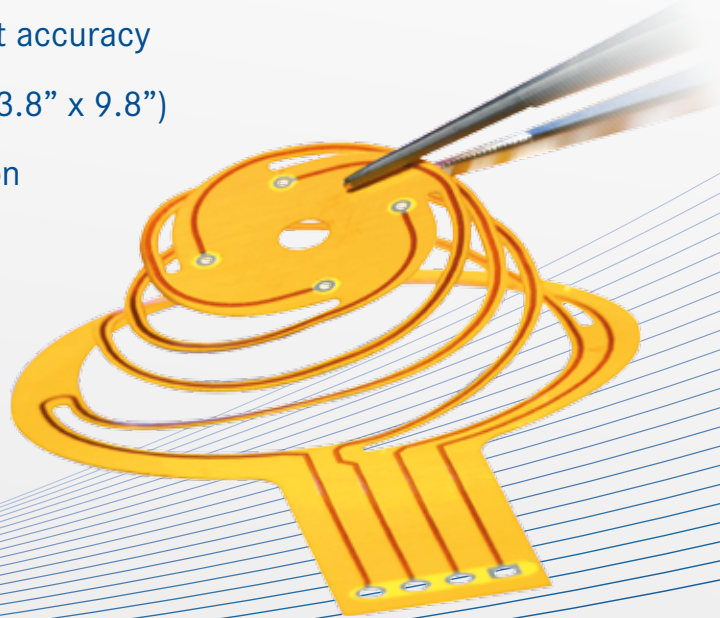
Low Investment and Cost of Ownership

The innovative laser system is very affordable to acquire. Furthermore the laser process eliminates operational cost and reduces changeover times. The integrated vacuum table holds the material in position. This sets a new benchmark in producing highest quality with lower unit costs and promotes a decision to utilize the LPKF MicroLine 1000 P system.

Flexible Production

Just change the contour data to cut new layouts. Within a few moments the MicroLine 1000 P is ready to produce another design. UV-Laser cutting gives new freedom in production planning from prototyping to mass production – production on demand.

- Cutting of complex contours at highest accuracy
- Working area of 350 mm x 250 mm (13.8" x 9.8")
- Small footprint, low power consumption
- Easy operation



Simplified Machine Control

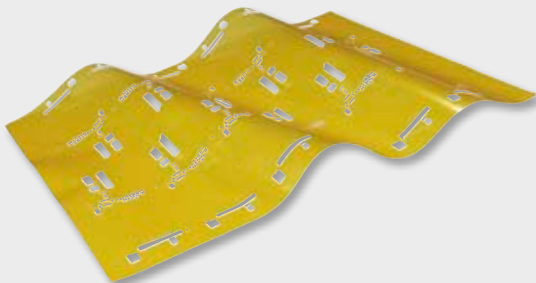
The data handling is very convenient and reduces changeover time to a minimum. Parameters are easy to choose with intuitive menu-driven software running on a sturdy industrial Touch-PC. All common data formats are supported.

Process-Integrated Quality Assurance

A new drift compensated scanning head and an automatic power stabilizing function based on two integrated power sensors – at the laser source and at substrate level – ensure the high process stability of the LPKF MicroLine 1000 P. An efficient vision system can even compensate for component tolerances.

Recommended Applications

The ability to cut complex shapes in a stress free process simplifies the processing of flexible materials while increasing the accuracy. The flexibility of the LPKF MicroLine UV laser system allows a large number of designs in a short time.



Cover Layer Cutting

More complex products require higher density and finer details. Laser technology provides the ability to cut the smallest apertures. Mechanical stress on the foil, die misalignment, and contamination of the work piece are all issues virtually eliminated by laser processing.



Cutting Flexible Circuit Boards

Due to the high process stability, the MicroLine 1000 P laser system is capable of unique shapes. A specifically developed laser source ensures optimum cutting results on FPCs. The built-in camera recognizes fiducial marks for position control to achieve a higher yield.

Enjoy Worldwide Support

MicroLine UV laser system users all over the world enjoy the short link to our application centers in Germany, the USA, Japan and China. There they receive support for their new project, new processes, and applications based on LPKF's years of experience in laser material processing. Training for your operating staff and technical service complete the beneficial relationship with the world leader in PCB laser cutting.

Please contact LPKF for application reports and further information.

Technical Data: LPKF MicroLine 1000 P	
Max. working area (X/Y/Z)	350 mm x 250 mm x 3 mm (13.8" x 9.8" x 0.1")
Max. recognition area (X/Y)	300 mm x 200 mm (11.8" x 7.9")
Data input formats	Gerber, X-Gerber, DXF, HPGL, Sieb & Meier, Excellon, ODB ++
Max. structuring speed	Depends on application
Accuracy	± 25 µm*
Diameter of focussed laser beam	20 µm (0.8 mil)
Laser wavelength	355 nm
System dimensions (W/H/D)	875 mm x 1,430 mm x 750 mm (34.5" x 56.3" x 29.5")
Weight	260 kg (573.2 lbs)
Operating conditions	
Power supply	110/230 V, 50 – 60 Hz, 1.4 kW
Cooling	Air-cooled (internal cooling cycle)
Ambient temperature	22° C ± 2° C (71.6 °F ± 4 °F)
Humidity	< 60 % (non-condensing)
Required accessories	Exhaust unit
Hardware and software requirements	User PC and CAM software included

* Positioning accuracy

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