

Automated Handling in the Depaneling Process

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LPKF simplifies integration of laser machines into lines

Cutting printed circuit boards cleanly, quickly, and without stressing the material is a must for efficient PCB manufacturing – and can easily be achieved with today's laser machines. LPKF now takes it one step further: With its state-of-the-art laser depaneling systems, the laser technology expert now also offers solutions for PCB handling before and after the cutting process.

Many PCB manufacturers have been waiting for this: automation solutions designed specifically to meet the requirements of depaneling. With them, LPKF further optimizes the laser depaneling process, which offers impressively high quality and speed, and anticipates users' needs. The laser machine for depaneling comes complete with an automated loading and unloading system that meets the high demands of modern PCB manufacturing. The new automation offering supplements the depaneling systems LPKF CuttingMaster 2000 and 3000 as well as LPKF MicroLine 2000.

With the flexible solution, the machine user now has a single contact partner for the entire depaneling process, taking care of both the handling and the depaneling. This eliminates the frequently tedious task of communicating with or between service providers. The application is even faster and easier.

Flexible and Precisely Aligned to Needs: Automated Handling

For large or small, populated or bare boards of any form and in any combination, the modularly designed handling system can be flexibly and precisely tailored to customer requirements. The in-house automation unit can be equipped with a variable cobot. Various application-specific carrier and gripper solutions are used. They are designed to enable handling of all the different panel layouts employed by the user; even the packaging of boards in customer-specific blister packs is possible.

LPKF offers suitable solutions both for high-volume manufacturing and for high-mix low-volume manufacturing. The portfolio bandwidth ranges from stand-alone manual load/unload laser systems to fully automated lines

with any combination of optional handling modules customized to meet the demands of any depaneling process. Integration into existing SMT lines can also be easily implemented.

Thanks to optimally designed software and communication via SMEMA or optional Hermes interfaces, laser depaneling systems from LPKF can be seamlessly integrated into existing and new manufacturing environments as well as manufacturing execution systems (MESs).

Through this approach, the systems provide for smooth production and data flows. This also enables the greatest possible transparency and control of production. Thus, they are perfectly equipped for the increasing automation and the requirements of Industry 4.0.

Overall, the handling solutions from LPKF are specially designed for the depaneling process. Like the cutting process itself, they can meet the highest demands for quality, cost efficiency, and flexibility.

Further information can be found on the company's website:

<https://www.lpkf.com/en/automated-handling>

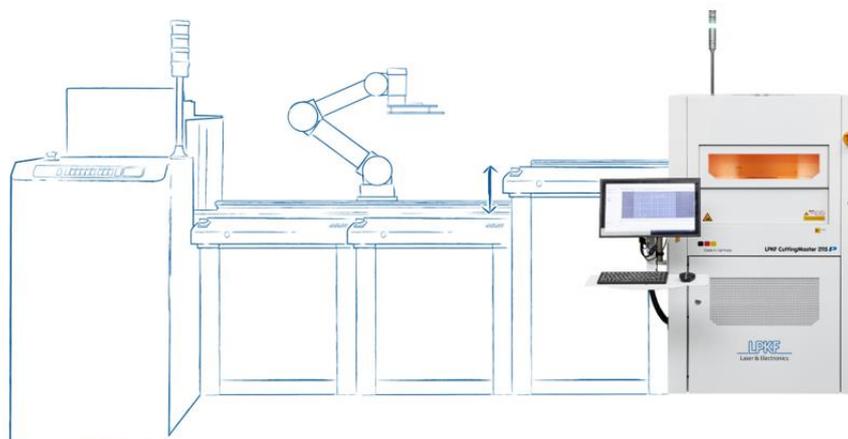


Fig. 1: The LPKF CuttingMaster can optionally be equipped with an automation solution and/or a variable cobot.



Fig. 2: With the help of a cobot, the panels are positioned on a specially designed tray before cutting, and subsequently collected from it. High throughput is made possible by the use of two carriers, which are operated alternately and thus allow the processing of two process steps at the same time.

About LPKF

LPKF Laser & Electronics AG is a leading provider of laser-based solutions for the technology industry. Laser systems from LPKF are key elements in the manufacturing of printed circuit boards, microchips, automotive parts, solar modules, and many other components. Founded in 1976, the company is headquartered in Garbsen, near Hannover, Germany, and has subsidiaries and representative offices throughout the world. Around 20 percent of the workforce is engaged in research and development.