

Top Technology for Laser Plastic Welding

LPKF PowerWeld 6600

- New software: Configure processes in a few minutes
- Large components or multiple loading
- Servo-clamping technology for power profile control
- Easy to operate, fast, precise



High-Speed Laser Welding – LPKF PowerWeld 6600 for the Economical Series Production of Large Components

Cutting-edge technology for the leading joining method: The LPKF PowerWeld 6600 makes the laser plastic welding of large components even more efficient and flexible. It combines short cycle time with high weld quality.

The LPKF PowerWeld 6600 is designed for the production of medium-sized and large series. The sophisticated machine concept is configured for easy operation and simple maintenance. Thanks to the calibrated scanning field, the process data can be swapped between PowerWeld 6600 laser systems without the need for any adjustments. The system is prepared for communication with the client's own MES, and integrates itself seamlessly into the upper-level production control system.

The variable servo-clamping technology ensures extremely precise control of the clamping forces. Application specific force profiles help realize sophisticated processes, such as when using double clamping tools. The working area measuring 500 mm x 350 mm allows the production of large components, or the processing of several components per load. When using double clamping equipment the system monitors the melt travel of the two parts separately.

With a laser power of up to 400 W, and a fast scanner system, the LPKF PowerWeld 6600 is optimized for short cycle times. The integrated time-travel monitoring of the melt travel provides reliable data on the welding quality. Additional monitoring methods can also be integrated.

The machine is controlled by a Soft PLC – making this system future-proof. The interface to the operator is provided by the intuitively operated LPKF WeldPro software. It visualizes all the process-relevant data, and is optimized for touch operation.

The laser process is set up using the LPKF ProSeT 3D processing software. This reads the data formats of the most important CAD programs, and previous LPKF welding processes. It takes only a few minutes to create an optimized welding contour. A number of intelligent program routines determine the fastest cycle times, take clamping tools into account, and can even reduce complex contours to simple curve progressions – with a simple mouse-click.

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Laser class	1
Laser parameters	Power: 300 W and 400 W; spot: 1.8 mm – 6.8 mm
Clamping pressure range	Up to 4 kN
Max. component size (X/Y)	Single clamping: 500 mm x 350 mm; Double clamping: 220 mm x 350 mm
Welding system dimensions (W x D x H)	1750 mm x 2300 mm x 2310 mm
Power supply	400 V, 16 A, max. 3 kW
Weight	2200 kg
Compressed air	4.5 bar – 10 bar
Ambient temperature	18 °C – 35 °C

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