

# Laser plastic welding at the highest technological level

## Integrated and efficient: LPKF InlineWeld 6600

- Powerful laser plastic welding system for integration in production lines with and without MES
- exceptionally short cycle times and minimized production costs
- Easy process setup due to state-of-the-art software and optics
- Integrated quality assurance and extensive interfacing options



# Efficient production of high volumes

The new InlineWeld 6600 sets benchmarks for the joining of plastic parts in fully automated manufacturing environments. The user-friendly software enables unrivaled efficient process setup. High-end functionalities as well as integrated process and quality control ensure the highest welding quality and optimum machine utilization.

The powerful LPKF InlineWeld 6600 laser system is designed for three-shift operation. It is space-saving and can be easily integrated into production lines thanks to standardized electrical and mechanical interfaces.

## Simple process equipment - economical application

The perfect interaction of hardware and software makes a major contribution to the economical use of the machine. After just a few mouse clicks, the software generates a contour that is converted into a perfect welding result on the calibrated working field. By simple copying of parameters and contours the setup can be transferred to other calibrated LPKF machines without any need of machine-specific adaption – for a reliable and comparable quality of your products worldwide.

## Efficiency in the production process

Thanks to the variable servo clamping technology and the homogeneous power distribution of the specially developed LPKF laser, the new generation of the InlineWeld 6600 achieves significantly shorter cycle times than standard systems. The optional use of double clamping technology further reduces production times. The high-precision clamping force control and the

specially developed beam profile ensure a consistently high joining quality over the entire weld seam.

The large, variably usable working field ensures flexibility regarding component sizes. The freely adjustable laser spot and automatic defocusing provide additional flexibility for different applications. The machine can react to the material composition or injection molding quality of the components to be joined, thus achieving optimum seam quality.

## Focus on process reliability

Integrated process monitoring ensures maximum process reliability. The time/joining path data are evaluated for each weld in the course of increased quality assurance. Temperature monitoring, directly at the melting point, will be available soon for a further significant improvement in process monitoring and quality assurance.

## Ideal for MES operation

The InlineWeld 6600 features a compact laser head with a separate control cabinet. The welding system for integration can be easily connected to an existing Manufacturing Execution System (MES).

LPKF InlineWeld 6600	
<b>Laser (laser class 1 after integration)</b>	380 W; 200 µm fiber; 980 nm wavelength
<b>Maximum part size (X/Y)</b>	Single clamping: 250 mm x 110 mm; Double clamping (2x): 110 mm x 110 mm
<b>Focused spot size</b>	2,2 mm – 4 mm (freely adjustable)
<b>Clamping force</b>	Max. 4 kN (single clamping); max. 2,5 kN (double clamping)
<b>Clamping unit</b>	Servo-clamping top down
<b>Welding system dimension (WxDxH) / Weight</b>	600 mm x 829 mm x 1773 mm (excl. cabinet) / 450 kg (excl. cabinet)
<b>Compressed air</b>	4,5 bar – 10 bar (dry and clean compressed air); only necessary when tool cooling is required
<b>Ambient temperature</b>	18 °C – 35 °C (under non-condensing conditions)

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