



LIAISIER EQUIPMENT®

LQ-Power Stand-alone laser plastics welding system with integrated rotary table

- Manual or automatic material feeding
- Flexible and fast clamping technology
- Reliability assured with integrated weld path monitoring
- All elements contained within one compact housing

LQ-Power Laser welding system with integrated rotary table

- Plug-and-play: the system can be fully customized before delivery
- Standardized feed adapters reduce typical changeover time to less than ten minutes
- Unit can be loaded and unloaded during a welding cycle – reducing cycle time

The LQ-Power is the latest evolution of laser plastics welding, available now as a turnkey solution. LPKF's fundamental understanding of the process and years of experience in mechanical and automation engineering stand behind this high quality laser plastics welding system. The system meets even the most rigorous industrial demands and quality requirements.

The LQ-Power handles workpieces as large as 160 x 160 x 100 mm (6.3" x 6.3" x 3.9"). Although the factory configuration is ideal for manual feeding from a standing or sitting position, the dual stations assure short process times. The system can also be configured at the factory for automated feeding for pick & place systems.



Sensor for automated manual gear



Automatic transmission sensor assembly



Automotive fuel-system components



Sensor for seating comfort



Complete software support

- Intuitive menu-driven software behind a simple touch-screen
- Fully programmable
- Easy to set parameters
- Integrated online process control
- Available with Siemens touch panel PC

Simple process setup

- ProSeT: Intuitive software for simple “teach-in” of new welding contours
- Pilot laser for easy adjustment of the welding contours on the workpiece

Maximum system uptime

- Siemens PLC components assure trouble-free operation
- High quality components by leading manufacturers
- Rugged engineering
- On-call professional service staff



Easy maintenance

- The system is fully integrated
- Quick and easy servicing of all components
- No external coolant necessary
- Requires only power and compressed air

Advanced security and ergonomics

- Laser welding system equivalent to laser class 1
- High-quality class 4 security systems
- CE certified
- Ergonomic operation
- Optional connection points for handles, bins, etc.

Options

- Wide variety of operator safety options (including mechanical, optical, etc.)
- Sealed reject box
- Remote maintenance system
- Patented air cooling technology for the workpiece



Technical data LQ-Power	
Description	Stand-alone laser-based plastics welding system with integrated rotary table for manual or automated processing
Laser beam source	Water-cooled fiber-coupled diode laser Wavelength: 980 nm (also available as 808 nm, 915 nm, or 940 nm) Laser power: 30–210 W (high power option up to 400 W) Fiber optic: 0.3 mm diameter (other diameters optionally available) Fiber optic with integrated connection, breakage, and temperature monitoring
Beam guide	Galvanometer scanner – aperture 20 mm (or 30 mm)
Working field and focus diameter	45 x 45 mm at 0.6 mm (1.8" x 1.8" at 23.6 mils) 110 x 110 mm at 1.2 mm (4.3 x 4.3 at 47.2 mils) 154 x 154 mm at 1.3 mm (6.1" x 6.1" at 51.2 mils)
Clamping technology	Pneumatic top-down clamping Electronic supervision of end positions Inductive measurement system to record the welding process Adapter plates for a variety of clamping tools
Rotary indexing table	WEISS rotary table allows for dual operation Rotary plate diameter: 600 mm (23.6") Universal adapters for workpiece carrier Maximum dimensions of workpiece: (W/H/D) 160 x 160 x 100 mm (6.3" x 6.3" x 3.9")
System control	Siemens 315 F failsafe CPU Siemens TP 170B touch panel controls Parameter management Remote control (optional) Industrial PC for process data archiving (optional)
Software	LPKF ProSeT software for programming the welding path
Online process monitoring	Process monitoring with - time control - process control - speed control
Interfaces	24 V control I/O lines Ethernet (optional) RS-232 (optional) PROFIBUS (optional)
Power requirements	Voltage: 400 V/16 A (Germany, others available) Current: max. 3 kW Air supply: 6 bar dry air
Environmental conditions	Maximum operating temperature: 40 °C (104 °F) Maximum humidity: 80% at 25 °C (77 °F)
Cooling system	Integrated water/air cooling unit Integrated water heat exchanger (optional)
Options	Exhaust port connection Exhaust with activated charcoal filter Clamping tool encoding Air-cooled clamping tools (patent pending) Advanced burn detection (patent pending)
Dimensions (W/H/D)	1.200 x 1.900 x 1.700 mm (47.2" x 74.8" x 66.9")

Specifications subject to change.



This machine is designed as a Class I Laser Product.

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