LPX LASER

MAG

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The new dimension in laser marking

Marking, engraving and lettering with linear actuator for three axes

Martin Trier

Simply tremendous:

Fast laser marking with linear actuator for three axes

LPX LASER MAG

Dimensions:
D 1200 mm x H 2200 mm x W 1160 mm.
Weight: 800 kg

For high loads. With best results.

With innovative marking lasers, T Laser has ever since set standards with regard to marking, engraving and lettering. The LPX Laser even tops it. The system impresses with a strong laser power of 50 W with highest precision. It is the ultimate solution for all imaginable marking and engraving tasks. The minimal spot width is 50 µm in a focused status at a pulse energy of max. 1.5 mJ.

The highly dynamic and precise laser processing station is equipped with a linear actuator for three axes. Each axis reaches an acceleration of 1 m/s2 at maximum speeds of 30 m/min. The solid granite construction along with a portal construction and direct position sensor system provide a maximum of precision.

The big work space (x axis: 600 mm, y axis: 600 mm, z axis: 380 mm) make the processing of big work pieces with a weight of up to 1,000 kg possible.

Highlights at a glance

- Pulsed fiber laser with excellent beam quality (M^2 <1.3) (Optionally available as a short-pulse laser)
- Maximum precision by synchronously moving all axes
- User-friendly setup with 3D joystick
- With the labelling software, all characters, objects, graphics, logos, bar codes, data matrix codes can be displayed.
- All steel materials, nonferrous metals can be labelled. Ceramics and glass (pre-processing with special laser marking spray).
- High marking quality: Abrasion-resistant, weather-resistant and environmentally friendly
- Non-contact and low-distortion processing
- Maximum lettering field size 700 mm x 700 mm
- Processing of work pieces with a weight of up to 1000 kg
- Positioning and repetitive accuracy of the linear axes: 0.01 mm
- Maximum acceleration of the linear axes 1 m/s^2
- Maximum travel speed 30 m/min

All very simple. All under control.

Through a camera-based adjustment function, the setup effort can be reduced to a minimum in the run-up to the material processing. Thanks to the high-resolution camera system, a component positioning with highest precision and low effort is implemented. The user has the possibility to create layouts for lettering on the work piece shown in real time as well as to watch the following work process live. A key feature of the software package is the automatic component recognition. Unpalletized and loosely introduced work pieces into the marking machine are recognized in their position by the software. Subsequently, the lettering will automatically be applied at the right place.

The position and orientation of each work piece is detected by the system. The lettering will automatically be applied at the right place.

1,000 kg are no problem at all for the LPX laser.

The plant is able to process and edit big or palletized work pieces with a weight of up to 1,000 kg in its generous space of 800 mm x 800 mm x 200 mm. This is made possible by a high-tech scanning head and three highly precise dynamic axes driven by linear engines. The axes reach a maximum acceleration of 1 m/s2 at a maximum travel speed of 30 m/min. The work bench consists of a thick granite plate. This ensures a completely vibration-free and highly precise processing at very high speeds. The maximum flexibility of the plant is further complemented by an axis of rotation and a rotary table that can be used optionally. As with all closed laser systems offi MT LASER, the plant meets the highest safety standards and can be used in all rooms without further safety precautions.

Even big size lettering of 700 mm x 700 mm can easily be applied to large work pieces.

Works seamlessly: In-house hardware and software

The system is controlled via a marking and engraving software developed bT Laser. The software with a big functionality fulfils several requirements for a modern industrial factory. It is ideal for surface finishing, post-processing of CAD files, list entries for marking sequences, external trigger control, direct entry of texts, barcodes, data matrix code, time and date, linear, radial and polylinear texts. Importing of AI, DXF, HPGL, BMP and JPG files, for example, is easily possible.

The entire editing process can be followed in real time using a high resolution camera. In addition, the integrated automatic component recognition improves the „marking on the fly" functionality as well as many other useful features and thus allows for an efficient and economic product use.

The included software provides extensive marking and engraving functions.

Technical data

Laser	MAG-30	SP*	MAG-50	SP*
Laser type	Fiber laser		Fiber laser	
Mean Power	30 W		50 W	
Wavelength	1067 nm		1067 nm	
Beam quality	M^2<1.3		M^2<1.3	
Stability (over 5 hours)	< 2%		< 2%	
Modulation	20-100 kHz	35-500 kHz	30-200 kHz	35-500 kHz
Pulse width	100 ns	1–300 ns	100 ns	35–300 ns
Max. power	15 kW	40 kW	15 kW	40 kW
Pulse energy	1500 µJ	850 µJ	1500 µJ	1500 µJ
Scanner				
Lettering speed	10.000 mm/s 550–1000 characters/s			
Positioning speed	17.000 mm/s			
Min. resolution	0,012 mrad			
General				
Power connection	230/1/50/16A			
Power rating	3600 W			
Cooling	Air cooling			
Ambient temperature	10–40°C			
DImensions and weight				
Fiber length	300 cm			
DImensions	T 1200 mm x H 2200 mm x B 1160 mm			
Weight	800 Kg			

SP*: short puls for best results

Workspace:
X axis 600 mm
Y axis 600 mm
Z axis 380 mm

Feed:
Quick movement
X/Y/Z 30/30/30 m/min

Working surface:
Mounting table 800 x 800 mm
Max. component height 200 mm

world of laser

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Your Engineering Quality is always on our focus
我们始终关注您的工程质量！