

Fiber Laser Marking Machines

The pulsed fiber lasers are used in the fiber laser marking machines. The excellent beam quality and power stability of the fiber lasers make our fibre laser markers a multi-purpose tool. Maintenance and lifetime of the product is no more an issue. The simple integration of the system requires no after-installation service. The fiber laser machine is the ideal solution for a broad range of industrial applications. Our laser marking systems are being widely used in laser marking of hard, fragile or soft products or materials in production lines.

Machine Parameters:

Model:		STX-F20/30/50/100
Laser parameters	Optical laser	Fiber Laser
	Laser wavelength	1064nm
	Average output power	20/30/50/100W
	Modulation frequency range	20kHz~80kHz
Galvo Parameters	Maximum speed	7000mm/s
	resolution	0.001mm
	Repositioning precision	±0.003mm
Optical Output Characteristics	Marking area	110*110mm/200*200mm/300*300mm
	Minimum line width	0.01mm
	Minimum height of characters	0.2mm
Cooling system	Cooling way	Air cooling
System Properties	Laser power supply	0.5KW/AC220V/50Hz~60Hz(optional 110V)
	Manual working table stroke	Movements itinerary 285 mm (desktop type)
	Environmental requirements	0 ~ 35 ° C, 90% or humidity

Typical Applications:

1. Laser marking of metal & non-metal materials and products: stainless steel, copper, aluminium alloy, ceramics, plastics, organics, thermo-elastomer rubbers, paper, name cards, turbine blades
2. Electronic industry: capacitor, inductor, PCB, IC, connector, control panel, instrument
3. Others: cosmetics, food package, bottle, gift, advertisement & sign crafts, craft & gift making

Design Configurations:

a. Open Type Portable Fiber Marker



b. Enclosed Type Portable Fiber Marker



4. Fly-Marking Type Fiber Marker

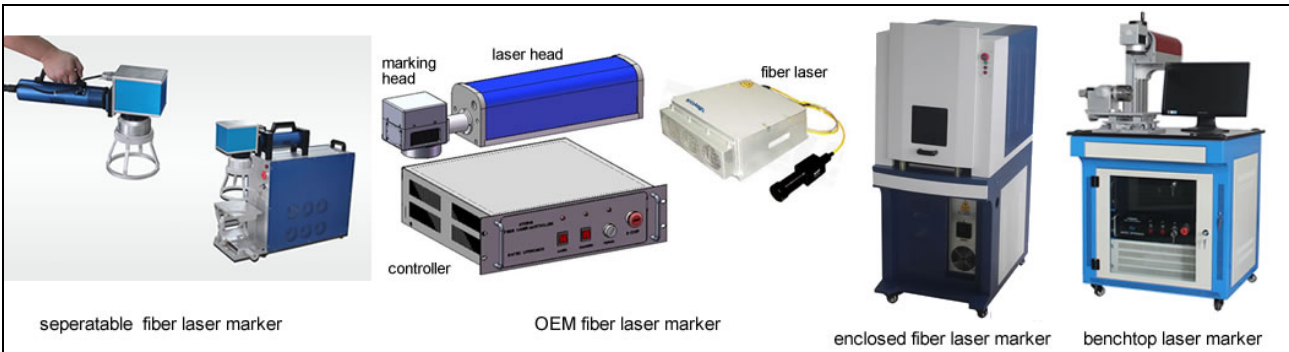


d. Desktop Type Fiber Marker



Above is our standard marker configurations. We can provide more and custom-designed configurations according to your specific needs such as OEM, integrated, portable, enclosed and mini fiber laser markers. For portable laser marker, you may need a lab jack to place your workpiece. For integrated marker, the laser is placed on a Z-axis adjustable table to mark the workpieces with various heights. For safety, you can use an enclosure to cover the laser. For OEM laser marker, you just buy these individual parts/system and then you assemble these parts into your own marking system.

Also there are many brands of fiber lasers to be selected according to your needs on quality and pricing. Please call us if you have any further questions.



Various Laser Markers for Specific Applications



UV Laser Marking Machines

To meet the growing demand for industrial precision processing, we have creatively developed the diode end-pumped Q-switched UV laser marking machine. It is small, compact and low power consumption. This laser machine can meet the requirements of most industrial precision processing.

Features:

- Fully sealed cavity
- Excellent power drift < 2%
- Low power consumption
- User-friendly GUI
- Long life span

Applications:

- Short wavelength with high photon energy
- Micro & precision machining
- Heat sensitive processing
- Cutting, marking, drilling, and prototyping
- Flexible PCB, PCB, wafer, glass, IC industrials



Optional:

- Auto Z axis
- XY stage
- Rotary table
- Flip/flop stage
- Vision system
- Loading/unloading stage
- Enclosed cabinet

Specifications:

Model:		STX-UV3
Laser parameters	optical maser	UV laser
	Laser wavelength	355nm
	Average output power	3W
	Modulation frequency range	20kHz~80kHz
Galvo parameters	Maximum speed	7000mm/s
	resolution	0.001mm
	Re-positioning precision	0.003mm
Optical output Characteristics	Marking range	110*110mm or 200*200mm
	Minimum line width	0.01mm
	Minimum height of characters	0.2mm
Cooling system	Cooling way	Water Cooling
System properties	Laser power supply	0.5KW/AC220V/50Hz
	Environmental requirements	0 ~ 35 ° C, 90% or humidity

Remarks:

- 1) Other laser power level 5W/10/15W available.
- 2) Other laser wavelengths 1064nm/532nm available.
- 3) More configurations available as shown as follows:

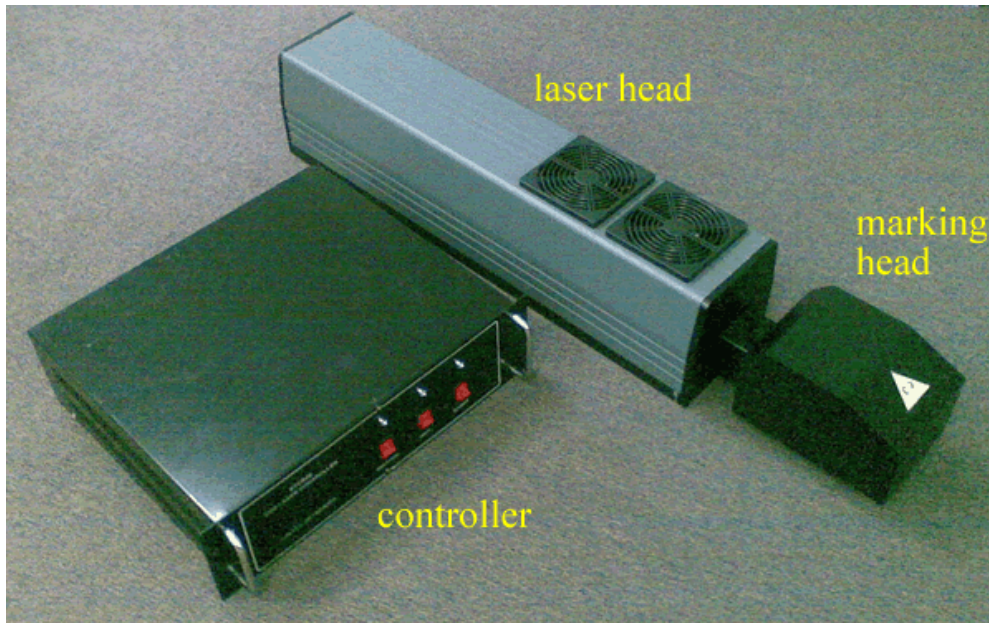
Samples:

Application Notes:

1. Marking field: Marking field depends on scan lens (f-theta lens) once other parameters and parts are confirmed. Large field sizes demand the use of lenses of long focal length. In turn, this leads to increase focused spot size and decrease laser power density on the workpiece. Thus reasonable mark field should be carefully selected. If both small focused beam diameter (narrow line width) and large marking field are simultaneously required, a XY moving table is recommended for best performance. However, there may be a little alignment along the junction edges of neighbour divisions since the moving accuracy and resolution are always limited.
2. Focused beam diameter: The focused beam diameter is related to f-theta lens, beam expander and laser parameter (beam quality, beam diameter, beam divergence etc). Higher laser power always needs larger beam diameter and thus results in worse beam quality (such as larger divergence angle etc) and further results in larger focused beam diameter.
3. Mark linewidth: in order to get narrow linewidth, 1) you may use the f-theta lens with smaller mark field and beam expander with larger beam expansion ratio. 2) You may increase beam quality by inserting an aperture inside laser resonator. 3) you may increase the marking speed.

CO2 Laser Marking Machines

For OEM users or laser integrators or the end users for the production line, we can provide OEM laser markers at more attractive prices. The OEM laser marker consists of 3 parts: a laser head with marking head, a control box, a D/A card & marking software. A chiller may be needed depending on the CO2 lasers used.



Specifications:

Laser wavelength	10.6um
Laser power	10W/30W/50W
Mark linewidth	0.15mm
Marking field (mm)	50x50 - 250x250
Marking speed	<5m/sec
Weight (laser with mark head)	20kg
Electric	200VAC, 50/60Hz

Remarks: 1) various brands of CO2 lasers available according to customers' applications and request.
 2) other laser power levels and marking fields available upon request..
 3) custom-design and -making available.

Typical Applications:

1. Laser marking of non-metal materials and products: acrylic, ceramics, plastics, polycarbonate, organics, wood, thermo-elastomer rubbers, paper, button.
2. Electronic industry: capacitor, inductor, PCB, IC, connector, control panel, instrument.
3. Others: button, cosmetics, food package, bottle, gift, advertisement & sign crafts, craft & gift making.

Other CO2 lasers & customised laser marking systems available upon request.



Flying CO2 Laser Marker

A flying CO2 laser marker consists a CO2 laser marker, automatic feeder (conveyor) and relevant support. It integrates laser technology, accurate mechanism, electronic technology and computing science. In general, a CO2 laser is used and also an optical galvanometer scanner (marking head) is used to scan the laser beam.

The flying marker is widely used in electronic, medical, tobacco, package, byproduct industries. It is used for marking and encoding in costume accessories, food and drink packaging, leather, rubber, crafts, textiles, electronic parts, name plates, construction ceramic, pharmaceutical etc.

Main technical specifications:

Laser wavelength: 10.6um (others available upon request)

Laser power: 30W or 50W (others available upon request)

Marking field of marking head: 100x100mm (others available upon request)

Maximum flying speed: 28m/min (others available upon request)



Topspeed Series: PCB Laser Marking Machine



PCB laser marking machine is specially used for marking PCB. This machine can be integrated and synchronized with other machine or production line, which can realize automation for mass production.

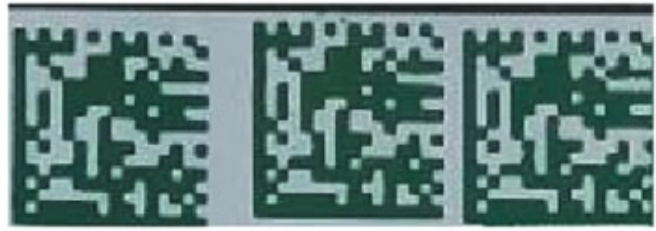
Product Features:

- Object recognition and matching: multiple CCD camera can quickly recognize markers or holes on PCB, then calculate the position offset and feedback to control system, then automatically calculate the marking position, matching with PCB position.
- Laser guiding: via CCD quickly move to targeted positions by laser beam.
- flattening system: PCB maybe be distorted after few manufacturing processes, this machine can flatten PCB.
- This machine can be operated individually, and also can be integrated with the existing production line. We can customize the product to satisfy customer requirements.

Technical Specifications:

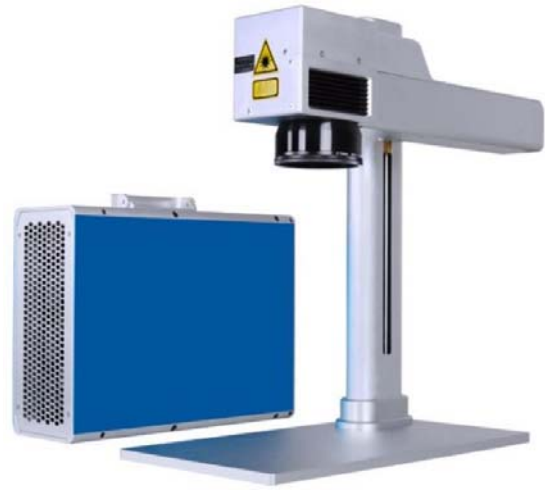
Serial number	Topspeed 730-6X
Average power	<50W (optional other power ranges upon request)
PCB thickness	0.8-3.2mm or customer's request
Maximum PCB size	730X630mm (other sizes available upon request)
Minimum PCB size	350X350mm (other sizes available upon request)
Speed	Production line 6 pieces PNL/min (PNL markers number≤80 or 2D code number ≤24)
Positioning accuracy	±0.1mm
Repeatability	±0.02mm
Marking linewidth	~0.15mm
Positioning time	<1.5s
Cooling	Air cooling
Power supply	220VAC/50Hz
Environment	15°C~30°C (not too humid)

Processed samples :



Mini Fiber Laser Marking Machines *NEW

Recently, we have developed a mini fiber laser marker, which is very compact and portable. The pulsed fiber lasers are from our standard-sized fiber laser marking machines. The excellent beam quality and power stability of the fiber lasers make our fiber laser markers a multi-purpose tool. Maintenance and lifetime of the product is not an issue. The simple integration of the system requires no after-installation service. The fiber laser machine is the ideal solution for a broad range of industrial applications. Our laser marking systems are being widely used in laser marking of hard, fragile or soft products or materials in production lines.



Features

- No maintenance
- Compact, little space needed
- Portable, easily stored if not in use
- Same performance as standard laser marker
- Many different applications in one solution

Laser Head				
Laser type	Pulsed fiber laser	Pulsed fiber laser	Pulsed fiber laser	Pulsed fiber laser
Laser wavelength (nm)	1060-1080	1060-1080	1060-1080	1060-1080
Laser power (W)	10	20	30	50
Cooling method	Air	Air	Air	Air
Marking Head				
Scanner	High-speed optical galvanometers			
Marking field	100x100 mm (others available upon request)			
Max scanning speed	300 characters/second or 10m/s			
Marking line	Min. 0.05mm			
Marking software				
Various fonts, pictures (PLT, BMP), automated series numbers, barcodes, DataMatrix				

Typical Applications:

5. Laser marking of metal & non-metal materials and products: stainless steel, copper, aluminium alloy, ceramics, plastics, organics, thermo-elastomer rubbers, paper, name cards, turbine blades
6. Electronic industry: capacitor, inductor, PCB, IC, connector, control panel, instrument
7. Others: cosmetics, food package, bottle, gift, advertisement & sign crafts, arts & craft