STX/ST Series Fiber Laser Marking Machine

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.

1. STX Series Fiber Laser Markers

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:

- 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
- Electronic industry: capacitor, inductor, PCB, IC, connector, control panel, instrument
- 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

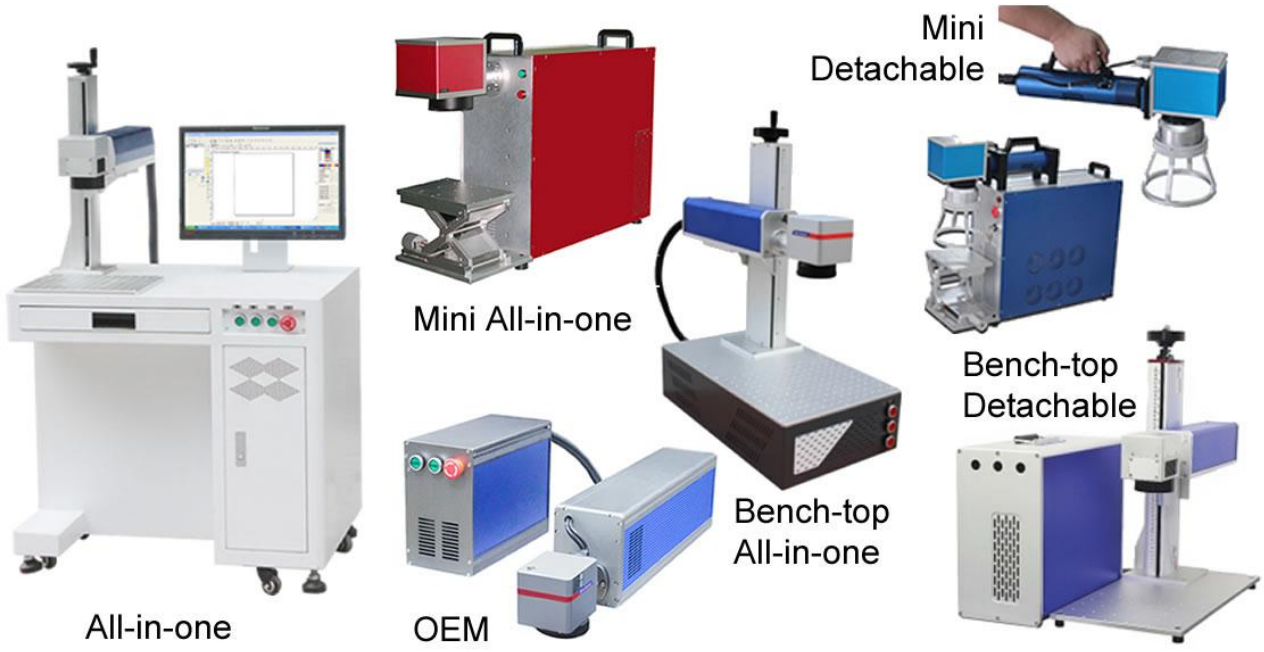
b. Fly-Marking Type Fiber Marker

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 height. 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.

2. ST Series Fiber Laser Markers



For the detailed information on the components used in the machine, please refer to the following:

- Fiber laser marking machines: https://www.sintec.sg/LaserMachines/354.html
- Fiber lasers: https://www.sintec.sg/Lasers/423.html
- Laser marking head: https://www.sintec.sg/LaserParts/478.html
- Laser marking card and software: https://www.sintec.sg/LaserParts/483.html
- F-theta lens: https://www.sintec.sg/optics/390.html

Type	Outlook	Description
1. All-in-one		● Composition: all-in-one, including fiber laser, power supply, mark head, optics assemble, mark card and software, Z-axis adjustable, work surface ● Laser power: 20W/30W/50W/100W available ● Mark head: LSJC series (other available) ● Mark area: 100x100mm (other available) ● Mark card: USB connection ● Z-axis: 480-500mm adjustable ● Work surface: 320x280mm ● Dimension: 800x650x775mm
2. Mini Detachable		● Composition: controller and hand-held marking head. The controller includes fiber laser, power supply, mark card and software, Z-axis adjustable stage, and the hand-held marking head includes a mark head and optics assemble ● Laser power: 20W/30W/50W available ● Mark head: LSJC series (other available) ● Mark area: 100x100mm (other available) ● Mark card: USB connection ● Z-axis: 85-208mm adjustable ● Work surface: 150x210mm ● Dimension: 635x600x209mm

3. Mini All-in-one		● Composition: fiber laser, power supply, mark head and optics assemble, mark card and software, Z-axis adjustable stage ● Laser power: 20W/30W/50W available ● Mark head: LSJC series (other available) ● Mark area: 100x100mm (other available) ● Mark card: USB connection ● Z-axis: 85-208mm adjustable ● Work surface: 150x210mm ● Dimension: 680x209x510mm
4. OEM		● Composition: controller and mark head with optics assemble. The controller includes fiber laser, power supply, mark card and software ● Laser power: 20W/30W/50W available ● Mark head: LSJC series (other available) ● Mark area: 100x100mm (other available) ● Mark card: USB connection
5. Bench-top Detachable		● Composition: controller and mark head with optics assemble & Z-axis stage. The controller includes fiber laser, power supply, mark card and software ● Laser power: 20W/30W/50W available ● Mark head: LSJC series (other available) ● Mark area: 100x100mm (other available) ● Mark card: USB connection ● Z-axis: 550mm adjustable ● Work surface: 560x350mm ● Dimension: 405x209x393mm & 350x560x682mm
6. Bench-top All-in-one		● Composition: controller, mark head with optics assemble and Z-axis stage. The controller includes fiber laser, power supply, mark card and software ● Laser power: 20W/30W/50W available ● Mark head: LSJC series ● Mark area: 100x100mm (other available) ● Mark card: USB connection ● Z-axis: 550mm adjustable ● Work surface: 600x350mm ● Dimension: 700x350x800mm ● Weight: 21kg

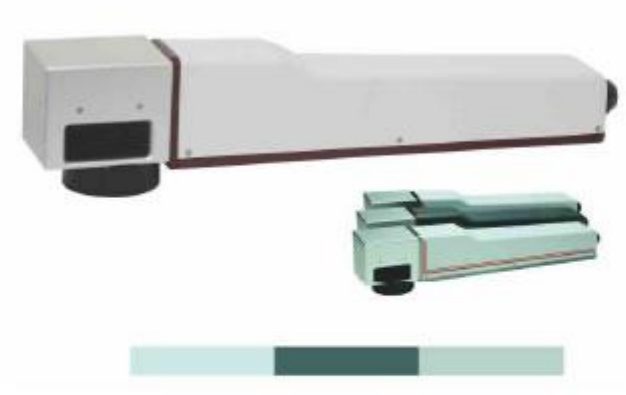
Outlooks Available

We have the following more stages, tables and outlooks for your selection: Custom-made available upon request.

STM-02-004
430x95x110mm

STM-02-005
430x95x110mm

STM-02-007
500x100x100mm



STM-02-008
480x80x105mm

STM-03-001

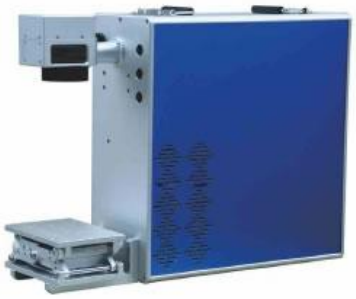
STM-03-002

STM-03-003

STM-03-004

STM-03-005

STM-03-006



STM-03-007
700x210x530mm

STM-03-008
720X210X510MM

STM-03-009
830X460X782MM

STM-03-010
430X672X685mm

STM-03-011
430x760x736mm

STM-03-012
485x550x672mm

STM-04-001
Cabinet:
840x650x870mm
Z-adjustable:
120x60x620mm

STM-04-002
Cabinet:
710x610x760mm
Z-adjustable:
120x80x620mm

STM-04-003
Cabinet:
710x750x1503mm
Z-adjustable:
120x60x620mm

STM-04-004
Cabinet:
760x610x750mm
A-adjustable:
120x60x620mm

STM-04-005
Cabinet:
720x600x670mm
A-adjustable:
120x60x620mm

STM-04-006
Cabinet:
600x750x723mm
Z-adjustable:
120x60x620mm

STM-04-007
Cabinet:
720x505x820mm
Z-adjustable:
120x60x620mm

STM-04-008
Cabinet:
650x730x730mm
Z-adjustable:
90x60x620mm

STM-04-009
Cabinet:
760x600x750mm
Z-adjustable:
90x60x620mm

STM-04-010
Cabinet:
840x650x750mm
Z-adjustable:
120x60x620mm

STM-04-011
Cabinet:
842x730x600mm
Z-adjustable:
120x60x620mm

STM-04-012
Cabinet:
830x880x770mm

STM-05-001
Cabinet:
982x650x1620mm
Suitable for fiber &
DPSS UV laser markers

STM-05-002
1100x750x1712mm
Suitable for fiber &
DPSS UV laser markers

STM-05-003
1200x660x1600mm
Suitable for fiber &
DPSS UV laser markers

STM-05-004
1200x662x1600mm
Suitable for fiber &
DPSS UV laser markers

STM-05-005
1205x740x1700mm
Suitable for fiber &
DPSS UV laser markers

STM-05-006
1100x790x1730mm
Manual or motorised door
Suitable for fiber &
DPSS UV laser markers

STM-05-007
1011x650x1687mm
Manual or motorised door
Suitable for fiber &
DPSS UV laser markers

STM-05-008
Cabinet:
710x750x753mm
Z-adjustable:
170x170x630mm
Suitable dynamic CO2
laser markers

Application Notes:

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 pisions since the moving accuracy and resolution are always limited.

Focused beam diameter: The focused beam diameter is related to f-theta lens, beam expander and laser parameter (beam quality, beam diameter, beam pergence etc). Higher laser power always needs larger beam diameter and thus results in worse beam quality (such as larger pergence angle etc) and further results in larger focused beam diameter.

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.