



## High Speed End-pumped Laser Marking Machine

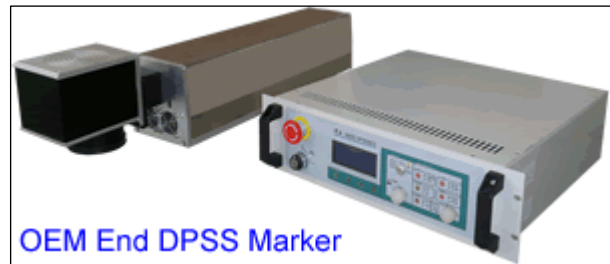
To meet the growing demand for industrial precision processing, we have creatively developed the diode end-pumped Q-switched laser marking machine. It is air-cooled, small, compact and low power consumption. The laser beam is TEM<sub>00</sub> with high beam quality, high peak power and short pulse width. Excellent resonator design can keep average laser power and pulsed peak power stable & constant. This laser machine can meet the requirements of most industrial precision processing.

### Comparison between our End-pumped Laser Marker and other Laser Markers:

Machine Type	M <sup>2</sup>	Frequency (Hz)	Min line width	Power consumption	Features
End-pumped (Air-cooling)	<1.2	<50k	35μm	<0.5kw	Long lifetime, Maintenance-free
Side-pumped (Water-cooling)	<3	<10k	90μm	<2.0kw	Exchange water per 3 months
Fiber laser (Air-cooling)	<1.5	20k~50k	20μm	<0.5kw	Short lifetime, High price
Lamp-pumped (Water-cooling)	<10	<10k	60-120μ	<5.0kw	Exchange lamp per 2000 hrs

The above table shows that end pump laser marking machine is significantly better than any other mainstream markers whether in terms of laser characteristics or in the use and maintenance.

There are two types of configurations: OEM marker and integrated marker.



OEM End DPSS Marker

### Main Technical Characteristics:

- (1) Air cooling, small size and compact.
- (2) TEM<sub>00</sub>, high beam quality, M<sup>2</sup>≤1.2, can mark fine lines, suitable for high precision marking applications.
- (3) High quality Q-switch, narrow pulse width, high peak power, high power stability, subtle thermal ablation.
- (4) High pumping efficiency with fiber coupled diode laser and long lifetime (20,000 hrs).
- (5) Laser is airproof via vacuumized.
- (6) High performance price ratio.

### Applications:

End-pumped diode laser marking machine is suitable for marking on various materials, such as nylon, ABS, PVC, PES, steel, titanium, copper, plating materials, coating materials, sprayed materials, plastic, rubber, epoxy resin etc.

And it can mark character, pattern, batch number, production date, bar code, logo etc.



Integrated End DPSS Laser Marker

End-pumped diode laser marking machine has excellent performance in different fields, such as cellphone, jewellery, crafts, scribing, film engraving, laser marking & engraving, resistance trimming, distance measuring, scientific research etc.

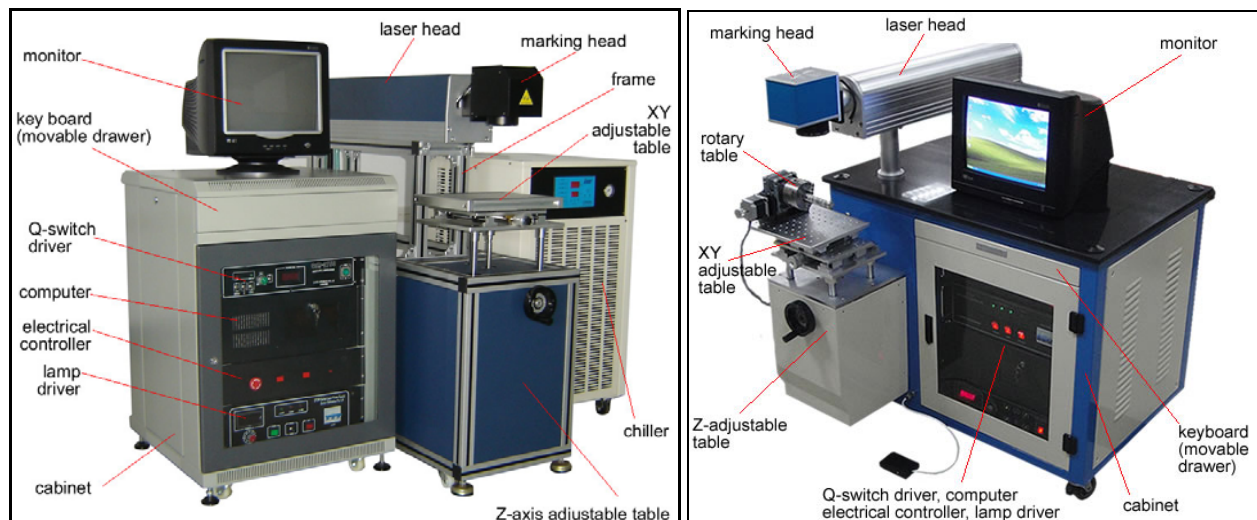
**Technical Specifications:**

Model	M-DPSS-10
Laser wavelength	1064nm
Average laser power	12W@CW 3.0W@2kHz 6.3W@10kHz 8.5W@20kHz
Focusing spot diameter	~0.05mm
Laser beam divergence	≤1mrad
Pulse width	15~30ns
Peak power	142kW@2kHz, 48kW@10kHz, 26kW@20kHz
Beam mode	TEM00
M <sup>2</sup>	≤1.2
Modulation frequency range	1kHz - 60kHz
Stability of power	≤2%
Cooling	Air cooling
Warm-up time	3~5min
Power supply	220VAC/50Hz
Ambience	15°C~30°C (Non-condensing)
Marking area (mm <sup>2</sup> )	70×70, 110×110, 150×150, 175×175 (According to customer's requirement)

## Integrated Lamp-pumped Nd:YAG Laser Marking Systems

Laser marking methods offer several advantages when compared to traditional marking and labelling practices. A list of typical advantages might include ability to produce high-quality permanent and contamination-free marks, no character distortion since the method is non-contact, easily automated and integrated into manufacturing systems, and can have high speeds and throughputs. The flexibility of laser marking often helps improve the product quality, traceability, process control, and customer satisfaction. Laser marking systems are often more economical, especially when applied to high production line applications. Imported key components used in our laser marking systems result in high performance, good beam quality & low maintenances. We also use high-speed optical galvanometers made in USA for laser beam scanning and our own powerful laser marking software. Our laser marking systems are being widely used in laser marking of hard, fragile or soft products or materials in production lines.

	M-YAG-50	M-YAG-75	M-YAG-100
<b>Laser Head</b>			
Laser type	Lamp-pumped Nd:YAG lasers		
Laser wavelength	1064 nm		
Laser beam diameter	4mm	5mm	5mm
Beam mode	Multi-mode (TEM <sub>00</sub> mode available upon request)		
Laser power	50W	75W	100W
Output stability	±3%		
Cooling method	Closed water cooling		
Power requirements	380VAC, 6.5KVA	380VAC, 7KVA	380VAC, 8KVA
<b>Marking Head</b>			
Scanner	High-speed optical galvanometers		
Marking field	110x110 mm(others available upon request)		
Max marking speed	300 characters/second or 10m/s		
Marking line	Min. 0.05mm		
<b>Marking software</b>			
Various fonts, pictures (PLT, BMP), automated series numbers, barcodes, DataMatrix			
<b>Options</b>			
Z-axis adjustable stage, XYZ-axis adjustable stage, chiller			



### 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, key board, oscillator
3. Others: cosmetics, food package, bottle, gift, advertisement & sign crafts, craft & gift making

We can provide OEMs and system integrators with a range of high performance laser marker components and sub-assemblies at more attractive prices. These components and sub-assemblies include laser head with marking head, Q-switch driver, lamp driver, marking software and chiller.

## Integrated Lamp-pumped Nd:YAG Laser Deep Engraving System

The laser is specially designed for deep engraving on metals. The laser can output long pulse width & high power energy, also can output short pulse width & high peak power for the deep engraving of different materials. Through the application of new technology, the peak power is around 10 times compared to the traditional lasers, reaching 300kW. High beam quality and high conversion efficiency make the laser the best choice for deep engraving applications. The engraved depth can reach 5mm.

The laser can be used in deep engraving of parts of automotive and motors, hardware tools, stainless steel products, medical parts, clock and watch, industrial bearing, mould. The materials to be engraved include copper, brass, aluminum, alloy, stainless steel etc.



Part number	M-YAG-100DEEP
Laser type	Lamp-pumped Nd:YAG lasers
Laser wavelength	1064 nm
Laser average power	Maximum 100W
Laser peak power	Maximum 300kW
Output stability	±3%
Cooling method	Closed water cooling
Power requirements	380VAC, 5KVA
Scanner	High-speed optical galvanometers
Marking field	110x110 mm(others available upon request)
Maximum engraving depth	5mm
Software feature	Various fonts, pictures (PLT, BMP), automated series numbers, barcodes, DataMatrix
Options	Z-axis adjustable stage, XYZ-axis adjustable stage, chiller

### Engraved samples



Tool steel



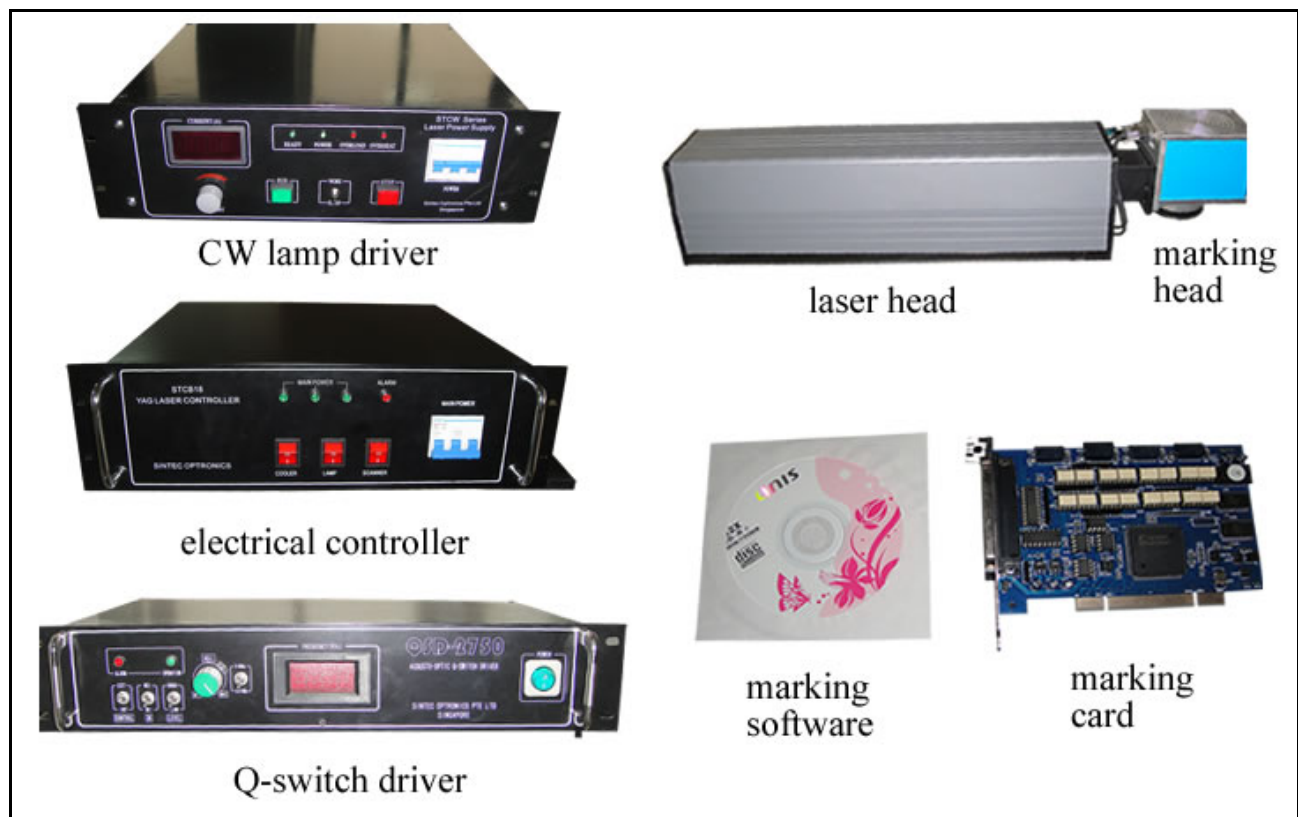
Brass

We can provide OEMs and system integrators with a range of high performance components and sub-assemblies of deep laser engraver at more attractive prices. These components and sub-assemblies include laser head with marking head, Q-switch driver, lamp drivers, marking software and chiller.

## OEM Lamp-pumped Nd:YAG Laser Marking Systems

We can provide OEM and system integrators with a range of high performance components and sub-assemblies of Nd:YAG laser markers at more attractive prices. These components and sub-assemblies include laser head with marking head, Q-switch driver, lamp driver, electrical controller and chiller.

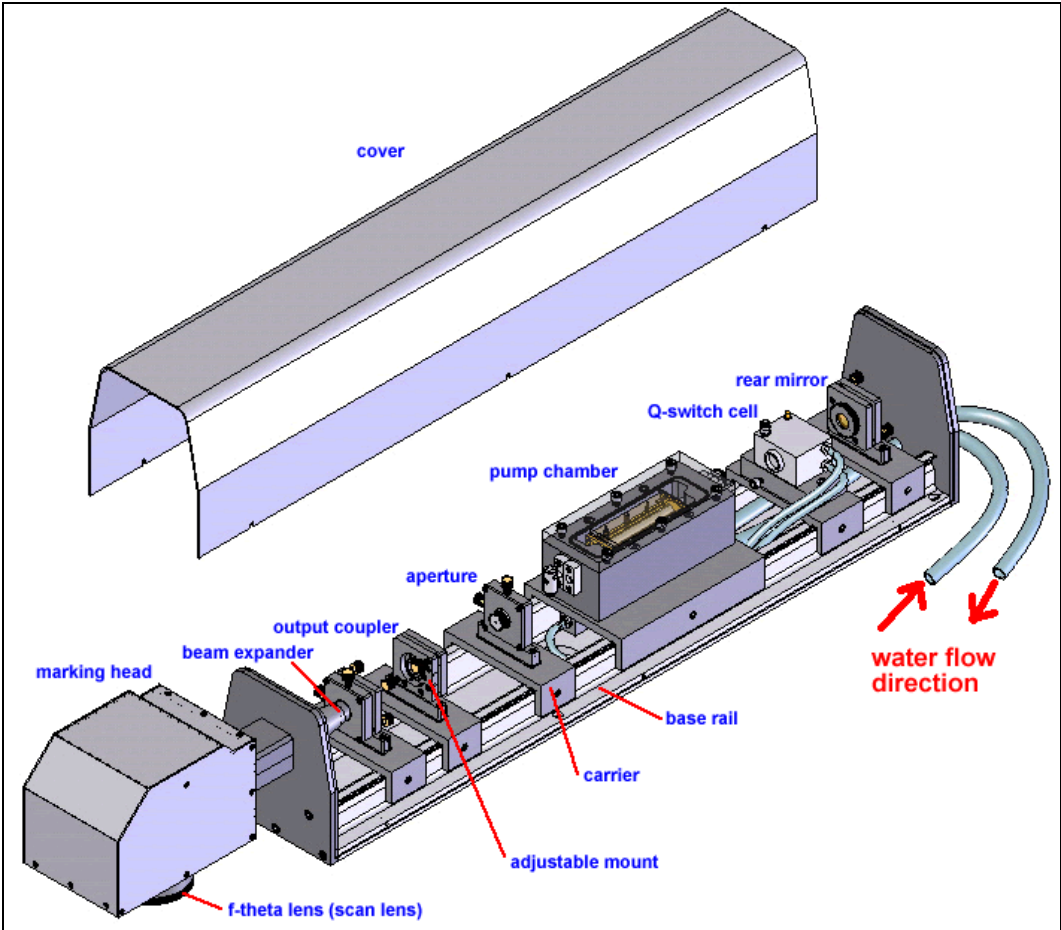
Model Number	Description	Option
M-YAG-50OEM	50W laser marker, including laser head with mark head LSCT-1064-12-110-6231, lamp driver STCW22A, Q-switch driver QSD2750, electrical controller STCB18, LMX-1 marking card and marking software	Chiller ST-LW52-PF
M-YAG-75OEM	75W laser marker, including laser head with mark head LSCT-1064-12-110-6231, lamp driver STCW22A, Q-switch driver QSD2775, electrical controller STCB18, LMX-1 marking card and marking software	Chiller ST-LW72-PF
M-YAG-100OEM	100W laser marker, including laser head with mark head LSCT-1064-12-110-6231, lamp driver STCW32A, Q-switch driver QSD27100, electrical controller STCB18, LMX-1 marking card and marking software	Chiller ST-LW72-PF



### 1. Laser Head with Marking Head

A laser head consists of optical rail (laser base), pump chamber, output coupler and rear mirror, AO Q-switch cell and beam expander, front plate, rear plate, and cover. Options include aperture and red pointer.

A laser marking head consists of scan mirrors, galvanometers & drive cards, galvanometer mount, scan lens (f-theta lens), marking card (PCI slot) and marking software (under Windows XP).



2. Q-switch Driver



The panel is standard 19 inch.

3. Lamp Driver



The panel is standard 19 inch.

#### 4. Electrical Controller

Including DC power supply of the marking head, replays, buttons, indicators, alarms etc.



#### Dimensions of OEM Laser Marker:

Laser head and marking head: 1120\*170\*180mm

Electrical controller: 483\*500\*135mm

Lamp driver: 483\*500\*135mm

Q-switch driver: 483\*90\*350mm

#### Pack Information

One box includes laser head and marking head and another includes controller, lamp driver and Q-switch driver. Their pack dimensions and weights are roughly as follows:

- controller, lamp driver and Q-switch driver: 580x530x630mm, 52kg;
- laser head and marking head: 1310x300x390mm, 45kg.

#### 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.

## Integrated Diode-pumped Nd:YAG Laser Marking Systems

We use foreign advanced laser technologies and new designs to produce our DPSS laser marking systems. Their performance is comparable with similar products in USA, but their prices are very attractive and competitive. These laser marking systems are widely used in industries such as electronics, semiconductor and precision machining for laser marking and trimming. Please visit our web sites for more pictures of marked samples.



Model	M-DPSS-50	M-DPSS-75
<b>Laser Head</b>		
Laser type	Diode-pumped solid-state lasers	
Laser wavelength	1064nm	
Max. laser power	50W	75W
Power stability	±3.0%	±3.0%
Q-switch frequency	<100kHz	<100kHz
<b>Marking Head</b>		
Scanner	High-speed optical galvanometers	
Marking field	110x110mm (others available upon request)	
Scanning speed	300 characters/second or 10m/s	
Marking line width	Min. 0.02mm	
Dimension	200X130×130mm	
<b>Marking software</b>		
Various fonts, pictures (PLT, DXF, BMP), automated series numbers, barcodes, DataMatrix		
Electrical requirements	220VAC, 2kVA	220VAC, 3kVA
<b>Options</b>		
XY table, XYZ table, Z-adjustable stage, chiller		

### Typical Applications:

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



## OEM Diode-pumped Nd:YAG Laser Marking Machines

We can provide OEMs and system integrators with a range of high performance components and sub-assemblies of diode-pumped Nd:YAG laser markers at more attractive prices. These components and sub-assemblies include laser head (diode pump module, laser resonator, Q-switch cell) with marking head, Q-switch driver, diode driver, marking software and chiller.

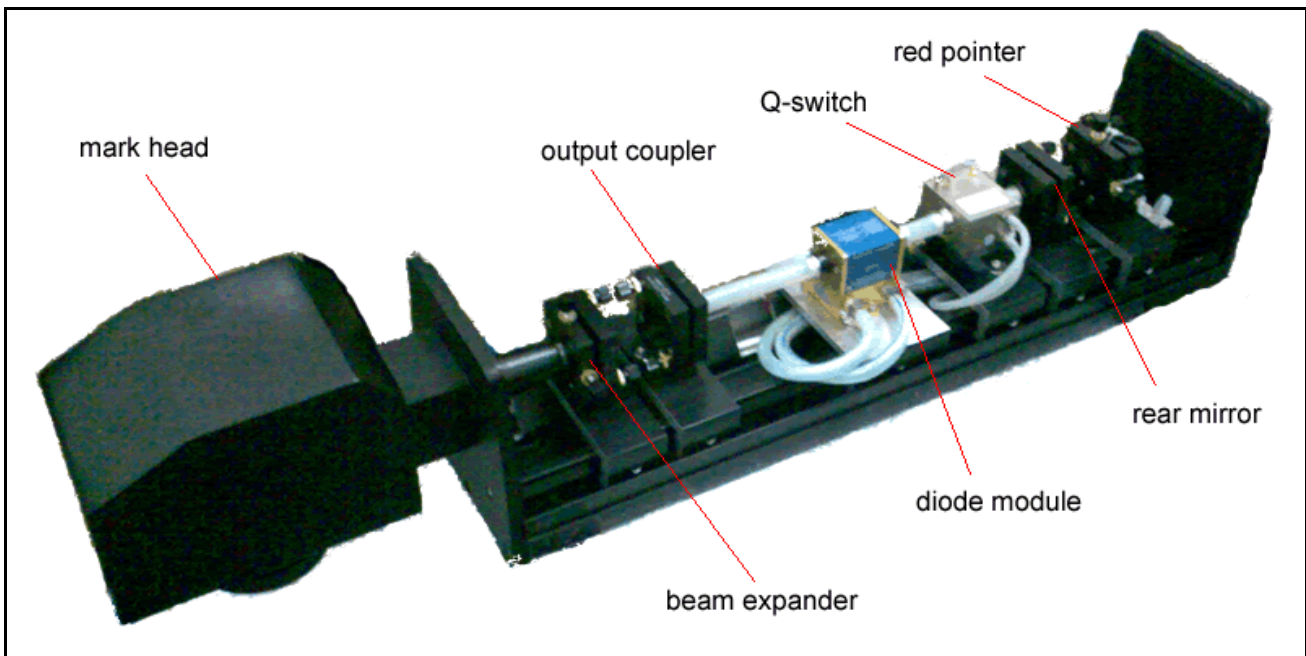
Model Number	Description	Option
M-DPSS-50OEM	50W laser marker, including laser head with mark head LS-1064-12-110, diode driver LDD3018, Q-switch driver QSD2750, electrical controller STCB18, marking card and marking software LMX-1	Chiller ST-LW16-PF
M-DPSS-75OEM	75W laser marker, including laser head with mark head LS-1064-12-110, diode driver LDD3024, Q-switch driver QSD2775, electrical controller STCB18, marking card and marking software LMX-1	Chiller ST-LW16-PF



### 1. Laser Head with Marking Head

A laser head consists of optical rail (laser base), diode pump module, output coupler and rear mirror with mount, beam expander, AO Q-switch, front plate, rear plate, and cover (option: aperture with mount & carrier).

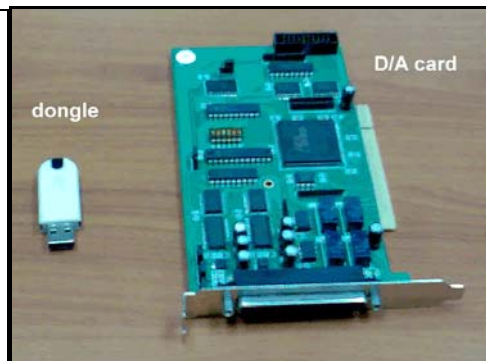
A marking head includes scan mirrors, galvanometers & driver, galvanometer mount, f-theta lens, DC power supply, Marking card (or called interface card, PCI slot or USB connection) and marking software (under Windows XP).



Laser head with marking head



Marking head



Marking card and software

## 2. Q-switch Driver



## 3. Diode Driver



#### 4. Electrical Controller

Including DC power supply of the marking head, replays, buttons, indicators, alarms etc.



#### Pack Information

One box includes laser head and marking head and another includes controller, diode driver and Q-switch driver. Their pack dimensions and weights are roughly as follows:

- controller, lamp driver and Q-switch driver: 580x530x630mm, 52kg;
- laser head and marking head: 1310x300x900mm, 45kg.
- chiller: 500x700x880mm, 62kgs

#### Application Notes:

4. 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.
5. 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.
6. 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.



## 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.



There are two types of configurations: OEM fiber laser marker and integrated fiber laser marker. For OEM 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.

### Part number description: **M-Fxxx-yyy-OEM**

M - laser marker.

Fxx - F means fiber laser, xx means fiber laser power in watt. We can use various brands of fiber lasers according to customers' specific requirements.

yyy - marking field in mm.

OEM – OEM fiber laser marker. No OEM means integrated fiber laser marker.

Model	M-F10-100	M-F20-100	M-F30-100
<b>Laser Head</b>			
Laser type	Pulsed fiber laser	Pulsed fiber laser	Pulsed fiber laser
Laser wavelength (nm)	1060-1080	1060-1080	1060-1080
Laser power (W)	10	20	30
Cooling method	Air	Air	Air
<b>Marking Head</b>			
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		
<b>Marking software</b>			
Various fonts, pictures (PLT, BMP), automated series numbers, barcodes, DataMatrix			

### 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

## CO2 Laser Marking Systems

### 1. SR Series Integrated CO2 Laser Marking Systems

Laser marking methods offer several advantages when compared to traditional marking and labelling practices. A list of typical advantages might include ability to produce high-quality permanent and contamination-free marks, no character distortion since the method is non-contact, easily automated and integrated into manufacturing systems, and can have high speeds and throughputs. The flexibility of laser marking often helps improve the product quality, traceability, process control, and customer satisfaction. Laser marking systems are often more economical, especially when applied to high production line applications. Smart CO2 lasers and high-speed optical galvanometers are from USA. Our own powerful laser marking software is developed by our engineers. These laser marking systems are being widely used in laser marking of hard, fragile, cylindrical or soft products or materials in production lines.



Model	M-SR-10	M-SR-25	M-SR-30	M-SR-50	M-SR-100
<b>Laser</b>					
Laser tube model	CO2-SR-10	CO2-SR-25	CO2-SR-30	CO2-SR-50	CO2-SR-100
Laser wavelength (um)	10.6	10.6	10.6	10.6	10.6
Laser power (W)	10	25	30	50	100
Power stability (%)	±5	±5	±10	±5	±6
Laser beam quality (M <sup>2</sup> )	<1.2	<1.2	<1.2	<1.2	<1.2
Beam mode	TEM <sub>00</sub>	TEM <sub>00</sub>	TEM <sub>00</sub>	TEM <sub>00</sub>	95%, TEM <sub>00</sub>
Beam diameter (mm)	3.5	3.5	3.5	3.5	3.5
Beam divergence (mrad)	4	4	4	4	4
Polarisation	Linear	Linear	Linear	Linear	Linear
Max. beam pulse (kHz)	10	10	10	10	10
Cooling method	Air	Air	Air	Water	Water
<b>Marking Head</b>					
Scanner	High-speed optical galvanometers				
Marking field (mmxmm)	50x50, 70x70, 105x105, 140x140, 210x210, 255x255 or others				
Scanning speed	300 characters/second or 10m/s				
Marking line (mm)	Min. 0.05				
<b>Marking Software</b>					
Various fonts, pictures (PLT, DXF, BMP), automated series numbers, barcodes, DataMatrix					
<b>Required Power Input</b>					
220VAC, 50Hz					

#### Typical Applications:

1. Laser marking of non-metal materials and products: acrylic, ceramics, plastics, polycarbonate, organics, wood, thermo-elastomer rubbers, paper
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.**

## 2. UL Series Integrated CO<sub>2</sub> Laser Marking Systems

UL series CO<sub>2</sub> lasers from USA are used. These lasers have high quality & good stability performance. High-speed optical galvanometers are used for laser beam scanning. Our own powerful laser marking software is suitable for producing characters, pictures, barcode and DataMatrix marking. These laser marking systems are being widely used in laser marking of hard, fragile, soft and cylindrical products or materials in production lines. The prices are very low but the quality is still high.



### Specifications:

Model	M-UL-10	M-UL-30	M-UL-50	M-UL-100
<b>Laser Head</b>				
Laser model	UL-10	UL-30	UL-50	UL-100
Laser power (W)	10	30	50	100
Beam quality M <sup>2</sup>	1.4	1.4	1.4	1.4
Beam diameter (mm)	4.0	4.0	4.0	4.0
Max. pulse frequency (kHz)	5	5	5	5
Cooling	Air			
<b>Marking Head</b>				
Scanner	High-speed optical galvanometer (USA)			
Marking filed (mm)	50x50,70x70,105x105, 140x140, 175x175, 210x210 or 255x255			
Max. scanning speed (m/sec)	8			
Marking resolution (mm)	0.05			
Dimension (mm)	210×138×120			
<b>Marking software</b>				
Various fonts, pictures (PLT, DXF, BMP), automated series numbers, barcodes, DataMatrix				

### Typical Applications:

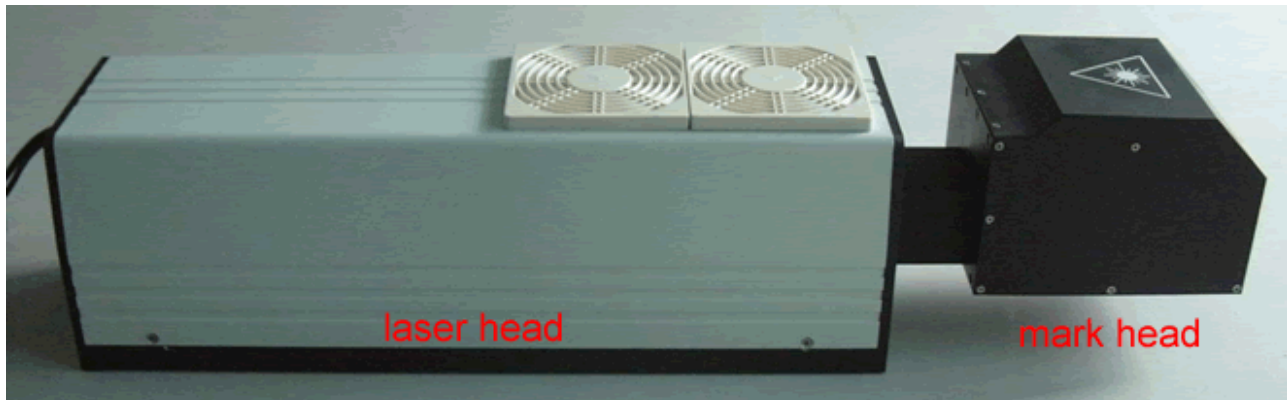
1. Laser marking of non-metal materials and products: acrylic, ceramics, plastics, polycarbonate, organics, wood, thermo-elastomer rubbers, paper, button.
2. Electronic industry: capacitor, inductor, PCB, IC, connector, control panel, instrument.
3. Others: button, cosmetics, food package, bottle, gift,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

**Other CO<sub>2</sub> lasers & customised laser marking systems available upon request.**



### 3. OEM CO2 Laser Marking Systems

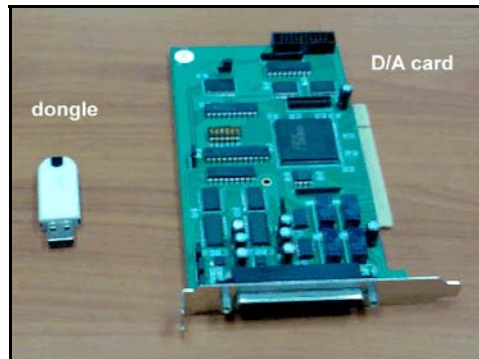
For OEM users or laser integrators or the end users for the production line, we can provide OEM laser markers at more attractive prices. The OEM laser marker consists of 3 parts: a laser head with marking head, a control box, a D/A card & marking software. A chiller may be needed depending on the models.



Laser head with mark head (The picture shows 30W CO2 laser marker).



Control box



Marking card & marking software

#### Specifications:

Model	M-UL-10OEM	M-UL-30OEM	M-UL-50OEM
Laser wavelength	10.6um	10.6um	10.6um
Laser power	10W	30W	50W
Mark linewidth	0.15mm	0.15mm	0.15mm
Marking field (mm)	50x50 - 250x250	50x50 - 250x250	50x50 - 250x250
Marking speed	<5m/sec	<5m/sec	<5m/sec
Weight (laser with mark head)	20kg	26kg	30kg
Electric	200VAC, 50Hz	200VAC, 50Hz	200VAC, 50Hz

#### 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.**

## 4. Portable CO2 Laser Marking Systems



The gross weight of a common laser marking machine is about 150-200kg and it is not easy to move. If you want to mark some products or workpieces, you have to do this in the workshop because the machine is always fixed there. If the products or workpieces are huge and heavy, it is very difficult to move them from a place to another. For facilitating the marking job, we have developed a new generation laser marking machine---Portable Laser Marking Machine, which is compact in size and light in weight. It is convenient to move this machine to anywhere. What you need to do is just to connect it with a computer and turn on the power supply, then you can mark your products or workpieces as you want.

- compact in size
- light in weight
- convenient to move
- Don't use any ink and marking is permanent.

In a portable CO2 laser marker, CO2 laser, marking head and relevant electrical controller are assembled together as a whole unit.

Model	M-UL-10P	M-UL-30P
Laser wavelength	10.6um	10.6um
Laser power	10W	30W
Mark linewidth	0.15mm	0.15mm
Marking field	50x50 - 250x250mm	50x50 - 250x250mm
Marking speed	<5m/sec	<5m/sec
Weight	20kg	32kg
Dimension	840x170x180mm	1350x170x180mm
Electric	200VAC, 50Hz	200VAC, 50Hz



## 5. Laser Marking Unit STA020-SK7

Air-Cooled Marking Unit

### Features

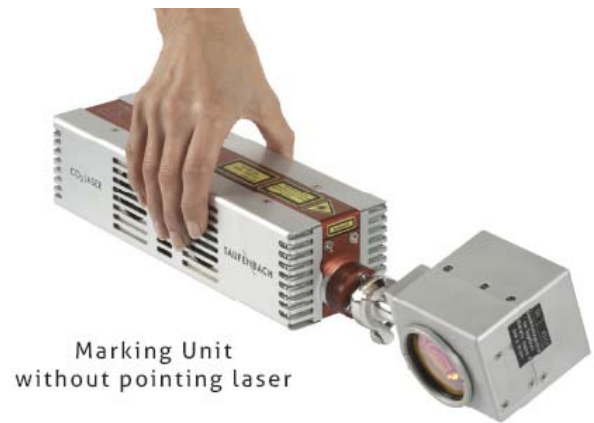
- marking without solvents / consumables
- ultra compact : 408x79x106 mm
- marking unit 2.5kg
- IP20 rating
- lens easily exchangeable
- marking field 70x70, 100x100, 140x140mm etc.
- marking of static or moving objects
- 20 Watt laser power
- air-cooled
- scan head 360° rotatable
- scan head easily exchangeable (Quick-release)
- integrated electronic beam shutter for laser class 4
- modular and easy to maintain
- low maintenance

### Fields of application

- laser marking for production lines
- an alternative to ink jet marking

### Accessories

- requirements: control panel, power supply, software
- optional: pointing laser (red)



## 6. Laser Marking Unit STW020-SK7

Water-Cooled Marking Unit

### Features of “Marking Unit”

- marking without solvents / consumables
- ultra compact : 408x79x106 mm
- marking unit 2.5kg
- IP55 rating
- lens easily exchangeable
- marking field 70x70, 100x100, 140x140mm etc.
- marking of static or moving objects
- 20 watt laser power
- integrated electronic beam shutter for laser class 4
- cooling via water circulation
- scan head easily exchangeable (Quick-release)
- scan head 360° rotatable
- modular and easy to maintain
- low maintenance

### Features of “Water Cooling System”

- dimensions: 430x85x190 mm
- weight 4kg
- flow control
- temperature control
- operating voltage: 12V, 10 Watt
- pump max. 1.5mWs

### Fields of application

- laser marking for production lines
- an alternative to ink jet marking
- for extreme environments

### Accessories

requirements: control panel, power supply, software



## 7. Case-system SKS020 (Demo Case)

mobile CO2 Laser Marking System

### Features

- ready to use - experimental system
- case: 495x385x200 mm
- marking unit 2.5kg
- integrated electronic beam shutter for laser class 4
- 20 watt laser power
- marking field 70x70mm, 100x100mm, 140x140mm etc.
- marking jobs from MMC-card or via USB
- integrated air-cooling

### Interfaces

- 2-channel interlock circuit for laser class 1
- USB
- encoder
- external trigger

### Options

- mark on the fly
- pointing laser (red)
- marking software
- integrated mini notebook
- battery operated

### Fields of application

- training
- sampling
- feasibility studies
- lab applications
- backup system
- mobile applications



## 8. Laser Marker STX020

Ultra Compact CO2 Laser Marking System for Production Lines

### Features

- laser marking system for production lines
- ultra compact
- marking unit 2.5kg
- an alternative to ink based marking
- marking speed up to 1700 char/sec.
- 20 Watt laser power
- air-cooled
- novel safety concept
- easy to maintain
- integrated PC
- Windows operating system
- open for alternative operating systems

### Interfaces

- Ethernet, USB, RS232
- external triggering
- 2-channel interlock circuit
- superordinated emergency stop
- interface for 2 encoder

### Options

- marking unit water or compressed air cooled
- marking unit IP65
- pointing laser



- touch screen
- various marking softwares

**Fields of application**

- non-contact marking in production lines
- laser material processing applications