



PROFESSIONAL LASER PROCESSING EQUIPMENT  
R&D AND MANUFACTURING



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# LASER



## Common Processing Means of Future Manufacturing System

### Laser Processing Technology

Energy saving, power saving,  
environmental protection, high stability,  
good performance, low maintenance cost





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## CATALOGUE

### Laser Marking Machine Series Products

- Optical fiber laser marking machine
- Ultraviolet laser marking machine
- CO2 laser marking machine
- CCD Camera Visual positioning marking machine
- Flying on-line marking machine
- 3D laser marking machine
- Automatic products supporting laser marking machine

### Laser Welding Machine Series Products

- Jewelry spot welder
- Mold repair laser welding machine
- YAG energy feedback welding machine
- Optical fiber laser welding machine
- QCW laser welding machine
- Handheld swinging optical fiber welding machine
- Fully automatic multi axis welding platform
- Customized welding platform and mechanism
- Robot with optical fiber laser welding machine

### Precision Cutting Machine Series Products

- Linear motor laser cutting system

Partial Patent Certificate Display

# FIBER LASER MARKING MACHINE



## Application areas:

Packaging industry, chemical products, medical equipment, medicine, household cleaning, daily necessities, industrial construction, wood labeling, automobiles, batteries, electric vehicles, tobacco, jewelry, electronics, textiles, aviation equipment, anti-counterfeiting security and identification cards, food, drinks. very broad.

## Processing content:

Compatible with AutoCAD, CorelDRAW, Photoshop and other software output; can realize automatic arrangement and modification of text symbols, graphic images, barcodes, QR codes, automatic serial number increments, etc.; support PLT, PCX, DXF, BMP, JPG, etc. A variety of file formats, you can directly use the TTF font library.



Rotating motor



Manual XY axis displacement table

## Product Model

DCLSF-20 DCLSF30 DCLSF50 DCLSF100  
DCLSF20M | DCLSF30M | DCLSF60M |  
DCLSF120M



Electric XY displacement table

## Product Introduction

DCLSF series optical fiber laser marking machine is a high-tech product integrating laser, computer, automatic control and precision mechanical technology. The marking machine adopts high-performance digital galvanometer scanning system, which is fast, accurate and can work for a long time. It can be engraved on most metal materials and some non-metallic materials such as silicon, rubber, epoxy, ceramics, marble and other materials or make permanent anti-counterfeit marks that are difficult to copy (depending on the type of laser). DCLSF series optical fiber laser marking machine has good laser optical mode (M2<2), small size, stable and reliable operation, maintenance free, no water cooling system, high electro-optical conversion efficiency and low energy consumption; Good marking quality; Laser power and frequency are controlled by computer, which is easy to realize automatic marking. The company provides special marking software based on Windows platform. It can control the laser power and pulse frequency in real time. The marking content can be text, graphics, pictures, serial numbers, barcodes and their combinations, and can be directly input and edited in the special marking software, or edited by AutoCAD or CorelDRAW and other graphic software, and the input and output can be controlled by the computer. The design of DCLSF series fiber laser marking machine conforms to international safety and operation standards.

## Equipment parameters

DCLSF series adopts acousto-optic Q-switched pulse fiber laser, which is based on Q-switch main oscillator and high-power optical fiber amplifier (MOPA) structure. It provides more than 5W-70W power models, with peak power up to 7kW. It uses isolator to output, and its operating parameters are set through 25Pin control interface. It can be directly integrated into the user's equipment. It is suitable for industrial and scientific research applications, and can meet the marking of most plastics and the marking of all metal materials Etching, deep carving, surface cleaning, high-precision sheet cutting, drilling and other applications.

Model	Specs	DCLSF20	DCLSF30	DCLSF50	DCLSF100
Laser performance	Laser wavelength	1064nm			
	Output Power	20W	30W	50W	100W
	Frequency	20-80khz	30-60khz	30-80khz	
	Instability	< 5%			
Optical performance	Marking speed	Field lens F=160, < 7000mm/s			
		Field lens F=160		110mmx110mm	
	Marking Format	Field lens F=210		145mmx145mm	
		Field lens F=254		175mmx175mm	
	Minimum line width	0.06mm(SUS304)@ Field lens F=160			
Minimum character height	0.2mm@ Field lens F=160				
Environment	Cooling method	Air-cooled			
	Power	1.0KW/AC 220V/50Hz			1.5KW
		Voltage fluctuation range ± 5%			
	Work environment	Temperature: 0 ~ 42 °C Humidity: 45 ~ 85%			
	Security	Over current protection; Over temperature protection; Overvoltage protection			

DCLASF-M series high-power fiber lasers using directly electrically modulated semiconductor lasers as seed sources (MOPA) have perfect laser characteristics and good pulse shape control ability. Compared with Q-switched fiber lasers, the pulse frequency and pulse width of MOPA fiber lasers are independently controllable. By adjusting and matching two laser parameters, a constant peak power output can be achieved and can be applied to a wider range of marking substrates. In addition, it is possible to turn the impossibility of Q-switched laser into MOPA, and the higher output power makes it particularly advantageous in the application of high-speed marking.

Model	Specs	DCLSF20M	DCLSF30M	DCLSF60M	DCLSF120M
Laser performance	Laser wavelength	1064nm			
	Output Power	20W	30W	60W	120W
	Frequency	1K-4000KHz			
	Pulse width	2-350us		2-500us	
	Instability	< 5%			
Optical performance	Marking speed	Field lens F=160, < 7000mm/s			
		Field lens F=160		110mmx110mm	
	Marking Format	Field lens F=210		145mmx145mm	
		Field lens F=254		175mmx175mm	
	Minimum line width	0.04mm(SUS304)@ Field lens F=160			
Minimum character height	0.2mm@ Field lens F=160				
Environment	Cooling method	Air-cooled			
	Power	1.0KW/AC 220V/50Hz			1.5KW
		Voltage fluctuation range ± 5%			
	Work environment	Temperature: 0 ~ 42 °C Humidity: 45 ~ 85%			
	Security	Over current protection; Over temperature protection; Overvoltage protection			

# iber

# UV LASER MARKING MACHINE

## Application field:

It is widely used in the fine marking processing of most metal and non-metallic materials. It is mainly used in computers, mobile phones, consumer electronic products, electronic components, auto parts, daily hardware, medical devices and other fields

## Processing content:

Compatible with AutoCAD, CorelDRAW, Photoshop and other software outputs; It can automatically arrange and modify text symbols, graphic images, bar codes, two-dimensional codes, serial numbers, etc; It supports multiple file formats such as PLT, PCX, DXF, BMP, JPG, and can directly use TTF font



Rotating motor



XY displacement table

## Product model

DCLUV3 | DCLUV5 | DCLUV10 | DCLUV15

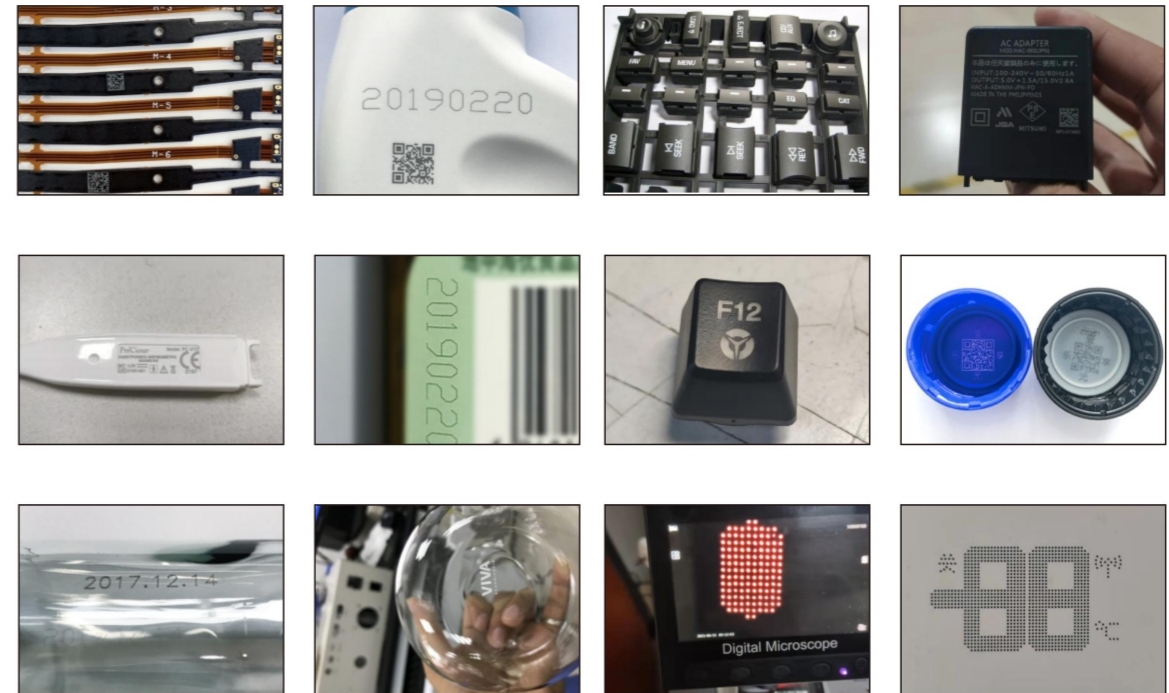
## Product introduction

The ultraviolet laser marking machine is developed by using a 355nm ultraviolet laser. The machine uses a third-order intracavity frequency doubling technology. Compared with the infrared laser, the 355 ultraviolet light focusing spot is small, which can greatly reduce the mechanical deformation of the material and has little impact on the processing heat. However, the absorption of the material to 355nm ultraviolet light is high, so the ultraviolet laser has a broader material adaptability. Because it is mainly used for super fine marking and engraving, it is especially suitable for food and pharmaceutical packaging materials marking, micro drilling, high-speed division of glass materials, and complex graphic cutting of silicon wafers.

## Product features

1. The marking range is wide. All metals and some nonmetals can be marked, which can meet the marking requirements of 95% of users' products.
2. Super fine marking, with small focus spot and small thermal effect, is a choice with higher demand for marking effect.
3. It is suitable for marking of special materials. Ultraviolet laser marking is cold processing. The beam is delicate and does not produce heating or thermal deformation on the inner layer of the processed surface and the surrounding area.
4. The marking effect has high engraving accuracy, and the small line width can reach 0.015mm, which can meet the needs of engraving large amounts of data on small workpieces.
5. The speed of editing and development is fast. With the combination of laser technology and computer technology, laser printing and output can be realized as long as programming on the computer, and the marking content can be changed at any time.

## Processing sample



## Equipment parameters

DCLUV series adopts ultraviolet laser intracavity frequency doubling technology, which greatly improves the stability of the laser, and is widely used for marking and drilling ( $d \leq 10$ ) of high-end electronic products, food, PVC, medical packaging materials (HDPE, PO, PP, etc.) with trademark marks  $\mu m$ ) Flexible PCB marking and chip removal, metal or non-metallic coating

Model	Specification	DCLUV3	DCLUV5	DCLUV10	DCLUV15
Laser performance	Wavelength	355nm			
	Power	3W@30K	5W@30K	10W@30K	15W@50KHZ _
	Frequency	10-200khz _ _			40-300khz _
	Pulse width	< 12ns@ 30k hz			< 15ns @50k hz
	Instability	< 3%		< 5 %	
Optical properties	Marking speed	Field lens f=160, < 7000 mm/s			
	Beam expander	Optional 4x 6x 8x 10x			
		Field lens f=160		110mmx110mm _	
	Marking range	Field lens f=210		145mmx145mm	
		Field lens f=254		175mmx175mm	
	Minimum line width	0.02mm ( stainless steel ) @field lens f=160			
Minimum character height	0.1mm @field lens f=160				
Use environment	Cooling method	Water cooling			
	Power supply	1.5kw / ac 220v / 50hz	2.0kw	2.5kw	
		The power supply voltage fluctuation range is controlled within $\pm 5\%$			
	Working environment	Temperature: 0 ~ 42°C humidity: 45 ~ 85%			
Safety	Over-current protection; over-temperature protection; over-voltage protection				

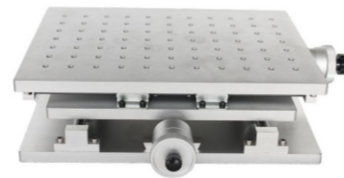
# CO2 LASER MARKING MACHINE

## Product Introduction

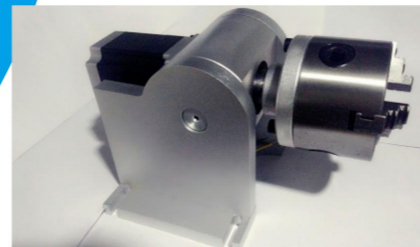
The CO2 laser marking machine uses CO2 gas as the working medium, and its generated wavelength is 10.6UM, which belongs to the mid infrared frequency band. The CO2 laser has relatively high power and high electro-optical conversion rate. It flushes CO2 gas and other auxiliary gases into the discharge tube. When the motor is pressurized, glow discharge is generated in the discharge tube, which makes the gas molecules release the laser. The released laser energy is amplified to form a laser beam, Then the scanning galvanometer controlled by the computer changes the laser beam light path to illuminate the surface of the processing part, so that the surface material of the workpiece is instantly vaporized; After laser marking, physical and chemical changes will occur on the machined surface, thus revealing the carving effect of patterns, characters, numbers and lines.

## Application Field:

Leather marking  
Wood marking  
Crafts marking  
Carton marking  
Cloth marking  
Cable marking  
Paint stripping of enamelled wire  
Wood carving  
Acrylic marking



Manual displacement table

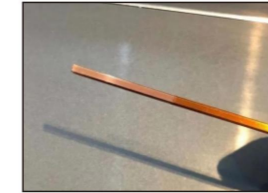


Electric rotating shaft

## Processing content:

Compatible with AutoCAD, CorelDRAW, Photoshop and other software outputs; It can automatically arrange and modify text symbols, graphic images, bar codes, two-dimensional codes, serial numbers, etc; It supports PLT, PCX, DXF, BMP, JPG and other file formats, and can directly use TTF font

## Processing Sample



## Product Features

1. The marking accuracy is good, the speed is fast, and the engraving depth can be controlled at will by changing the laser parameters. The performance is stable, and it can work continuously for a long time. 2. Equipped with high-power laser, it can carve and cut a variety of non-metallic products; 3. No consumables, low processing cost, and the operating life of the laser is about 30000 hours; 4. The mark is clear, not easy to wear, high efficiency of carving and cutting, environmental protection and energy saving; 5. It supports PLT, PCX, DXF, BMP, JPGE and other formats, and can directly use SHX and TTF fonts; 6. Support automatic coding, printing serial number, batch number, date, barcode, QR code, automatic skip number, etc; 7. Powerful graphic drawing and editing function, which can directly mark color pictures after gray scale conversion.



## Equipment Parameters

DCLSC series adopts metal RF tube technology, which greatly improves the stability of the laser, and is widely used in the fine marking processing of most non-metallic materials. It is mainly used in the packaging industry, chemical products, medical devices, medicine, household cleaning, daily necessities, industrial buildings, wood, labels, automobiles, electric vehicles, tobacco, electronics, textiles, aviation equipment, anti-counterfeit security and identification cards, food, beverages and other fields.

Model	Specification	DCLSC30	DCLSC60
Laser performance	Wavelength	10.6um /9.4um	
	Power	30w	60w
	Frequency	1-25khz	
	Instability	<5 %	
Optical properties	Marking speed	Field lens f=160, < 7000 mm/s	
	Marking range	Field lens f=160	110mmx110mm _
		Field lens f=210	1 45mmx145mm
		Field lens f=254	1 75mmx175mm
	Minimum line width	0.1mm ( stainless steel ) @field lens f=160	
Minimum character height	0.4mm @field lens f=160		
Use environment	Cooling method	Air cooled	
	Power supply	1.5kw / ac 220v / 50hz	1.5kw / ac 220v / 50hz
		The power supply voltage fluctuation range is controlled within ±5%	
	Working environment	Temperature: 0 ~ 42°C humidity: 45 ~ 85%	
Safety	Over-current protection; over-temperature protection; over-voltage protection		

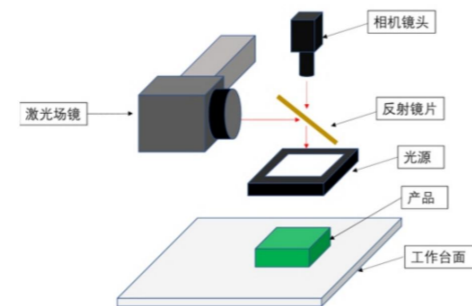
# CCD LASER MARKING MACHINE



## Advantages of CCD visual positioning:

1. Traditional marking machines need to adjust the position of the fixture to control the accuracy of marking. The addition of visual positioning system makes the marking accuracy no longer limited by the fixture.
2. The independent vision R&D system can select the appropriate CCD camera, lens and light source according to the project requirements, which can effectively control the equipment cost.
3. Unique software algorithm, with high positioning accuracy and fast response speed, can cooperate with the conveyor belt to achieve full loading and marking.
4. Markup graphics support a variety of common content formats, such as vector graphics, text, numbers, fills, pictures, etc.
5. Strong universality, simple and clear operation interface, easy to use, and no experience in visual system control is required.
6. The image splicing function can meet the needs of a wide range of laser products.
7. The template matching function can effectively control whether the feed is mixed.

## Visual Lens and Camera



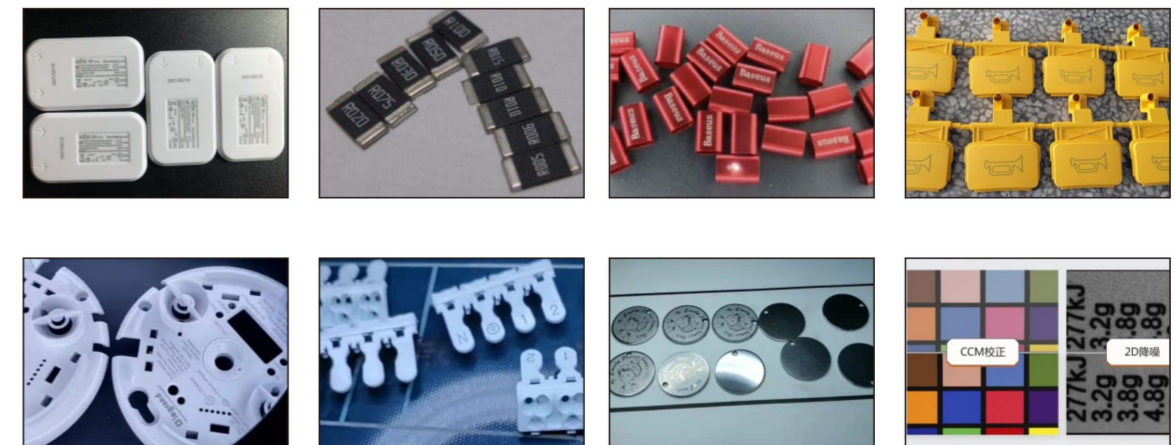
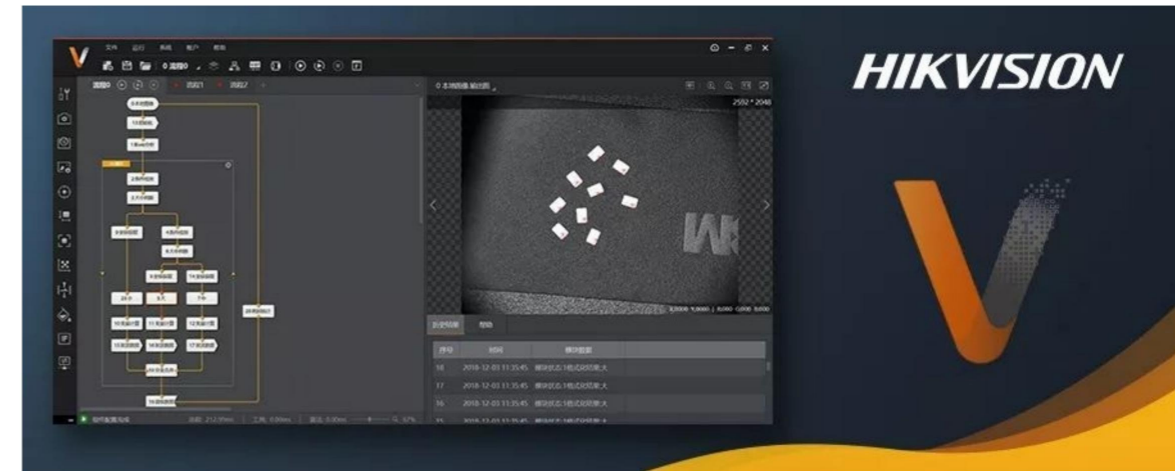
Schematic Diagram of Visual Marking Structure

## Product Introduction

CCD visual positioning laser marking machine aims to solve the problem of feeding difficulty, poor positioning and slow speed caused by irregular batch and difficult design and manufacturing of marking fixture. It uses an external camera to capture feature points in real time to solve the problem of CCD camera marking. The system can feed materials at will, locate and mark accurately, which greatly improves the marking efficiency.

1. The CCD camera positioning system is used to guide the laser marking. The positioning is accurate. The marking products are placed at random, and multiple products are automatically marked at one time;
2. The visual recognition accuracy can reach 0.01mm, with functions such as missing print inspection, missing print alarm, and no repeated marking;
3. Multiple products can be placed at one time, at any position, at any angle and in any shape, and the software can automatically identify them;
4. It can connect various types of manual production or automatic production lines, and support high-precision visual positioning of one-way or two-way assembly lines; Support single/dual vision camera;
5. The software can support multiple wavelength laser light sources [optical fiber, ultraviolet, CO2], without consumables, with high accuracy and efficiency, saving time, labor and cost;
6. Support the import/export of multiple original drawing file formats, reduce the number of radium carving workers, and make the software easy to learn and operate.

## Processing Sample



## Equipment Parameters

It is mainly used in alloy accessories, metal accessories, adapters, IC chips, earphone accessories, two-dimensional code marking, metal accessories, electric toothbrush, plastic accessories, buttons, transformers, electronic components and other fields

model	specification	DC-L XXXX -S	
DC-L XXXX -S Dingchuang Laser Vision Positioning Marking System	Supported Laser Types	Fiber/UV/CO2 laser	
	camera	5 million pixels, 12 million pixels [optional]	
	camera brand	Hikvision Industrial Vision Camera	
	vision software	Dingchuang Laser	
	light source controller	2/4 channel, software control channel	
	light source	Strip Light/Ring Light/Surface Light/Backlight	
	Marking range	Field lens F =160 , 110 mm x110mm	
		Field lens F =210 , 1 4 5 mm x 1 4 5mm	
		Field lens F =254 ,1 7 5 mm x 1 7 5 mm	
	Multi-angle recognition	360°	
	sports card	4-axis/assembly line/XY platform/vibration plate	
	I/O ports	I/O ports	
Marking products	Metal/Plastic/Leather/Wood/Carton etc.		
counting function	Statistical total, statistical batch quantity		

# FLYING

## ONLINE LASER MARKING MACHINE

### Product introduction

Flying laser marking machine, also known as laser online marking machine, laser online marking machine and laser inkjet printer, is a non-standard automated high-tech product developed and designed by our company for online marking of product packaging in various enterprises and industries. It can be used for marking and inkjet printing on non-metallic materials such as plastic, leather and wood. The flying laser marking machine also uses a dedicated flying marking control system, which can be equipped with an assembly line, Realize fast laser marking in pipeline, with excellent performance and simple operation. Support automatic coding, serial number, batch number, date, barcode, QR code, automatic skip number and other functions. Application case The appearance of the flying laser marking machine basically covers the entire application range of the inkjet machine. This laser marking machine is no longer simply marking the product date and batch number. It has a unique visual and tactile effect, so it also has strong anti-counterfeiting and anti-fleeing characteristics. At present, it is widely used in the tobacco industry, biological pharmacy, wine industry, food and beverage, health products, electronics industry, national defense industry, auto parts, card printing, process clothing accessories, building materials and other fields, and showed a rapid upward trend.



### Product features

1. The laser printer adopts fiber laser, with uniform laser power density and stable output light power. With a special design scheme, the laser is free of light leakage and interference when the laser is turned off. Even on special materials, there will be no shadows and virtual interruption.
2. Digital high-speed scanning galvanometer is adopted, which is small in size, fast in speed, good in stability, and its performance reaches the international advanced level.
3. The flight marking control system is adopted, with excellent performance and simple operation.

### Field of use

1. Application of optical fiber laser flight printer: online marking of color paper boxes, food bags, various pipes, wires and cables, batteries, metals, plastics, paper and other materials.
2. Application of ultraviolet laser flight printer: mask, wire, capsule, medicine box, transformer, packaging box, food, medicine, cosmetics, hardware industry, electronic cigarette industry, beverage cover industry
3. CO2 laser flight printer application: food and beverage packaging, alcohol, dairy products, clothing accessories, leather, electronic components, medicine, personal care products, chemical building materials and other fields.

Fast signal response, no omission, automatic number skipping, good effect

Model	Specification	DCLSFXF	DCLSCXF	DCLUVXF
Laser performance	Wavelength	1064 nm	10.6um /9.3um	355 nm
	Power	20W/30W/50W	30W/60W	5W/10W/15W
	Frequency	20- 1000khz	1 - 25khz	2 0- 30 0k hz
	Instability	<5 %	<5 %	< 3%
Optical properties	Marking speed	Field lens f=160, < 7000 mm/s (depending on the scene , the highest matching 18000 mm/s )		
		Field lens f=160	110mmx110mm	
	Marking range	Field lens f=210	1 45mmx145mm	
		Field lens f=254	1 75mmx175mm	
Code content		Product Logo , Production Date, Serial Number, Winning Code, One-Dimensional Code , Qr Code , Data Matrix , Automatic Number Jumping , Retrieval Of Content And Other Functions To Achieve Online High-Speed Marking		
	Minimum character height	0.2 mm @field lens f=160	0. 4mm @field lens f=160	0. 1mm @field lens f=160
Use environment	Cooling method	Air cooled	Air cooled	Water cooling
	Power supply	1.0KW/ AC 220V	< 1.5KW	< 2.5KW
		The power supply voltage fluctuation range is controlled within ±5%		
	Working environment	Temperature: 0 ~ 42°C humidity: 45 ~ 85%		
Safety	Over-current protection; over-temperature protection; over-voltage protection			
Other	Photoelectric sensor signal switch	Keyence FS series , Omron E3 series		
	Speed wheel	Silicone , Diameter 40 mm/ 60 mm		
	Photoelectric incremental encoder	Omron E6B2 series, guardian optoelectronics ESP series		

### Processing sample



# AUTO LASER MARKING MACHINE

## Application field:

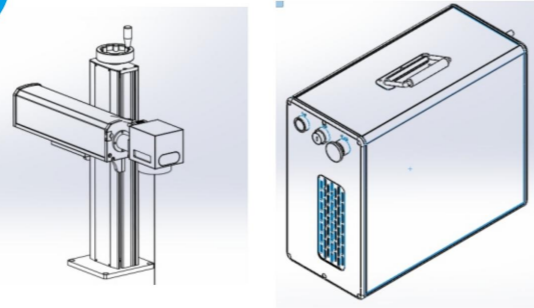
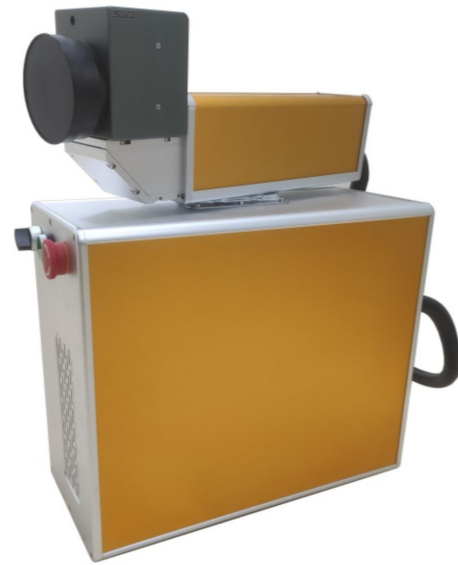
Optical fiber laser marking, with 2/4 channels, software control channel, signal conversion board, PLC control, or network control. It is suitable for integrated use of automatic workstation/production line

## Processing content:

Compatible with AutoCAD, CorelDRAW, Photoshop and other software outputs; It can automatically arrange and modify text symbols, graphic images, bar codes, two-dimensional codes, serial numbers, etc; It supports multiple file formats such as PLT, PCX, DXF, BMP, JPG, and can directly use TTF font.



# AUTO



Provide 3D model drawings of products To facilitate the drawing preparation of the engineer

## Product model

DCLSFXXA | DCLUVXXA

## Product introduction

Laser marking is to use high-energy laser beam to irradiate on the surface of the workpiece, and the light energy becomes heat energy instantaneously, so that the surface of the workpiece evaporates rapidly, so as to carve any required text and graphics on the surface of the workpiece as a permanent anti-counterfeiting mark. Laser marking is characterized by non-contact processing, which can mark on any special-shaped surface. The workpiece will not deform and generate internal stress. It is suitable for marking materials such as metals, plastics, glass, ceramics, wood, leather, etc. The laser can mark almost all parts (such as pistons, piston rings, valves, valve seats, hardware tools, sanitary wares, electronic components, etc.), and the marks are wear-resistant. The production process is easy to realize automation, and the marked parts have little deformation.

## Product features

1. The marking range is wide. All metals and some nonmetals can be marked, which can meet the marking requirements of 90% of users' products.
2. Multi channel IO control port, which can be used for secondary software development, is suitable for various automatic workstations.
3. It is suitable for marking of special materials. The optical fiber laser marking has stable performance and fine beam. The beam expander aperture can be used to adjust the size of the facula, which can produce small heating or thermal deformation on the inner layer of the surface to be processed and nearby areas.
4. The marking effect has high engraving accuracy, and the small line width can reach 0.06mm, which can meet the needs of engraving large amounts of data on small workpieces.
5. The speed of editing and development is fast. With the combination of laser technology and computer technology, laser printing and output can be realized as long as programming on the computer, and the marking content can be changed at any time.

## Processing sample



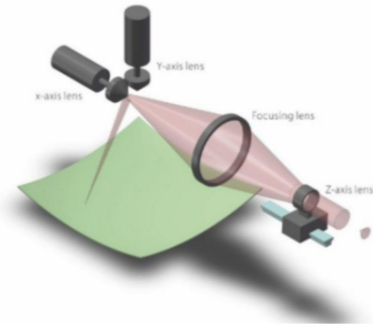
## Equipment parameters

DCLSFXXA series adopts a stable and mature first-line brand fiber laser, coupled with an ultra-high stability galvanometer, which enables the whole system to work online 24 hours a day, with a split structure, fast installation and debugging, reducing customer downtime, and is widely used for marking and drilling ( $d \leq 10$ ) of high-end electronic products, food, PVC, medical packaging materials (HDPE, PO, PP, etc.) with trademark marks  $\mu m$ ) Flexible PCB marking and chip removal, metal or non-metallic coating

Model	Specification	DC-LSF20-A
DC-LSF20-A Dingchuang laser automatic supporting marking system	Laser type	Fiber laser 1064 nm
	Power	20w / 30w
	Frequency	20-80khz
	Positioning instructions	Red light indicator
	Marking control card	Dingchuang laser usblmc -fbier-v4
	I o control channel	2/4 channel, software control channel, signal conversion board , plc control
	Marking speed	Field lens f=160, <7000mm/s
	Marking range	Field lens f =160 , 110 mm x110mm
		Field lens f =210 , 1 45 mm x 1 4 5mm
		Field lens f =254 ,1 7 5 mm x 1 7 5 mm
	Development mode	Support software secondary development function
	Sports card	Extended 4-axis/assembly line/xy platform/vibration plate/ visual positioning
	Marking products	Metal/plastic/ polymer material /carton, etc.
Counting function	Statistical total, statistical batch quantity	
Laser output angle	90°/180° direction output	

# MARKING

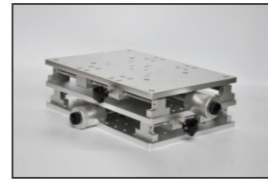
# 3D FIBER LASER MARKING MACHINE



1. High precision 3D galvanometer, self-developed 3D software and control system, to achieve precise marking of curved surface modeling devices. Realize the machining of any curved surface workpiece;
2. High hair color, no damage marks, high contrast and clear and delicate appearance marks;
3. Optional auto focus, power feedback, 2D code reading, visual operation and other functions;
4. Applicable to 3C, automobile and parts, instruments and meters, white household appliances, medical devices, hardware tools and other industries.



Rotating motor



XY displacement table

## Product model

DCLSFXX3D

## Product introduction

The dynamic focusing system adopts advanced optical design scheme and linear transmission Z-axis system, has independent intellectual property rights, and integrates data acquisition, data processing, electronic control, mechanical follow-up, optical imaging, optical compensation, optical scanning and other functions. The system adopts an integral structure, which is small in size and good in sealing to ensure the stability under long-term working conditions. This increased flexibility enables these elements to mark many previously insurmountable surface types, such as cylinders, spheres, ramps, and multilayer parts, without any reduction in accuracy and speed.

## Product features

- The advanced optical design scheme is adopted, with small light loss, small volume, high positioning accuracy, fast marking speed and resistanceWith strong interference ability, it is suitable for laser fine processing of large format, complex curved surface, deep carving, etc.
- The galvanometer system has faster response speed and can meet the precision filling of more than 2000mm/s.
- The maximum marking size is 300 × 300mm, 200 can be customized as required × 200mm format.
- The maximum marking height drop reaches 100mm, meeting the customer's requirements for large drop.
- Precisely control the focus position of the marking machine, and automatically adjust the Z-axis range when 3D depth marking processing is performed, The light spot shall be kept to a minimum to ensure the consistency of the image after the object is marked.
- The MM3D software system is used to support the import of multiple file formats, vector maps, bitmaps and text barcodes, Easy to understand, easy to operate and easy to use.
- Built in basic models such as round pipe, concave convex surface, spherical surface, inclined plane and vertebral body, which is convenient for the operator to quickly punchBid settings.
- Support the import of 3D models, and 2D graphics can directly wrap or project onto commonly used internal surfaces.
- The whole system adopts electromagnetic compatibility optimization design, with high signal-to-noise ratio and strong anti-interference ability.

## Processing sample

Marking on curved surfaceMarking Builder 3D software provides a simple and precise method to achieve near seamless marking on curved buttons. To complete the marking, the laser operator only needs to complete three simple steps:1. Arrange files in dxf graphic format in 2D layout.2. Select "Cylinder" and enter the diameter parameter of the button. Real time software 3D display enables users to verify the position of all marks.3. Upload the setting data to the laser head.With the completion of the three steps, the dynamic focus system is ready for marking. Consistent marking quality has surpassed inkjet marking.Wide area markingAnother minor advantage of the mobile beam expander may be that it eliminates the industrial standard F-Theta mirror. The technical definition of the F-Theta mirror is "a correction lens that can compress the laser beam that has been processed by the polarizing of the multi prism and projected on a flat surface." Generally speaking, F-Theta mirror means to maintain a certain scanning speed in the whole marking area and reduce the focus error caused by convex lens.By using three-axis control technology, the F-Theta mirror becomes redundant. The speed of the Z-axis galvanometer can vary depending on the position of the beam in the field of view. By moving toward or away from the laser tube, the beam is pushed up and down, so that the focus is always on the same plane of the marking area. Maintaining the stability of the focal plane has a series of advantages.



## Equipment parameters

The 3D curved optical fiber laser marking machine series adopts 3D galvanometer technology, which can realize accurate and high-speed automatic laser zoom control, and achieve fine laser lettering marking on the 3D curved surface, vamp, slope, stair surface and other high ground drop surfaces of metal and non-metallic materials. The maximum marking range is 300 \* 300 \* 100mm. It is suitable for 2D, 3D, deep engraving and large format laser marking applications in high-end manufacturing industries such as automobiles and 3C electronics.

model	specification	DCLSF20-3D _	D CLSF30-3D	D CLSF50-3D	D CLSF100-3D
Laser performance	wavelength	1064 nm			
	power	20W	30W	50W _	1 0 0W
	frequency	20-200KHz _ _			
	instability	<5 %			
optical properties	Marking speed	Field lens F=160, <5 000 mm/s			
	Marking format	200mm x 200mm _		300mmX300mm _	
	focal length	254 mm		285 mm	
	focus spot	0.04 mm		0.06 mm	
	Focal distance	100mm ( +20 to -80mm ) _		100mm ( +20 to -80mm1 ) _ _ _ _	
	minimum character height	0.2 mm@ format 200 mm X 200mm			
use environment	cooling method	air cooled			
	power supply	1.0KW/ AC 220V / 50Hz	1.2KW _	1.5 KW	
		The power supply voltage fluctuation range is controlled within ±5%			
	working environment	Temperature: 0 ~ 42°C Humidity: 45 ~ 85%			
safety	Over-current protection; Over-temperature protection; Over-voltage protection				
other	size	840mmX1150mmX1650mm _			
	weight	About 150 KG			

# 3D



This 200 watt welding machine can realize electric rotary welding, manual XY axis displacement, electric lifting worktable and other functions.



This machine is an electric three-axis welding machine, which can draw the welding path in the PC software. During the welding process, the electronic hand wheel can be used to adjust Guijin, which is convenient for weld bead correction.



This machine is a QCW galvanometer welding machine, which is used for welding precision hardware parts, especially for multi-point welding parts.



Small optical fiber laser marking machine, small floor area, all aluminum plate mesa, long service life.



Split optical fiber laser marking machine



On line optical fiber laser marking machine is suitable for marking on assembly line or large mould, and it is convenient to move.



60W small laser welding machine, used for jewelry welding, precision small parts welding. Small size, stable energy.



Ultraviolet vision positioning laser marking machine, with electric XY mobile platform.



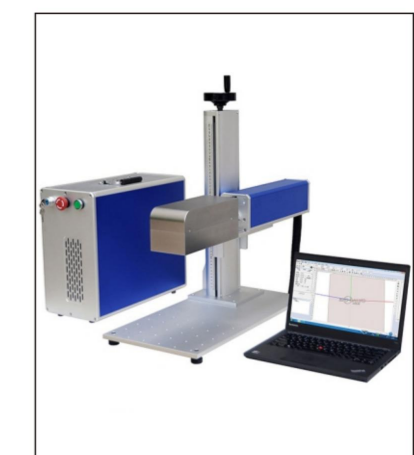
Optical fiber visual positioning laser marking machine, with electric XY mobile platform.



The hand-held optical fiber marking machine is convenient for marking on large workpiece products. It can also be used with small platforms to mark small part products.



Small optical fiber laser marking machine is suitable for marking small workpieces, with small floor area and electric lifting function.



The split 3D optical fiber laser marking machine covers a small area. The three-axis control is used for focusing. The concave and convex surfaces are marked indiscriminately. The Z-axis realizes 40mm variable focus marking.



Fully enclosed optical fiber laser marking machine, manual lifting protective cover, electric adjustment of galvo height, safe and stable.



Fully enclosed optical fiber laser marking machine, manual lifting protective cover, electric adjustment of galvanometer height, safe and hygienic.



Jewelry small marking machine with electric rotating shaft.



# Jewellery laser welding machine



**Product model**  
DCLWY200

It is widely used in aviation, aerospace, sports goods, jewelry, medical devices, aluminum alloy dentures, instruments, electronics, mechanical processing, automobile and other industries, especially for the hole filling of gold and silver jewelry, spot weld patterns, embedded parts and the welding of claw feet.



## Product introduction

Jewelry welding machine uses the laser beam emitted by the laser to achieve high-density energy to act on objects, so as to achieve precision welding effect. The welding process is to heat the laser processing workpiece. The laser beam irradiates the welding position of the workpiece, guides the workpiece inside through the surface heat transfer, and controls the parameters such as pulse width, energy, peak value and repetition frequency during the work to melt it, form a molten pool, and achieve the welding effect. Laser welding technology is a process applied to thin wall materials and precision welding requirements. It has obvious advantages in spot welding, butt welding, overlap welding, seal welding, etc. It has a high depth to width ratio (5:1 or 10:1), small thermal deformation, fast welding speed, no pores, smooth and beautiful welds, and no post-weld treatment and micro treatment. In the welding process, the welding effect is controllable, accurate positioning can be achieved, and automatic control can be completely achieved.

## Equipment parameters

Product number	DC-LWY200
Maximum laser power	200W
Laser wavelength	1064nm
Single pulse maximum energy	90J
Laser welding depth	0.1-0.8mm
Pulse Width	0.1-10ms
CW Laser Welding Frequency	1-15Hz
Spot size adjustable range	0.2-2mm
Laser welding wire	Φ 0.2-φ0.4mm
Power consumption of the whole machine	≤ 6KW
Electricity demand	220V±10% / 50Hz /40A (380V)
Cooling method	Water cooling
Aiming and positioning	Microscope eyepiece

## Product features

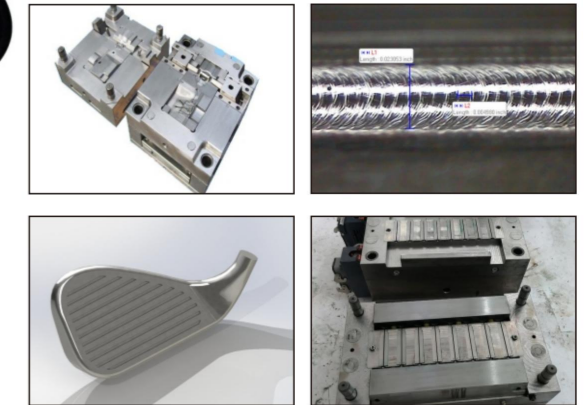
- A. The+character cursor center is aligned with the laser spot center (user adjustable). It is equipped with high-speed electronic light filtering protection device to protect the operator's eyes from being damaged by laser, alleviate the operator's eye fatigue, and improve work efficiency. High definition CCD monitoring system can be added as required.
- B. Control system:  
The micro industrial control computer is exclusively used, which includes all the functions of ordinary computers. Its stability and anti-interference ability are far superior to those of the same industry (most manufacturers use single chip control boards with poor performance and low cost).
1. It is equipped with large screen high-definition LCD, and the software operation interface can be selected in Chinese.
  2. The operation interface is simple and clear, easy to learn and understand.
  3. The operating parameters are automatically saved in real time for continuous operation.
  4. Double closed loop precision control is adopted to ensure that the energy of each welding point is uniform

# Mold Repair Laser welding machine



**Product model**  
DCLWY200M

Suitable for welding kettle, vacuum cup, stainless steel bowl, sensor, tungsten wire, high-power diode (triode), aluminum alloy, door handle, mold, electrical accessories, filter, nozzle, stainless steel products, golf head, zinc alloy handicrafts, etc.



## Product introduction

The mould laser welding machine adopts the double lamp ceramic reflection chamber imported from Britain, which has powerful power, programmable pulse and intelligent system management. The Z axis of the worktable can be electrically moved up and down for focusing, and controlled by an industrial PC. Equipment specification: separate X/Y/Z axis 3D active mobile workbench. Optional rotary fixture (Φ 80mm or Φ 125mm optional). The monitoring system adopts microscope, red light and CCD. Equipped with external cooling water tank.

### Equipment advantages

1. The double lamp ceramic condenser cavity imported from the UK is selected, which is corrosion resistant, high temperature resistant and has a service life of 8-10 years.
2. High production efficiency, fast welding speed, automatic batch production of assembly line can be completed.
3. The laser head can be rotated 360°, all optical path parts can be rolled 360° and stretched back and forth.
4. Electric/manual adjustment of light spot size.
5. The worktable can be electrically moved in three dimensions.

## Equipment parameters

Product number	DC-LWY200M
Maximum laser power	220W
Laser wavelength	1064nm
single pulse maximum energy	90J
Laser welding depth	0.1-0.8mm
Pulse Width	0.2-20ms
CW Laser Welding Frequency	0.5-20Hz
Spot size adjustable range	0.2-2mm
Laser welding wire	φ0.2-φ0.4mm
Power consumption of the whole machine	≤7kW
electricity demand	220V±10% / 50Hz /40A (380V)
Standard Workbench	3D Manual 3D
Aiming and positioning	Microscope, CCD display

## Product features

1. The laser mold welding machine (manual laser welding machine) is used to weld the special welding wire to the damaged part of the mold through the high heat energy generated by the laser at the moment, firmly weld it with the original base material, and then process it into a smooth surface by electric spark, grinding, etc. after welding, so as to repair the mold.
2. Carry out precision repair for mold sand holes, cracks, chipping, wear and other small parts.
3. The heat affected area is small, which will not cause deformation of precision die.
4. The welding depth is large, which is firm and beautiful.
5. The melting shall be sufficient without leaving any trace of repair, and there shall be no depression at the junction between the raised part of molten material in the molten pool and the matrix.

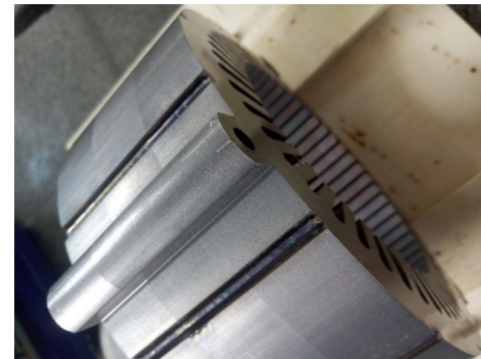
# YAG LASER WELDING MACHINE



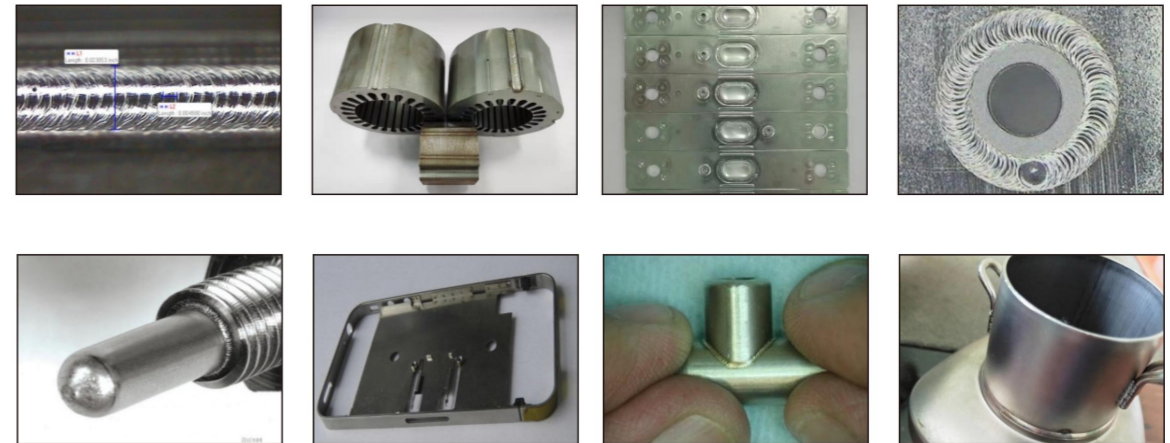
## Product model

DCLWY150 DCLWY300 DCLWY500

The laser generated by the YAG laser welding machine pumped by the optical fiber transmission lamp is transmitted to the laser welding head through the optical fiber, and the laser energy is focused on the surface of the workpiece to form a molten pool, which makes the material melt and realize welding. The optical fiber transmission lamp pump YAG laser welding machine has the world leading negative energy feedback technology of the laser welding machine, which keeps the laser energy highly stable from beginning to end, eliminates instability caused by water temperature fluctuation, voltage fluctuation, aging of the pump xenon lamp (krypton lamp) and other factors, improves the consistency of welding products, and ensures the welding yield.



## Processing effect



## Equipment parameters

It is used in welding occasions with high welding process requirements and convenient optical path movement. It can weld precision parts such as micro electronic components, integrated circuit leads, high-power diodes, mobile phone batteries, mobile phone shells, electronic components, vacuum cups, stainless steel products, sensors, tungsten wires, aluminum alloys, notebook computer shells, electrical accessories, filters, nozzles, golf heads High efficiency laser spot welding, seal welding and overlap welding of other types of electronic products of zinc alloy handicrafts. Weldable figures include: point, line, circle, square or any plane figure drawn by AUTOCAD software.

Machine type	DCLWY150	DCL W Y300	DCLWY600	
Optics	Max-output power	150w	300w	600w
	Max-peak power	7kw	9.9kw	9.9kw
	Single pulse energy	55J	100J	100J
	Single pulse width	0.1 - 20ms		
	Laser frequency	1-100Hz	1- 200Hz	1- 200Hz
	Electro-optical conversion efficiency	≥3%	≥3%	≥4%
	Laser wavelength	1064nm		
	Energy stability	≤±3%		
	Pump lamp	Xenon lamp, 1 lamp	Xenon lamp, 2 lamp	Krypton lamp, 2 lamp
	Feedback	Real-time energy negative feedback		
	Fiber optic interface	D80 adaptation		
	Fiber SI core diameter	300/400/600um	400/600um	600um
	Fiber length	Standard 5 meters		
	Light splitting method	Energy Spectroscopy/Time Spectroscopy		
Max--of light paths	4			
Aiming and positioning	With red light indicator (welding head CCD positioning)			
Power supply	Power input	AC380V ± 10%, 50/60Hz		
	Overall power consumption	<6KW	<12KW	<18KW
	Way of working	Pulse		
Cool down	Internal -cooling	Closed internal circulation water cooling		
	External- cooling	Water cooling		
	Cooling -Requirements	6KW	12KW	15KW

## Product introduction

Dingchuang laser YAG laser welding machine is different from the improved type of the same industry in the world to adapt to various environments, so that the output energy is more stable. This is not available to other laser companies. Dingchuang laser welding machine can be configured according to the power. It can perform laser welding with high speed and depth according to the power. Able to weld at room temperature or under special conditions. After laser focusing, the power density is high. When welding high-power devices, the depth width ratio can reach 5:1, and the maximum can reach 10:1. It can weld refractory materials such as titanium, quartz, etc., and can weld dissimilar materials with good results. After focusing, the laser beam can obtain very small light spot, and can be precisely positioned, which can be applied to the assembly welding of components and various metals in mass automatic production. Not only the production efficiency is greatly improved, but also the heat affected zone is small, and the welding spot is free of pollution, which greatly improves the welding quality.

## Product features

Features of DCLASER laser welding products:

- Laser welding is mainly aimed at welding thin-walled materials and precision parts, It can realize spot welding, butt welding, overlap welding, seal welding, etc.
- High aspect ratio, small weld width, small heat affected zone, small deformation and fast welding speed.
- The welding seam is smooth and beautiful, and there is no need for treatment or only a simple treatment process after welding.
- High weld quality, no porosity, can reduce and optimize the impurities in the base metal, and the structure can be refined after welding. The strength and toughness of the weld shall at least equal to or even exceed that of the base metal.
- It can accurately control the laser energy, focus the light spot small, and can accurately position. For the parts that are difficult to access, it can perform non-contact remote welding, which has greater flexibility and is easy to realize automatic matching.
- The laser output mode is very flexible, which can easily realize energy splitting or time splitting or both Energy and time sharing, multi beam simultaneous processing and multi station processing, effectively improving production efficiency.
- The mainframe is separated from the workbench, which can economically meet the different needs of customers.
- The laser energy is distributed according to the hat shape in the light spot range, and the solder joints are smooth and beautiful, It is especially suitable for spot welding and can realize welding between some dissimilar materials.



Welding Lighting Mode

# FIBER LASER WELDING MACHINE



## Product model

DCLWF1000 DCLWF1500 DCLWF2000

It is applicable to auto parts industry (such as engine connection, oxygen sensor, relay, cylinder gasket, small clutch, urea nozzle, etc.), battery (such as battery seal, explosion-proof valve, flipper, pole, sealing nail, etc.), sensor, capacitor seal, optical communication shell, small motor, all metal parts welding (penetration  $\leq$  2-2.5mm steel parts, penetration  $\leq$  1.5-2mm aluminum parts) Penetration welding of all metal accessories (steel parts with penetration  $\leq$  1.5mm, aluminum parts with penetration  $\leq$  0.8mm).



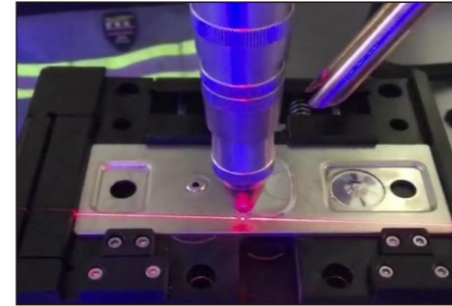
With rotating motor

## Product introduction

DCLWF series fiber laser welding machine selects all fiber structure fiber laser as the core. This type of laser has high electro-optic conversion efficiency, long service life, and is a low consumption, high-energy and high-quality laser. Fiber laser welding machine can freely combine various configurations according to customer requirements to meet processing requirements. Due to its excellent beam quality and high laser power, it can help customers obtain the best welding effect and high production efficiency. This special continuous fiber laser welding machine is a laser welding equipment specialized in traditional hardware, new energy and other industries. The utility model has the advantages of high power peak, good beam quality, thin light spot, flexible installation, etc. The laser beam can realize different spot shapes, and can process different shaped spots at the same time. It can meet a variety of high demand welding effects, such as hybrid welding, and achieve precise and efficient welding.

## Product parameters

Model	DC-LWF1000	DC-LWF1500	DC-LWF2000
Output power	1000W	1500W	2000W
Cable length	10M		
Power adjustment range	1% -100%		
Frequency adjustment range	50-30000Hz _		
Duty cycle	1-100%		
With welding head	Double pendulum welding system or single vertical type, point coil double o triangle 8-shaped multiple modes are free to choose		
Welding depth	0.5-2.0mm	0.5 - 3.0mm	0.5 - 4.0mm
Positioning aiming	Indicating red light + inner and outer corners		
Cooling method	Deionized water, water cooled		
Environmental requirements	Storage temperature: -20°C~60°C; humidity: <70% / working temperature: 10°C~35°C; humidity: <70%		
Full power consumption of the device	5.0kw	6.8kw	8.5kw
Power requirements	1 phase AC 220V 50HZ		3 phase AC 380V 50HZ



Power battery manufacturing

It mainly includes sealing welding, sealing and staring welding, lug welding, explosion-proof valve welding, positive pole welding.



Butt welding of unequal thickness thin plates

Overlay welding, butt welding, T-joint welding, etc., suitable for laser welding No filler for laser welding, reducing weight;



Stainless steel plate splicing

Overlap welding, butt welding and T-shaped joint welding of stainless steel have high welding speed, clean white and bright weld bead surface, good consistency of weld surface width, and effectively reduce the subsequent polishing process.



Reference Table for Power Selection of Fiber Laser Welding Machine

Dingchuang laser fiber laser welding machine selection reference table							
Processing material	Shielding gas	Welding thickness ( mm )	500W	1000W	1500W	2000W	
Stainless steel	Argon/Nitrogen	0.5	●	●	●	●	
		1.0	●	●	●	●	
		1.5	●	●	●	●	
		2.0	●	●	●	●	
		2.5	●	●	●	●	
		3.0		●	●	●	
		3.5		●	●	●	
		4.0			●	●	
		5.0				●	
		6.0					●
Aluminum alloy	Nitrogen	1.0		●	●	●	
		1.5		●	●	●	
		2.0			●	●	
		2.5			●	●	
		3.0			●	●	
		4.0				●	
		5.0					●
		0.5	●	●	●	●	
		1.0	●	●	●	●	
		1.5	●	●	●	●	
Carbon steel	Argon/Nitrogen	2.0	●	●	●	●	
		2.5	●	●	●	●	
		3.0		●	●	●	
		3.5		●	●	●	
		4.0		●	●	●	
		5.0			●	●	
		6.0				●	
		0.5	●	●	●	●	
		0.8	●	●	●	●	
		1.0	●	●	●	●	
Galvanized sheet	Argon/Nitrogen	1.5		●	●	●	
		2.0		●	●	●	
		2.5			●	●	
		3.0				●	
		4.0					●

The above table is used as a reference for laser power selection, and the specific selection and matching shall be subject to the actual proofing test. The laser welding process involves many factors, such as laser power, welding lens matching, welding speed, shielding gas, lens defocusing, etc. The best welding effect can be obtained by adjusting appropriate process parameters.

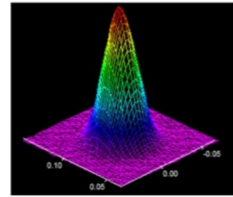
# QCW FIBER LASER WELDING MACHINE



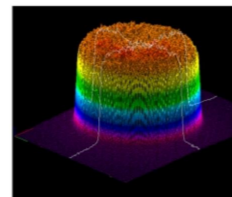
## Product model

DCLWQ150 DCLWQ300 DCLWQ600

The quasi continuous fiber laser used by Dingchuang Laser has higher electro-optical conversion efficiency, better beam quality, and less maintenance costs. It is a perfect substitute for the existing lamp pumped YAG laser. Because of its diversified compatibility, most YAG systems can use this product only by simple modification, which is an ideal choice for industrial applications requiring long pulse width and high peak value such as spot welding, seam welding and drilling.



Singlemode Beam Quality



Flat top beam quality

First choice for welding of thin stainless steel, thin white copper, thin nickel sheet and dissimilar metal sheet:

# QCW FIBER

## Product introduction

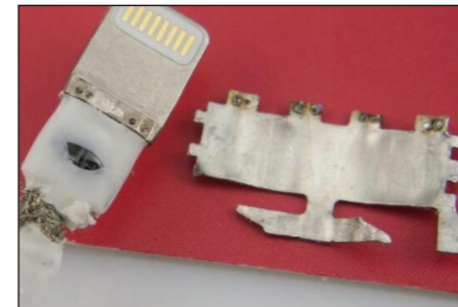
Q-switched fiber lasers can provide pulse energy in the mJ range, but the material processing industry often requires several kilowatts of peak power and several joules of pulse energy, so the company has developed a unique quasi continuous fiber laser. Quasi continuous fiber laser makes up the gap between kilowatt level continuous fiber laser and Q-switched pulse laser. The peak power of the quasi continuous fiber laser can reach 10 times of the average power under continuous mode operation. Therefore, these lasers can provide tens of joules of pulse energy in a long pulse of 50 μs-50 ms. The pulses of a single quasi continuous fiber laser can be modulated by analog signals to achieve pulse shaping or pulse sequence in time domain for various special applications. Compared with traditional YAG lasers, it has the following advantages:

- No need to change the lamp
- Compact design
- 10 times energy utilization rate, electro-optic conversion efficiency > 30%
- Time domain pulse shaping
- Free space optical communication is not involved, all optical fiber design
- Thermal and mechanical stability
- Not fiber transmission laser, but fiber laser
- Multiple fiber options: single-mode, multi-mode or flat top
- Diode red dot collimator

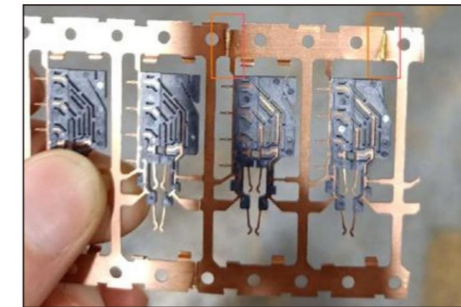
## Product parameters

Parameter QCW	75	150	300	600	1000	1500	2000
Model	Continuous/modulation dual mode						
Power (w)	75	150	300	600	1000	1500	2000
Max-peak value (w)	750	1500	3000	6000	3000	15000	6000
Max-pulse (j)	7.5	15	30	30	30	150	200
Frequency hz _	1-5000						
Pulse width ms	0.05-50						
Stability	< 1.5 %						
Red light	Have						
Output connector	QBH		QBH		QD	QUR	
Bpp	<1.2	<2.5	<2.5	<2.5	<4	<4	
Output core um	50				100		
Fiber length m	Standard 10 meters ( customizable length)						
Input power	48±10%vdc			380±10% vac, 50/60hz			
Power range	10-100 %						
Control mode	RS232/AD/Ethernet						
Power consumption w	500	1000	1500	3000	4000	6000	8000
Cooling method	Air cooled			Water cooling			
Working temperature	0-40°C			10-40°C			

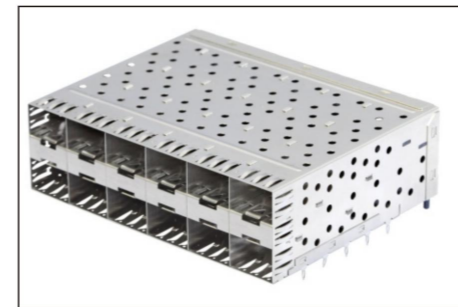
## QCW quasi continuous laser welding case sharing



Application case: spot welding of 3C product plugs such as mobile phone, PAD and computer charging line;  
Application requirements: 0.3mm stainless steel is spot welded to stainless steel, and the welding spot diameter is required to be within 0.1mm;  
Application analysis: Compared with YAG spot welding, QCW spot welding is smaller and more flat in appearance, which is more suitable for small plug welding.



Application case: Each roll of tape needs to be welded together, and then the red copper solder tape is pressed to form 3C electronic components;  
Application requirements: 0.2mm red copper strip shall be welded together to complete penetration without deformation;  
Application analysis: The copper material has high reflectivity. QCW laser with large single pulse energy and high peak power has the best welding effect.



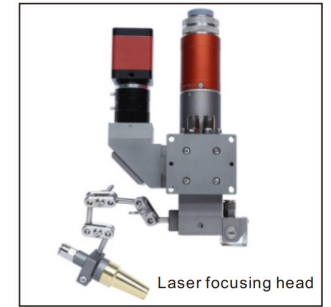
Application case: SFP optical module metal shield enclosure surrounding spot welding;  
Application requirements: 0.1mm metal shield enclosure surrounding spot welding;  
Application analysis: Compared with YAG laser, QCW output energy is more uniform and stable, and energy control is more refined, which is more suitable for fine thin material spot welding.



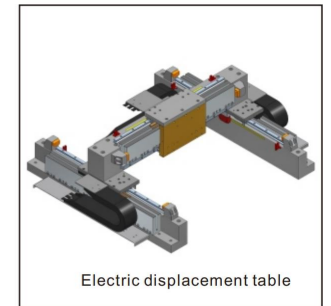
Application case: spot welding of square lithium battery electrode piece for automobile power;  
Application requirements: 0.1mm nickel electrode lug shall be spot welded to 0.1mm aluminum shell and firmly welded;  
Application analysis: Compared with YAG laser, QCW output energy is more uniform and stable, and energy control is more precise, which is more suitable for thin material spot welding.



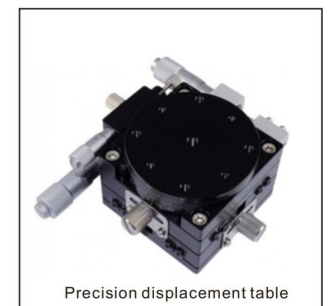
Two-dimensional galvanometer



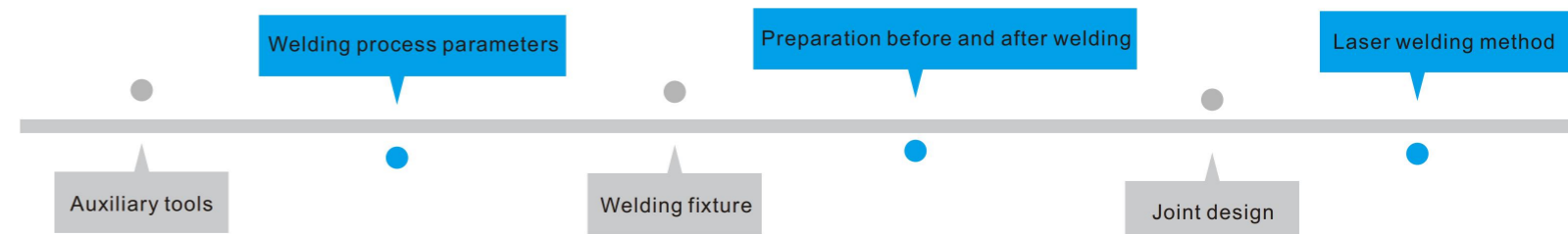
Laser focusing head



Electric displacement table



Precision displacement table



# HANDHELD LASER WELDING MACHINE



1. Portable mobile host Integrated design of laser cooling system is portable; The upper, middle and lower layers isolate the heat source to ensure the working environment of the laser; It is easy to disassemble and maintain.
2. 20 years' experience in laser welding technology is poured into the welding process database
3. Super lightweight hand-held welding head - ergonomically optimized design, lightweight and convenient, multiple nozzles, strong adaptability.



## Product model

DC-LWF1000 DC-LWF1500 DC-LWF2000

## Product introduction

The latest generation of fiber laser is used, and the self-developed handheld welding head is configured to fill the gap of handheld welding in the laser equipment industry. It has the advantages of simple operation, beautiful weld, fast welding speed, and no consumables. It can perfectly replace the traditional argon arc welding, electric welding and other processes in terms of welding thin stainless steel plates, iron plates, galvanized plates and other metal materials. The hand-held laser welding machine can be widely used in the complicated and irregular welding processes in such industries as cabinets, kitchens, elevators, shelves, ovens, stainless steel door and window guardrails, power distribution boxes, stainless steel homes, etc.

### 2 Equipment characteristics

Precise sheet metal cabinet structure is adopted for stable operation and high stability.

Imported optical lenses and precision welding gun head are used, with uniform light output and full light spot, and the welding products can achieve high-precision full welding effect.

The precision cooling water tank with double temperature and double control ensures the constant temperature effect of the whole machine.

The operating system adopts imported PLC intelligent chip, integrated with special function module for laser welding control, with good man-machine interface and simple operation.

Applicable materials: used for a variety of thin metal plates, high-quality welding 0.8~5mm carbon steel plate, 0.8~5mm stainless steel plate.

Auxiliary gas: nitrogen, argon, dry air.

### 3 Application field

Scope of use: applicable to welding of stainless steel, iron sheet, aluminum, copper, alloy, steel, diamond and other materials, kitchen and bathroom

Stairs, elevators, shelves, ovens, stainless steel door and window guardrails, power distribution boxes, stainless steel furniture and other industries.

## Product features

Higher quality: it can be used for laser welding of long distance and large workpieces. During welding, the heat affected area is small, which will not lead to deformation, blackening, and traces on the back of workpieces.

Moreover, the welding depth is large, the welding is firm, and the melting is sufficient.

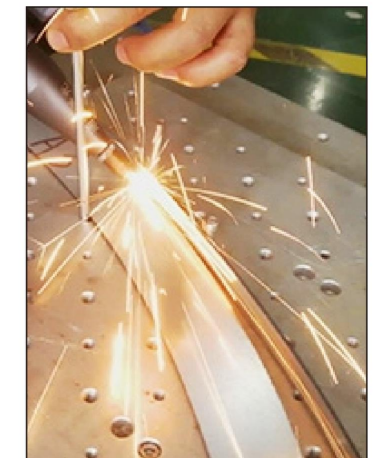
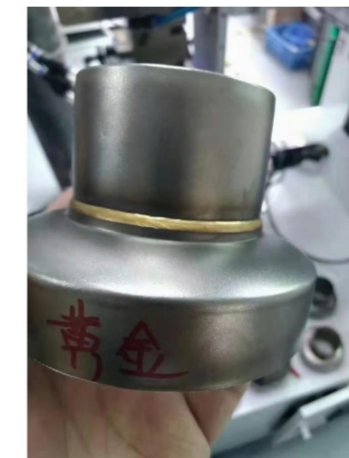
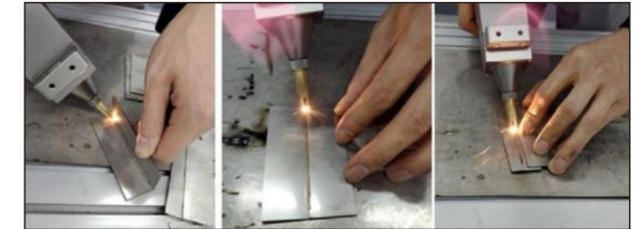
More flexible: It can weld 0.5-5.0mm thick stainless steel, galvanized sheet, iron sheet, brass, aluminum and other metal materials; There is no depression at the junction between the convex part of dissolved material in the solution tank and the matrix! Handheld welding head with flexible direction can be welded at any angle.

More efficient: the welding speed is fast, 2-10 times faster than traditional welding. One machine can save at least two welders a year. The welding speed is fast, and the effect of full welding materials is good.

More stable: low consumption, one year warranty for the whole machine, and two years warranty for the fiber laser. Long service life, stable power output, can work for a long time.

## Processing sample

Processing effect: welding method Usage: butt welding, R fillet welding, overlap welding, internal fillet welding  
It is applicable to the welding of stainless steel plate, aluminum alloy plate, iron plate, galvanized plate, carbon steel plate and other metal materials, and can replace the traditional argon arc welding, electric arc welding and other processes.



## Equipment parameters

Model	DC-LW F1000	DC-LWF1500	DC-LWF2000
Output power	1000W	1500W	2000W
Cable length	10m _		
Power adjustment range	1% -100%		
Frequency range	50-30000hz _		
Duty cycle	1-100%		
With welding head	Qilin double pendulum welding system or single vertical type, point coil double o triangle 8-shaped multiple modes are free to choose		
Welding depth	0.5 - 2.0mm	0.5 - 3.0mm	0.5 - 4.0mm
Positioning aiming	Indicating red light + inner and outer corners		
Cooling method	Deionized water, water cooled		
Environmental requirements	Storage temperature: -20°C~60°C; humidity: <70% / working temperature: 10°C~35°C; humidity: <70%		
Full power consumption of the device	5.0KW	6.8KW	8.5KW
Power requirements	1-Phase AC 220V 50HZ	1-Phase AC 220V 50HZ	3-Phase AC 380V 50HZ
Equipment size	Length, width and height 1150 mm x650 mm x950 mm		
Equipment weight	About 200kg		

# ROBOTIC ARM LASER WELDING MACHINE



The robotic arm laser welding machine is an automated welding system that integrates a six-axis industrial robot, a fiber laser generator, and an intelligent control system. Employing non-contact laser fusion technology, it utilizes the robot's flexible positioning capabilities to achieve high-precision welding of complex 3D workpieces. Characterized by high welding efficiency, aesthetically pleasing weld seams, minimal workpiece deformation, and a high degree of automation, this system meets the demands for both mass production and precision welding of various metal workpieces, making it the preferred choice for industrial automated welding applications.

## Product Features

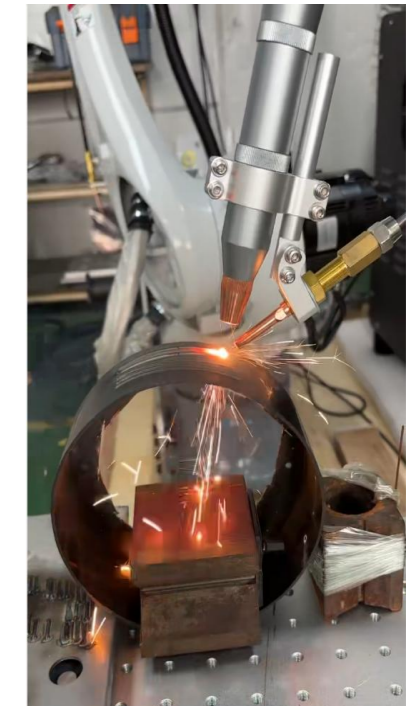
1. Six-axis robotic linkage allows for flexible adaptation to the welding of various complex workpieces—including flat, curved, and irregularly shaped surfaces—ensuring a complete weld coverage with no blind spots.
2. Laser welding produces a minimal heat-affected zone and causes extremely low workpiece deformation, eliminating the need for subsequent grinding or straightening and thereby increasing the yield rate.
3. Automated welding operations can be integrated into production lines to enable unmanned manufacturing, significantly boosting welding efficiency and reducing labor costs.
4. As a non-contact welding process, it involves no consumable material loss; furthermore, the equipment features low energy consumption and low long-term maintenance costs.

## Product Features

5. The resulting weld seams are free of porosity and cracks, exhibiting high welding strength and excellent airtightness, thereby meeting the requirements for high-precision welding applications.
6. The equipment boasts strong compatibility and supports the addition of various functional modules to accommodate diverse production process requirements.
7. The system features advanced functions such as parameter memory, fault alarms, and remote diagnostics, facilitating convenient equipment operation and maintenance.

Processing effect: Fully automated robotic laser welding offers high efficiency, consistent performance, and a high yield rate. It produces aesthetically pleasing and robust weld seams, ensuring that workpieces remain free of deformation and require no subsequent straightening or grinding—achieving a finished form in a single pass. This technology is ideally suited for welding complex curved surfaces, irregularly shaped components, and three-dimensional workpieces, delivering stable and reliable weld quality that meets the demands of large-scale automated production.

## Processing sample



## Equipment parameters

Model	DC-SC1500	DC-SC2000	DC-SC3000	DC-SC6000
Output power	1500W	2000W	3000W	6000W
Laser Wavelength (nm)	1080nm±10			
Robot Load (kg)	35kgs			
Robot Arm Span (mm)	1870			
Thickness of Welding Sheet (mm)	≤9mm			
Diameter of Filler Wire (mm)	0.8-1.6			
Weight of Welding Gun (kg)	2-8kg			

# Introduction to selection of automatic welding workbench



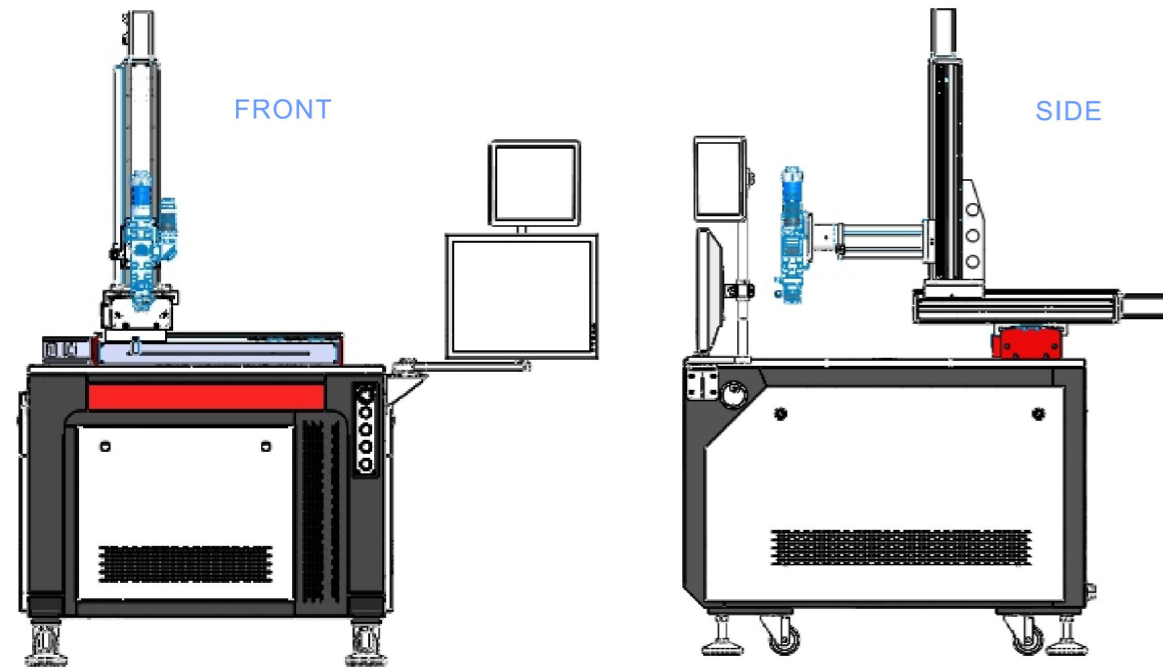
Laser type: fiber laser/semiconductor laser of all major first-line brands



Type of welding joint: direct exit type/platform double swing type/galvanometer type



Welding monitoring system: coaxial monitor CCD visual positioning system



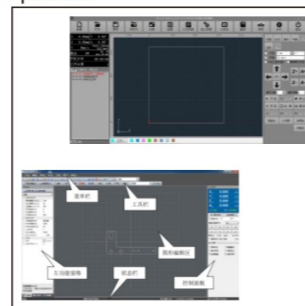
Drive motor and driver: stepping motor, servo motor



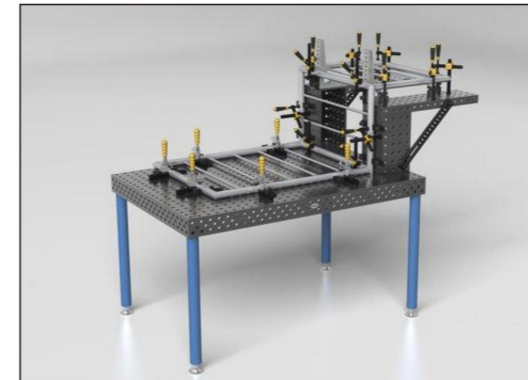
Travel and rotation of the motion axis: XYZ three axes are matched according to the actual required travel and accuracy.



Laser control system: CatDSP, TKHJ, WSXHJ, CL6 welding control software is optional.



# Customized welding platform and mechanism

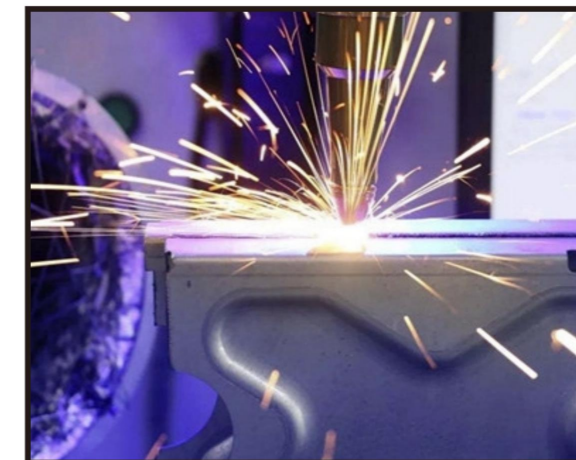
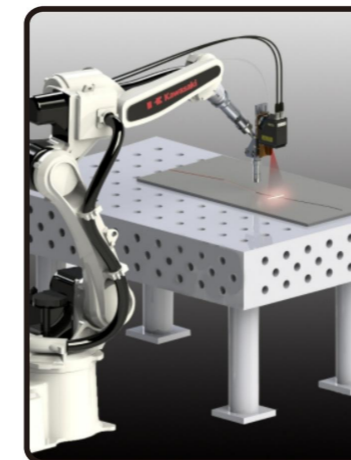


Fiber laser welding machine  
High photoelectric conversion efficiency;  
Stable laser energy output;  
Almost no after-sales maintenance is required;  
The operation is simple and convenient, and the welding effect is firm and beautiful;  
Equipped with a mechanical arm for welding, it can flexibly target various irregular welds and adapt to mass welding operations.



The system adopts flexible platform and fixture to adapt to workpieces of different sizes. The system has high welding efficiency and stable welding quality; Suitable for welding of various types of welds.

## Six axis

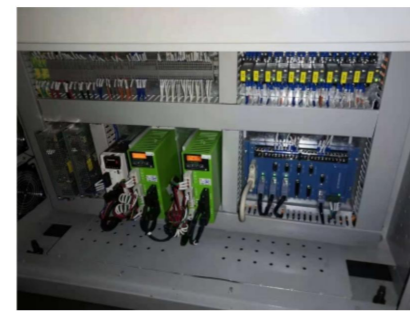


# Industry Manipulator

# LASER CUTTING MACHINE



It is mainly used for precision cutting, scribing and drilling of alumina, aluminum nitride and zirconia ceramics;  
 Precision sheet metal cutting, precision pipe cutting;  
 Boundary dimension (L \* W \* H): L1300 \* W1600 \* H1950mm  
 Equipment weight: about 1500KG



The electrical wiring is neat and consistent

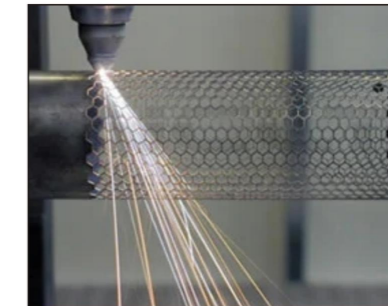
## 产品特点

- High performance laser: fiber laser of international first-line brand is adopted, which has the advantages of good beam quality, small focus spot, uniform power distribution, small thermal effect, small kerf width, and high cutting quality, which is the guarantee of perfect cutting quality.
- Fast and high precision: the combination of high-precision linear motor system platform can keep the high precision of micron level while cutting fast.
- Marble base, integrated closed structure, safe and reliable performance;
- Convenient image processing: accept the standard DXF format and use it.
- Dedusting treatment system: the air suction system can effectively eliminate the cutting waste residue, avoiding the harm to operators and environmental pollution.
- Easy to learn software: independently developed control software based on Windows system, easy to operate Chinese interface, friendly and beautiful, powerful and diverse functions, simple and convenient operation.
- Multi board cutting: It has the function of one-time multi board array cutting to improve production efficiency.
- The machine is equipped with CCD automatic positioning system, which can facilitate the secondary positioning processing of printed drawings.

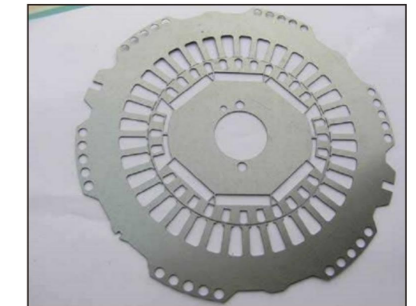
Configuration of main parts of the product

Serial number	Name	Quantity	Unit	Remark
1	Laser	1	Tower	IPG/MAX/RUYCAL
2	Cutting head	1	Individual	Ding chuang customization
3	XY linear motor stage	1	Set	Ding chuang self-developed
4	Bed platform	1	Set	Ding chuang self-developed
5	Industrial computer	1	Tower	Ding chuang customization
6	Cutting system	1	Set	Ding chuang self-developed
7	Optical system	1	Set	Ding chuang self-developed
8	Air system	1	Set	Airtac

## Precision cutting effect

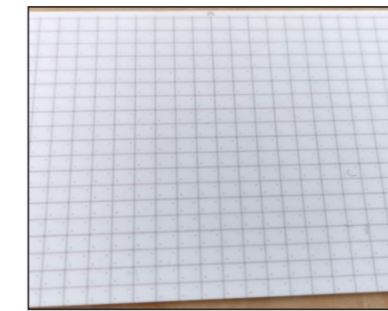


Cutting and processing of stainless steel pipe

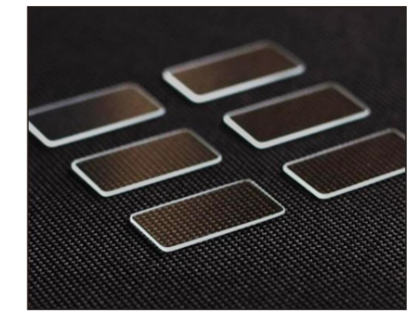


Cutting and processing of silicon steel sheet

At the production site of a customer of a listed company in Shantou, the precision laser processing system produced by our company was used to punch and scribe ceramic substrates. The punching and positioning are accurate, the scribing is neat and straight, and the performance is stable. I highly praise our precision laser equipment.



Marking and Punching of Ceramic Substrate



Cutting and processing of protective plate glass

## Product parameters

Serial number	Project	Technical parameter	Remark
1	Machine type	DC-FL3535-B	
2	Laser power (w)	150W	
3	XY axis travel (mm)	350*350mm	
4	Cutting thickness (mm)	≤ 1.6 mm	Depending on the material
5	Drilling aperture	0.08 ~ 0.12mm	Depending on material and thickness
6	Shape cutting accuracy (mm)	± 0.03mm	
7	XY platform maximum operating speed	500mm/s	
8	Supported file formats	dxf	
9	Electricity demand	Three-phase ac 380v/50hz , ac220v	
10	Machine size (mm)	L1300*w1600*h1950mm	
11	Machine gross weight (kg)	1500kg	
12	Ambient temperature	23°C±2°C	
13	Environment humidity	≤60%RH, Non -condensing	

CUTTING