

## Jewelry Laser Spot Welding Machine

This laser spot welding machines are used for perforation and spot welding of sand hole for gold and silver jewellerys. Laser spot welding is an important application of laser materials processing technology. Spot welding is thermal conduction, namely, the laser radiates the surface of the part, and the heat on the surface expands inside through heat conduction. By controlling parameters such as laser pulse width, energy, peak value and repeating frequency, the part will melt, and thus forming specific molten pools. Due to its unique benefit, the product has been successfully applied to gold and silver jewellerys processing, and welding of small-sized parts.



### Characteristics

- Energy, pulse width, frequency and focus can be adjusted within a wide range to achieve different welding effects.
- Ceramic reflector used in the laser pump chamber is imported, which is corrosion resistant, high temperature resistant, high electrical/optical conversion.
- World-leading automatic light shielding system is employed to remove harmful lighting on eyes during operation.
- 24-hour continuous operation, with stable operating performance, and free of maintenance within 10000 hours.
- Personalized design in compliance with ergonomics principles.

### Advantages

Fast, efficient, deep, little distortion, little affect area, quality welding, welding points free from pollution, and energy saving.

Model	WS-150	WS-200
Max. average power	150W	200W
Laser wavelength	1064nm	1064nm
Focused beam diameter	0.1~3.0mm	0.1~3.0mm
Pulse repetition rate	0.5-40Hz	0.5-40Hz
Pulse duration	0.5~20ms	0.5~20ms
No. of assistant gas channel	1	1
Input electricity	220Vsingle phase50Hz/40A	220Vsingle phase50Hz/60A
Maser Unit Dimensions (LxWxH)	1000X480X1080mm	1000X480X1080mm
Cooling system Dimensions (LxWxH)	400X350X880mm	400X350X880mm

## Fiber Delivery Laser Welding Machine



### Products features

- Using pulsed xenon flashlamp pumped Nd:YAG rod to produce 1064nm IR laser beam. Using arbitrary waveform real-time lamp current feedback to assure laser power and its waveform in good condition of stability and repeatability during working.
- Laser power from 100 watts to 500 watts, covering small, medium and high power system, can basically meet the needs of industrial precision welding.
- Can deliver several optical fiber laser beams at same time, which increases processing freedom, capable of multiple-beam and multiple-station machining, suitable for more sophisticated welding.
- Output laser waveform can be set in accordance to welding material, shape, etc, which greatly improves welding quality, even can solve some traditional welding challenges.
- Mainly for thin-walled material and precise parts welding, can achieve spot welding, joint welding, stack welding and sealed welding etc. It possesses high welding depth ratio, welding width small, hot effects district small, deformation small and welding speed fast, welding surface flat and beauty, welding quality high, no stomatal, precision controlled, focus spot small, precision pointing, fiber transmission, easy to achieve automation.

### Applications

Widely used in battery industry, IT industry, electronics, sensors, optical communication, metal, auto parts, mold repair, jewelry repair, eye glasses, porcelain teeth, solar, electric industry.

### Main technical parameters

Laser wavelength	1064nm
Laser output power	100/200/300/400/500W
Spectroscopic method	Energy spectroscopy or time spectroscopy
Closed-loop feedback control method	Arbitrary waveforms in real-time laser power negative feedback (optional)

Max pulsed power	25/50/60/80/100J
Power stability	$<\pm 3\%$
Power spectral irregularity	$<\pm 3\%$
Optical output quantity	Max.6 optical fiber outputs
Pulse width	0.2-20.0ms
Pulse frequency	0-100Hz
Electrical input	$\leq 6/\leq 8/\leq 12/\leq 16\text{kW}$
Power supply input	AC220V/380V $\pm 5\%$ , 50/60Hz

## Integrated Fiber Delivery Laser Welding Machine



### Product features

- Using pulsed xenon flashlamp pumped Nd:YAG rod to output 1064nm IR laser beam. Using arbitrary waveform real-time controlled current feedback to assure laser power and its waveform in good condition of stability and repeatability during working.
- Laser power from 100 watts to 500 watts, covering small, medium and large power system, can basically meet the needs of industrial precision welding.
- Multi-channel optical fiber delivery at same time to increase processing freedom, capable of multi-beam and multi-station machining, providing conditions for more sophisticated welding.
- Output laser waveform can be set in accordance to welding material, shape, etc, which greatly improves welding quality and further solves some traditional welding challenges.
- Mainly for thin-walled materials, precise parts welding, can achieve spot welding, joint welding, stack welding and sealed welding, etc. It possesses high welding depth ratio, small welding width, small heat affected district, small deformation and fast welding speed, flat welding, beautiful, welding, high quality, no air hole, precision controlled, small focus spot, precision positioning, fiber delivery, easy to achieve automation.

### Applications

Widely used in battery industry, IT industry, electronics, sensors, optical communication, metal, auto parts, mold repair, jewelry repair, eye glasses, porcelain teeth, solar, electric industry.

### Main technical parameters

Laser wavelength	1064nm
Laser output power	100/200/300/400/500W
Spectroscopic method	Energy splitting or time splitting delivery
Closed-loop feedback control method	Arbitrary waveforms in real-time laser power negative feedback (optional)
Max pulsed power	25/50/60/80/100J

Power fluctuation	<±3%
Power spectral irregularity	<±3%
Optical output quantity	Max.6 channel optical fiber delivery
Pulse width	0.2-20.0ms
Pulse frequency	0-100Hz
Machine power rating	≤6/≤8/≤12/≤16kW
Electrical requirement	AC380V±5% 50/60Hz

## Automatic Laser Welding Machine



### Features

- UK-made ceramic cavity used, corrosion resistance, high temperature resistance, 8 to 10 years lifetime.
- High efficiency, fast welding speed, slim welding width, small heat-affected zone, small deformation, perfect welding, joint need no treatment.
- Beam spot size electrically controlled, weld joint smooth, flat, high welding strength, weld high resistance can equal to the base metal.
- two-dimensional motorised work table, precise control, high precision, can be automated, can realize spot welding, side welding, sealing welding for precision parts.

### Applicable materials

Kettles, vacuum flask, stainless steel bowls, door knobs, filters, electrical accessories, golf heads, nozzles, stainless steel products, zinc alloy and other crafts.

### Applications

Suitable for max 2mm thin plate side welding. Can weld kinds of space curved and some height variation welding seam. Used in medical, electronics, batteries, meters and other industries.

### Main technical parameters

Laser output power	200/300/400/500W
Power supply	≤8/≤12/≤14≤16KW
Laser wavelength	1064 nm
Pulse width	0.2-20ms
Pulse frequency	0-150Hz
Laser spot diameter	≥0.2mm
Aiming and positioning	Red light, CCD

Machine dimension	1500*750*1200mm
Working table positioning accuracy	±0.02mm
Table travel area	100*100mm to 800*800mm
Standard worktable loading	≤100KG
Power requirement	AC380V±5% 50/60Hz



## Mould Laser Welding Machine



### Main features:

- Specially designed for mould industry with special structure design. Laser head 360° rotatable. Main optic laser path can 360° rotate. Motorised height up and down. Focused beam diameter changeable.
- Power, pulse width, spot beam size are adjustable in a wide range to get various welding results. Parameters are set by control rod in the enclosed cavity, very simple and efficient.
- Can 24 hours continuous work, main machine work with stability, within 10000 hours maintenance free.
- Use imported UK ceramic pump chamber, corrosion resistant, high temperature resistant, 8 to 10 years lifetime, xenon lamp lifetime more than 8 million pulses.
- Use the world's most advanced automatic shading system, eliminated eye irritation during working.
- Parameters settings use auto-remote control, easy and fast operation.

### Applications:

Specially designed for mould industry, for precision mould repair, can weld large range of materials in mould and machining industry such as digital products, mobile, toy, car, motor-bike etc. including cold rolled HSS, high alloy steel, nickel tool steel, high steel, copper alloy, BeCu, high strength and toughness aluminum alloy and other metal materials.



**Main technical parameters:**

Model	WS180	
Max. Laser output power	200W	
Laser wavelength	1064nm	
Laser power supply	8KW	
Mix laser welding pool	0.2mm	
Pulse frequency	≤50Hz	
Pulse width	≤20ms	
Beam spot diameter	≥0.2mm	
Protect gas	1 gas	
Power require	220V/ 380V±5% 50/60Hz	
Outside sizes	Main machine	1000X480X1080mm
	Cooling system	400X350X880mm

Note: Can customized according to customer requirements, offer other laser power(as 300W, 400W,500W) laser welding machine.

## Galvanometer Scanning Laser Welding Machine



### Features

- Use galvanometer scanning, high welding speed, high accuracy, good laser mode, especially suit for various spare parts laser spot welding.
- In single spot welding, because of greatly reducing the idle stroke time, its production efficiency improved 4 to 40 times than common laser spot welding.
- Galvanometer scanning laser welding machine consists of YAG solid state laser source, laser power supply, optical scanning system, 3D adjustable work bench, IPL control system, cooling system, operating cabinet and etc.
- Laser welding software based on Windows platform, solder spot or graphic can be directly input or edited in its software, also can be edited by Auto CAD, Corel draw or other software, and then be processed by some other software. This machine is quality stable, convenient operation, easy maintenance, can be conducted by fiber flex delivery, achieve 2 galvanometers welding at the same time or separated time.

### Applicable materials

Mobile phone shield, metal mobile housing, metal capacitor shell, metal shield in computer, razor blade, connectors and other electronic products.

### Industrial applications

Used for refined electric parts, IC frame and other precision parts welding, high power diode, mobile phone cell, mobile phone shell, electron parts, sensor, wire, aluminum alloy, laptop outside shell, electrical accessories, crafts, filters, stainless steel, zinc alloy welding. Weldable graphics are: points, lines, circles, squares, or any planar graph drawing from AUTO CAD software.

### Main technical parameters:

Laser output power	200/300/500W
Laser type	ND:YAG pulsed laser source
Main machine power	≤8/≤12/≤16KW

Laser wavelength	1064nm
Soldering depth	≤2mm
Pulse frequency	≤20Hz
Laser beam spot	≥0.2mm
Obveration system	High precision red indicator
Control system	Special scanner welding system
Welding area	100*100 mm to200*200 mm (optional)
Max. Positioning speed(mm/s)	≤7000
Cooling mode	Water cooling
Power reply	380V±5%/50/60Hz

## Jewelry Samples



## Mould Samples

