

Optical Fiber Transmission Welding Machine

——Type WL-YW400



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1. Application Materials

WISELY Welding laser machine can work with most metal and non-metallic marking applications, such as Gold, Silver, Stainless Steel, Carbon Steel, Mild Steel, Chrome Steel, Brass, Copper, Aluminium, Titanium, Die Steel, Alloys, etc. and some plastic.

2. Applicable Industries

Electronic Components:	Phones cases, Capacitors, Chips, Connector, IT industry component etc.
Mechanical Parts:	Bearings, Gears, Automobile Parts, Clutch, Motor, etc.
Instrument:	Sensor, Panel Board, , Precision equipment, etc.
Hardware Tools:	Knives, Tools, Measuring Tools, Cutting Tools, etc.
Daily Necessities:	Handicrafts, Zipper, Kettle, Mug, Faucet, Sanitary Ware, etc.
Others:	Battery, Mold, Jewelry, Glasses Frames, Plastic, etc.

Videos please visit: <https://www.youtube.com/watch?v=HRJh4mO95Q>

3. Advantages

- 1) Compact structure, long lifespan, high speed, no maintenance.
- 2) No preheating is required. Low consumption, more economized and environmental.
- 3) Small solder joint diameter, small heat affected zone, suitable for all small sizes high precision products.
- 4) Very convenient and quick without separation work., welding on the workpiece and repaired it directly.
- 5) Fast heating and cooling speed, the heat affected area is small, and the aspect ratio is large.
- 6) The laser head can be moved back and forth, Motorized Up/Down and Adjustable XYZ.

4. Technical Parameters

Type	WL-YW400
Laser Power	400W
Optional Laser Power	200/300/400/500/600W
Working Substance	Nd:YAG
Laser Wavelength	1064nm
Working Area	100*100mm
Maximum Single Pulse	80J / 20ms
Power Consumption	<12kw
Maximum Welding Depth	3mm
Maximum Spot Diameter	2mm
Power Stability (8h)	<±3%rms
Pulse Width	0.15-20ms
Pulse Frequency	0-50/100HZ
Repeated Precision	±0.01mm
Transmission fiber wire	Original Japan Mitsubishi Φ0.4 / Φ0.6
Positioning method	Red light
Voltage	380V±5% / 50Hz 50A
Cooling water	5HP Chiller 10L/min
Power Control System	Single Chip Microcomputer
Observation System	Microscope
Dimension (L*W*H)	1300*900*1600mm
Package Size	1400*1000*1750mm
Net Weight	450KG
Gross Weight	600KG
Optional (Not free of charge)	Rotary Device, XY Moving Table, other customized Automatic Matching System

5. Shipment

Within 10-12 working days after receiving your payment.

6. Warranty

Whole machine has a warranty period of 12 months since the production date. After warranty period if any technical support, software update service for free.

7. Training

1-3 working-day training free of charge in factory. Oversea training is available, the buyer can discuss the details with Wisely salesman.

Technology advantages

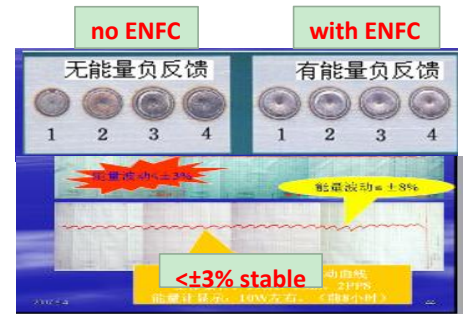
Our company's key technology is to set the energy negative feedback control for arbitrary waveforms, as follows:

1) Energy negative feedback control (ENFC)

To maintain a stable and good processing state, laser energy and its waveform should be high repeatability, energy negative feedback control is a good solution.

The energy negative feedback control is a method of comparing the laser energy waveform to be outputted with the actual output energy waveform in real time to determine the input energy of the pump lamp, then controlling the output energy, to make the laser stable output energy within 3%, and the following problems that cause a wide range of laser output energy fluctuations are solved:

- a) fluctuations in the mains affect the fluctuation of the laser output energy
- b) the difference of each discharge of xenon lamp
- c) The aging of the xenon lamp causes a decrease in the output laser energy
- d) The water flow and temperature changes.

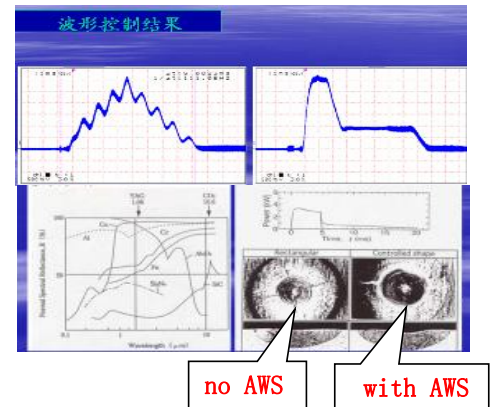


2) Arbitrary waveform setting (AWS)

In the processing and production, for copper, aluminum, gold and other materials due to its high reflectivity to the laser surface of 1064nm wavelength, there are problems such as insufficient processing strength and unsatisfactory welding surface during processing; for high carbon and other materials, due to urgency Heat causes problems such as hot cracks and cold cracks during processing. For the above problem, by setting the energy waveform of the laser pulse to control the change of the laser energy during the welding process, the above problem is solved by using the method to achieve the best welding effect of the processed product. Our company's waveform setting can set 20 inflection points, which can fully meet the requirements of welding difficulty and process requirements.

At the same time, 32 waveform data (process parameters) can be saved.

This is ideal for production lines with a wide range of products and frequent switching.

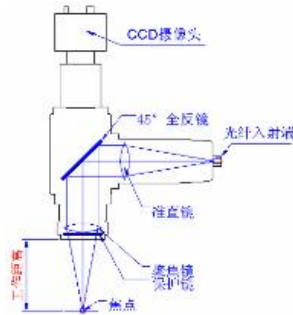


3) Optical fiber transmission Fiber transmission

Our company's laser welding uses fiber optic transmission laser. Compared with hard optical laser welding machine, the welding spot is more uniform. The laser head is flexible and convenient to install, and the processing freedom is relatively high. At the same time, our laser welding machine can perform multi-fiber time division or split transmission. It provides a good processing platform for multi-path multi-station processing.

4) Coaxial CCD monitoring system

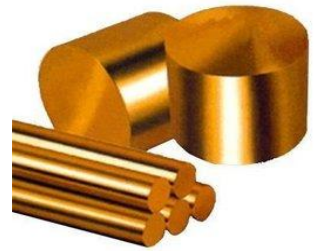
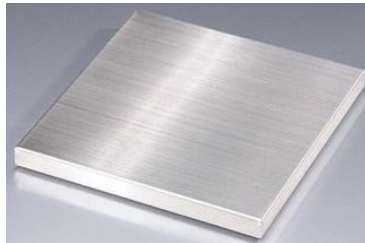
Our company's products can be equipped with coaxial CCD monitoring system. The coaxial CCD monitoring system can be enlarged up to 150 times. At the same time, the coaxial CCD monitor cross target and the laser welding welding spot center are completely coincident, which is easy to adjust and position during laser processing, and improve the precision. The accuracy of positioning during processing increases the processing speed, reduces the fatigue of the operator and improves the yield of the product.



5) Touch screen control box

Our company's laser welding machine is operated by touch screen control box, and the touch screen is easy to operate and quick to respond. The user interface is friendly and easy to understand. At the same time, our control box is equipped with a dedicated data cable to connect the control box and the host, and the operator can operate the welding machine from a distance.

Sample Gallery



Suitable materials:

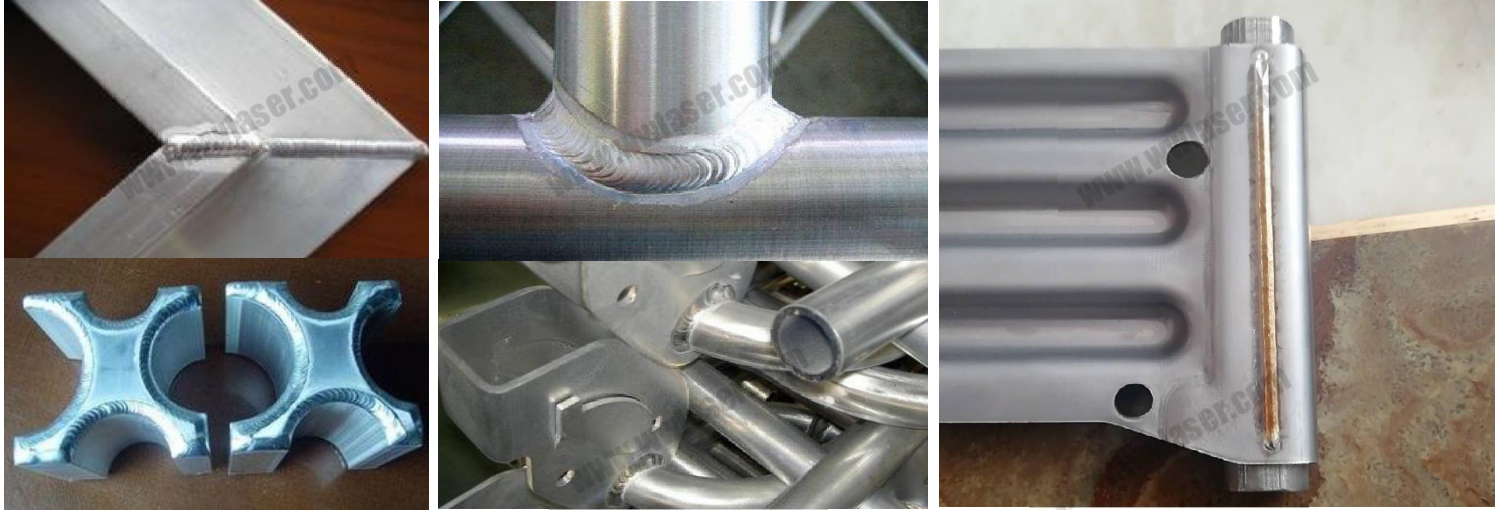
S.S. / Carbon steel / Aluminum / Copper / Brass / Alloy etc.



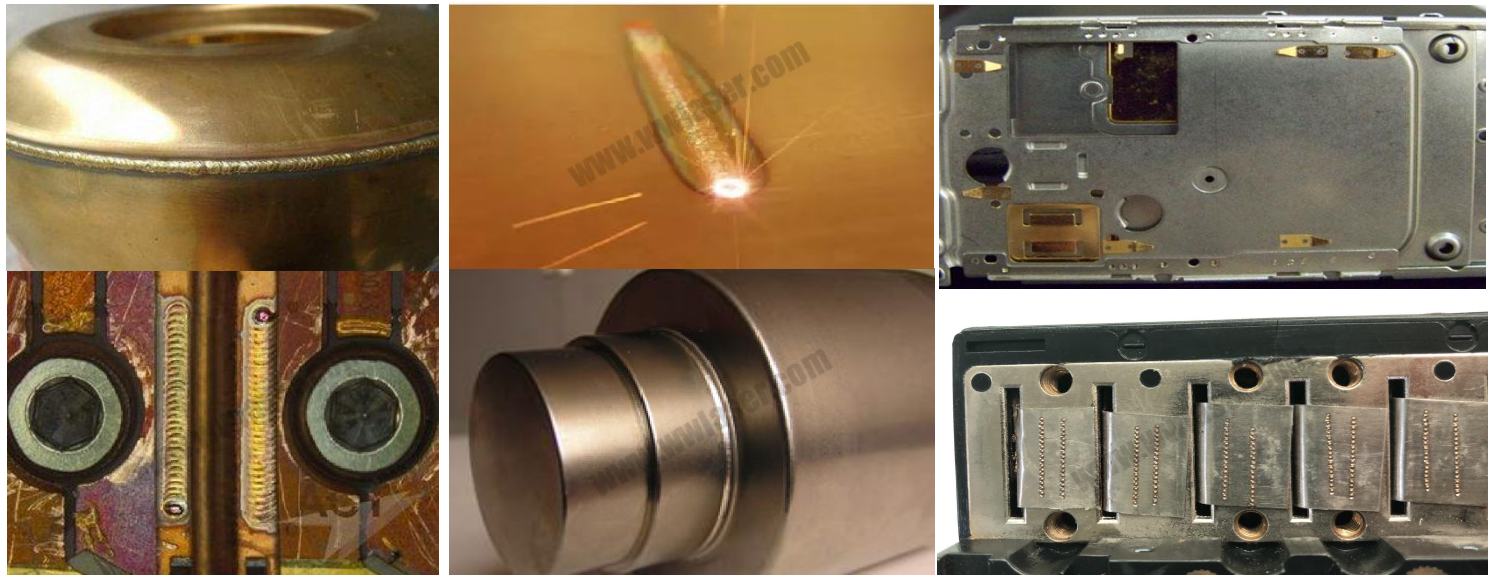
304# S.S. / Steel



Painted Chrome Steel / Carbon steel



Aluminum



Copper / Brass



Alloy etc.