

# Fiber Laser Welding Machine with Robot System



**Wire feeding**



**Laser generator**



**Robot arm**

HW-LW-3000W 、 HW-LW-4000W



For information please check our website: <http://www.howweld.com>

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## Main configuration:

The robot laser welding machine adopts a multi-station working platform, the robot intelligent operation, and the unique swing welding head, through the alignment

A laser device that collimates the parallel light and focuses on the workpiece for welding. With a simple universal instrument, it can be used for large moulds

For welding precision parts that are difficult to access, flexible transmission non-contact welding is adopted, which has greater flexibility and operability.

- Suitable for precision welding of sheet metal, hardware and aluminum alloy.
- It should be used in automobile, aerospace, marine, power battery, hardware and kitchenware and other industries.

## Features

- 1. Suitable for large-format space welding, intelligent robot operation, flexible and reliable, six-axis linkage, and arbitrary space welding,

It is not limited to plane welding.

- 2. Customers can customize the fixture according to production requirements.
- 3. It can realize dual-station or multi-station welding operation, save the time of product installation fixture, and greatly improve production efficiency.
- 4. With the first domestic oscillating welding head, its unique wedge vibration mode widens the weld, making laser welding more widely used

For larger workpieces and workpieces with wider weld seams, laser high efficiency and precision welding can be realized. And the welding quality effect is obviously superior to the ordinary

Welded joints. The weld surface is relatively flat and beautiful, and the welding quality is good.

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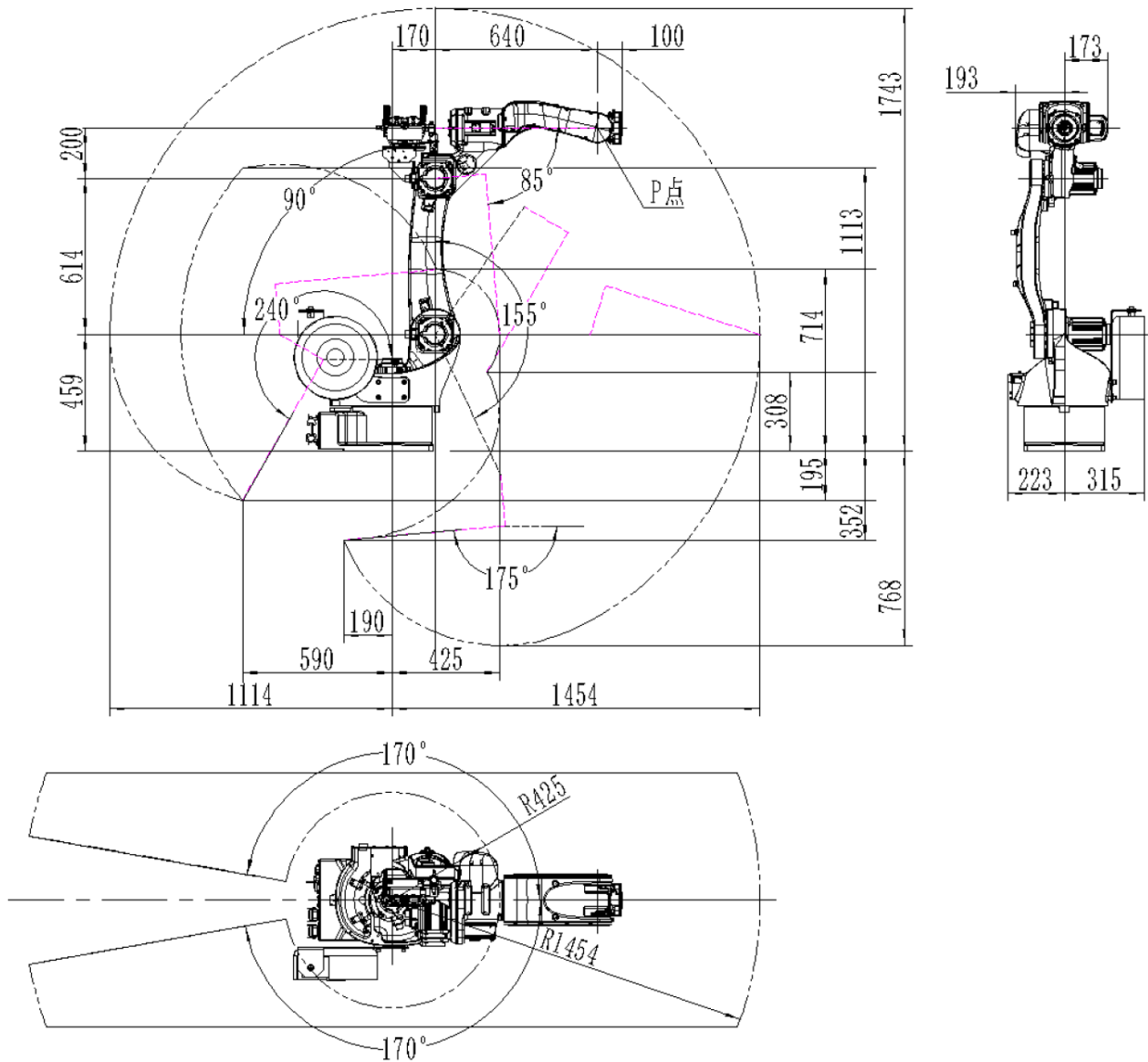
- 5. High repetition accuracy, can be repeated repeatedly without error, no consumables, flexible processing, and low operation cost.
- 6. Some places can replace manual operation and are suitable for some difficult space welding.
- 7. It is equipped with automatic wire feeder to solve the welding problem of some products with large welds, which makes the welding more firm and more applicable.

### **Robot arm system**

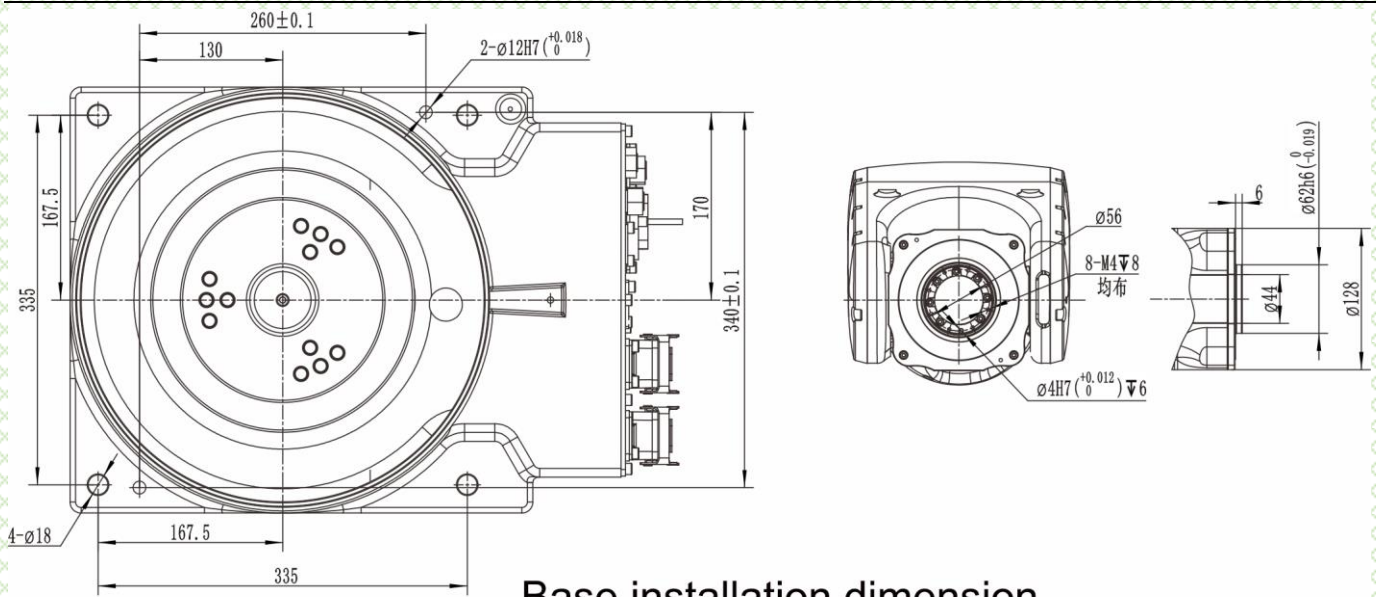
Model		HWRP-H18-20-W
Arm form		Vertical multi-joint
Degree of freedom of motion		6 Axis
Maximum Load		20KG
Maximum travel	1 Axis	Formal/inverted -165°~165° Wall -30°~30°
	2 Axis	-155°~105°
	3 Axis	-170°~240°
	4 Axis	-190°~190°
	5 Axis	-90°~110°
	6 Axis	-210°~210°
Maximum speed	1 Axis	160°/S
	2 Axis	160°/S
	3 Axis	169°/S
	4 Axis	301°/S
	5 Axis	342°/S
	6 Axis	708°/S
Allowable moment	4 Axis	55N.m
	5 Axis	55N.m
	6 Axis	24N.m
Allowable moment of inertia	4 Axis	2.1kg.m <sup>2</sup>
	5 Axis	2.1kg.m <sup>2</sup>
	6 Axis	0.9kg.m <sup>2</sup>
Repetitive positioning accuracy		±0.08mm
Maximum coverage		1730mm
Whole weight		285KG
Installation method		Floor, top mounting and wall mounting
Installation environment	Ambient temperature	0~45°C
	Relative humidity	20~80%
	Vibration	0.5G
	Other	Kept away from: flammable or corrosive liquid or gas electrical interference sources
IP grade		Wrist IP67, rest IP54
Characteristic		Compact structure, high speed, high precision, high scalability, easy operation
Application		Laser welding



### Operating range



### Base installation dimension



Base installation dimension

**Technology specification**

Machine size	700*700*1600mm		
Power supply requirements	AC380V±5% 50HZ/60HZ	Laser Power	4KW
Environmental requirements	temperature: 5—35°C Humidity: 40—85% No flammable, explosive, strong magnetic, strong earthquakes		
<b>Laser source Technology specification</b>			
Laser source	Chinese brand laser source		
Laser working mode	Continuous type	Laser power	4000W
Mass of light spot (m <sup>2</sup> )	≤3	Laser wavelength	1070nm
Life of laser	100000 h		
<b>Main parameters of robot</b>			
Robot Brand / model	CROBOT1820R		
Spatial positioning accuracy	0.1mm		
<b>Auxiliary system</b>			
Cooling system	Special temperature controlled cold water machine (external connection) for laser machine	Water quality	PH=3
Circuit and protection system	Industrial standard		

## Fiber laser source: Optional 3000W 6000W continuous fiber



3000W Raycus/JPT fiber laser, which can transmit the laser to the workpiece through the transmission fiber and laser head, keep the laser away from the workpiece and working area, effectively protect the laser, and its laser components are guaranteed for 2 years;

It has the advantages of high electro-optical conversion efficiency, good beam quality, high energy density, wide modulation frequency, strong reliability, long life,



and maintenance-free operation. It can be widely used in welding, precision cutting, cladding, surface treatment, 3D printing and other fields. Its optical fiber output characteristics make it easier to integrate with robots into flexible manufacturing equipment to meet the needs of three-dimensional processing.

**Laser output Characteristics:**

S/N	Features	Symbol	Type / Parameters	Units
1	Laser Type		CW-R-B-W-3000	
2	Beam Parameter Product	BPP	$\leq 4.5@100\mu\text{m}$	mm*mrad
3	Armored Cable Length		20	m
4	Cable Bending Radius	R	$> 200$	mm

Small size, compact structure and simple operation; It is an ideal choice for metal cladding processing.

**Warranty period: 2-year warranty.**

Service life: typical value > 20000 hours, and > 5-7 years under three shift system;

Rated output power: 3000W;

Minimum beam quality: 100mm Mrad optical fiber: core diameter 600 μ m

Optical fiber length: 10M

Power stability: ± 2%

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Wavelength range: 900nm-1080nm weight: about 55kg

Volume: 5u

Working voltage: 380V / 50Hz, maximum power consumption: 9kw

Maximum cooling requirement: 8kw



**Production time: 40 days.**

**Machine warranty time:**

We offer **1** year Warranty.

During this period, we offer:

1. Free parts.
2. Overseas service.
3. Free training.



**FiberLaser Source**

warranty  
time:

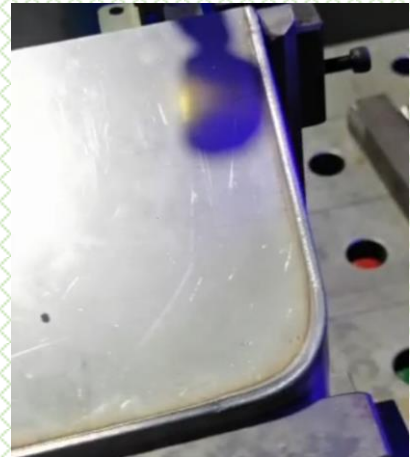
**2**  
**years**

**Machine size, weight:** 4200mmX1000mmX1400mm 1260kg

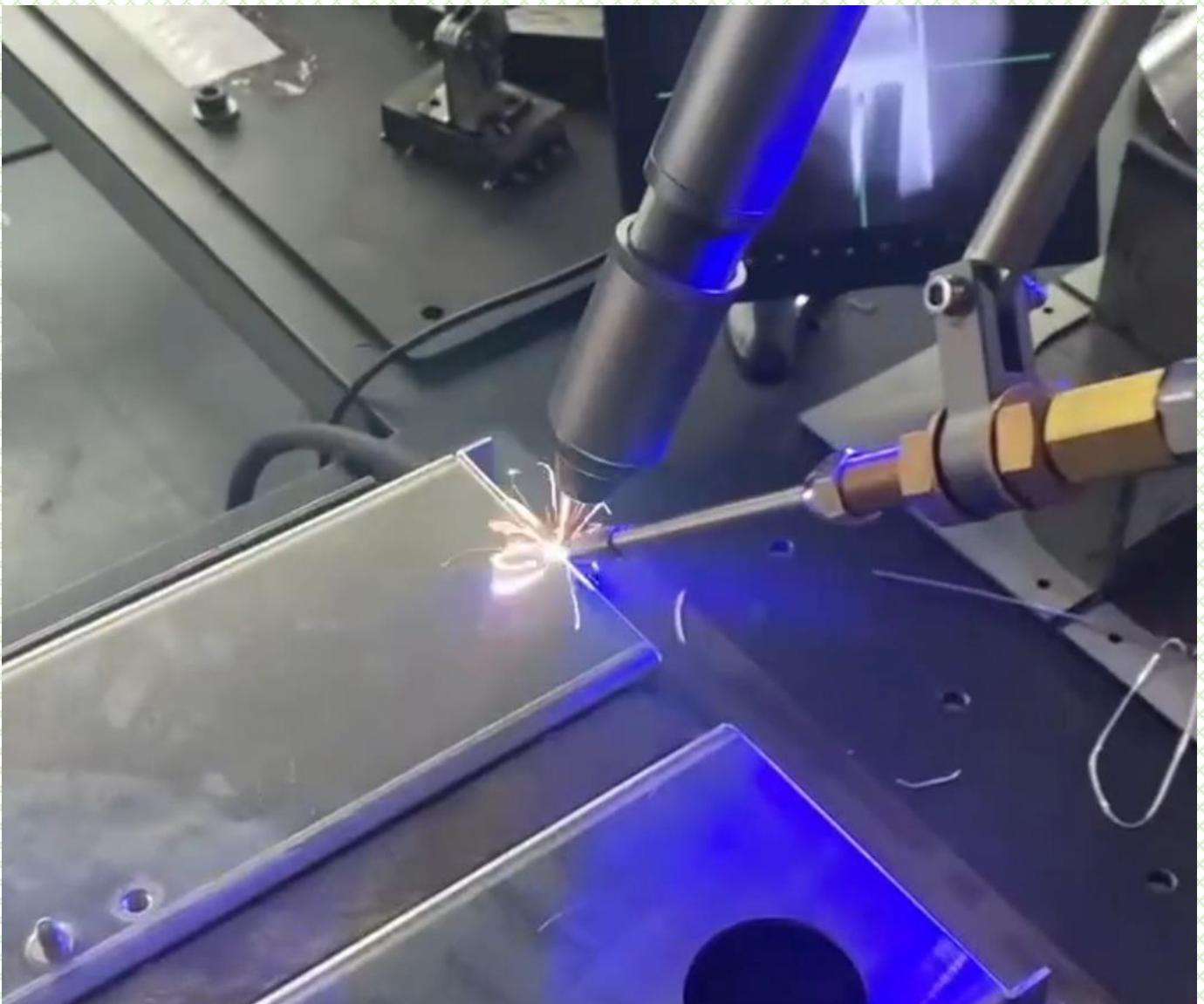
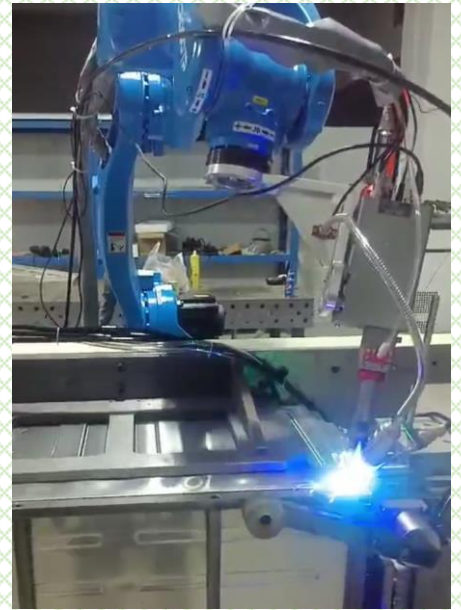
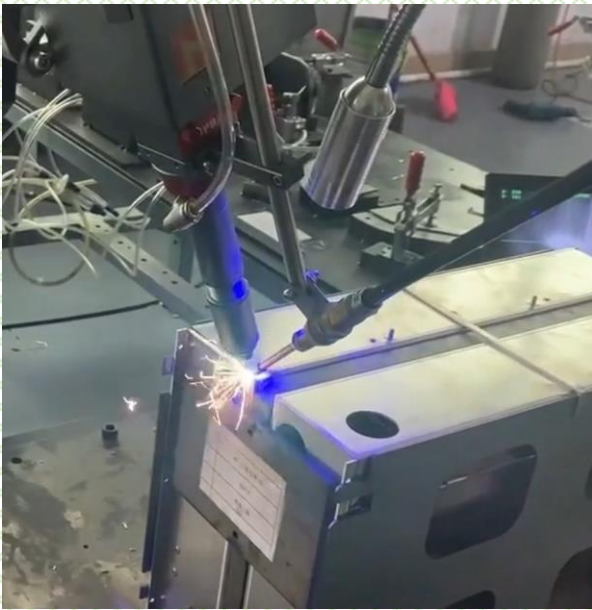
**Packing in wooden case**



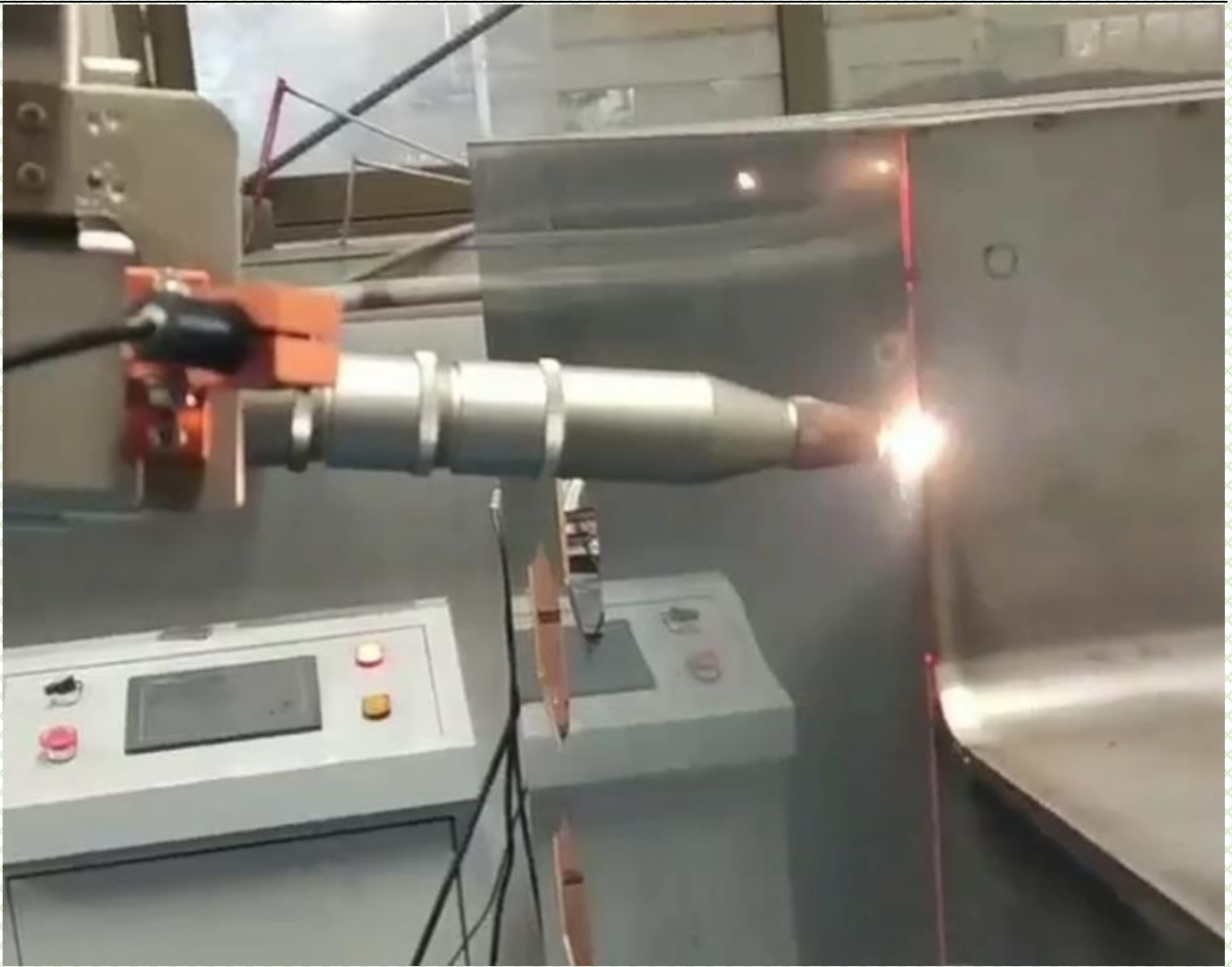
## Display











## Consumables parts

Item	Description	Unit	Remark
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1	Water filter	1 Pc	Change every 3 months
2	Floodlight	2 Pcs	Change every 3 months
3	Laser head protective lens	5 Pcs	Change every month
4	Trachea	2 Pcs	Change every 3 months
5	Metal powder	10 Kgs	Change every month



**Howweld** found in 2016 has formed many product series, with specialized technical personnel, experienced in provided laser engraving, laser welding products cases.

With 6 years experiences in laser field. Howweld Laser Machines:

1. Laser welding machine;
2. Laser cutting machine;
3. Laser cleaning machine;
4. Laser cladding machine;
5. Laser quenching machine.

Suitable solutions, professional gives you more peace of mind.

## Howweld Team:

A series of precision laser processing equipment with advanced technology level has been developed successfully.



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Alibaba

