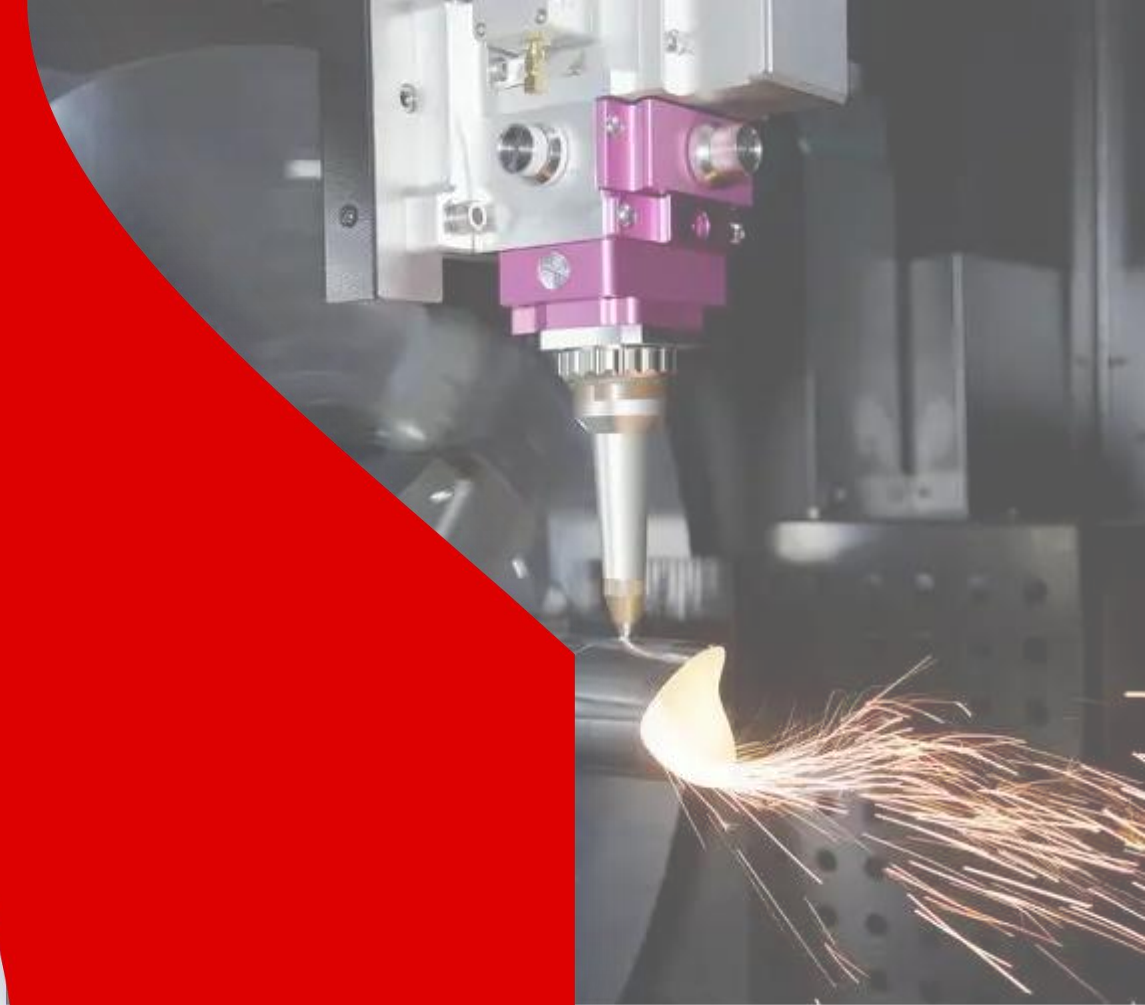


PRODUCT BROCHURE

To Be The Best Laser Equipment Supplier



www.ailaserwelding.com



zslaser1@gmail.com

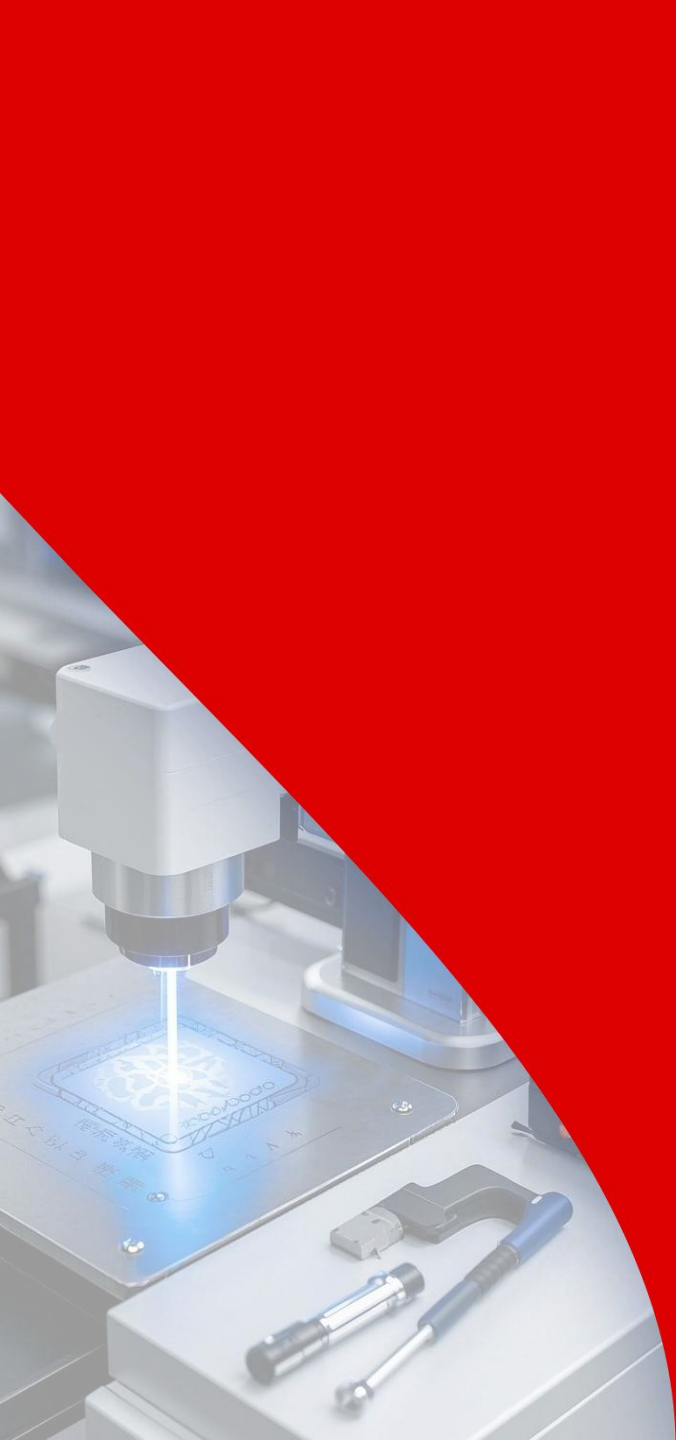


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C O N T E N T

Company files 01-03

About laser welding 03-05

Metal laser welder 06-12

Plastic Laser welder 13-15

Welding fixtures 16

After sale service/contact 17-18



Founded in 2013,ZS Laser is a professional laser equipment manufacturer with more than 13 years of industry experience. We specialize in designing, manufacturing, and exporting high-performance laser machines to over 30 countries and regions worldwide. We offer a wide range of laser equipment tailored to various industrial marking, welding, cutting, and processing needs, including:

Laser welding machines (robotic, handheld, platform-based)

Laser marking machines (fiber, CO₂, flying marking systems)

Laser cutting machines(pipe cutting and sheet cutting)

Customized non-standard & large-format Laser Solutions

Whatever your production challenges, we have the technology and experience to deliver reliable and scalable laser solutions.

We look forward cooperating with you!

2013

Founded in 2013, ZS Laser was established by a team with deep roots in precision machining. Starting with a focus on laser marking machines, we laid the foundation for our expertise in laser application technology, delivering reliable marking solutions to industrial clients.

Building on our success in laser marking, we expanded our product portfolio to include laser welding machines in 2016. This step allowed us to serve a broader range of manufacturing needs, from precision component joining to high-volume production lines.

2016

In 2019, we further strengthened our product line by introducing laser pipe cutting machines. With three core laser equipment categories now in place, we began to position ourselves as a comprehensive solution provider for metal processing.

2019

By 2022, we formalized our strategic vision to become a one-stop laser equipment service provider. We integrated R&D, manufacturing, and after-sales support to offer end-to-end solutions that help clients optimize production efficiency and solve operational challenges.

2022

Now

Today, we continue to innovate and expand our global footprint. Our mission remains clear: to empower manufacturers worldwide with advanced laser technology and tailored services, driving industrial transformation and sustainable growth.

Laser Marking Machine

Laser Welding Machine

Laser Cutting Machine



Fiber Laser



CO2 Laser



UV Laser



Handheld



Mold weld



Platform



Pipe Cutting

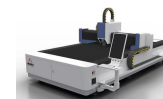


Plate Cutting



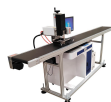
Desktop



Portable



Large Format



Visual



Robot Arm



Robot weld

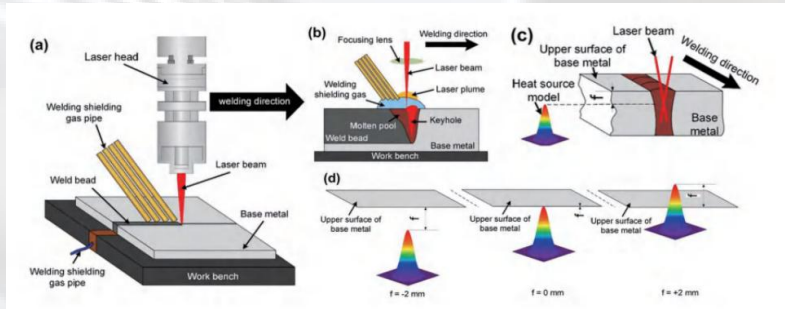


Online

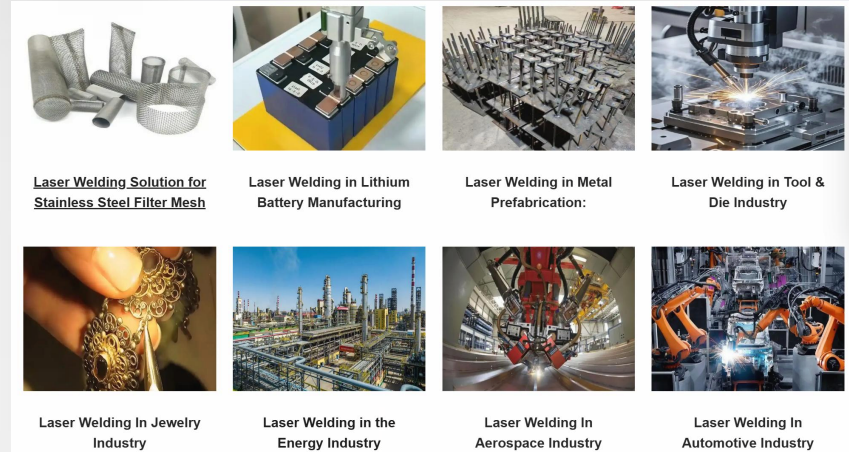
ABOUT LASER WELDING

How does laser welding work?

Laser welding uses a highly focused beam of light as a concentrated heat source, which can form a “keyhole” in the material. This allows the process to melt a small volume of metal while minimizing heat transfer to the surrounding area, resulting in less distortion compared to many other welding methods.



Industrial applications



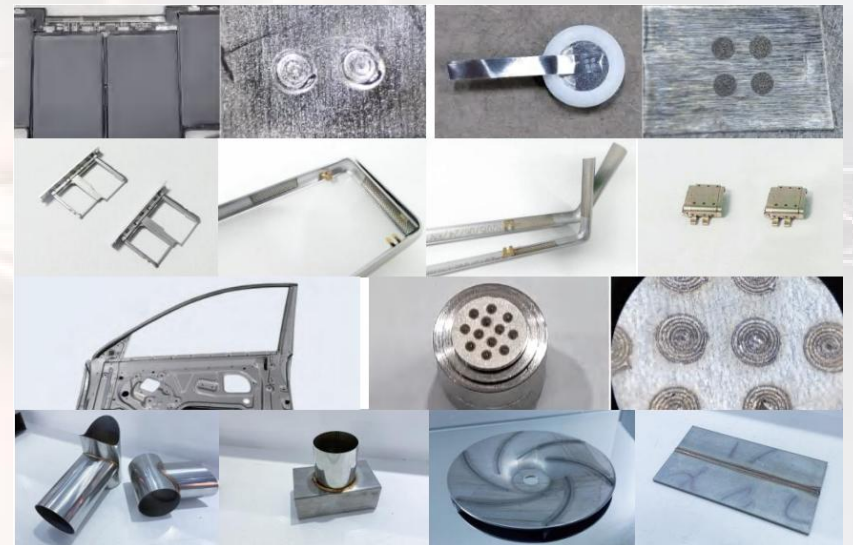
Key features

- 01 High precision welding – Extremely accurate and controlled.
- 02 Minimal heat-affected zone – Reduces distortion.
- 03 Fast welding speed – Rapid metal joining.
- 04 Strong, smooth welds – Little post-processing needed.
- 05 Versatile material compatibility – Works with various metals.
- 06 Flexible welding patterns – Spot, seam, or complex shapes.
- 07 Automation-ready – Easily integrates with robots.
- 08 Ideal for precision parts – Perfect for tiny components.

Different types of laser welding

Laser type	Wavelength	Output mode	Application
CW fiber laser	1070nm	Continuous	Intermittent/continuous welding of the same metal Modulated pulse spot welding
YAG laser	1064nm	Pulse	Spot welding/weld seam applications of the same metal
QCW fiber laser	1070nm	Pulse/continuous	Metal Spot Welding / Continuous Seal Welding
Semiconductor laser	808nm,915nm,980nm	Pulse/continuous	Plastic Welding/Laser Soldering

Welding samples



Laser welding power analysis				
Laser power		1500W	2000W	3000W
Material	Thickness			
Stainless steel	1mm	√	√	√
	2mm	√	√	√
	3mm	√	√	√
	4mm		√	√
	5mm			√
	6mm			√
Carbon steel	1mm	√	√	√
	2mm	√	√	√
	3mm		√	√
	4mm			√
	5mm			
	6mm			
Aluminum	1mm	√	√	√
	2mm	√	√	√
	3mm		√	√
	4mm			√
	5mm			
	6mm			

Note:

This table provides a preliminary guide to selecting laser welding power based on material type and thickness.

Actual results may vary depending on specific material properties, surface condition, and joint design.

For materials not listed, such as copper, galvanized materials, or critical applications, it is recommended to consult our technicians and conduct testing and sample welding to confirm the optimal parameters.

Laser Welding Machine: Standard Operating Procedures (SOP)

Category	Standard Requirements & Parameters	Critical Warnings / Prohibitions
1. Power Setup	Verify voltage (220V/380V). Grounding wire is MANDATORY (Stated 3 times).	NEVER operate the machine without a proper grounding connection.
2. Cooling System	Winter: Temp >22°C, Preheat for 5 mins. Use Antifreeze. Summer: Use Purified/Distilled water.	DO NOT weld before the 5-min preheat in winter (prevents lens fogging/burnout).
3. Shielding Gas	Air, Argon, or Nitrogen. Pressure: 10–15 PA.	GAS FIRST, THEN WELD. Never weld before turning on the gas.
4. Process Parameters	Scanning Speed: 300–400. Scanning Width: ~3mm.	DO NOT increase power if the effect is poor. Stop and check the lens immediately.
5. Red Light Center	Password: 123456. Use transparent tape on the nozzle to check centering.	STOP if the red light is offset. Welding with an offset will burn internal parts.
6. Gun Handling	Lock the wire slot vertically downwards. Handle with extreme care.	DO NOT drop, throw, pull, or step on the gun. Internal motors/lenses break easily.
7. Lens Inspection	Order: Protective → Focusing → Collimating/Laser Cap → Reflective.	Lenses are CONSUMABLES and are NOT covered by warranty.
8. Lens Replacement	Barrel MUST face downwards. Work in a dust-free environment. Seal with tape.	NEVER touch the lens surface with fingers. Turn off fans to prevent dust.
9. Fiber Optic Cable	Keep the cable natural and smooth. Avoid sharp bends.	DO NOT pull, tug, smash, or step on it. Do not scan the fiber cable with the laser.

LASER WELDING MACHINE



Handheld laser welding machine

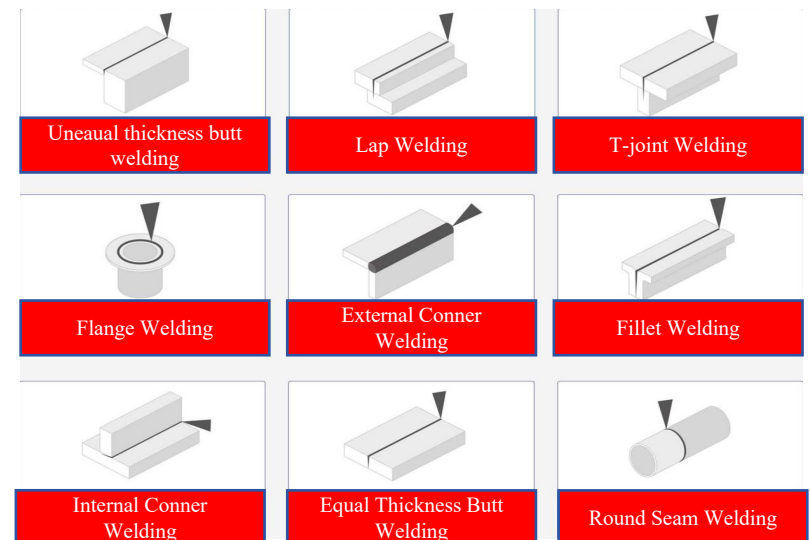


Product features

- ▶ Clean and beautiful weld seam, no polishing required
- ▶ Minimal thermal deformation
- ▶ Easy to learn and operate
- ▶ High efficiency and low labor cost
- ▶ A three-in-one version with cleaning, cutting, and welding functions is available.

Laser Source	Fiber Laser
Power	1500W/2000W/3000W(Customizable)
control system	7-inch touch screen
Laser welding gun	T-shaped(Customizable)
Wire feeder	Automatic wire feeding
Welding Nozzle	Purple copper mouth
Cooling System	Water Cooling With Temperature Control And Flow Protection
Power Supply	220V / 380V Optional
Warranty	1 year

Multi-angle welding



LASER WELDING MACHINE



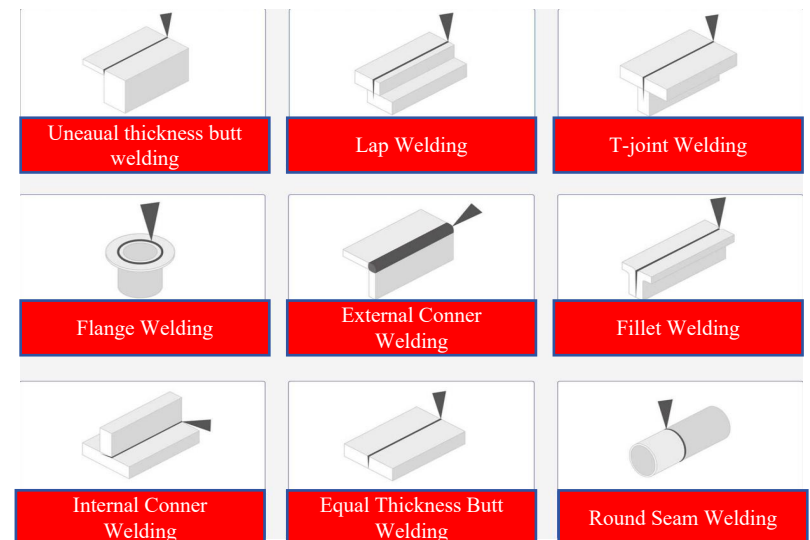
**Handheld semi-automatic
Laser Welding Machine**

Product features

- ▶ Both handheld and fixture-assisted semi-automatic welding
- ▶ Suitable for circular, curved and straight seam welding
- ▶ Easy operation and quick training for operators
- ▶ Reduced labor cost and improved production efficiency
- ▶ Cost-effective compared to fully automatic welding

Laser Source	Fiber Laser
Power	1500W/2000W/3000W(Customizable)
Motion dimension	XYZ moving axes + rotary fixture
Laser welding gun	T-shaped(Customizable)
Wire feeder	Automatic wire feeding
Welding Nozzle	Purple copper mouth
Cooling System	Water Cooling With Temperature Control And Flow Protection
Power Supply	220V / 380V Optional
Warranty	1 year

Multi-angle welding



LASER WELDING MACHINE



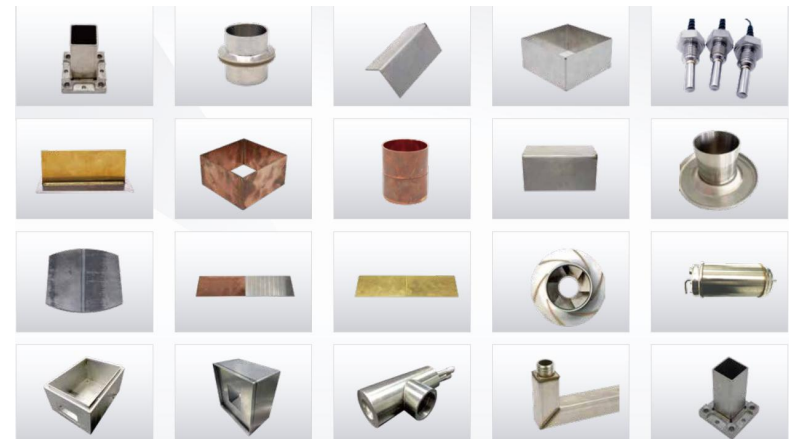
Handheld mold laser welding machine

Product features

- ▶ Crane arm structure for flexible welding adjustment
- ▶ Universal working table for precise positioning
- ▶ Microscope-assisted high precision welding
- ▶ Ideal for mold repair such as cracks, pores and sand holes
- ▶ Stable performance with industrial cooling system

Laser Source	Fiber Laser
Power	1500W(Customizable)
Microscope monitor	10x23
electric machinery	XY stepper motor / travel 200
Work cabinet	670mmx440mmx610mm
Control single foot pedal	Start stop/long press to emit light
Cooling System	Water Cooling With Temperature Control And Flow Protection
Power Supply	220V / 380V Optional
Warranty	1 year

Laser welding samples



LASER WELDING MACHINE



**Handheld lithium battery
laser welding machine**

Product features

- ▶ Designed for precision welding of lithium battery
- ▶ High-speed galvanometer scanning system
- ▶ Ideal for battery tabs, battery packs electronic components.
- ▶ Three-axis semi-automatic robotic arm easy move
- ▶ Easy parameter setting for flexible production

Lithium battery welding samples



Laser Source	Fiber Laser
Power	1500W/2000W/3000W(Customizable)
Motion dimension	1500mm Three-section hydraulic robotic arm
Welding system	Laser welding machine galvanometer
Work cabinet	1060mmx560mmx1000mm
Cooling System	Water Cooling With Temperature Control And Flow Protection
Power Supply	220V / 380V Optional
Warranty	1 year

LASER WELDING MACHINE



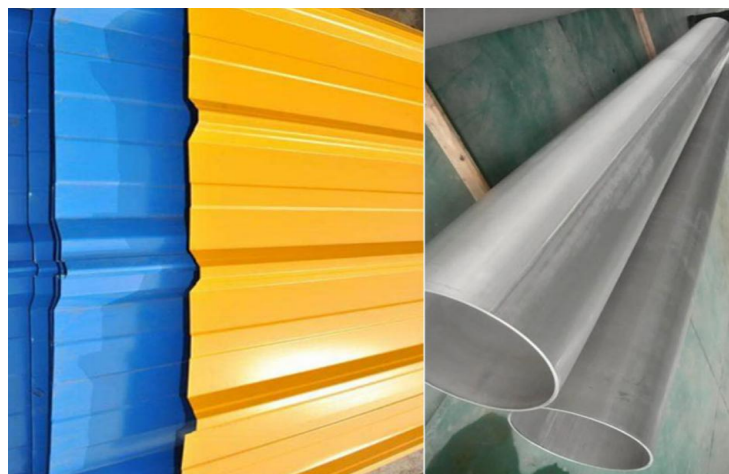
Handheld online laser welding machine

Product features

- ▶ Designed for precision welding of lithium battery
- ▶ High-speed galvanometer scanning system
- ▶ Ideal for battery tabs, battery packs electronic components.
- ▶ Three-axis semi-automatic robotic arm easy move
- ▶ Easy parameter setting for flexible production

Laser Source	Fiber Laser·
Power	1500W/2000W/3000W(Customizable)
Laser welding gun	Swing adjustable laser welding gun
Welding system	Specialized for online welding
Work cabinet	1020mmx560mmx700mm
Cooling System	Water Cooling With Temperature Control And Flow Protection
Power Supply	220V / 380V Optional
Warranty	1 year

Welding samples





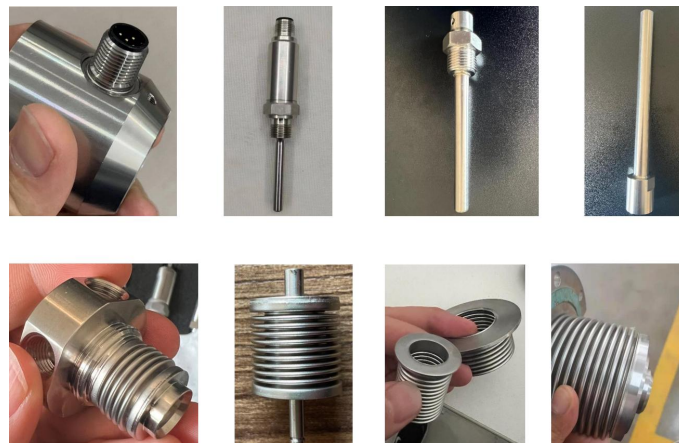
Automatic laser welding machine

Product features

- ▶ 3-axis, 4-axis, 5-axis, 6-axis, and 7-axis available
- ▶ Variety of tooling fixtures are available
- ▶ Multi-Angle Welding Capability
- ▶ High Precision & Stable Performance
- ▶ Fully Automatic Welding Platform

Laser Source	Fiber Laser
Power	1500W/2000W/3000W(Customizable)
Laser welding gun	Multi mode adjustable light spot
Servo motor	XYZ axis motor(X-1000,Y-500,Z-600 customizable)
Work cabinet	1300mmx1000mmx700mm
Cooling System	Water Cooling With Temperature Control And Flow Protection
Power Supply	220V / 380V Optional
Warranty	1 year

Welding samples



LASER WELDING MACHINE



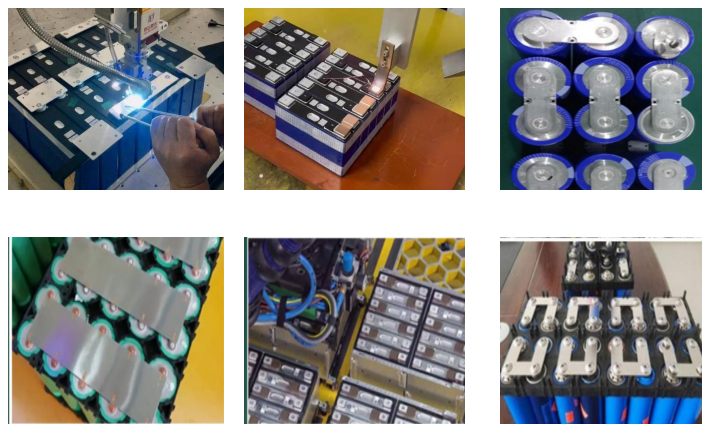
Automatic lithium batterie laser welding machine

Product features

- ▶ Designed for Precision Components
- ▶ High-Speed Galvo Welding System
- ▶ Platform-Based Flexible Processing
- ▶ Suitable for battery tabs electronic components, sensors etc
- ▶ Fully Automatic Welding Platform

Laser Source	Fiber Laser
Power	1500W/2000W/3000W(Customizable)
Laser welding gun	Galvo Welding System
Servo motor	XYZ axis motor(X-1000,Y-500,Z-600 customizable)
Work cabinet	1300mmx1000mmx700mm
Cooling System	Water Cooling With Temperature Control And Flow Protection
Power Supply	220V / 380V Optional
Warranty	1 year

Welding samples





Gantry-type single-station plastic welding machine

Product features

- ▶ Designed for Precision Components
- ▶ Easy to operate and fast welding speed
- ▶ Platform-Based Flexible Processing
- ▶ Suitable for various thermoplastics and engineering modified plastics

Laser Source	Continuous semiconductor laser
Power	100-500W
Wavelength	980/1710/1940nm
Work area	Customized
Size	1500mmx1700mmx1450mm
Welding Speed	0-1000mm/s
Spot Size	1-5mm
Warranty	1 years

Welding samples



Car retroreflector



Car dashboard



Car oil pipe



Arc plastic laser welding machine

Product features

- ▶ Designed for Arc Welding
- ▶ Easy to operate and fast welding speed
- ▶ Platform-Based Flexible Processing
- ▶ Suitable for various thermoplastics and engineering modified plastics

Laser Source	Continuous semiconductor laser
Power	100-500W
Wavelength	980/1710/1940nm
Work area	Customized
Size	1205mmx790mmx1750mm
Welding Speed	0-1000mm/s
Spot Size	1-5mm
Warranty	1 year

Welding samples



Electric water pump



Automotive oil line connector



Glass washer fluid check valve

LASER WELDING MACHINE



Transparent plastic laser welding machine

Product features

- ▶ Designed for transparent plastic welding
- ▶ Easy to operate and fast welding speed
- ▶ Eccolosed platform-Based Flexible Processing
- ▶ Suitable for various thermoplastics and engineering modified plastics

Laser Source	Continuous semiconductor laser
Power	100-500W
Wavelength	980/1710/1940nm
Work area	1400mmx800mm
Size	1500mmx2100mmx1750mm
Welding Speed	0-1000mm/s
Spot Size	1-5mm
Warranty	1 years

Welding samples



Gastroscopy capsule



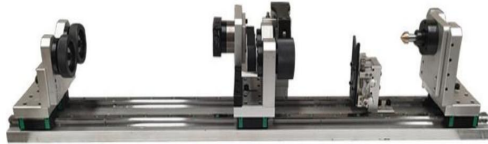
Transparent capsules



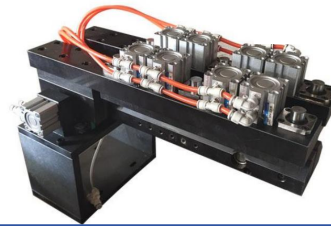
Hemodialysis tube

WELDING FIXTURES

Note: Some welding fixtures can also be used with laser marking machines. Customized fixtures can be designed and equipped according to actual production requirements.



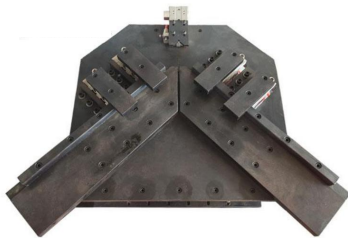
Sealing welding fixture,
suitable for sealing sheet
workpieces



Right-angle welding fixture,
suitable for box welding



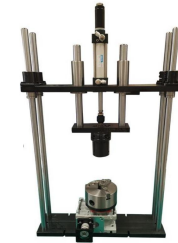
Rotary shaft fixture, suitable
for circular moving workpieces.



Right-angle welding fixture,
suitable for welding right-angle
workpieces.



Synchronous sliding rotary
fixture, suitable for curved
workpieces



Gantry rotary fixture,
suitable for round
workpieces



Right-angle welding fixture,
suitable for welding right-angle
workpieces.



Side-pressure shaft fixture,
suitable for round workpieces



Rotary shaft fixture, suitable
for circular moving workpieces.



**Win-win cooperation
serves the world**

SERVICE PRINCIPAL

24 hours after sale service.

The company promises to provide free warranty and lifelong maintenance according to different models and power.

Provide life-long free technical consultation, software upgrade and other services

we can provide English manual and installment videos.

we can provide overseas service.

CONTACT US



You can contact our professional business personnel through the following contact information to learn more about our products and services

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