

SHENZHEN JASIC TECHNOLOGY CO., LTD.

Address: No. 3, Qinglan Road, Pingshan District, Shenzhen, Guangdong, China


Postcode: 518118


Tel: +86 (0755) 8670 6250


Fax: +86 (0755) 2736 4108

Website: www.jasitech.com

E-mail: sales@jasitech.com

 @JASICTechOfficial

 JASIC Technology Co., Ltd.

 @jasitech_official


WELDGAS

 **JASIC®**



Handheld Laser Welding & Cleaning Systems

www.jasitech.com

The information in this document may contain statements or predictive statements including, without limitation, statements regarding product specifications, current/future financial and operating results, future product portfolio, new technologies, etc. There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied in these statements. Therefore, such information is provided for reference purpose only and constitutes neither an offer nor an acceptance. JASIC may change the information at any time without notice.



JASIC's Story

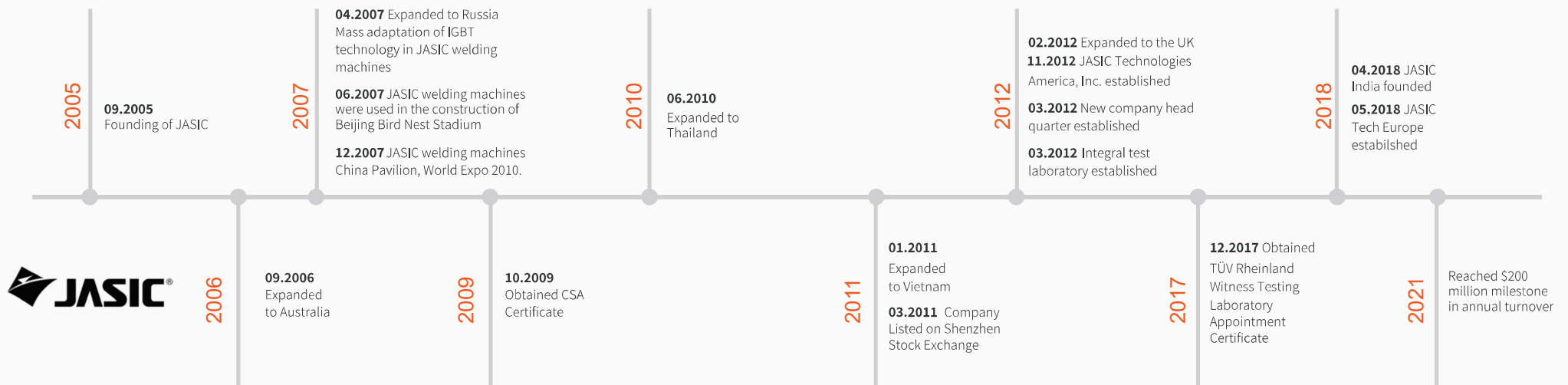
JASIC is an international welding manufacturer, and its products were used in some of the most ambitious projects in modern history such as the Beijing Bird's Nest Stadium.

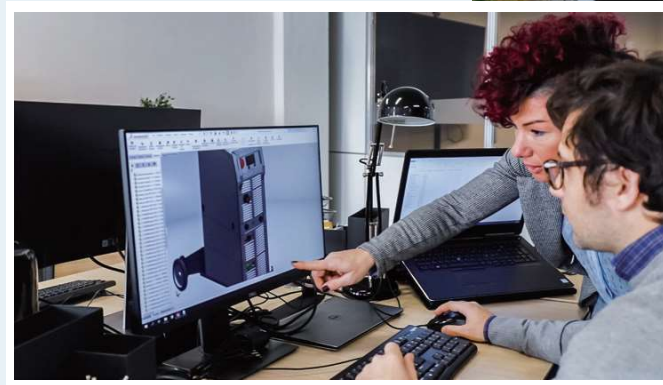
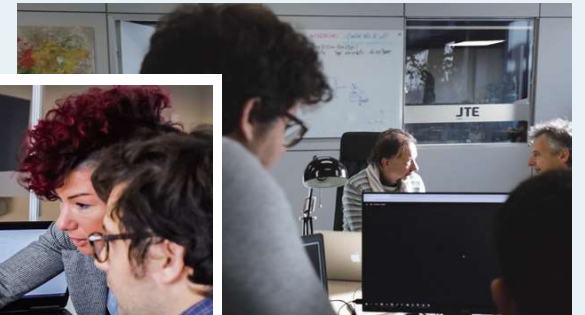
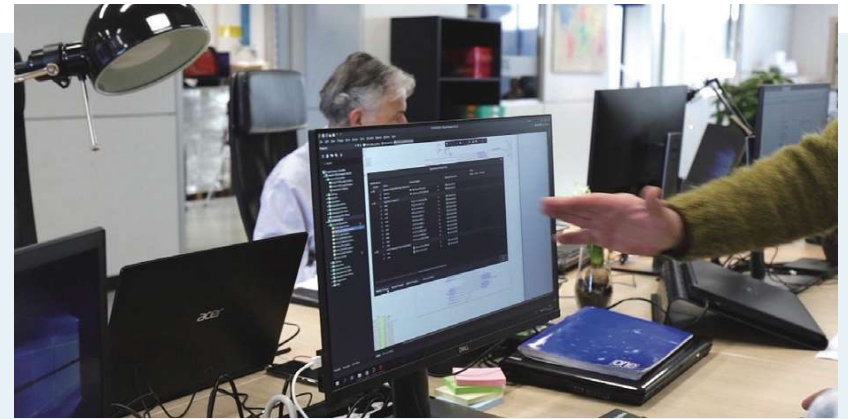
Founded in 2005, the company has grown into an international business with a \$200 million annual turnover* and over 1000 staffs worldwide. With 3 R&D centres, JASIC has more than 130 R&D personnel and industry-leading test laboratories certified by TÜV Rheinland and CSA.

Exporting to over 80 countries and regions, JASIC has an annual production capacity of 1 million machines.

JASIC is driven by its passion for the world's welding needs, and strives to deliver reliable and ecological solutions.

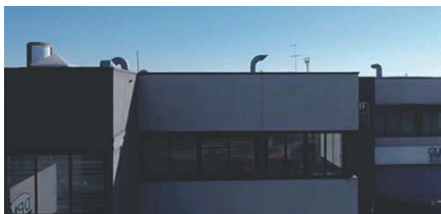
* Data of 2021 financial year





R&D Strength

As an innovation-driven company, we spend 5% of our annual revenue into research and development. So far we've set up 3 R&D centers. With currently 250+ patents and 150+ R&D staffs, we are determined to have R&D and innovation taking the center stage in our company's growth.



Professional R&D staffs



Technical platforms



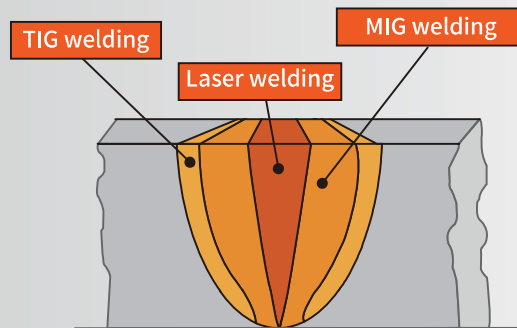
Industry-leading test labs

A brief introduction to handheld fiber laser welding

Using laser beam to melt and join metals, this is an emerging manual welding technology that is much more efficient and precise than MIG/TIG with minimal distortion, undercut or burn-through thanks to very limited heat affected zone (HAZ).

It delivers excellent welding results with much less costs compared to manual MIG/TIG welding. As the challenges of metal fabrication industry grow, this new technology can significantly improve fabricators' efficiency and profitability in a competitive landscape where fast project delivery and effective cost control are vital.

Comparison of HAZ



In comparison to other types of welding technologies...

| Welding Technology | Arc Welding | Solid YAG Laser | CW Handheld Fiber Laser | |
|--------------------|--------------------------|--------------------------------------|-------------------------|---------------|
| Welding experience | Heat input | High | Low | Low |
| | Distortion | High | Low | Low |
| | Weld seam formation | Fillet | Fillet | Variable |
| | Post weld processing | Yes | Yes | No |
| | Welding speed | Low | Medium | High |
| Sustainability | Ease of use | Low | High | High |
| | Hazard to people | High | Low | Low |
| Cost | Pollution to environment | High | High | Low |
| | Consumables | Electrode/welding wire/shielding gas | Crystal, Xenon gas | Shielding gas |
| | Energy efficiency | High | Low | High |
| | Skill requirement | High | Moderate | Low |
| | Footprint | Small | Large | Small |

Why JASIC handheld fiber laser welding?

High Welding Efficiency

- Up to 10x faster than manual TIG welding
- Very limited spatter thus little post-weld cleaning needed
- Little need for rework thanks to minimal porosity, undercut, or distortion

High Energy Efficiency

- CW (continuous wave) laser with 30+% electro-optical conversion efficiency, 10x that of a solid YAG laser

Cost Efficient

- Low welding skill requirement, save on labor cost for experienced arc welder
- Almost 0 maintenance needed for key component, pump source has over 100k hours life span

High Usability

- Color touch screen control panel with intuitive user interface
- Comprehensive job parameter settings
- Small foot print, great mobility and flexibility

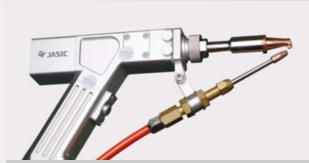
3-Year Warranty

- Comprehensive quality assurance

3 In 1 - Welding/Cutting/Cleaning



LS-15000M
LS-20000M
LS-30000M



LS-15000M/LS-20000M Handheld laser welding gun



Main features

- Versatile - welding/cutting/cleaning, covers most thin sheet metal fabrication needs
- Rapid and cost-efficient welding/cutting/cleaning, little need for further treatments
- Low training requirement, much easier to master compared to manual MIG, TIG, & plasma cutting
- Small foot print with great mobility & flexibility; extended work perimeter
- Quality laser source with 10x electro-optical conversion efficiency than solid YAG laser; pump source has over 100k hours life span

| Model | LS-15000M (G4J201B04) | LS-20000M (G4J301B05) | LS-30000M (G4J604) | |
|---|---|--|--|---|
| Input power supply | 1PH AC230V±5%/50 Hz | 1PH AC230V±5%/50 Hz | 3PH AC380V±5%/50 Hz | |
| Input power | 7.2 kw | 9 kw | 13.5 kw | |
| Center wave length | 1080±10 nm | 1080±10 nm | 1080±10 nm | |
| Electro-optical conversion efficiency | ≥30% | ≥30% | ≥30% | |
| Laser power | 1500 W | 2000 W | 3000 W | |
| Fiber cable length | 12 m (9 m exterior) | 12 m (9 m exterior) | 12 m (8~9 m exterior) | |
| Cooling method | Water cool | Water cool | Water cool | |
| Welding | Scan width | 0~5 mm | 0~5 mm | 0~5 mm |
| | Welding wire diameter | 0.8/1.0/1.2/1.6 mm | 0.8/1.0/1.2/1.6 mm | 0.8/1.0/1.2/1.6 mm |
| | Shielding gas | Argon/nitrogen (welding >3 bar) | Argon/nitrogen (welding >3 bar) | Argon/nitrogen (welding >3 bar) |
| | Welding thickness | 0.5~5 mm | 0.5~6 mm | 0.5~8 mm |
| | Penetration | 3 mm | 4.5 mm | 5.5 mm |
| Cutting | Welding gap range | ≤Welding wire diameter | ≤Welding wire diameter | ≤Welding wire diameter |
| | Recommended cutting thickness | 3 mm | 5 mm | 8 mm |
| | Max cutting thickness | ≤5 mm | ≤6 mm | ≤10 mm |
| Cleaning | Shielding gas | Argon, nitrogen, compressed air (>5 bar) | Argon, nitrogen, compressed air (>5 bar) | Argon, nitrogen, compressed air (>5 bar) |
| | Standoff distance | 15 cm (F150 focusing lens) 40 cm (F400 focusing lens) | 15 cm (F150 focusing lens) 40 cm (F400 focusing lens) | 15 cm (F150 focusing lens) 40 cm (F400 focusing lens) 80 cm (F800 focusing lens) |
| | Max. cleaning width | 20 mm (F150 focusing lens) 40 mm (F400 focusing lens) | 20 mm (F150 focusing lens) 40 mm (F400 focusing lens) | 30 mm (F150 focusing lens) 70 mm (F400 focusing lens) 120 mm (F800 focusing lens) |
| | Water tank capacity | 13 L | 13 L | 13 L |
| Operating temperature | -10°C~40°C; antifreeze needed when ≤7°C | -10°C~40°C; antifreeze needed when ≤7°C | -10°C~40°C; antifreeze needed when ≤7°C | |
| Operating humidity | ≤70% at 40°C; ≤90% at 20°C | ≤70% at 40°C; ≤90% at 20°C | ≤70% at 40°C; ≤90% at 20°C | |
| Power source weight | 103 kg | 103 kg | 149 kg | |
| Packed weight | 147 kg | 162 kg | 187.5 kg (only source, separate shipment) | |
| Package weight of wire feeder and accessories | 14.7 kg | 14.7 kg | 14.7 kg | |
| Power source dimensions | 980 x 420 x 710 mm | 980 x 420 x 710 mm | 1110 x 530 x 1060 mm | |
| Package dimensions | 1060 x 490 x 1470 mm | 1060 x 490 x 1470 mm | 1220 x 620 x 1135 mm (only source, separate shipment) | |
| Package dimensions of wire feeder and accessories | 560 x 250 x 400 mm | 560 x 250 x 400 mm | 1000 x 320 x 480 mm | |

3-in-1 handheld fiber laser machine

Being a turnkey solution for fast sheet metal fabrication, this system combines laser welding, cutting and cleaning into one system. On top of its versatility, this 3-in-1 system also possesses the same characteristics in efficiency and in ease-of-use as the other 2 types of machines.



Welding

Rapid and consistent weld seam formation, limited training and little post-weld cleaning needed



Cutting

Switch to cutting mode by simply changing nozzle tip; fast and clean cutting of sheet metal, straight or curvise



Cleaning

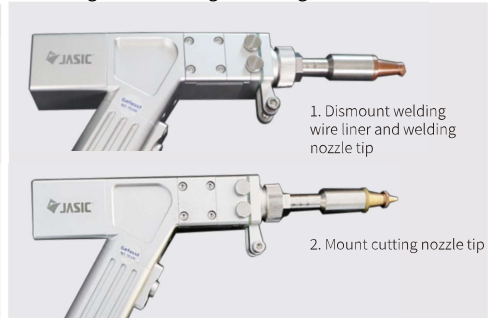
Switch to cleaning mode by changing lens and operation mode; rapid and thorough removal of rust/paint/grease, etc., easily cleans hard-to-reach spots

Simple lens change method

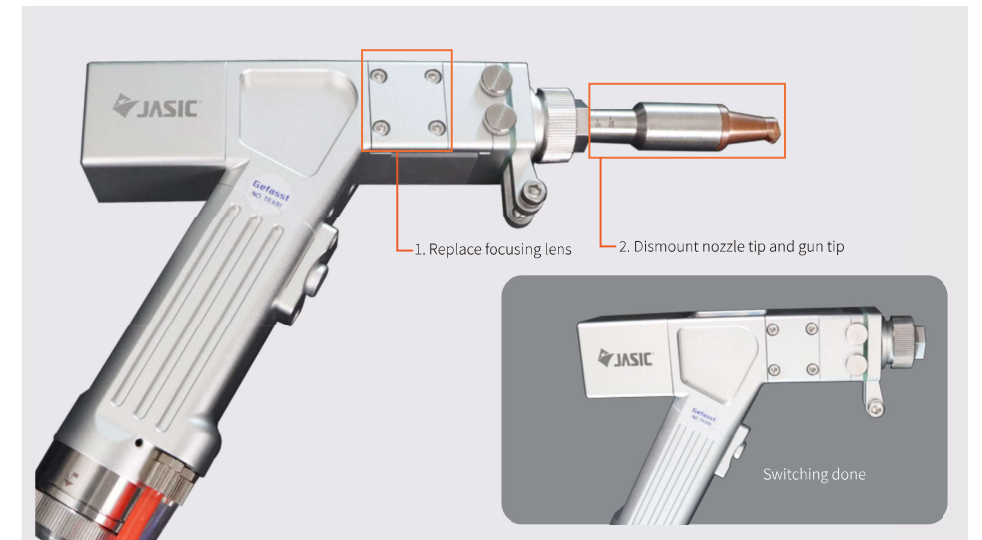
The handheld laser gun is by default delivered in welding mode.



Switching from welding to cutting



Switching from welding to cleaning



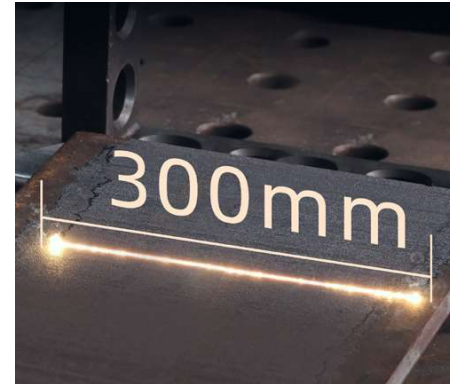
Cutting performance Precise laser cutting with smooth cut surface

Refined heat input results in cut surface with limited striation, great cutting results in both straight and curvise cutting



- Easy operation with high cutting efficiency
- Precise cutting, tiny kerf width
- Wide range of applicable sheet metal

Cleaning - different models for different job situation



LS-15000C LS-20000C

- Focal length 800mm, standoff distance 75-80cm
- Max. cleaning width 300mm
- Ideal for fast cleaning of large area
- Good for operating in standing position



LS-15000M LS-20000M

- Focal length 400mm, standoff distance 35-40cm
- Max. cleaning width 40mm
- Ideal for precise cleaning, e.g. pre-cleaning of weld bead & small parts cleaning
- Good for operating in sitting or squatting position

Commonly used in...



Sheet metal processing



Moulding industry



Door & windows frame fabrication



Hardware manufacturing industry



Outdoor advertising signage



Water tank fabrication



Kitchenware & bathroom accessories fabrication



Decorative lighting fabrication

Quick selection guide

| Type | Model | Welding | Cutting | Cleaning |
|----------|-----------|--|---------------------------------------|--|
| Welding | LS-15000 | Recommended workpiece thickness: 0.5~5 mm | Recommended workpiece thickness: 3 mm | / |
| | LS-20000 | Recommended workpiece thickness: 0.5~6 mm | Recommended workpiece thickness: 5 mm | / |
| | LS-20000D | Recommended workpiece thickness: 0.5~6 mm | Recommended workpiece thickness: 5 mm | / |
| | LS-30000D | Recommended workpiece thickness: 0.5~10 mm | Recommended workpiece thickness: 8 mm | / |
| Cleaning | LS-15000C | / | / | Focal length 800mm, cleaning width 300mm |
| | LS-20000C | / | / | Focal length 800mm, cleaning width 300mm |
| 3 In 1 | LS-15000M | Recommended workpiece thickness: 0.5~5 mm mm | Recommended workpiece thickness: 3 mm | Focal length 400mm, cleaning width 40mm |
| | LS-20000M | Recommended workpiece thickness: 0.5~6 mm mm | Recommended workpiece thickness: 5 mm | Focal length 400mm, cleaning width 40mm |
| | LS-30000M | Recommended workpiece thickness: 0.5~8 mm | Recommended workpiece thickness: 8 mm | Focal length 400mm, cleaning width 40mm |

On the use of antifreeze

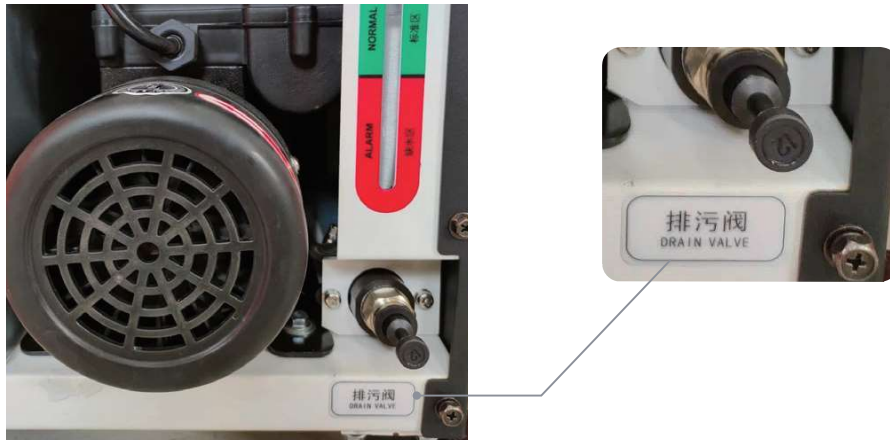
It is important to use antifreeze for our handheld fiber laser machines as using the machines without proper antifreeze measures under <7°C working temperature can cause malfunction or even damage*.

*: damage of JASIC handheld fiber laser machines caused by the absence of or the improper use of antifreeze agent is not covered by JASIC's 3-year warranty

Tips on using antifreeze

- Keep working temperature above 7°C;
- Keep water cooler running, set the low and normal temperatures of cooling water to around 7°C to make sure the temperature of the coolant is above freezing point;
- Drain* cooling water out of the machine after use and add antifreeze coolant to ensure liquid circulation;
- Use antifreeze with freezing point slightly lower than the lowest local working temperature

*: Location of the drain valve



*: component is subject to change.

Choosing the right antifreeze

It is recommended to choose antifreeze with lowest freezing point slightly lower than lower than the lowest local working temperature. Recommended brand for antifreezes: Clariant.

Antifreeze & distilled water proportion table

| Proportion ratio (antifreeze: distilled water) | Effective temperature range |
|--|-----------------------------|
| 6:4 | -42°C~-45°C |
| 5:5 | -32°C~-35°C |
| 4:6 | -22°C~-25°C |
| 3:7 | -12°C~-15°C |
| 2:8 | -2°C~-5°C |

Notice

- Antifreeze cannot be used to replace deionized water for year-long use;
- After winter, use deionized water or distilled water to clean pipes and resume use of it as the coolant.
- If possible, we recommend keeping water cooler running in a secured environment or modifying the piping circuit to simplify the drainage of coolant;
- It is recommended to regularly check coolant quality in the water tank, and it is best to change the coolant once in a month;
- We also recommend adding 5-10% absolute ethanol to effectively keep the coolant sterilized.

General Aftersales Policies

As a welding manufacturer with comprehensive quality assurance, we provide the following warranties for our handheld fiber laser welding machines:

- 36 months warranty on the whole machine
- 36 months warranty on the laser generator
- 36 months warranty on the water cooler
- 36 months warranty on the laser welding gun

Please note: the following items/situations are not covered by the warranty.

- Wearing parts and optical lenses are excluded from the warranty
- Product damage or quality issues caused by improper operation or mishandling are excluded from the warranty
- Product damage or quality issues caused by unauthorized repairs using third party parts are excluded from the warranty
- Damage caused by operation outside the scope of the product's technical requirements
- Damage to the laser caused indirectly by faults due to the customer's software or interface
- Damage caused by incorrect installation, maintenance/repair or operational use not specified in the user manual
- Damage caused by human factors during use, especially due to failure to take the necessary antifreeze measures when needed
- Damage caused by failure to comply with relevant requirements on water cooler's maintenance specified in the user manual