

SENFENG

SF-S

## Portable Air-Cooled Handheld Laser Welding Machine

SELF-DEVELOPED



### Jinan Senfeng Laser Technology Co., Ltd.

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🌐 www.senfenglaser.com

#### ► Germany Subsidiary

Add: Oberer Westring 33, 33142 Büren, Germany

#### ► UAE Subsidiary

Add: Al Sajaa Industrial -Al Jilail -Sharjah -UAE

#### ► Pakistan Service Center

Add: Dullukhur metro station 26 Ferozpur road, Lahore

#### ► Vietnam Service Center

Add: K13 Ngã 3 NgọcHồi Xã Ngũ Hiệp Huyện Thanh Trì Hà Nội

#### ► USA Subsidiary

Add: 5989 Rickenbacker Road, Commerce CA90040

#### ► India Service Center

Add: Plot no 4/09, survey no -519, TSIC, ip nadergul, hyderabad

#### ► Jordan Service Center

Add: Amman -Sahab -Alazraq highway

Product design and specifications are subject to change without notice.  
Before operating, please read the relevant operating manual carefully and thoroughly, and always comply with safety instructions and warning labels affixed to the machine surface.

WWW.SENFENGLASER.COM





6

SUBSIDIARIES

3

MANUFACTURING BASES

4

INTERNATIONAL  
CERTIFICATIONS

100<sup>+</sup>

COUNTRIES AND REGIONS

577

TECHNICAL PATENTS IN CHINA

## ABOUT SENFENG

**SENFENG** is a global metal forming automation company, aiming at providing worldwide customers with well-targeted solutions. Self-developing core technologies, we have taken into account of laser cutting, bending, welding, cladding, automation, new energy and CNC machine tool, and emerged as a technological innovation-based company in possession of laser-related entire industry chain.

As for line of business, we can produce laser cutting, welding, cladding machines, flexible processing lines, intelligent panel benders, flexible metal plate forming lines and other laser-related turnkey solutions based on advanced laser technologies and the concept of intelligent manufacturing. These products have been sold to 100+ countries and regions and widely used for precision parts in automobile parts, engineering machinery, bridge formwork, prefabricated building, super-high-power transmission tower, coal mining and petrochemical engineering field.







## SENFENG Laser-arc Hybrid Welding Center

SENFENG, one of the earliest companies founding laser welding centers in China, is dedicated to the relevant R&D. Since the establishment, we always proceed from cutting-edge technologies and terminal customers while testing its materials required, welding patterns, crafts and applications in various industries as well as practical feasibility. In addition to free proofing, technical verification and post-weld detection, we can also offer turnkey welding solutions to our cooperative partners, with the purpose of becoming internationally famous laboratory and pushing forward the entire laser welding industry.

## SENFENG Laser Welding Testing Laboratory

In the laboratory, a lot of testing devices are available, incl. tensile machine, metallographic microscope, metallographic sample polishing machine, metallographic sample pointing machine, friction wear testing machine, Vickers hardness tester and digital microscope. With these, laser welding detection can be conducted in time, accompanied by authoritative testing reports. Both new and regular customers will enjoy laser welding machines of high stability and excellent welding effects.





SMALL IN SIZE, RICH IN FUNCTIONS



SF-S Series Portable Air-Cooled Handheld Laser Welding Machine is famous for its unique air cooling system and portable structure. It makes on-site welding flexible and quick to get started, getting it easy for operators to carry the machine to various complex working environments while reducing requirements for transportation and storage space. It can be said that it allows for easy welding anytime and anywhere. With 4 functions namely welding, rust removal, cutting and seam cleaning, this machine can serve users with bran-new welding at high efficiency.



One Machine with Four Functions

Welding, rust removal, cutting and seam cleaning



Flexible and Portable

Small in size and light in weight, suitable for outdoor welding and construction site



Air-cooled System

Make continuous welding for a long time possible



Easy to Operate

No specialized technical personnel required



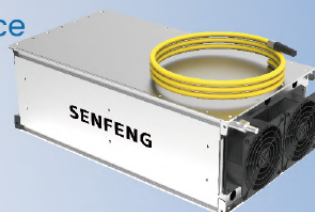
# SIX 6 COMPETITIVE STRENGTHS



## Air-Cooled Laser Generator

**Self-developed**  
Give huge impetus from the source

- No worry about high temperature
- Dissipate pump source heat quickly



## Upgraded Sheet Metal Structure

**In mecha style**  
Compact but firm in structure

- Mini size, lightweight and portable
- AL alloy body
- Conform to international standards



## Laser Welding Head

**4 functions**  
Much lighter, more stable and capable

- Clear display of dial parameters
- Quick adjustment with a large knob
- Temperature alarm
- Welding, rust removal, seam cleaning and cutting available



## Unique I/O Autorun Interface

**Further upgrades**  
Enjoy intelligent interconnection

- One-click interconnection with robots
- Achieve automated laser welding
- Enhance both welding efficiency and expansion



## Air-cooled System

**High in ability**  
Stand out in cooling effects

- Intelligent self-cooling
- At laser power of 120W
- Forced air cooling for heat dissipation



## Safeguard Measures

**Never worry about anything**  
Provide all-around protection

- Gas monitoring
- Lens monitoring
- Low-pressure alarm
- Electrical components from top international brands
- Certified by international CE standards





SF - S

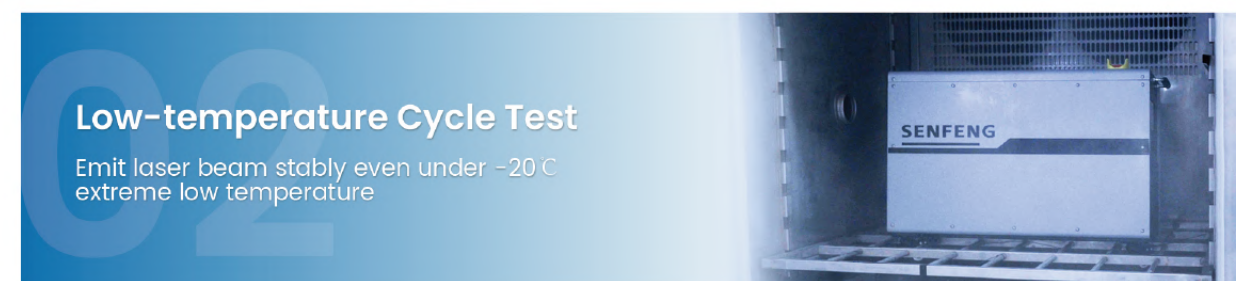
Portable Air-Cooled Handheld Laser Welding Machine

# GO THROUGH 5 TESTS



## High-temperature Cycle Test

Emit laser beam continuously even under 50°C extreme high temperature



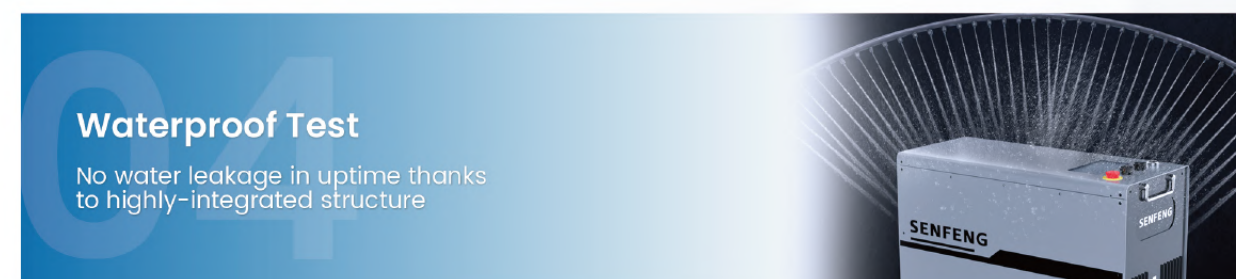
## Low-temperature Cycle Test

Emit laser beam stably even under -20°C extreme low temperature



## Salt Spray Corrosion Test

More resistant to corrosion because of its high-strength AL alloy body



## Waterproof Test

No water leakage in uptime thanks to highly-integrated structure

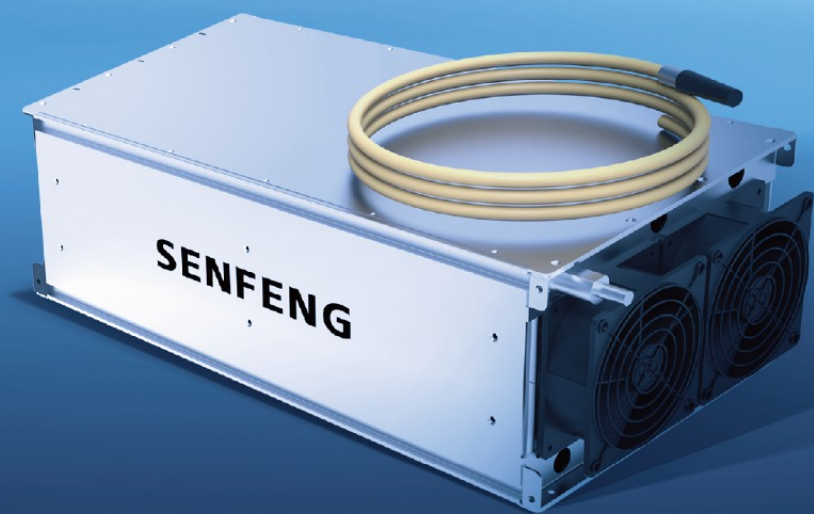


## Dust-proof Test

Fully-enclosed design for good sealing



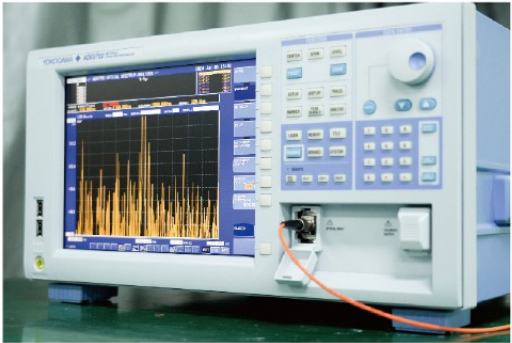
# SELF-DEVELOPED LASER GENERATOR



With high technical strengths and continuous innovation, SENFENG's self-developed laser generator has been optimized in terms of performance, power consumption and total size, achieving better cooling effects and working for long stretches.

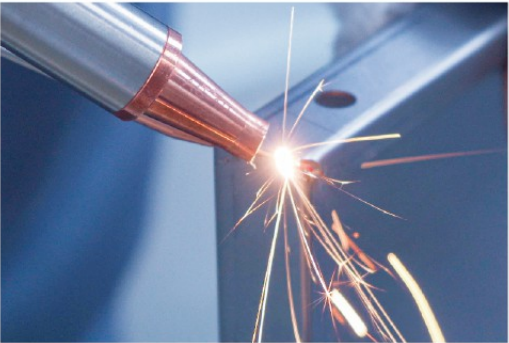


## Precise Wavelength



- 1080nm infrared wavelength for deep penetration
- Raise laser absorption rate by welding materials

## High-quality Laser Beam



- High-precision beam reshaping technology for accurate focusing
- Uniform laser energy distribution to avoid overheating in welding area

## Stable and Reliable



- Undergo rigorous stability tests
- Ensure long-term operation without failure

## Safeguard Measures



- Internally installed with advanced laser reflection protection mechanism
- Make manual operation safe



## 4-IN-1 LASER WELDING HEAD LIGHT IN WEIGHT AND SMALL IN SIZE

The 4-in-1 laser welding head adopts advanced design and manufacturing technology to take into account of welding, rust removal, cutting and seam cleaning. The gun head, weighing only  $\leq 0.7\text{kg}$ , is ergonomically designed and comfortable to use. As a good choice for handheld welding users, it offers higher welding efficiency and greater stability.

01

### Integrated Main Chamber

The upgraded plastic welding gun head features a blue-black integrated main chamber, in order to enhance its overall dust and leak protection. It is lighter, more compact and stable than before.

02

### Upgraded Protection

The protective and focusing lens are drawer-style at higher level of protection during daily use. Moreover, it is simpler and easier to maintain itself.



03

### Temperature Alarm

A green light indicates that the protective lens is under cleaning, while red light signals burning. This helps operators to check the lens in time, so that the likelihood of damaging the focusing and other optical lenses will be sharply reduced, extending their lifespan.

04

### Splash-proof Structure

The splash-proof scale tube has been optimized based on the original design, in this way, protective lens will be subject to less loss.

05

### Multiple Functions

Welding, rust removal, cutting and seam cleaning available to make its operation easier.

06

### Easy to Assembly and Disassembly

It is easy to carry out after-sales repair and dismount focusing, collimating and reflecting lens on site.



# 4-IN-1 LASER WELDING SYSTEM



- Our new generation of welding system features user-friendly interface and straightforward operation, which combines welding, rust removal, cutting and seam cleaning together.
- The large knob for adjusting laser power and spot width is humanized, noticeable and easy to use by workers.
- Users may switch between large knob adjustment and touchscreen operation quickly. When adjusting the knob, dial interface will be instantly shown, while tapping the screen, it switches back to the main page at once.
- It is compatible with 25 kinds of languages incl. Chinese, English, Korean, Russian, Japanese, German, French, Italian and Spanish, making it accessible for users from various countries.



SF - S

# AUTOMATIC WIRE FEEDER



Come with high-power four-wheel dual-drive wire feeder, of which wire feeding speed is 25-600cm/min (adjustable). It has continuous and pulsed mode, to offer more stable and smoother wire feeding.



Come with 1.6mm wire feeding tube, U-shaped wheel paired with graphite wire feeding tube (optional) to develop AL wire feeding solutions.



Come with LCD display where wire feeding speed and retraction are intelligently controlled.

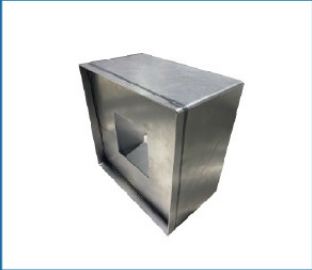
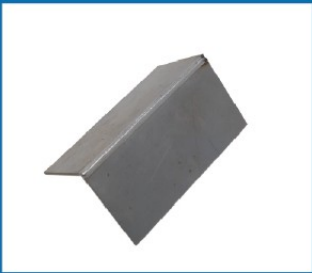


Technical Parameters

Model	SF3S	SF4S	SF5S
Laser power	800W	1200W	1500W
Welding thickness	3mm	≤4mm	≤5mm
Diameter of welding wire	0.8-1.6mm (standard)	0.8-1.6mm (standard)	0.8-1.6mm (standard)
Weight of welding gun	≤0.7kg	≤0.7kg	≤0.7kg
Length of welding gun wire	5m	7m	7m
Net weight	45kg	50kg	55kg
Overall dimensions (L*W*H)	670*335*590mm	670*335*590mm	670*335*590mm
Languages	25 kinds of languages like Chinese, English, Korean, Russian, Japanese, German, French		
Power supply	Single-phase 220V 50/60HZ		

Welding Samples

Laser welding features low heat input and nice-looking weld seams. It can weld various metals such as carbon steel, stainless steel and galvanized sheet.



Configuration List

Name	Quantity	Brand
Chassis cabinet	1	SENFENG
Electrical system	1	SENFENG
Welding system	1	SENFENG
Laser generator	1	SENFENG
Laser welding head	1	SENFENG
Wire feeder	1	SENFENG
Maintenance tool	1	SENFENG
Certificate of conformity	1	SENFENG

Notes: 1. These are our optimal configurations. Changing brand or configuration may lead to irreversible consequence.  
2. The complete machine is under 1-year warranty (excluding quick-wear parts, consumables, force majeure like natural disaster and war, as well as improper operation and human damages).



## HIGH-QUALITY TRAINING

- Before delivery, buyer can arrange for 1-2 workers to receive 1-week training at our factory or showroom based on their needs. As for specific timing, please confirm with our customer service department.
- Under warranty, the buyer can also apply for another free training for 1-2 operators in our company.



## NO WORRY ABOUT OVERSEA TRANSPORT

To actively respond to the national environmental protection, SENFENG packages its machine in high-strength corrugated cardboard box made from quality raw wood pulp. In addition to nice-looking appearance, the box also has excellent pressure resistance and shock absorption, making oversea transport, disassembly and assembly easier.

- Made from recyclable eco-friendly materials
- Thickness reaches up to 12mm, with high compressive strength
- Good moisture and water resistance
- Nice-looking, lightweight and easy to store



## PROFESSIONAL INSTALLATION



Our professional engineers will install new machine on site or provide online guidance. After installation, various debugging will be made in time.



They are also duty-bound to train customers on site or offline in terms of machine maintenance, safety protection, operating procedures and simple troubleshooting knowledge, followed by on-site acceptance by the buyer.

