

The background is a solid blue color. In the top right corner, there is a white horizontal bar. A graphic of a laser beam, composed of many thin white lines, originates from the top left and fans out towards the bottom right, passing behind the text.

SF1313G

MAX 3000W

Laser Cutting Machine

TECHNICAL
SOLUTIONS



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G · Classic Series

SF1313G
MAX 3000W

Laser Cutting Machine

- High strength machine bed

- Fully automatic focus

- High-strength aluminum alloy beam

- Intelligent following system



※The picture is for reference only, the actual appearance and size shall prevail



TECHNICAL PARAMETERS

TECHNICAL PARAMETERS (SF1313G)

No.	Item	Parameter
1	Work area	1300*1300mm
2	X-axis travel	1300mm
3	Y-axis travel	1300mm
4	Z-axis travel	100mm
5	X/Y-axis positioning accuracy	±0.05mm
6	X/Y-axis repeated positioning accuracy	±0.02mm
7	Maximum speed	80m/min
8	Maximum acceleration	0.8G
9	Total weight(KG)	1870KG
10	Maximum load(KG)	220KG
11	Dimensions (length x width x height)	2985*2160*2000mm
12	Phase	Three-phase
13	Power supply rated voltage	380V
14	Frequency	50Hz
15	Total power supply protection level	IP54

Note: 1. The accuracy of the workpiece depends on factors such as the type of workpiece, pre-treatment conditions, sheet size, and position within the working area.

2. Also, technical specifications are subject to change without prior notice and the actual order agreement shall prevail.



CUTTING PARAMETERS

CUTTING PARAMETERS (SF1313G)

Material	Thickness(mm)	Cutting Speed(m/min)	Gas
Stainless steel	1	30-45	N2/Air
	2	20-25	N2/Air
	3	8.0- 10	N2/Air
	4	5.0-6.0	N2/Air
	6	2.0-3.0	N2/Air
	8	1.0- 1.5	N2/Air
	10	0.5- 1.0	N2/Air
	12	0.4-0.6	N2/Air
	Carbon steel	1	30-40
2		15- 20	N2/Air
3		3.5-4.5	O2
6		2.5-3.5	O2
8		1.8-2.3	O2
10		1.4-1.8	O2
12		1.0- 1.4	O2
14		0.8- 1.0	O2
16		0.7- 1.1	O2
20		0.5-0.7	O2

Note: 1. The cutting parameter table is for reference only and the actual cutting materials will prevail due to differences in carbon content.
 2. The dark areas cannot be processed as a full sheet and are only suitable for sample cutting. Please be aware of this.



CUTTING PARAMETERS CUTTING PARAMETERS (SF1313G)

Material	Thickness(mm)	Cutting Speed(m/min)	Gas
Brass	1	25-30	N2/Air
2	12- 17	N2/Air	
3	5.0-6.0	N2/Air	
4	2.0-3.5	N2/Air	
5	1.8-2.5	N2/Air	
6	0.8- 1.0	N2/Air	
Aluminum	1	30-35	N2/Air
2	14-20	N2/Air	
3	8.0- 10	N2/Air	
4	5.0-6.5	N2/Air	
5	2.5-3.5	N2/Air	
6	1.2- 1.5	N2/Air	
8	0.7- 1.3	N2/Air	

Note: 1. The cutting parameter table is for reference only and the actual cutting materials will prevail due to differences in carbon content.
2. The dark areas cannot be processed as a full sheet and are only suitable for sample cutting. Please be aware of this.



COST BENEFIT ANALYSIS

COST BENEFIT ANALYSIS (SF1313G)

Item		Air	O2	N2	
Power consumption	Laser source (kW)		10	10	10
Water chiller	5	5	5		
Air compres	15	/	/		
Machine tool	5	5	5		
Dust removal	1.5	1.5	1.5		
Consumables and gas consumption(RMB/H)			4.5	60.5	
Total power (kW)			21.5	21.5	
Total power consumption(kW/H)		21.9	12.9	12.9	
Total operating costs(1RMB/kWh)			17.4	73.4	

If compressed air is used as the cutting auxiliary gas, the cost will be actual operating electricity of the air compressor + machine tool electricity + consumables like the protective lenses and cutting nozzles.

Note: 1. The electricity rate and gas price listed above are for reference only, and prices may vary in different regions.

2. Consumptions of auxiliary gas will differ depending on the thickness of the plates being cut. As an example, 25mm carbon steel is used for oxygen consumption and 1mm stainless steel is used for nitrogen consumption. These numbers are for reference only.



ADVANTAGES OF LASER CUTTING

ADVANTAGES OF LASER CUTTING

(SF1313G)

Items	Plasma cutting	Laser cutting	Laser cutting advantages
Positioning accuracy	0.4mm (especially 10m bed)	0.14mm (especially 10m bed)	High precision
Section taper	5mm (especially 40mm thick)	0.4mm (especially 40mm thick)	No need for fine processing
Kerf	4-6.0mm	0.2-1.6mm	Save 6-9% of materials
Bleed and co-edge	10mm	3-4mm	Save 6-9% of materials
Heat affected zone	0.5-2.0mm	0.1-0.4mm	Less heat absorption, less deformation
Cutting effect	Average	Excellent, less slags	No need for sanding
Cutting speed	Average	Very fast	High production efficiency
Piercing	Can't cut small holes	Diameter-depth ratio of 10-20%	Save drilling and handling
Working environment	Smoky	Clean	Healthy and environmentally friendly



CONFIGURATION LIST

CONFIGURATION LIST (SF1313G)

No.	Item	Qty	Brand
	Laser source		
1	Laser source	1	MAX
	Laser cutting head		
1	Laser cutting head	1	SENFENG TYRFING
	Machine tool · host		
1	Transmission system	3	SENFENG
2	Machine tool and accessories	1	SENFENG
3	Reducer	3	MANDOLIN
4	Electrical and pneumatic systems	1	Japan SMC & Taiwan AIRTAC
5	AC servo motor and driver	4	INOVANCE/DELTA/SCHNEIDER
6	Water chiller	1	Tongfei
	CNC control system		
1	CNC control system	1	FSCUT 2000

Note:

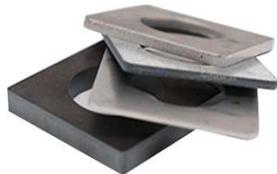
This is the optimal configuration verified by our company. If you change the brand or configuration, it may cause irreversible effects. Please be aware of this.

The warranty period for the entire machine (excluding consumables, force majeure natural disasters, wars and violations, human damage, and other reasons) is 2 years.



CUTTING SAMPLES
CUTTING SAMPLES (SF1313G)

CUTTING SAMPLES





LASER DEVICE SF1313G-LASER SOURCE

LAS



ICE



1. Small Fiber Core: Better beam quality.



2. Faster Cutting Speed: Enhanced cutting efficiency.



3. Improved High-Reflection Resistance: New optical components with multi-layer anti- reflection design for efficient processing of various metals.



4. Enhanced Intelligence: Next-gen software with smart app mode for real-time monitoring.



5. High Electrical-Optical Conversion: Over 40% efficiency, reducing power consumption.



6. Upgraded Components: New generation pump sources offer greater reliability and stability, with improved beam quality and 30%-40% increased brightness due to patented nonlinear suppression technology.



7. Lightweight and Compact: Small size and compact design for easier integration.



8. Enhanced Safety: Improved safety features.



LASER HEAD SF1313G- CUTTING HEAD



LASER HEAD



1. Full optical design and body water cooling



2. Three protective lenses against dust



3. Light weight and small size



4. Independent module of focus protection window



5. Anti-oil pollution for air path



MACHINE BED SYSTEM SF1313G- MAC



1 Pipe-welded machine bed

Durable and non-deformable

Technology

Precision welded technology.

Core

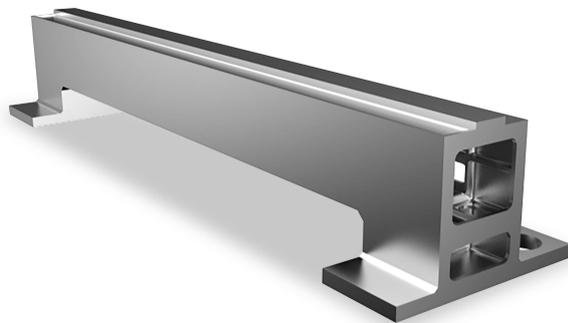
After annealing to relieve internal stress, the machine bed undergoes secondary vibration, aging treatment, and precision finishing.

Feature

The overall mechanical structure has small deformation and low vibration, ensuring cutting accuracy.

2 High-strength aluminum alloy beam

Light weight and good dynamic performance



Core

The beam is lightweight and provides outstanding dynamic performance.

Feature

It is rough machined after annealing to eliminate internal stress, and then finished after secondary vibration aging treatment, ensuring the overall strength and stability of the beam.



MACHINE BED SYSTEM

SF1313G- MACHINE BED SYSTEM



Auto focus system

Higher processing efficiency

Feature

Equipped with an automatic focusing laser head, the machine can adjust the focus to the optimal cutting distance based on the material and thickness, improving efficiency.

Pneumatic system

Precise control



Core

The pneumatic system is equipped with control valves and proportional regulating valves from well-known brands SMC and AIRTAC. By electrical control, the pressure and flow of each gas can be accurately adjusted.

Feature

Cutting auxiliary gas (O2, N2, compressed air, etc.)

AUTOMATIC GAS DISTRIBUTION DEVICE

AUTOMATIC GAS DISTRIBUTION DEVICE



AUTOMATIC GAS DISTRIBUTION DEVICE

Precise Gas Control

Equipped with three gas channels, namely air, nitrogen (300psi) and oxygen. Each gas channel can independently control its flow and pressure.

- The software terminal automatically selects auxiliary gas.
- The type and pressure of the auxiliary gas can be automatically set and selected through the CNC program, eliminating the need for manual operation.
- The actual gas pressure at the cutting head outlet can be easily read and displayed in real-time on the panel.

NUMERICAL CONTROL SYSTEM NUMERICAL CONTROL SYSTEM



FSCUT2000

Cutting System-FSCUT2000

Fast Operation & Efficient Cutting

The FSCUT2000 high-power laser cutting system is a full-featured open-loop control system designed for the sheet metal processing industry. It is easy to install and debug, with excellent performance and a comprehensive solution. It is stable, reliable, easy to deploy, ensures safe production, and offers rich features. The system supports modular, customizable, automated, and informational solutions, with a powerful cutting process database containing parameters for various materials and thicknesses, enabling fast operation and efficient cutting.

- · The user-friendly interface provides error analysis reports.
- · Automatically selects the auxiliary gas type and pressure.
- · Piercing control system.
- · Direct pulse power modulation of the laser source.
- · Breakpoint return function.
- · The Z-axis auto-adjustment program supports follow control to eliminate plate unevenness.
- · Supports obstacle avoidance during moving and intelligent leapfrog function.



AFTER-SALE SERVICE

AFTER-SALE SERVICE

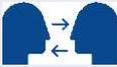
Personnel training to improve production efficiency

<p>· Before the equipment is shipped</p> <p>The buyer can arrange 1-2 operators to our factory or exhibition hall for a one-week training. The specific time is subject to the customer service department of our company.</p>	<p>· Equipment warranty</p> <p>The buyer can also apply for another operator (1-2 people) to our company for free training.</p>
<p>· Training</p> <p>Including laser principle, equipment structure, process description, equipment maintenance, laser safety protection, operation procedures and simple troubleshooting.</p>	<p>· Requirement</p> <p>The trainees shall be mechanical, electrical or optical assistant engineers or engineers, who can operate the machine after passing the assessment of equipment operation, laser basic principles, laser safety protection, maintenance, etc.</p>

Packaging and transportation to ensure the equipment quality

 <p>· Packing</p> <p>Standard packaging, suitable for long distance car transportation, with moisture proof, rust proof and shock proof. It indicates the lifting center of gravity and lifting parts, suitable for the overall lifting.</p>	 <p>· Shipping</p> <p>Domestic transportation within China is fully handled by our company, including freight and insurance.</p>	 <p>· Packing list and certificate</p> <p>A detailed packing list and quality certificate shall be attached to each packing box. Equipment instructions and all other documents and materials are also attached in it. The packing list is outside the packing box, and the certificate is inside.</p>
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Equipment installation is professional and high-quality

 <p>1 Equipment installation</p> <p>The delivery place is the installation site of your company, and our company will send engineers to conduct the equipment installation;</p>	 <p>2 Equipment test</p> <p>After installation, debugging is performed to ensure the normal function of equipment;</p>	 <p>3 On-site training</p> <p>Conduct training on equipment maintenance, safety protection, operating procedures and simple troubleshooting at the customer site for 7 days to ensure the normal use;</p>	 <p>4 On-site acceptance</p> <p>The engineer can leave after the customer's on-site acceptance (the customer can veto).</p>
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Customization Service

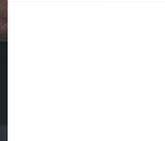
HONOUR ENJOY CUSTOMIZED

In the digital age, the intelligent transformation of the metal processing manufacturing industry is imperative, and building a fully-automatic factory is the only way to achieve this transformation. Customized metal forming automation solutions become a top priority.



Iter

International PCT patent



Iter

Domestic technology patent

At present, the core components such as laser generator, laser processing head and laser numerical control system have been successfully developed by our company, which are widely used in cutting, welding, cladding and automation fields. It has formed a whole industry chain development model integrating cutting, bending, welding, cladding and automation, covering laser cutting equipment, laser welding equipment, laser cladding equipment, laser cleaning equipment, bending center and laser processing flexible production line, which are widely used in power towers, construction machinery, shipbuilding, bridge formwork, aerospace and other industries. With its strong advantages, Jinan Senfeng Laser Technology helps enterprises to reduce the production cycle and save manufacturing costs, so as to obtain greater economic benefits in the competition.

Custom standards

1

Understand the current situation of the customer's industry and the specific production situation. Identify problems and understand customer needs;

2

Conduct in-depth exchanges with customers on site, and customize metal forming automation solutions according to their pain points and needs;

3

Significantly different from competitors' models and formulate the most suitable solutions;

4

According to the customized plan, provide R&D and production from drawings to complete machines, and control every procedure until the customer is satisfied.

Five Star Service

5-STAR SERVICE IN QUICK RESPONSE

Jinan Senfeng Laser Technology always adheres to the concept of "customer first", provides high-quality global services with dedicated and professional quality. In the face of the epidemic, we did not back down but solved problems for customers in time, which won the favor and trust of customers at home and abroad.



Efficient

24 hours a day, 7 days a week, 365 days a year to answer repair calls;
Within 10 minutes, professional technical engineers shall reply, 1 hour to determine the maintenance plan, and 1 working day to dispatch engineers.

Exclusive solution customized service: according to the specific situation of customers, customized service plan;

Service engineer certification system: each service engineer after strict training and assessment, with a certificate post;

Professional

FAQ training: according to the equipment model, make the FAQ and train customers by the certified engineer;

Online one-to-one guidance: experienced senior engineers guide customers to solve problems through telephone, video and other network ways;

Once is good: a equipment debugging in place, similar problems once repair.

Reliable

Pre-service: theory + practical operation training, self-diagnosis training for common faults, quick repair guidance for difficult faults, reminder of use precautions;

Regular service: regular maintenance reminder, regular door-to-door service, regular sales promotion activities;

Value-added services: equipment hardware and software upgrade service, financial leasing service, delayed warranty service.



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