SENFENG

H Series

6000W

Fiber Laser Cutting Machine

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Fiber Laser Cutting Machine

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SENFENG

Fourth Generation

Versatile & Efficient

H Series

Fiber Laser Cutting Machine 6000W

1. Heavy-duty heat-insulated hollow bed
2. Intelligent spiral negative pressure dust removal
3. Laser cutting process database
4. Storm cutting system

*The image is for reference only; the appearance and dimensions are subject to the actual product from the factory.

Technical Parameters

H Series

Item	Parameter			
	3015	4020	6015	6020
Work area (L*W) (mm)	3000*1500mm	4000*2000	6000*1500	6000*2000
X-axis travel (mm)	1530	2030	1530	2030
Y-axis travel (mm)	3080	4100	6100	6100
Z-axis travel (mm)	360	360	360	360
X/Y axis positioning accuracy (mm)	±0.05mm			
X/Y axis repeated positioning accuracy (mm)	±0.02mm			
Maximum speed (m/min)	200m/min			
Maximum acceleration (G)	2G			
Dimensions (L*W*H) mm	8440x2270x2340	10795x3191x2410	14610x2270x2380	14980x3191x2410
Maximum load (KG)	3000KG	5000	5660	7550
Weight (KG)	5654	8415	8857	11715
Phase	Three-phase			
Power supply rated voltage (V)	380V			
Frequency (HZ)	50HZ			
Overall power supply protection level	IP54			

Note:
1. Workpiece accuracy depends on factors like type, pre-treatment, sheet size, and position.
2. Technical parameters are subject to change without notice. Final parameters are based on the order agreement.

Technical Parameters

H Series

Item	Parameter		
	6025	8025	12025
Work area (L*W) (mm)	6000*2500	8000*2500	12000*2500
X-axis travel (mm)	2530	2530	2530
Y-axis travel (mm)	6100	8100	12100
Z-axis travel (mm)	360	360	360
X/Y axis positioning accuracy (mm)	±0.05mm		
X/Y axis repeated positioning accuracy (mm)	±0.02mm		
Maximum speed (m/min)	200m/min		
Maximum acceleration (G)	2G		
Dimensions (L*W*H) mm	14734x3781x2410	18926x3781x2410	27770x3781x2410
Maximum load (KG)	9000	12000	18860
Weight (KG)	12488	15989	22783
Phase	Three-phase		
Power supply rated voltage (V)	380V		
Frequency (HZ)	50HZ		
Overall power supply protection level	IP54		

Note:
1. Workpiece accuracy depends on factors like type, pre-treatment, sheet size, and position.
2. Technical parameters are subject to change without notice. Final parameters are based on the order agreement.

Cutting Parameters

H Series

Material	Thickness (mm)	6kW	Gas
		Cutting speed (m/min)	
Stainless steel	1	45-55	N2/Air
	2	30-35	N2/Air
	3	18-22	N2/Air
	4	10-14	N2/Air
	5	8.0- 10	N2/Air
	6	4.3-5.0	N2/Air
	8	3.0-4.0	N2/Air
	10	1.8-2.5	N2/Air
	12	1.0-1.5	N2/Air
	14	0.8-1.2	N2/Air
	16	0.6-1.0	N2/Air
	20	0.4-0.7	Air
Carbon steel	1	40-45	N2/Air
	2	20-28	N2/Air
	3	12-17	N2/Air
	4	8.0- 10	N2/Air
	6	2.5-3.3	O2
	8	2.3-3.0	O2
	10	2.0-2.5	O2
	12	1.8-2.2	O2
	14	1.4-1.7	O2
	16	1.0-1.6	O2
	20	0.6-1.2	O2
	25	0.5-0.7	O2
	30	0.4-0.6	O2

Note:

1. Due to variations in material carbon content, the cutting parameters table is for reference only and should be based on actual conditions.
2. Dark-colored areas in the table indicate that full-sheet processing is not possible and only sample cutting is allowed.

Cutting Parameters

H Series

Material	Thickness (mm)	6kW	Gas
		Cutting speed (m/min)	
Brass	1	40-45	N2/Air
	2	20-25	N2/Air
	3	12-15	N2/Air
	5	5.0-6.0	N2/Air
	6	3.0-4.0	N2/Air
	8	1.5-2.5	N2/Air
	10	1.0-1.5	N2/Air
	12	0.8-1	N2/Air
Aluminum	1	50-55	N2/Air
	2	25-30	N2/Air
	3	13-16	N2/Air
	4	10-13	N2/Air
	5	5.0-6.0	N2/Air
	6	3.0-4.0	N2/Air
	8	2.0-3.0	N2/Air
	10	1.0-2.0	N2/Air
	12	0.7-1.2	N2/Air
	14	0.5-1.0	N2/Air
	16	0.4-0.6	N2/Air

Note:
1. Due to variations in material carbon content, the cutting parameters table is for reference only and should be based on actual conditions.
2. Dark-colored areas in the table indicate that full-sheet processing is not possible and only sample cutting is allowed.

Cost-Benefit Analysis

H Series

Item		3015			4020			6015			6020		
		Air	O2	N2	Air	O2	N2	Air	O2	N2	Air	O2	N2
Peak power consumption	Laser source (kW)	16	16	16	16	16	16	16	16	16	16	16	16
	Chiller (kW)	6	6	6	6	6	6	6	6	6	6	6	6
	Air compressor(kW)	15			15			15			15		
	Machine tool host (kW)	18	18	18	18	18	18	18	18	18	18	18	18
	Dust removal (kW)	3	3	3	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Consumables and gas consumption (CNY/H)		0.5	4.5	60.5	0.5	4.5	60.5	0.5	4.5	60.5	0.5	4.5	60.5
Total power(kW)		58	43	43	60.5	45.5	45.5	60.5	45.5	45.5	60.5	45.5	45.5
Total power consumption (kW/H)		34.8	25.8	25.8	36.3	27.3	27.3	36.3	27.3	27.3	36.3	27.3	27.3
Total operating cost (1RMB/kWH)		35.3	30.3	86.3	36.8	31.8	87.8	36.8	31.8	87.8	36.8	31.8	87.8

If the cutting auxiliary gas is dried compressed air, the cost includes air compressor electricity, machine power consumption, and consumables (protective lenses, cutting nozzles).

Note:

1. The electricity and gas prices are for reference only and may vary by region.
2. Auxiliary gas consumption varies with plate thickness; values are based on 16mm carbon steel for oxygen and 1mm stainless steel for nitrogen, for reference.

Cost-Benefit Analysis

H Series

Item		6025			8025			12025		
		Air	O2	N2	Air	O2	N2	Air	O2	N2
Peak power consumption	Laser source (kW)	16	16	16	16	16	16	16	16	16
	Chiller (kW)	6	6	6	6	6	6	6	6	6
	Air compressor (kW)	15			15			15		
	Machine tool host (kW)	18	18	18	18	18	18	18	18	18
	Dust removal (kW)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Consumables and gas consumption (CNY/H)		0.5	4.5	60.5	0.5	4.5	60.5	0.5	4.5	60.5
Total power(kW)		60.5	45.5	45.5	60.5	45.5	45.5	60.5	45.5	45.5
Total power consumption (kW/H)		36.3	27.3	27.3	36.3	27.3	27.3	36.3	27.3	27.3
Total operating cost (1RMB/kWH)		36.8	31.8	87.8	36.8	31.8	87.8	36.8	31.8	87.8

If the cutting auxiliary gas is dried compressed air, the cost includes air compressor electricity, machine power consumption, and consumables (protective lenses, cutting nozzles).

Note:

1. The electricity and gas prices are for reference only and may vary by region.
2. Auxiliary gas consumption varies with plate thickness; values are based on 16mm carbon steel for oxygen and 1mm stainless steel for nitrogen, for reference.

Configuration List

H Series

No.	Item	Qty	Brand
	Laser source		
1	Laser source	1	Max/Raycus
	Laser cutting head		
1	Laser cutting head	1	Raytools
	Machine Tool & Host		
1	Transmission system	4	SENFENG
2	Machine tool and accessory	1	SENFENG
3	Bed anti-burn components	1	Graphite plate
4	Reducer	3	SHIMPO, Japan
5	Electrical and pneumatic systems	1	SCHNEIDER, France AVENTICS, Germany
6	AC servo motor and driver	4	Fuji, Japan
7	Water chiller	1	Hanli
	CNC cutting system		
1	CNC laser cutting system	1	FSCUT

Note:
1. This is SENFENG's optimized configuration. Changes in brand or configuration may cause irreversible effects.
2. The warranty period for the entire machine (excluding consumables, non-force majeure natural disasters, war, improper operation, and human damage) is 2 years.

H Series-Laser Source

1. High-power and high-quality laser output
2. Uniformly distributed beam energy
3. Excellent performance and strong processing ability
4. Compact structure and maintenance-free
5. Wide range of applications

H Series-Laser Cutting Head

6kW

1. Efficient Cooling: The collimating and focusing lenses have cooling structures, and the nozzle features cooling airflow, protecting the nozzle and ceramic body, and extending operation time.
2. Fast Focusing: Collimated focusing allows for faster movement and a larger adjustment range than traditional focusing.
3. Multiple Protective Lenses: Four protective lenses reduce contamination when replacing fiber and lower protective lenses, extending the life of the collimating and focusing lenses.
4. Optimized Structure: Integrated body design ensures sealing. Improved QBH, QD, and G5 fiber interfaces enhance compatibility with the laser source and prevent jamming caused by issues like rust and water leakage.

H Series-Machine Bed System

1

Heavy-duty heat-insulated hollow bed

1. The bed is welded from high-quality steel and undergoes stress-relief annealing, secondary aging, and precision machining, ensuring stability and shock resistance to handle high accelerations.
2. Its seamless internal structure prevents heat transfer, maintaining processing accuracy and preventing deformation over time, which extends the equipment's lifespan.

2

Aerospace-grade high-strength aluminum beam

1. The beam is made of aerospace-grade high-strength aluminum alloy, extruded, heat-treated, and precision-machined for excellent rigidity and surface quality. Its corrosion resistance, light weight, high rigidity, and toughness are ideal for high-speed laser cutting.
2. The optimized internal structure ensures excellent dynamic performance, enabling high-speed cutting with accuracy.

3

Intelligent spiral negative pressure dust removal

1. The dust extraction system can intelligently control the exhaust vents based on the current cutting position, enabling timed, zoned, and sectional exhaust.
2. Combined with the base's bottom return-seal design, it ensures smoke-free cutting.

4

Visual monitoring for safety protection

1. The all-around monitoring system minimizes blind spots, ensuring safe and stable cutting operations.

H Series-Machine Bed System

5

Temperature-controlled electrical cabinet

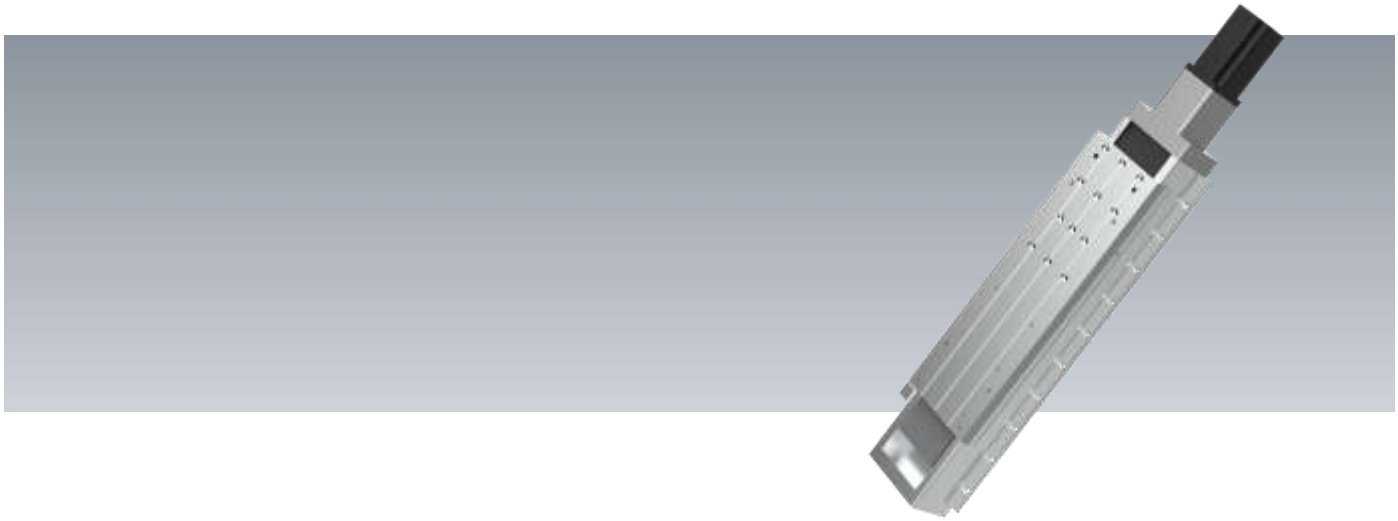
1. The H series features a newly added temperature-controlled electrical cabinet, eliminating the need for an additional air-conditioned room.
2. The internal environment is temperature and humidity controlled, offering excellent environmental adaptability.
3. Significantly extends the lifespan of electronic components in the control system, ensuring more stable laser cutting performance.

6

Modular Z-axis

Safety protection, easy maintenance

1. The modular Z-axis has good sealing performance, reducing contamination and lowering the failure rate.
2. Modular installation and replacement greatly reduce maintenance time and difficulty.



Auto Gas Distribution System

Precise Control of Each Gas Flow

The CNC laser cutting machine has two separate gas lines: nitrogen (air) and oxygen. Each gas line can be independently controlled for flow rate and pressure.

- The equipment software terminal is equipped with an automatic auxiliary gas selection feature.
- The type and pressure of auxiliary gases 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 on the panel in real-time.

CNC System

This intelligent bus system is specifically designed for fiber laser cutting. It integrates motion control, laser source control, and cutting gas control, offering stability, reliability, easy deployment, simple debugging, production safety, and a rich set of features with excellent performance. It offers modular, customizable, automated, and informational solutions. The system features memory buffering and a comprehensive cutting process database, offering optimized parameters for various materials and thicknesses. This ensures fast operation and efficient cutting, making it ideal for industries such as sheet metal, kitchenware, and lighting.

- Supported file formats: Direct processing of DXF files and high-speed reading and writing of LXDS and NRP files generated by CypNest.
- Equipped with a cutting database, allowing real-time adjustments during cutting to achieve optimal processing quality.
- Features: Multi-stage piercing, sharp corner entry, and centering significantly enhance high-power cutting efficiency and stability.
- Optimized for various rapid travel modes, including the "LeapFrog" function.

Providing Global Users with Automated Metal Fabrication Solutions

SENFENG provides automated metal fabrication solutions globally, integrating cutting, bending, welding, cladding, automation, and new energy. With core technologies in laser cutting, welding, and cladding, the company also offers intelligent manufacturing systems like flexible laser processing lines and sheet metal bending centers. These solutions serve industries including automotive, construction, energy, and petrochemicals, and are used in over 100 countries.

7
International PCT Patents

700
Chinese technology patents

SENFENG has developed key components like laser generators, processing heads, Feng Cloud systems, and CNC systems, used in cutting, welding, cladding, and automation. The company offers a complete industry chain, including laser cutting, welding, cladding, cleaning machines, bending centers, and flexible production lines. These solutions are used in sectors like power towers, construction machinery, shipbuilding, bridges, and aerospace, helping businesses accelerate production and reduce costs for greater economic benefits.

After-sales Service

Technical Training to enhance customer production efficiency

1 Before equipment delivery

The buyer can arrange for 1-2 operators to attend a one-week training at the SENFENG factory. The specific dates should be confirmed with our customer service department.

2 During the warranty period

The buyer can apply for one more session of free training for 1-2 operators at SENFENG.

3 Training

The training includes laser principles, equipment structure, process explanation, equipment maintenance, laser safety protection, operating procedures, and basic troubleshooting.

4 Requirement

Trainees must be mechanical, electrical, or optical engineers and pass assessments on equipment operation, laser principles, safety, and maintenance before starting work.

Packaging & Transportation to ensure equipment quality

1 Packaging

Standard packaging, suitable for long-distance transportation, moisture-proof, rust-proof, and shock-resistant. Designed for full lifting with marked lifting points and center

2 Transportation

Domestic transportation within China is fully handled by our company, including freight and insurance.

3 Packing List & Certificate

Each package includes a packing list and certificate of conformity. The user manual and other documents are inside the box, while the packing list is on the outside.

Installation professional and high-quality

1 Installation

SENFENG engineers will install the equipment at the client's site.

2 Equipment Debugging

After installation, the equipment will be debugged for client use.

3 Door-to-door training

On-site training will be provided on equipment maintenance, safety, operation procedures, and basic troubleshooting, with 7 days of guaranteed usage.

4 On-site acceptance

After completing the above steps, the engineer may leave the site only after the customer's acceptance (the customer can veto).

After-sales Service

Premium Customization

In the digital era, intelligent transformation in metal processing is essential. Building unmanned factories is key to upgrading, with customized automation solutions being a top priority.

1

SENFENG understands the client's industry status and specific production processes, identifies issues, and assesses their needs.

2

Through in-depth on-site communication, customize metal fabrication automation solutions based on the client's pain points and needs.

3

A tailored solution, different from competitors' standardized models.

4

Provide a one-stop R&D and production service from design to final machine, with thorough quality checks until customer satisfaction and acceptance.

5-star Fast Service

Efficient

- Our repair hotline is available 24/7.
- A professional engineer will respond to customer inquiries within 10 minutes and provide a repair plan within 1 hour.

Professional

- **Custom Service:** Tailored service plans based on the specific needs of the customer.
- **Service Engineer Certification System:** Each service engineer undergoes rigorous training and assessment before being certified to work.
- **Common Issues Training:** Create a manual for common issues based on equipment models, with certified engineers providing customer training.
- **Online Guidance:** Experienced senior engineers offer support through phone or video calls to help customers resolve issues.
- **Professional Technical Support:** The equipment is properly calibrated during the first installation, and similar issues are resolved in one go.

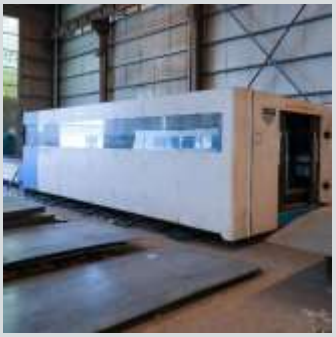
Comprehensive

- **Pre-service:** Theoretical and hands-on operation training, common fault self-diagnosis training, quick repair guidance for troubleshooting, usage reminders.
- **Regular Service:** Regular maintenance reminders, on-site services, periodic promotional activities.
- **Value-added Service:** Equipment software and hardware upgrades, financing lease services, extended warranty services.



SENFENG



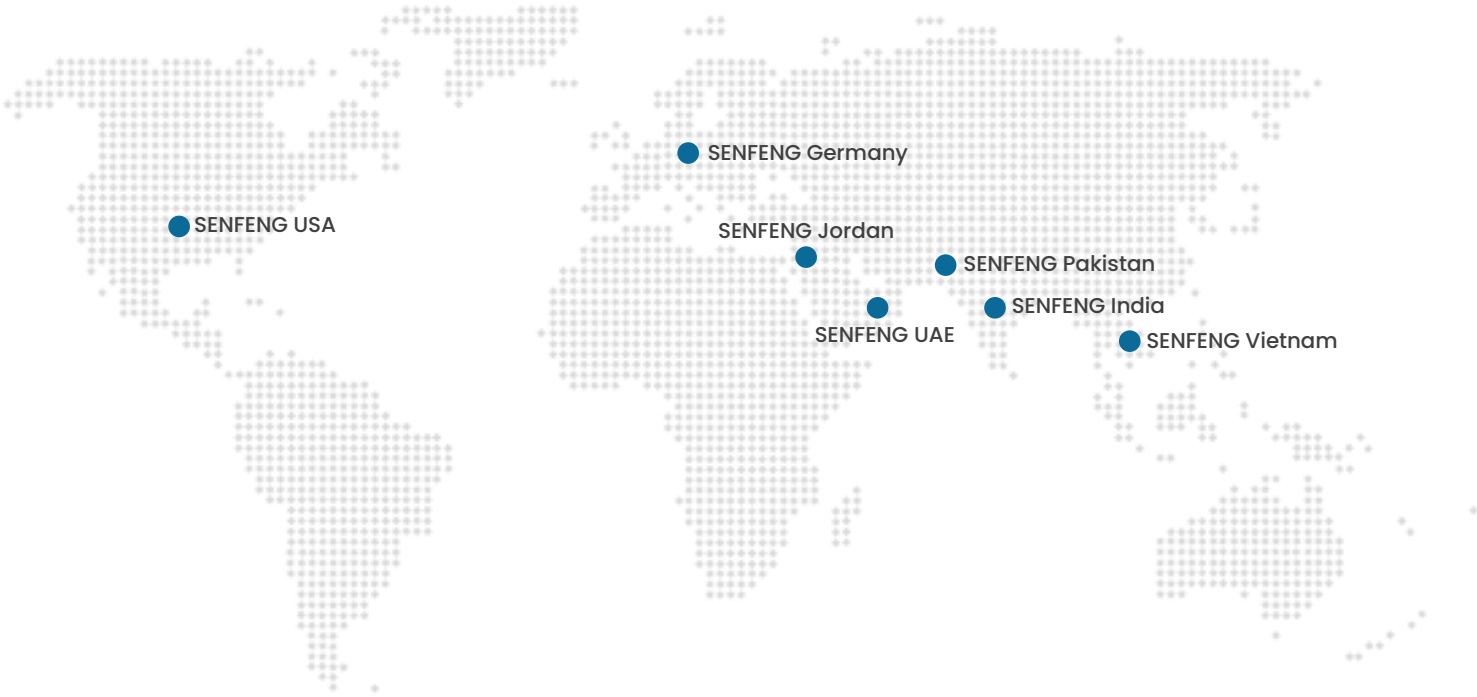



Customer testimonials









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