SENFENG

SF1530NP

Medium- and Low-Power Laser Cutting Machine

Technical Solution

Provide Global Customers with Metal Forming Automation Solutions

PROVIDE GLOBAL CUSTOMERS WITH METAL FORMING AUTOMATION SOLUTIONS

SENFENG is a laser processing equipment and automated production line R&D and manufacturing company. It has mastered multiple core technologies and integrates cutting, bending, welding, cladding, CNC machine tools, and laser processing automation technologies. The company has become a technology-driven innovator covering the full industrial chain of laser processing equipment development.

Its main products include laser cutting equipment, laser welding equipment, laser cladding equipment, CNC press brake equipment, and CNC machine tools. By integrating laser technology with smart manufacturing concepts, SENFENG has independently developed flexible laser processing production lines, providing customers with comprehensive laser processing solutions. These solutions are widely used in large-scale steel structures, heavy-duty trucks, construction machinery, power transmission towers, agricultural machinery and implements, sheet metal processing, mechanical manufacturing, and bridge construction formwork. In addition, applications are rapidly expanding in new energy vehicles, shipbuilding and offshore engineering, and automated production lines.

VR One-Click Access: Core Strengths in Full View

Scan the QR code to take a virtual tour of the factory

SENFENG·China

Leader in Metal Forming

SENFENG, as one of the leading players in China's laser industry, has established six domestic operational bases and relies on three major production facilities. Through this strategic layout, the company has achieved full-chain and full-capacity development—from core components to intelligent production lines—ensuring product performance and reliable delivery cycles. SENFENG has launched flexible laser processing production lines, providing customers with one-stop integrated manufacturing solutions.

New Headquarters Base (Jinan High-tech Zone)

Production Base (Jinan Lingang)

SENFENG (Suzhou) Branch

SENFENG (Wuhan) Branch

Production Base(Qihe)

SENFENG (Bonded Zone) Import & Export Co., Ltd.

SENFENG·Global

Global Strategy

SENFENG continues to deepen its global strategy, advancing both domestic and international markets in parallel. Its products are sold in over 100 countries and regions, providing automated metal forming solutions to customers worldwide.The company has established 13 global service centers and overseas spare parts warehouses, building a fast-response network with worldwide coverage. Through localized and timely technical support, SENFENG has earned the trust of customers across the globe.

Los Angeles Subsidiary (USA)

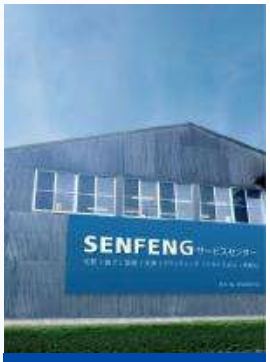
Houston Subsidiary (USA)

Germany Subsidiary

UAE Subsidiary


Vietnam Service Center

Pakistan Service Center



Japan Service Center


Indonesia Service Center

Poland Service Center

Jordan Service Center

India Service Center

Türkiye Service Center

Australia Service Center

Development Journey

2025
Full-series products across the entire industrial chain have been further integrated into the sales system.
Revenue exceeded RMB 1.4 billion, with new orders reaching a record high.

2023
Market share of the full industrial chain of laser processing equipment increased rapidly.

2022
Awarded the title of a National “Little Giant” Enterprise specializing in niche, high-tech innovation.

2021
Completed the full industrial chain layout covering laser cutting, bending, welding, and automated production line equipment.

2020
Laser welding, cladding, bending, and additive equipment officially entered the market and achieved rapid growth.

2019
Expanded from laser cutting technology into laser welding, cladding, and bending technologies.

2017
The first 10kW-level laser cutting machine was launched, opening a new era of high-power laser equipment.

2016
Focused on core laser technology R&D, driving the development of fiber laser metal cutting technology.

2013
Recognized as a “High-Tech Enterprise,” evolving into a dual-driven company integrating R&D and sales.

2007
Laser cutting machines were exported to Southeast Asia, marking the official entry into the global market.

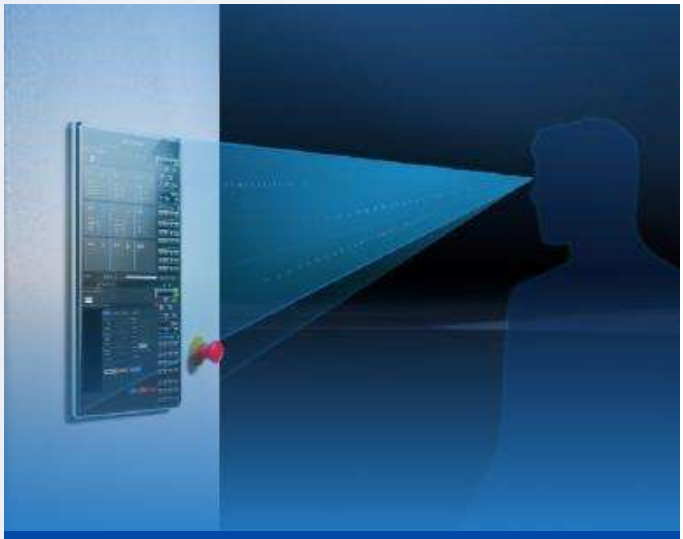
SENFENG

Independent R&D by SENFENG

SENFENG has independently developed a range of core components, including laser sources, laser processing heads, the FENG Cloud system, and laser CNC processing systems. These technologies are widely applied in cutting, welding, cladding, and automation fields. Leveraging its strong in-house R&D capabilities and full value chain advantages, SENFENG helps customers accelerate production cycles, reduce manufacturing costs, and achieve greater economic benefits in a competitive market.

Laser Head

Laser source



Intelligent Operating System

Feng Cloud System

Quality Certifications

SENFENG products have obtained international certifications including CE (TÜV), FDA, ETL, SGS, and RoHS, meeting European and American standards.

Patent Certifications

As of June 2025, SENFENG has obtained over 690 national patents, demonstrating strong independent innovation capabilities and a leading position in the industry.

690+

5-Star Fast Service

SENFENG has passed the stringent review of the national GB/T 27922-2011 standard and has been awarded the Five-Star After-Sales Service Certification.

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.

1530NP

Medium- and Low-Power Laser Cutting for Medium to Thin Plates

SF1530NP

Medium- and Low-Power Laser Cutting Machine

1. High-Strength Machine Bed
2. High-Strength Aluminum Alloy Beam
3. Fully Automatic Focusing Technology
4. A 20HQ Container Can House 1 Unit (6 kW or Below)

※Note: Images are for reference only. Appearance and dimensions are subject to the actual delivered product.

SENFENG

Technical Parameter

Item	Parameter		
	1.5kW	3kW	6kW
Working Area (L × W) mm	1500*3000mm		
X-Axis Travel	3010mm		
Y-Axis Travel	1510mm		
Z-Axis Travel	100mm		
X/Y Axis Positioning Accuracy	±0.05mm		
X/Y Axis Repeat Positioning Accuracy	±0.02mm		
Max. Speed	80m/min		
Max. Acceleration	0.8G		
Machine Dimensions (L × W × H)	4921*2225*2317mm		
Max. Worktable Load Capacity	1100kg		
Total Machine Weight (kg)	4500	4709	5230(Including Refractory Bricks)
Phase	Three-phase		
Rated Voltage	380V		
Frequency	50Hz		
Overall Protection Rating	IP54		

Technical Parameter

Material	Thickness (mm)	1.5kW	3kW	6kW	Gas
		Cutting Speed (m/min)			
Stainless steel	1	23-30	30-45	45-55	N2/Air
	2	7.0-12	20-25	30-35	N2/Air
	3	4.5-5.5	8.0- 10	18-22	N2/Air
	4	2.0-2.5	5.0-6.0	10-14	N2/Air
	5	1.4- 2.0	3.0-3.6	8.0- 10	N2/Air
	6	1.0- 1.2	2.0-3.0	4.3-5.0	N2/Air
	8		1.0- 1.5	3.0-4.0	N2/Air
	10		0.5- 1.0	1.8-2.5	N2/Air
	12		0.4-0.6	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	23-26	30-40	40-45	N2/Air
	2	4.2-6.5	15- 20	20-28	N2/Air
	3	3.0-4.5	3.5-4.5	12-17	N2/Air
	4	2.3-3.0	3.0-3.5	8.0- 10	N2/Air
	6	1.7-2.5	2.5-3.5	2.5-3.3	O2
	8	1.2- 1.6	1.8-2.3	2.3-3.0	O2
	10	1.0- 1.2	1.4-1.8	2.0-2.5	O2
	12	0.8- 1.0	1.0- 1.4	1.8-2.2	O2
	14	0.6-0.7	0.8- 1.0	1.4-1.7	O2
	16	0.5-0.6	0.7- 1.1	1.0-1.6	O2
	20		0.5-0.7	0.6-1.2	O2
	25			0.5-0.7	O2
	30			0.4-0.6	O2

Technical Parameter

Material	Thickness (mm)	1.5kW	3kW	6kW	Gas
		Cutting Speed (m/min)			
Brass	1	15-20	25-30	40-45	N2/Air
	2	4.8-6.0	12- 17	20-25	N2/Air
	3	1.5-2.0	5.0-6.0	12-15	N2/Air
	5	0.5-0.7	1.8-2.5	5.0-6.0	N2/Air
	6		0.8- 1.0	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	15-23	30-35	50-55	N2/Air
	2	6.0-8.0	14-20	25-30	N2/Air
	3	2.0-3.0	8.0- 10	13-16	N2/Air
	4	1.0- 1.7	5.0-6.5	10-13	N2/Air
	5	0.5-0.8	2.5-3.5	5.0-6.0	N2/Air
	6		1.2- 1.5	3.0-4.0	N2/Air
	8		0.7- 1.3	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

Cost-Benefit Analysis

Item		1.5kW			3kW			6kW		
		Air	O_2	N_2	Air	O_2	N_2	Air	O_2	N_2
Peak Power Consumption	Laser Source Power (kW)	5			10			16		
	Chiller Power (kW)	3			3			6		
	Air Compressor Power (kW)	15	/	/	15	/	/	15	/	/
	Machine Tool Host Power (kW)	7	7	7	7	7	7	7	7	7
	Dust Removal Power (kW)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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)		32	17	17	37	22	22	46	31	31
Total Power Consumption (kW/H)		19.2	10.2	10.2	22.2	13.2	13.2	27.6	18.6	18.6
Total Operating Cost (1 CNY/kWH)		19.7	14.7	70.7	22.7	17.7	73.7	28.1	23.1	79.1

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

No.	Item	Qty	Brand
	Laser Source		
1	Fiber Laser Source	1	MAX
	Laser Cutting Head		
1	Laser Cutting Head	1	RayTools
	Machine Tool & Host		
1	Transmission System	4	SENFENG
2	Machine Tool and Accessories	1	SENFENG
3	Bed Frame Burn Protection	1	Refractory Brick (Standard for 6 kW)
4	Reducer	3	SHIMPO, Japan
5	Electrical and Pneumatic Systems	1	SCHNEIDER, France XINGYU ELECTRON
6	AC Servo Motor and Driver	4	SCHNEIDER, France
7	Water Chiller	1	HANLI
	CNC Cutting System		
1	CNC Laser System	1	BOCHU

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 1 year.

SF1530NP-Laser Source

1. High-quality laser output
2. High power and high efficiency
3. High reliability and long service life
4. Compact and robust design
5. Expandable programming interface

SF1530NP-Laser Head

3 kW or Below

6kW

1. Overall Cooling: Balanced heat dissipation ensures long-term continuous cutting and extends lens life by 1.5-2 times.
2. High Sealing: IP68 dust protection effectively prevents external dust from contaminating optical components.
3. Compact Design: Lightweight and small, recognized in the industry as an auto zero-waste cutting head.
4. Easy Maintenance: Drawer design allows for a 3-minute lens change; internal positive pressure design reduces recontamination.

Mechanical Advantages

Heat Treatment Process

High-temperature annealing is crucial. Each machine bed undergoes heating in a large furnace, rising to 550–600°C over 5–6 hours, maintained for 10–12 hours, then slowly cooled for another 5–6 hours. This thoroughly relieves internal stress, ensuring enhanced stability and longevity.

Finishing Process

Using Japan's SNK large-scale CNC gantry milling machine enables precise finishing and accuracy inspection, ensuring excellent machine bed quality. Its large work surface and strong rigidity prevent deformation during processing, guaranteeing machining precision.

Mechanical Advantages

Compact and Flexible

① Power options range from 1.5 kW to 6 kW, capable of stable, long-term batch cutting of plates up to 16 mm thick, with a maximum cutting thickness of up to 25 mm for thick plates.

② The entire machine bed is constructed from premium welded steel tubes, with a reinforced design optimized for high-speed motion. After aging treatment, the bed ensures long-term precision and stability.

③ The machine supports a wide range of material types.

High-Strength Aluminum Alloy Beam

① The beam is made of high-strength aluminum alloy, offering lightweight construction and excellent dynamic performance.

② Its internal structure has been optimized through finite element analysis, ensuring perfect dynamic performance during high-speed laser processing. This allows for high-speed cutting of various shapes while maintaining machining accuracy.

Follow-Up Smoke Extraction for Efficie

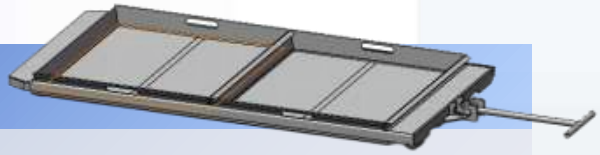
① Equipped with a follow-up dust extraction system, the machine bed features internal small fans for continuous airflow, while an external centrifugal fan assists exhaust.

② Utilizing an intelligent negative-pressure design and surround-type strong smoke extraction technology, the system effectively enhances dust removal efficiency.

Mechanical Advantages

Visual Monitoring Safety Protection

All-around monitoring system greatly reduces operators' blind spots, ensuring safe and stable cutting operations.



Inner-Liner Material Cart Design

The material cart features an inner-liner design, making waste removal more convenient.

SF1530NP

Auto Gas Distribution System

Precise Control of Each Gas Flow

The CNC laser cutting machine is equipped with two independent gas circuits: Nitrogen (air) and Oxygen. Each gas line can be individually controlled in terms of flow rate and pressure.

- The system software terminal is equipped with an automatic assist gas selection function.
- The type and pressure of assist gases can be automatically set and selected via CNC programs, eliminating the need for manual adjustment.
- The actual gas pressure at the cutting head outlet can be easily monitored and displayed in real time on the control panel.

System Advantages

SF1530NP

This system is a high-end intelligent bus-based control system developed for fiber laser cutting applications. It integrates motion control, laser control, and assist gas control into one platform. It features high stability and reliability, easy deployment, simple commissioning, safe production, rich functionality, and excellent performance. The system supports modular, customized, automated, and digital solutions, making it one of the most advanced bus-type dedicated laser cutting control systems on the market. It features memory buffering and a powerful cutting process database, covering optimized cutting parameters for various materials and thicknesses, ensuring fast operation and high cutting efficiency. It is widely used in sheet metal processing, kitchenware, lighting, and related industries.

- User-friendly interface with error analysis reports, real-time processing time display, and workpiece quantity tracking.
- Automatic selection of assist gas type and pressure.
- Supports native DXF and G-code vector file formats for direct processing without conversion.
- Laser source direct pulse power modulation enables surface marking applications.
- Optimized rapid movement modes with “Leapfrog” function and collision avoidance during non-cutting movements.
- Built-in cutting process parameter database with real-time adjustment capability to ensure optimal cutting quality.
- Process: Multi-stage piercing, disc centering, and other functions greatly enhance high-power cutting efficiency and stability, improving the core competitiveness of the equipment.
- Optimized multiple rapid traverse modes, featuring a “leapfrog” function.
- Seamless micro-joint and scribing micro-joint cutting methods.
- Simple programming functions within the software, including basic drawing and nesting; compatible with CypNest professional nesting software.
- Supports MES system integration.

SF1530NP

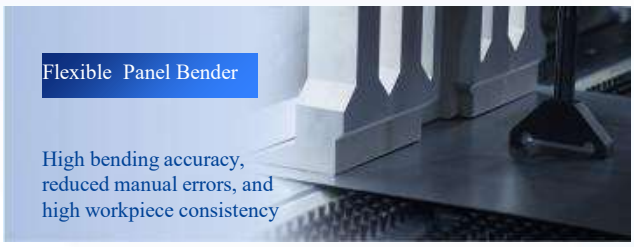
Customized Production Line, Doubled Productivity

TOP Metal Flexible Processing Center Production Line

Upgrading from standalone machines to a complete production line, this solution integrates a laser blanking line, flexible bending center, robotic automated welding, robotic handling, and robotic palletizing. It enables 100% automation throughout the sheet metal processing workflow.

Laser Blanking Production Line

Uncoiling – leveling – cutting – unloading, enabling continuous cutting of metal coils



Flexible Panel Bender

High bending accuracy, reduced manual errors, and high workpiece consistency

Robotic Laser Welding Machine

Flexible and efficient robotic operation, enabling 360° all-round precise welding

Robotic Handling

Automated coordination through robot communication, achieving full-process automation

SENFENG

SF1530NP

Industry Applications

Telecommunication Towers

Steel Structures

Construction Machinery

Shipbuilding

Photovoltaic Industry

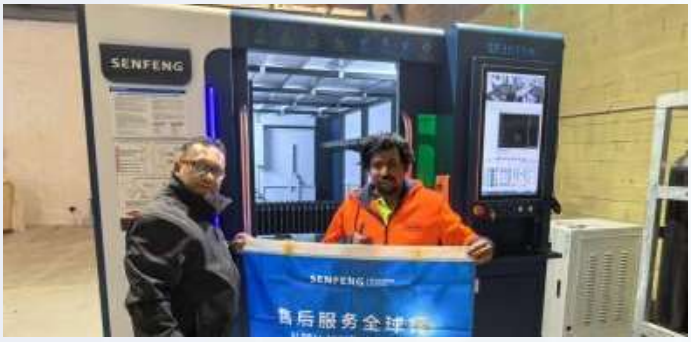
New Energy Vehicles

Aerospace

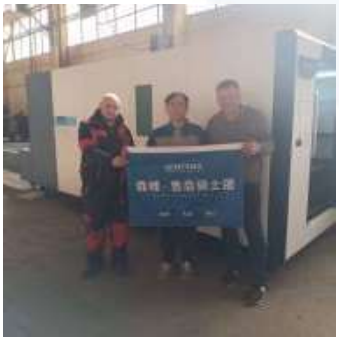
Furniture and Home Furnishings

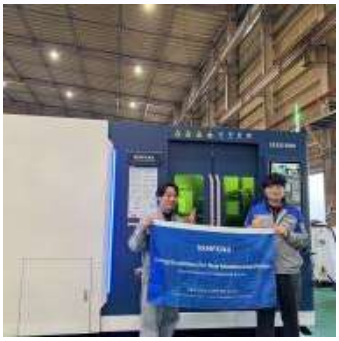
Cranes

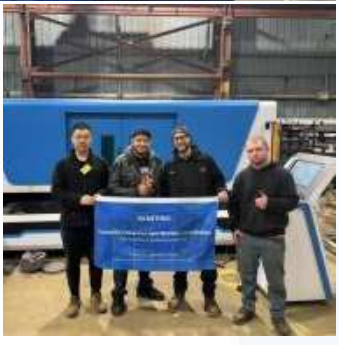
SENFENG



Customer testimonials







SF1530NP






Factory Scene





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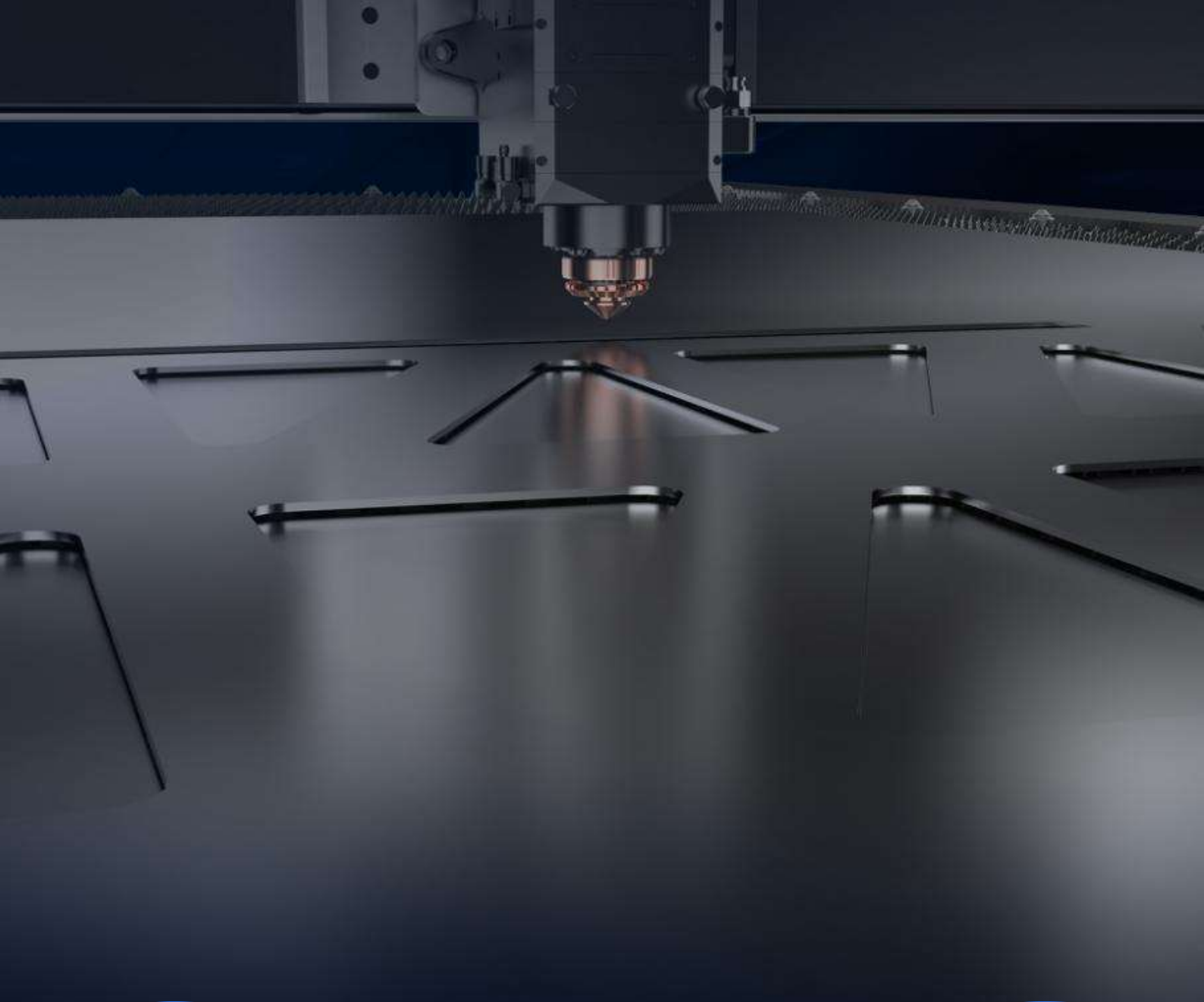

SENFENG

Senfeng CNC Laser Germany GmbH

E-mail: info@sflaser.de

Tel: +49 173-8711059

Website: de.senfenglaser.com

Add: Waldstraße 76A, 63128 Dietzenbach, Deutschland