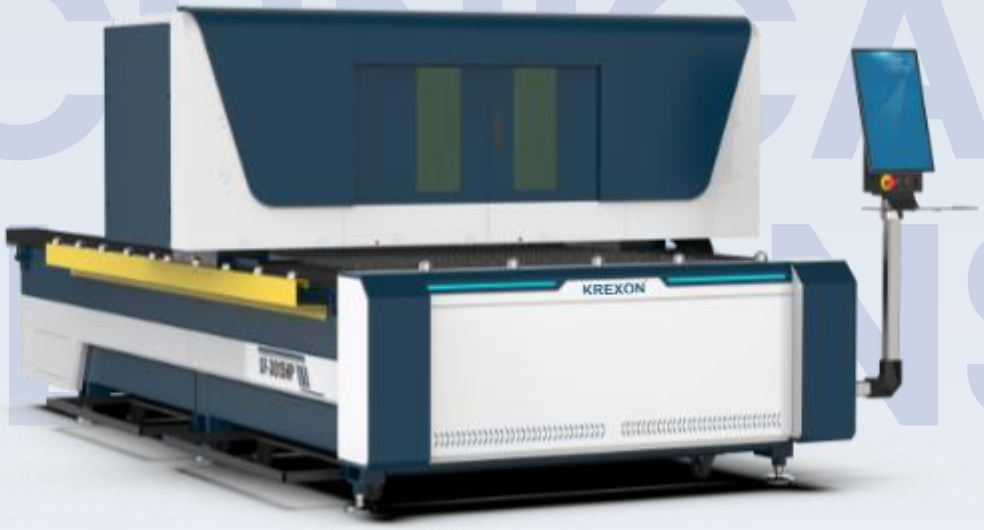
KREXON®



K3015NP

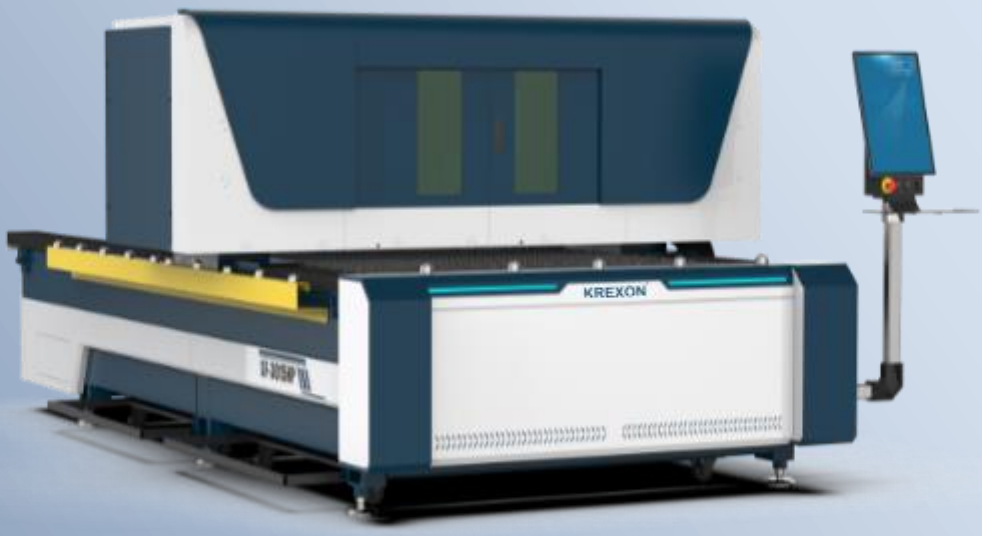
Fiber Laser Cutting Machine

KREXON®

The New Generation-NP Series

K3015NP

Fiber Laser Cutting Machine



1. High-strength machine tool bed
2. High-strength aluminum alloy beam
3. Fully automatic focusing technology
4. Intelligent following system

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

Technical Parameters

K3015NP

Item	Parameter				
	1.5kW	2kW	3kW	4kW	6kW
Work area (L*W) (mm)	3000*1500				
X-axis travel (mm)	1530				
Y-axis travel (mm)	3050				
Z-axis travel (mm)	60mm				
X/Y axis positioning accuracy (mm)	±0.05mm				
X/Y axis repeated positioning accuracy (mm)	±0.02mm				
Maximum speed (m/min)	100m/min				
Maximum acceleration (G)	1G				
Dimensions (L*W*H) mm	4482*2860*2160				
Maximum load (KG)	1100				
Weight (KG)	3100	3140	3230	3250	3410
Phase	Three-phase				
Power supply rated voltage (V)	380V				
Frequency (HZ)	50/60HZ				
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

K3015NP

Material	Thickness (mm)	1.5kW	2kW	3kW	4kW	6kW	Gas
		Cutting speed (m/min)					
Stainless steel	1	23-30	30-35	30-45	40-50	45-55	N2/Air
	2	7.0-12	10- 15	20-25	25-30	30-35	N2/Air
	3	4.5-5.5	5.0-6.5	8.0- 10	9.0- 13	18-22	N2/Air
	4	2.0-2.5	4.0-5.0	5.0-6.0	7.0-9.3	10-14	N2/Air
	5	1.4- 2.0	2.0-2.3	3.0-3.6	4-4.5	8.0- 10	N2/Air
	6	1.0- 1.2	1.5-2.0	2.0-3.0	3.5-4.5	4.3-5.0	N2/Air
	8		0.8-1.2	1.0- 1.5	2.0-3.0	3.0-4.0	N2/Air
	10			0.5- 1.0	1.2- 1.6	1.8-2.5	N2/Air
	12			0.4-0.6	0.8- 1.2	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	25-35	30-40	35-45	40-45	N2/Air
	2	4.2-6.5	10- 15	15- 20	15-20	20-28	N2/Air
	3	3.0-4.5	3.5-5.5	3.5-4.5	7.0-9.0	12-17	N2/Air
	4	2.3-3.0	3.0-3.2	3.0-3.5	3.0-4.0	8.0- 10	N2/Air
	6	1.7-2.5	2.0-2.7	2.5-3.5	2.0-3.0	2.5-3.3	O2
	8	1.2- 1.6	1.3-1.7	1.8-2.3	2.0-3.0	2.3-3.0	O2
	10	1.0- 1.2	1.0- 1.6	1.4-1.8	2.0-2.5	2.0-2.5	O2
	12	0.8- 1.0	0.8-1.2	1.0- 1.4	1.5- 2.0	1.8-2.2	O2
	14	0.6-0.7	0.8-1.0	0.8- 1.0	1.0- 1.5	1.4-1.7	O2
	16	0.5-0.6	0.7-1.0	0.7- 1.1	0.7- 1.2	1.0-1.6	O2
	20			0.5-0.7	0.6-0.8	0.6-1.2	O2
	25				0.4-0.6	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

K3015NP

Material	Thickness (mm)	1.5kW	2kW	3kW	4kW	6kW	Gas
		Cutting speed (m/min)					
Brass	1	15-20	15-25	25-30	30-35	40-45	N2/Air
	2	4.8-6.0	8.0- 11	12- 17	15- 18	20-25	N2/Air
	3	1.5-2.0	3.0-4.5	5.0-6.0	8.0-10	12-15	N2/Air
	5	0.5-0.7	1.3-1.7	1.8-2.5	3.0-4.0	5.0-6.0	N2/Air
	6		0.6-0.8	0.8- 1.0	2.0-2.5	3.0-4.0	N2/Air
	8				0.8- 1.2	1.5-2.5	N2/Air
	10					1.0-1.5	N2/Air
	12					0.8-1	N2/Air
Aluminum	1	15-23	20-25	30-35	35-40	50-55	N2/Air
	2	6.0-8.0	10- 15	14-20	17-25	25-30	N2/Air
	3	2.0-3.0	4.0-5.0	8.0- 10	10-13	13-16	N2/Air
	4	1.0- 1.7	2.0-2.5	5.0-6.5	6.0-7.5	10-13	N2/Air
	5	0.5-0.8	1.0-2.0	2.5-3.5	4.0-5.0	5.0-6.0	N2/Air
	6		0.6- 1.0	1.2- 1.5	2.5-3.5	3.0-4.0	N2/Air
	8			0.7- 1.3	1.0-2.0	2.0-3.0	N2/Air
	10				0.8-1.2	1.0-2.0	N2/Air
	12				0.4-0.6	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

K3015NP

Item		1.5kW			2kW			3kW			4kW			6kW		
		Air	O2	N2	Air	O2	N2	Air	O2	N2	Air	O2	N2	Air	O2	N2
Peak power consumption	Laser source (kW)	5			6			10			16			16		
	Chiller (kW)	3			3			3			6			6		
	Air compressor (kW)	15	/	/	15	/	/	15	/	/	15	/	/	15	/	/
	Machine tool host (kW)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Dust removal(kW)	1.5	1.5	1.5	1.5	1.5	1.5	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	0.5	4.5	60.5	0.5	4.5	60.5
Total power(kW)		30	15	15	32	16	16	35	20	20	44	29	29	44	29	29
Total power consumption (kW/H)		21	10.5	10.5	32.7	11.2	11.2	24.5	14	14	30.8	20.3	20.3	30.8	20.3	20.3
Total operating cost (1RMB/kWH)		21.5	15	71	33.2	15.7	71.7	25	18.5	74.5	31.3	24.8	80.8	31.3	24.8	80.8

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

K3015NP

No.	Item	Qty	Brand
	Laser source		
1	Laser source	1	Max
	Laser cutting head		
1	Laser cutting head	1	Raytools
	Machine Tool & Host		
1	Transmission system	4	KREXON
2	Machine tool and accessory	1	KREXON
3	Reducer	3	Japan SHIMPO
4	Electrical and pneumatic systems	1	SCHNEIDER, France AVENTICS, Germany
5	AC servo motor and driver	4	SCHNEIDER
6	Water chiller	1	Hanli
	CNC cutting system		
1	CNC laser cutting system	1	FSCUT

Note:

1. This is KREXON'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.

K3015NP-Laser Source

KREXON®





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

K3015NP-Laser Cutting Head



3kW and below



4kW-6kW

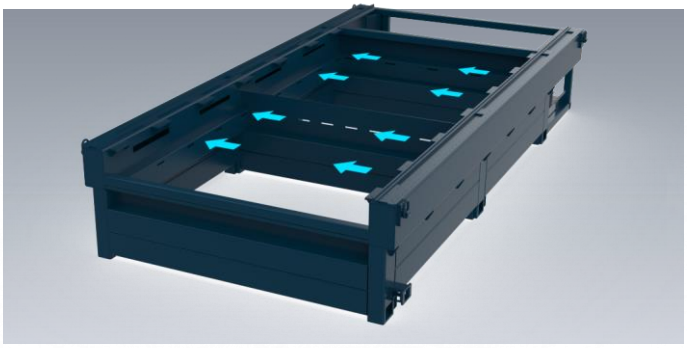
1. Efficient Cooling: The collimating and focusing lenses have cooling structures, and the nozzle features cooling airflow, protecting the nozzle and ceramic body, and extending operation time.
2. Fast Focusing: Collimated focusing allows for faster movement and a larger adjustment range than traditional 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.

K3015NP-Machine Bed System

3

Tube-welded Bed

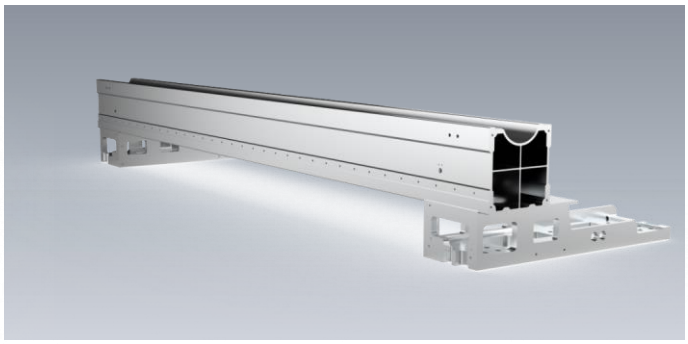
1. The reinforced welded bedframe is designed for high-speed movement, with aging treatment to ensure precision and stability during long-term operation.
2. The bedframe undergoes annealing to eliminate internal stress and increase rigidity, followed by secondary vibration aging treatment and precision machining.
3. The semi-hollow bedframe structure reduces thermal deformation, extends service life, and ensures cutting accuracy.



4

High-strength Aluminum Alloy Beam

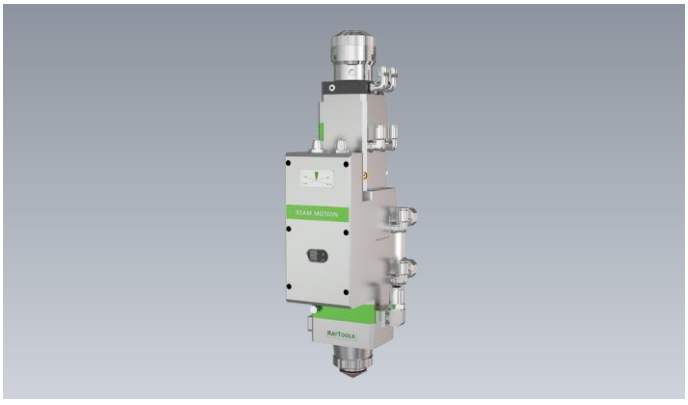
1. The high-strength aluminum alloy beam is lightweight and offers excellent dynamic performance.
2. The beam is rough-processed after annealing to eliminate internal stress, then undergoes secondary vibration aging before final finishing, ensuring overall strength and stability.



5

Automatic Focus System

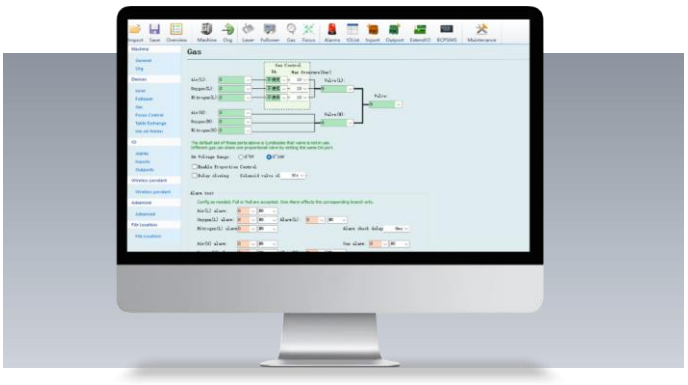
1. Equipped with an automatic focus laser head, the device can automatically adjust the focal point to the optimal cutting distance based on the material and thickness of the sheet, achieving improved efficiency and results.



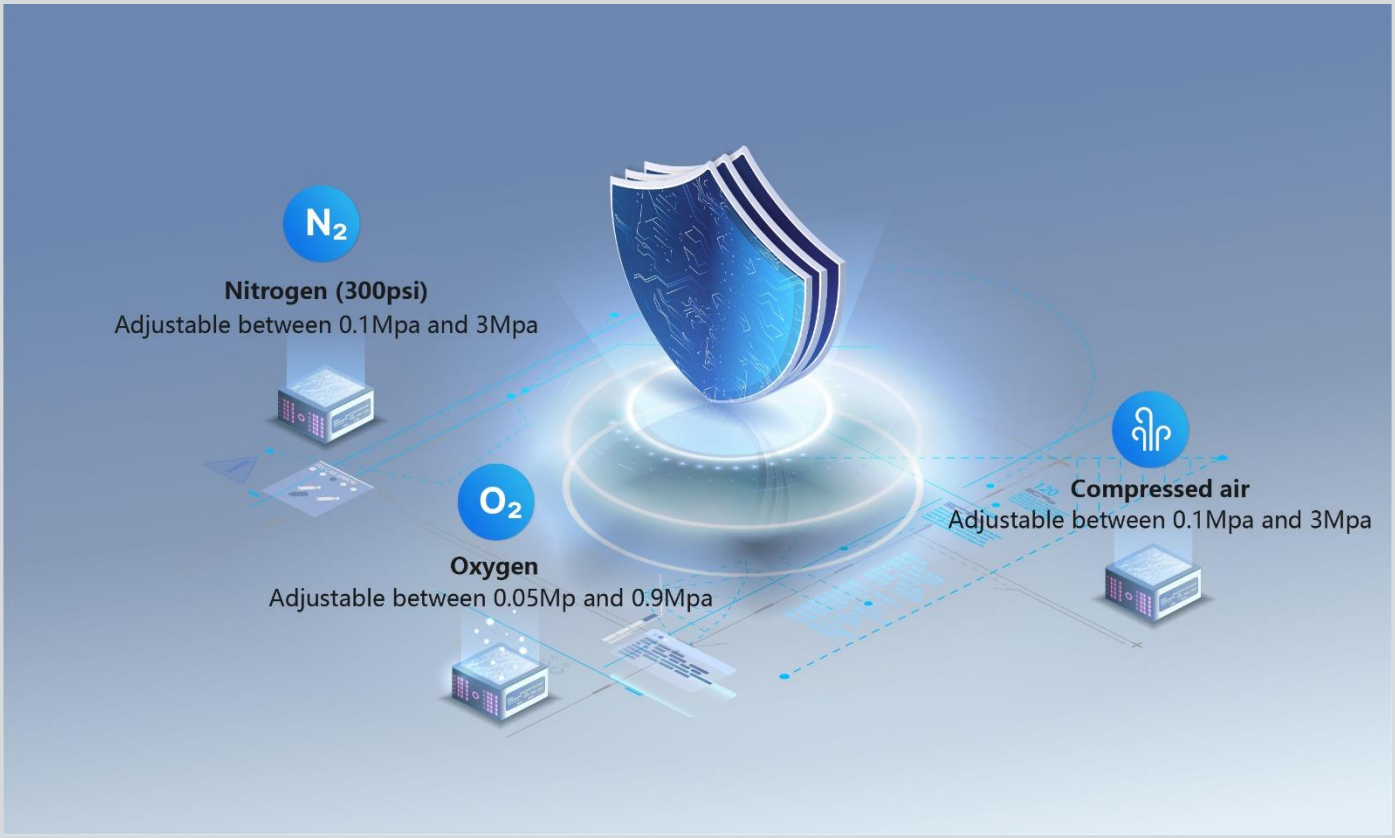
6

Pneumatic System

1. The gas system uses control valves and proportional regulators from the renowned brand AVENTICS, which electrically controls the pressure and flow of each gas line.
2. Cutting auxiliary gases include O2, N2, and compressed air.



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



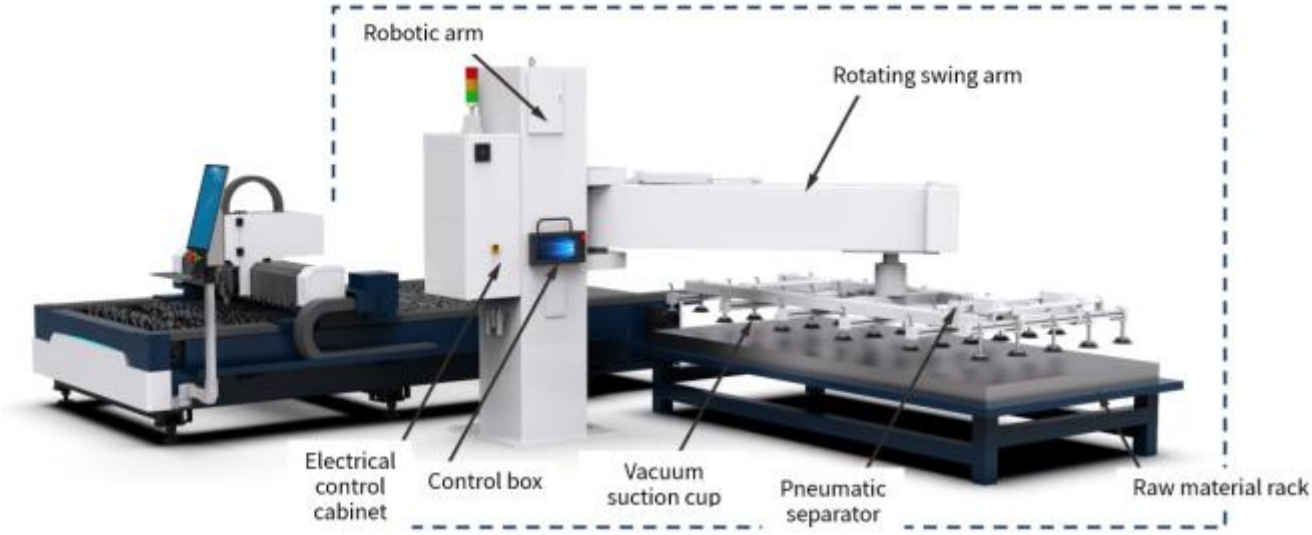
This intelligent bus system is specifically designed for fiber laser cutting. It integrates motion control, laser source control, and cutting gas control, offering stability, reliability, easy deployment, simple debugging, production safety, and a rich set of features with excellent performance. It offers 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.

Servo Swing Arm Loading Robot (Optional)

Composition

The robot consists of a 500kg swing arm manipulator, a 500kg capacity vacuum suction cup for loading, a 3000kg capacity fixed raw material rack (optional), a vacuum system, a safety protection system, and a CNC control system.



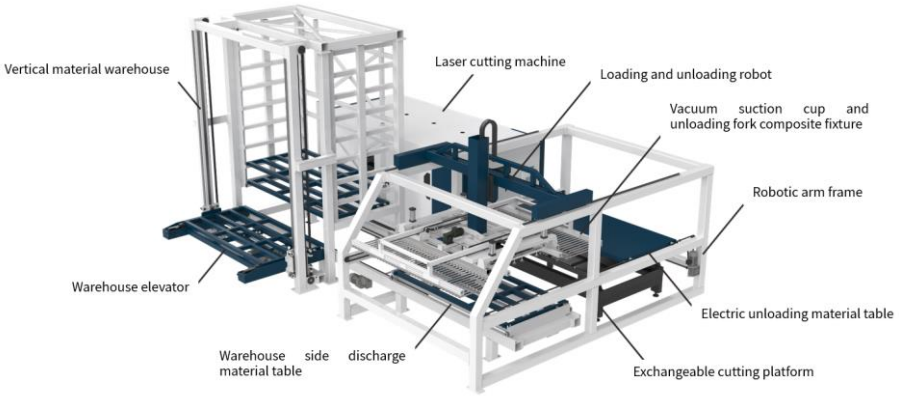
Technical Parameters

No.	Item	Parameter	Unit
1	Maximum sheet size	3000×1500	mm
2	Minimum sheet size	800x800	mm
3	Plate thickness range	1~14	mm
4	Plate weight	500	kg
5	Swing arm operation angle	120	°
6	Repeated positioning accuracy	±1	mm
7	Single loading cycle	< 45	s
8	Gas supply pressure	0.5-0.6	Mpa
9	Air consumption	0.2	m^3/min
10	Fixed material rack capacity	3000	kg
11	Supply voltage	220/380	V
12	Working current	12	A

3015 Storage System + Automatic Loading and Unloading Robot (Optional)

Composition

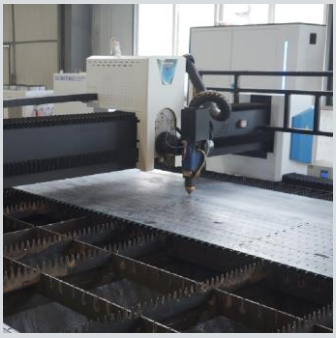
This system consists of a 3015 vertical storage system, a vacuum suction cup and fork-style composite loading and unloading robotic arm, a robot track frame, a CNC control system, and a vacuum control system. It forms an automated sheet metal unit with the laser cutting machine, enabling automatic sheet loading and unloading. The entire process is automated, improving quality, efficiency, and reducina costs.



Technical Parameters

No.	Item	Parameter	Unit
1	Number of warehouse levels	10	Layer
2	Sheet size	3000×1500	mm
3	Load-bearing capacity per layer	3000	kg
4	Lifting speed	10	m/min
5	Discharging speed	10	m/min
6	Maximum sheet size	3000×1500	mm
7	Minimum sheet size	800x800	mm
8	Plate thickness range	1-14	mm
9	Maximum plate weight	500	kg
10	Loading and unloading robot translation speed	10-30	m/min
11	Loading and unloading robot lifting speed	5-12	m/min
12	Single loading and unloading cycle	< 180	S
13	Gas supply pressure	0.6-0.7	Mpa
14	Load capacity of electric double-layer exchange trolley	3000	kg
15	Running speed of electric double-layer exchange trolley	10	m/min
16	Supply voltage	380	V
17	Working current	80	A



KREXON®






Customer testimonials
