

# SF3015

SF3015G

Fiber laser cutter



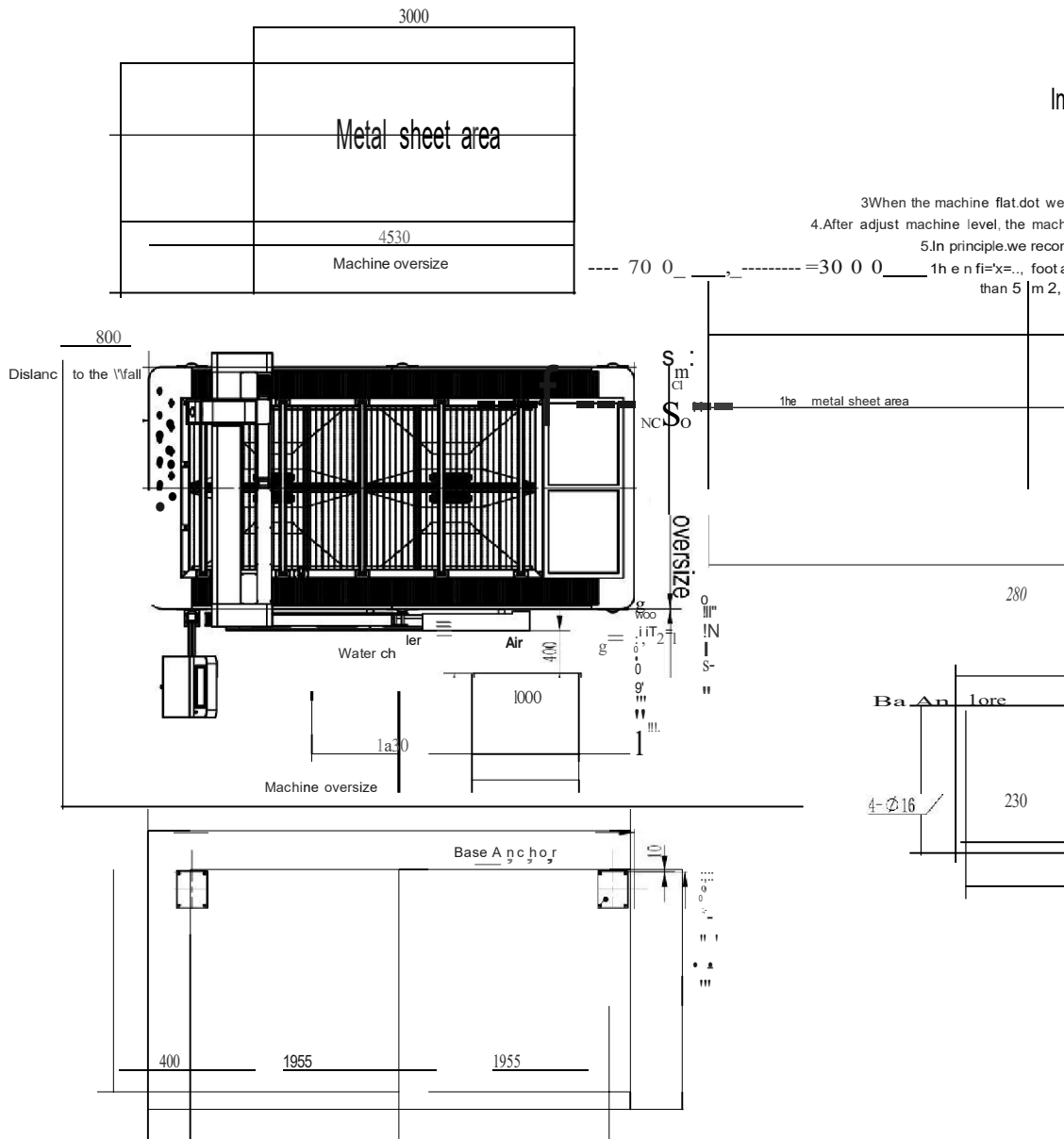
- SF3015G fiber laser cutter reaches the top level in China, which is customers' best choice in metal industry.
- The bed is welded by precise welding process after annealing and aging treatment, and the beam is airborne aluminium castings.
- For the more, the running speed of the machine can reach 80 m/min.

## I. Technical Parameter

Item	Parameter
	1.5kw
Work Area	3000*1500mm
X-axis Travel	1530mm/5ft
Y-axis Travel	3050mm/10ft
Z-axis Travel	100mm/0.33ft
Positioning accuracy	±0.05mm
Repeated positioning	±0.02mm
Maximum speed	80m/min
Maximum acceleration	0.8G
Machine Total weight(KG)	2500kg
Table maximum load(KG)	700
Outline size mm)	4626*2950*1900mm
Power parameters	Three-phase AC380V 50Hz
Protection Level of Total Power Supply	IP54

## Install request for the fiber laser cutting machine--301SG

1. The customer prepare the Base Anchor 6 pieces, as pictures
2. Fix the Base Anchor on cement floor by bol M12\*100, 24 pieces)
3. When the machine flat dot welding M16\*19 Bolt on the suitable base anchor, then could fix the machine body
4. After adjust machine level, the machine tool of the anchor and anchor point welding together, to fixed the machine.
5. In principle, we recommend you pour 500\*500\*400mm cement column under the floor board, then can fix the foot anchor on your cement floor



Install materials( customer prepare)			
Name	Specification	Quantity	Remark
Base Anchor	oleaseche photo		
Anchor bolt	M12X100	24	
Bolt	M16X90		
Hex nut	M16		
Dring Washer	16		

## II. Configuration

NAME	NO.	BRAND
1500W fiber laser	1 set	Raycus/max
Laser head	1 set	SENFENG/WSX
Transmission	4 set	LAPPING/SENFENG
Machine bed accessories	1 set	SENFENG
Motor reducer	3 set	EREFAT
Electrical and pneumatic	1 set	SIEMENSSMC/AIRTAC
Server motor and driver	5set	INOVANCE/DELTA/SCHNEIDER
Water cooling	1 set	HANLI
Control system	1 set	FSCUT 2000

### III. Main Features

#### High strength machine bed



- High-strength machine tool, adopting 600 high temperature annealing treatment, with integrated machine rigidity;
- The overall mechanical structure has small deformation and low vibration, ensuring cutting accuracy.

#### Strong Aviation Aluminum Beam



- The use of aviation-grade high-strength aluminum alloy beams, light weight, low inertia;
- Built-in triangular reinforced structure, strong rigidity, good shock absorption;
- Rough machining after annealing to eliminate internal stress, and fine machining after secondary vibration aging treatment to ensure improve the overall strength and stability of the beam.

## Automatic gas distribution device for auxiliary gas

- SF3015G CNC laser cutting machine can control the oxygen automatically and control its flow and pressure independently.
- The type and pressure of the auxiliary gas can be automatically set and selected through the numerical control program, without manual operation.
- The pressure of compressed air and oxygen can be adjusted between 150 mBar and 6 Bar,
- and the pressure of nitrogen can be adjusted between 150 mBar and 25 Bar.
- In addition, the actual air pressure at the exit of the cutting head can also be easily read and displayed on the panel in real time.

## Automatic Focusing Fiber Laser Cutting Head



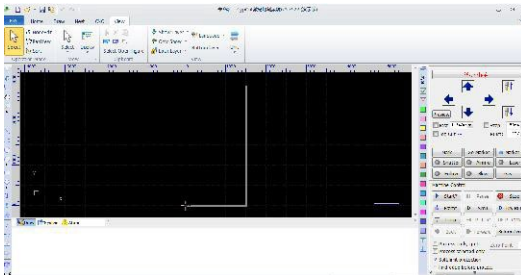
- 1.This kind laser head has a strong advantage on medium power large format fiber laser cutting application.
- 2.Completely sealed internal structure of laser head can avoid optical part polluted by dust.
- 3.Two point centering adjustment of laser head; the focus adjusting take imported motor driving and has great improvement in perforation.
- 4.Protective lens take more convenient replacement drawer installation way.
- 5.Can be equipped with various kind of QBH connectors laser machine.

## Raycus Laser Device



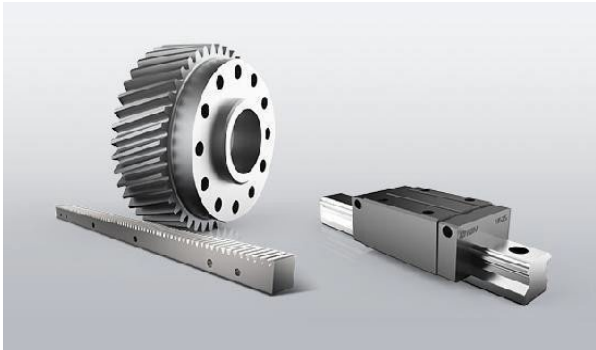
- It has the advantages of high electro-optical conversion efficiency (>40%), good beam quality, high energy density, wide modulation frequency, strong reliability, long life, and maintenance-free operation.
- It can be widely used in welding, precision cutting, cladding, and surface treatment, 3D printing and other fields.

## FSCUT2000 medium and low power laser cutting system



- Convenient installation, easy debugging, excellent performance, complete solutions, stable and reliable, easy deployment, easy debugging, safe production, rich functions, excellent performance, etc.;
- support and provide modular, personalized, automated, and information solutions that can be realized Memory cache, powerful cutting process database, all kinds of cutting parameters of different thicknesses and different plates, fast operation and efficient cutting.

## Transmission System



- High precision, long life, can provide rigorous support for quenching helical gears and grinding helical gears, so that the load drive structure is compact, can effectively reduce the driving torque.

## Circuit board



## Water Cooling System



- Large cooling capacity, stable performance, trouble-free, clean water quality, good heat exchange effect with fiber laser, and linkage signal to protect the laser.



## Height Controller



- High precision, long life, can provide rigorous support for quenching helical gears and grinding helical gears, so that the load drive structure is compact, can effectively reduce the driving torque.

## Automatic Lubrication System

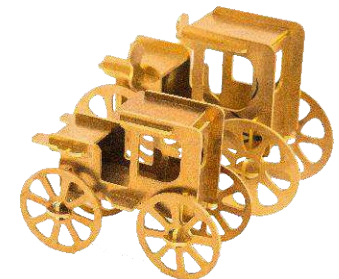
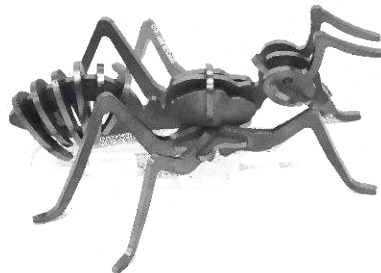


- Lubricating the guide rails of X axis.
- Y axis, Z axis automatically, which could reduce maintenance cost and save time significantly.
- Oiling time can be adjusted.
- According to processing.
- Amount, which is more humanized.

## IV. Cutting Capability and Application

### Cutting Materials

Carbon steel,  
stainless steel,  
aluminum alloy,  
brass, copper,  
galvanized sheet,  
silicon steel  
sheet,  
electrolytic sheet,  
titanium alloy,  
manganese alloy,  
etc.



## Application Industry



Sheet Metal Fabrication



Manufacturing industry



Refrigeration equipment



Mechanical processing



Elevator production

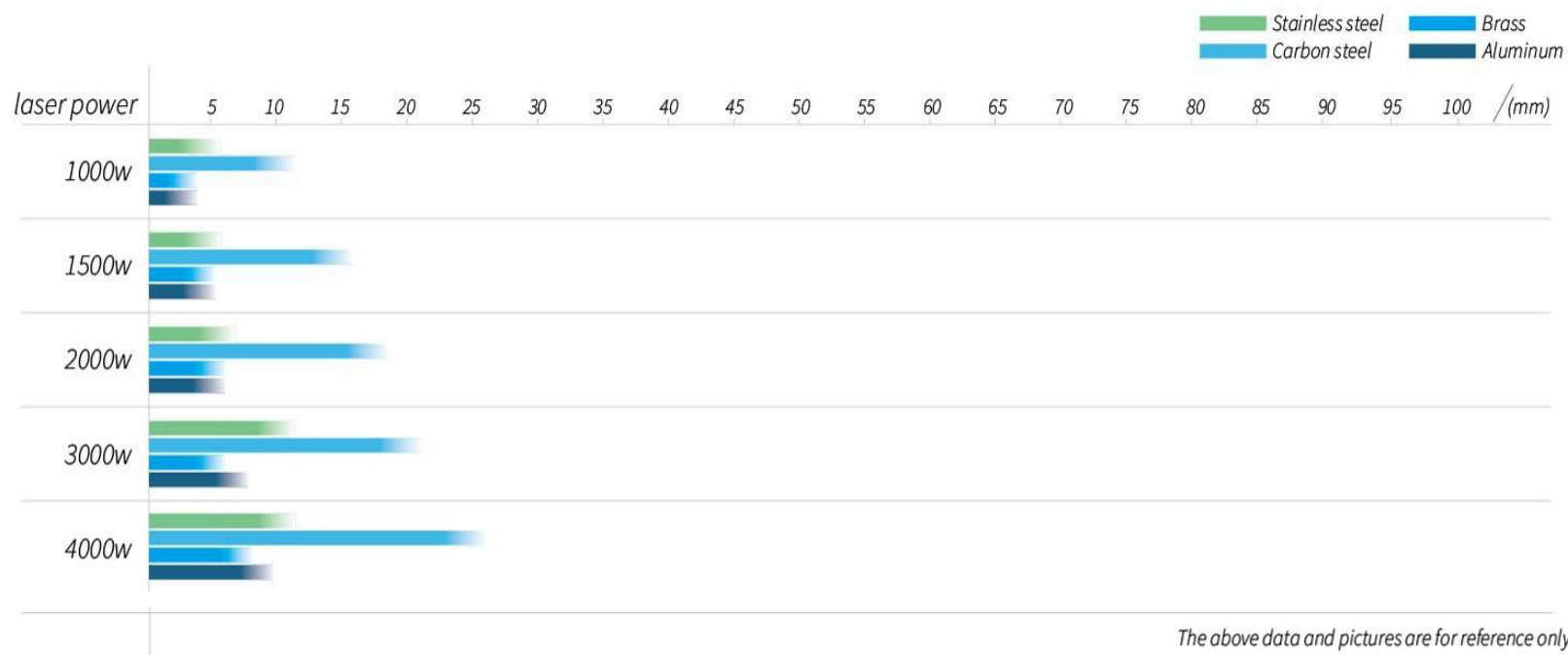


Advertising industry



Metal Cabinet Industry

## Cutting Capacity



## Cutting Thickness for reference

Materials	Thickness(mm)	Cutting speed(m/min)	Gas
碳钢 CS	1	15-20	N2
	2	6.0-7.0	O2
	3	3.3-4.0	O2
	4	3.0-3.5	O2
	5	2.2-2.8	O2
	6	1.4-1.8	O2
	8	1.2-1.6	O2
	10	1.0-1.3	O2
	12	0.8-1.2	O2
	14	0.6-0.8	O2
	16	0.5-0.6	O2

		20-25	N2
	2	7.0-9.0	N2
	3	4.5-5.0	N2
	4	2.5-3.3	N2
	5	1.2-1.6	N2
	6	0.8-1.0	O2
铝AL	1	15-21	N2
	2	6.0-9.0	N2
	3	2.0-4.0	N2
黄铜BRASS	1	12.0-13.0	N2
	2	5.0-6.0	N2

Note: Above parameters only for refence. Yellow color only suitable for sample. For high reflective materials, please cut less& thin to protect the source.

## V. Bed body processing process



01

### Metal Cutting

The raw materials for machine bed welding are all cut by laser.



02

### Machine Bed Welding

Machine bed welding adapts mixed gas (80% argon 20% carbon dioxide) which can better ensure the formation, firmness and smoothness of the welding, to improve the overall quality of the bed.



03

### Natural Aging Treatment

The bed will be placed outdoors for 1 to 6 months after welding, under the overload caused by thermal stress, the residual stress is relaxed and the dimensional accuracy is stabilized.



04

### Heat Treatment

It takes about 24 hours for the overall heat treatment of a bed, achieving the purpose of eliminating residual stress, stabilizing size, reducing deformation and cracks, making our bed more durable and longer in service life.





05

## Shot Blasting

It can clear the excess rust layer, oxide skin and oil stains on the bed, which can greatly improve the cleaning efficiency and strengthen the surface quality of the bed.



06

## Spray

We adopt automatic process, which is safe and stable, and efficient; the high temperature paint baking room can heat up quickly, dry quickly, and make the surface of the bed smooth and without impurities.



07

## Machining

The final finishing of the bed and beam can completely eliminate the stress caused by welding and processing, ensuring the stability and high precision of the bed, which will run for a long time without deformation.



08

## Accuracy Detection

We use CMM and other instruments to test the accuracy of the bed.