

SF3015H

TECHNICAL SOLUTION



I.Introduction

SF3015H fiber laser cutter is mainly designed for the power :1kw to 6kw, it is with full-protection cover, which can prevent the laser radiation and protect the worker safety, reduce the environment pollution; and it is also with auto-exchangeable platforms, which can save the materials loading time, improve the processing efficiency. The exchange platform only takes 20 seconds to complete the exchange.

The biggest feature of this machine is that the whole machine can fit into a 40HQ. No need frame container, which greatly saves freight cost.The sheet metal does not have to be dismantled for packing.It will save a lot of installation time.



II. Technical Parameter

Item	Parameter					
	1KW	1.5kw	2KW	3KW	4KW	6KW
Work Area	3000*1500mm/9.84*4.92ft					
X-axis Travel	1530mm/5ft					
Y-axis Travel	3050mm/10ft					
Z-axis Travel	220mm/0.72ft					
Positioning accuracy	±0.05mm					
Repeated positioning	±0.02mm					
Maximum speed	130m/min					
Maximum acceleration	1.0G					
Machine Total weight(KG)	6125	6115	6217	6365	6660	6760
Table maximum load(KG)	700	700	700	700	700	700
Outline size (mm)	8300*2270*2260mm					
Power parameters	Three-phase AC 380V 50Hz					
Protection Level of Total Power Supply	IP54					



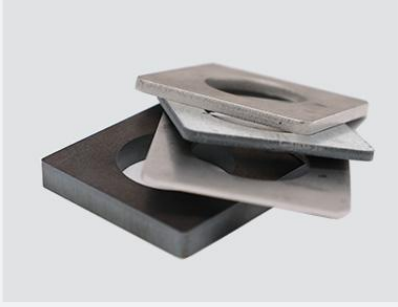
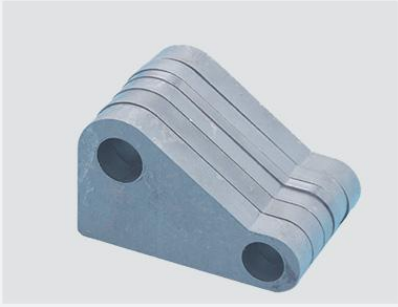
III. Configuration

NAME	NO.	BRAND
FIBER LASER DEVICE		
2000W fiber laser	1 set	IPG
LASER HEAD		
Laser head	1 set	Raytools/Precitec
Main Machine		
Transmission	4 set	LAPPING/SENFENG
Machine bed accessories	1 set	SENFENG
Motor reducer	3 set	MOTOREDUCER
Electrical and pneumatic	1 set	SCHNEIDER SMC/AIRTAC
Server motor and driver	4 set	DELTA/SCHNEIDER
Water cooling	1 set	HANLI
CNC CONTROL SYSTEM		
FSCUT system	1 set	FSCUT 2000

IV. Cutting Capability and Application

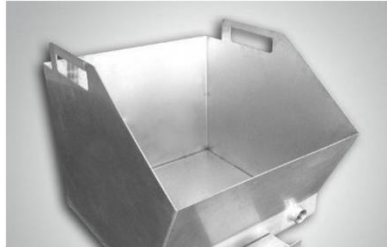
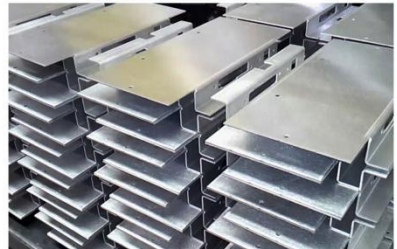
◆ Cutting Materials

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



◆ Application Industry

Sheet metal processing, machinery manufacturing, auto parts manufacturing, electrical manufacturing, elevator manufacturing, petroleum machinery, food machinery, shipbuilding etc.



◆ Cutting Thickness

Material	1000w	1500w	2000w	3000w	4000w	6000w
Carbon steel (mm)	0.4-12	0.4-16	0.4-18	0.4-20	0.4-25	0.4-25
Stainless steel (mm)	0.4-5	0.4-6	0.4-8	0.4-12	0.4-12	0.4-16
Brass (mm)	0.4-3	0.4-5	0.4-6	0.4-8	0.4-8	0.4-8
Aluminum (mm)	0.4-3	0.4-6	0.4-8	0.4-10	0.4-12	0.4-12

◆ Cutting Parameters

Material	Thickness (MM)	1KW	1.5kw	2KW	3KW	4KW	6KW
		Cutting Speed (m/min) (gas)	Cutting Speed (m/min) (gas)	Cutting Speed (m/min) (gas)	Cutting Speed (m/min) (gas)	Cutting Speed (m/min) (gas)	Cutting Speed (m/min) (gas)
Stainless Steel	1	18-20 (N2)	27-35 (N2)	30-35 (N2)	30-45 (N2)	40-50 (N2)	65 (N2)
	2	6.0-8.0 (N2)	8.0-12 (N2)	10-13 (N2)	18-25 (N2)	20-28 (N2)	30-35 (N2)
	3	2.5-3.2 (N2)	4.0-5.0 (N2)	5.0-6.5 (N2)	7.5-8.5 (N2)	8.5-12 (N2)	18-22 (N2)
	4	1.5-2.0 (N2)	2.5-3.3 (N2)	3.5-4.5 (N2)	5.0-8.0 (N2)	6.0-8.3 (N2)	10-14 (N2)
	5	0.8-1.0 (N2)	1.0-1.8 (N2)	2.0-2.3 (N2)			8.0-10 (N2)
	6		0.6-1.0 (N2)	1.5-2.0 (N2)	2.5-3.3 (N2)	3.0-4.0 (N2)	6.0-7.0 (N2)
	8			0.8-1.2 (N2)	1.0-1.5 (N2)	1.8-2.5 (N2)	4.0-5.0 (N2)
	10				0.5-0.8 (N2)	1.2-1.6 (N2)	1.8-2.5 (N2)
	12				0.4-0.6 (N2)	0.6-1.1 (N2)	1.2-2 (N2)
	14						0.8-1.2 (N2)
	16						0.6-0.8 (N2)
Carbon Steel	1	15-18 (N2)	15-20 (O2)	25-35 (N2)	15-35 (N2)	18-35 (N2)	20-45 (N2)
	2	5.0-7.0 (O2)	6.2-8.5 (O2)	6.0-7.5 (O2)	7.0-9.0 (O2)	8-13(O2)	13-18 (O2)
	3	3.0-4.0 (O2)	3.5-5.0 (O2)	4.5-5.0 (O2)	4.5-5.0 (O2)	7.0-9.0(O2)	10-15 (O2)
	4	2.0-3.5 (O2)	3.5-4.0 (O2)	3.0-3.5 (O2)	2.8-3.5 (O2)	3.5-4.5(O2)	3.9-5.2 (O2)
	5	1.8-2.5 (O2)					
	6	1.5-2.2 (O2)	2.0-2.5 (O2)	2.3-3.0 (O2)	2.8-3.5 (O2)	3.0-3.5(O2)	3.0-4.0 (O2)
	8	1.0-1.5 (O2)	1.4-1.8 (O2)	1.4-1.7 (O2)	2.3-2.7 (O2)	2.0-3.0(O2)	2.5-3.5 (O2)
	10	0.8-1.0 (O2)	1.0-1.3 (O2)	1.0-1.6 (O2)	1.8-2.1 (O2)	1.8-2.5(O2)	2.0-2.6 (O2)

	12	0.6-0.8 (O2)	0.8-1.2 (O2)	0.8-1.4 (O2)	1.0-1.4 (O2)	1.5-1.7(O2)	1.8-2.2 (O2)
	14		0.6-0.8 (O2)	0.8-1.2 (O2)	0.8-1.2 (O2)	1.0-1.4(O2)	1.4-1.7 (O2)
	16		0.5-0.6 (O2)	0.7-1.0 (O2)	0.8-1.0 (O2)	1.0-1.2(O2)	1.2-1.4 (O2)
	18			0.5-0.6 (O2)			
	20				0.4-0.7 (O2)	0.6-0.8(O2)	0.8-1.0 (O2)
	22						
	25					0.4-0.6(O2)	0.5-0.7 (O2)
Brass	1	10.0-12.0 (N2)	12.0-13.0 (N2)	15-25 (N2)	25-35 (N2)	35-40 (N2)	45-55 (N2)
	2	4.5-5.0 (N2)	5.0-6.0 (N2)	9.0-10 (N2)	10-15 (N2)	12 (N2)	25-35 (N2)
	3	1.0-1.2 (N2)	1.5-2.0 (N2)	4.5-5.5 (N2)	6.0-8.0 (N2)	8.0-12 (N2)	12-15 (N2)
	4			2.0-2.7 (N2)	4.0-5.0 (N2)		
	5		0.5-0.7 (N2)			6.0-7.0 (N2)	5.0-6.0 (N2)
	6			1.0-1.3 (N2)	1.8-2.0 (N2)	2.0-2.5 (N2)	3.5-4.5 (N2)
	7						
	8				0.8-1.0 (N2)	1.0-1.6 (N2)	1.5-2.0 (N2)
Aluminum	1	13-17 (N2)	15-25 (N2)	25-30 (N2)	30-35 (N2)	35-40 (N2)	55 (N2)
	2	4.8-5.2 (N2)	6.0-9.0 (N2)	10-15 (N2)	15-23 (N2)	20-25 (N2)	25-30 (N2)
	3	1.2-1.8 (N2)	2.0-4.5 (N2)	4.0-6.0 (N2)	8-10 (N2)	9-10 (N2)	13-18 (N2)
	4		1.0-1.7 (N2)	2.5-3.0 (N2)	5.0-7.0 (N2)	5.0-7.0 (N2)	10-13 (N2)
	5			1.5-2.3 (N2)			
	6		0.6-0.9 (N2)	1.0-1.5 (N2)	2.5-3.0 (N2)	3.0-4.0 (N2)	4.0-5.0 (N2)
	8			0.5-0.8 (N2)	1.0-1.3 (N2)	2.0-2.5 (N2)	3.0-3.5 (N2)
	10				0.4-0.7 (N2)	1.0-1.2 (N2)	1.5-2.0 (N2)
	12					0.4--0.6(N 2)	1.3-1.8 (N2)

V.Main Features

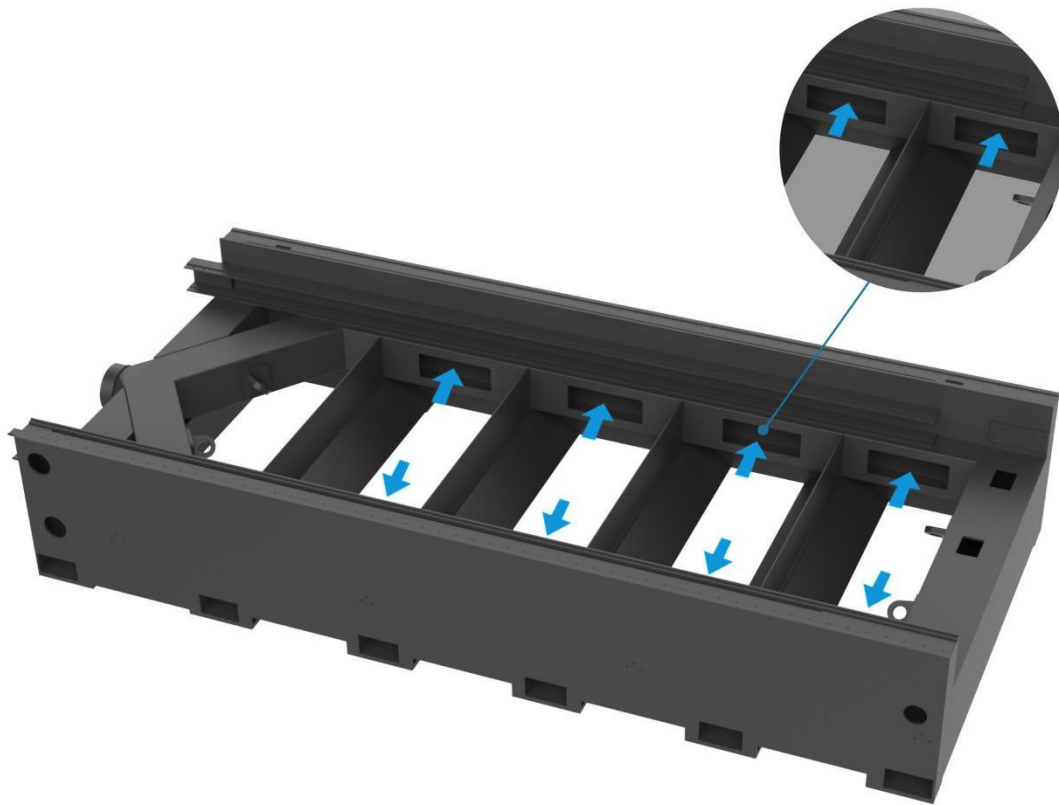
◆ High strength machine bed

The high strength machine bed is welded with high-quality steel plates and pipes. After welding, stress relief annealing, secondary aging treatment, and ultra-large gantry milling machine precision processing ensure that the bed has sufficient structural stability and shock resistance. Withstand higher acceleration. There is no connection inside the bed to block heat transfer, avoiding the heat generated by cutting from being transferred to the bed and affecting the processing accuracy. The bed will not be deformed after long-term use, which improves the service life of the equipment.



◆ **Intelligent surrounding spiral negative pressure dust removal**

Intelligent surrounding spiral negative pressure partition dust removal system, according to the current cutting position, intelligently switch the air outlet, time-sharing, partition, and sectional air exhaust, and cooperate with the back-shaped sealing structure design at the bottom of the base to realize smokeless cutting.



◆ 720° all-round safety inspection

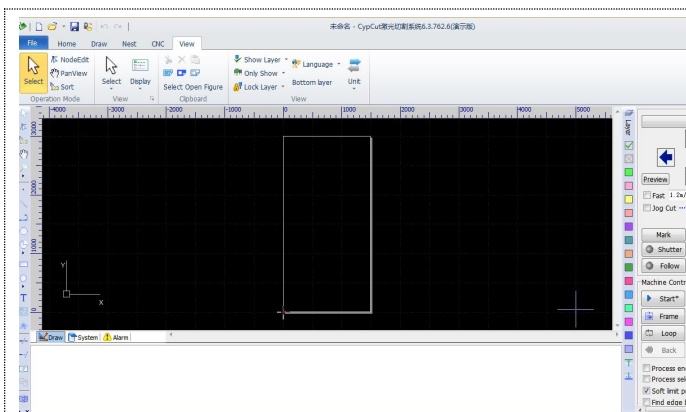
The omni-directional monitoring system greatly reduces the blind spot of the operator's line of sight and ensures the safe and stable cutting operation.



◆ Automatic gas distribution device for auxiliary gas

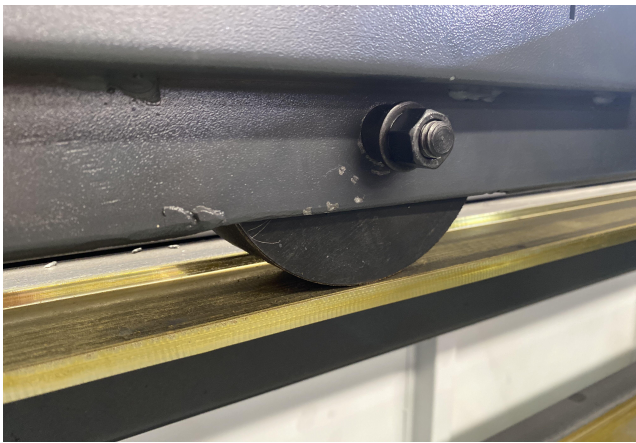
SF3015H CNC laser cutting machine can control the oxygen automatically, and control its flow and pressure independently. The equipment software terminal is configured to select the auxiliary gas function automatically. The type and pressure of the auxiliary gas can be automatically set and selected through 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..

VI. More Details



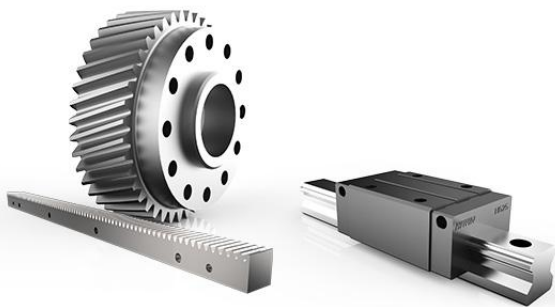
FSCUT2000 medium and low power laser cutting system

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.



Metal Wheel Exchange Table

More durable and stable,ensuring the fast exchanging time



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



Automatic Lubrication System

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