



LASER

HN-FL3015D

TECHNICAL SOLUTION

Supplier: Gentronics

Buyer:



GENTRONICS
WELDING SUPPLIES AND SERVICE

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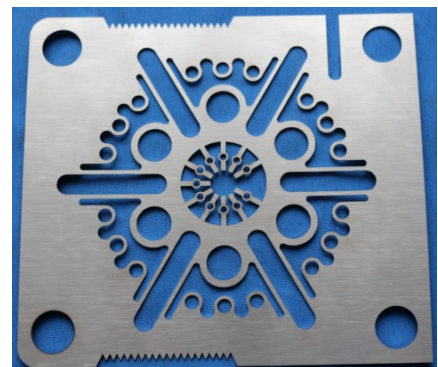


FIBRE LASER CNC CUTTING MACHINE

Model: HN-FL3015D



Cutting Samples:



I. General Tech Data

Model Specifications	HN-FL3015D
Fiber Laser Source	3000W MAX
Effective working length X axis	1525mm
Effective working length Y axis	3050mm
Max cutting thickness	MS ≤22mm SS≤12mm
X,Y axis positioning accuracy	±0.02mm/m
X,Y Axis repositioning accuracy	±0.02mm/m
X,Y Axis moving speed	≤90m/min
Rated supply voltage	380V, 3Phase
Frequency	50Hz
Power consumption	32KW
General power protection class	IP54
Maximum load of workbench	800KG
Net Weight	5800KG
Dimension (Length*Width*Height)	8950*3100*2310mm

II. New Features:

A. New Fume Suction Design

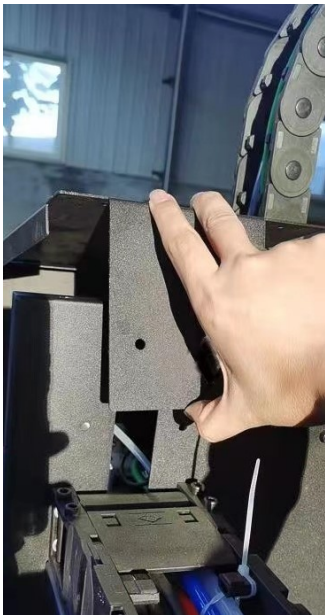


- Using the latest cutting-edge smoke control technology, each section of the equipment is equipped with a smoke exhaust device;
- The smoke exhaust device automatically senses the laser cutting position, accurately exhausts smoke, and smart following smoking exhaust;
- Fully enclosed smoke control and clean smoke, axial flow fan wind direction surrounds blowing smoke downwards;
- Effectively purify smoke and dust, improve purification efficiency, reject lens pollution, and reduce failure rate.

B. New Steel Frame Design



Old design without open steel frame: After receive the machine, Customer needs to connect the Laser Source and Laser Head themselves in a dust-free environment, then open the drag chain cap, put the laser cable through the drag chains, until to the laser head position. Customer need to prepare a Dust-free environment , clean the laser source and laser head connection, and connect the two main parts. It cost customer time and the connection job not easy.



New open design steel frame:

We have connected the laser source cable and laser head already. After customer receive it, they only need to fix the laser head first, then settle the laser source cable through the drag chains and the open designed steel frame. Customer need NOT to prepare dust-free environment and clean either laser head or laser source connections.

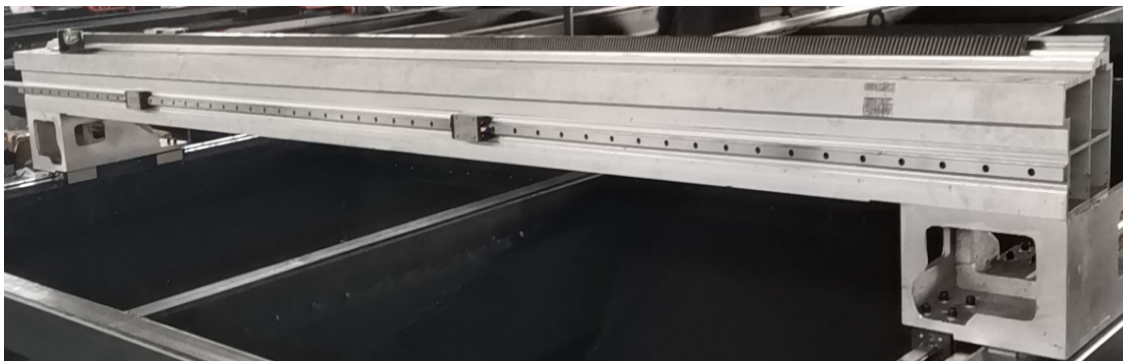
III. Structure

1. Working table






The bed body adopts the overall welded structure of steel. It is subjected to roughing after annealing to eliminate internal stress. And is finished by secondary vibration aging treatment, which better solves the stress caused by welding and processing. Thereby it greatly improved the machine tool stability.


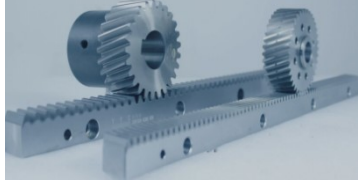
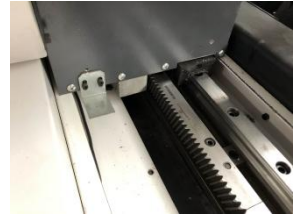





2. Tensile Aluminum Cross Beam



Better performance and looks brighter than cast aluminium, stable and not easy deformed, light in weight and good in dynamic performance. After secondary vibration and aging treatment, it is finished to ensure the strength, rigidity and stability of the beam.

Fiber Laser	3000W MAX Outstanding brand of laser source, 16 years of unremitting exploration in device and laser technology, MAX quality stable and reliable, which approved by thousands of customers in the world.	
Laser Head	Raytools (Switzerland) Automatic focus, high effectiveness, save your time; Anti-collision design, height adjustment; Easy protective lens maintenance and Focus lens adjustment. Locates edges and improves processing efficiency. Improves the cutting efficiency. High Precision: without manual adjust, 0 fault cutting.	
CNC System	FSCUT hardware and Cypcut software FSCUT laser cutting system is a full-solution specially designed for sheet metal fabrication industry, easy to install and adjust, excellent performance and fully integrated solutions. CypCut cutting software is an in-depth design for fiber laser cutting industry. It simplifies complex CNC machine operation and integrates CAD, Nest and CAM modules in one. From drawing, nesting to workpiece cutting all can be finished by a few clicks.	
THC	BCS100 BCS100 capacitance height controller provides excellent performance in distance control. It served as height follow unit for FSCUT laser cutting control system via Ethernet communication, can realize functions including height sensing, segmented and stepping pierce process, detect and find workpiece edge, vibration suppression etc. Latest anti-collision function can effectively avoid tip-up collision risk in production.	
Servo System	YASKAWA servo motor (Japan) Enhanced vibration suppression function; Improve follow performance and reduce response time; Reduce the vibration; Improve mechanical performance by combining inertia motors; Low motor heat.	

Reducer	Shimpo (Japan) Perfect combination of servo system with the Shimpo planetary gearbox and Helical Rack & pinion improves the position and re-positioning accuracy of the machine.	
Gear Rack	YYC 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.	
Linear Guide Rail	THK (Japan) Low noise, wear-resistant, smooth to keep fast moving speed of laser head. The linear transmission system comprises of from Helical Rack and Linear guides which improves accuracy and efficiency.	
Water Chiller	HanLi Water Chiller Specially designed for fiber laser equipments, compatible with various brand lasers; Full range of environmentally friendly refrigerants, worry-free export; Laboratory inspection, quality assurance; Stable and reliable performance, low failure rate, energy saving and power saving.	
Electric Apparatus Elements	Schneider (France) 1.Circuit protection against short-circuit currents, Circuit protection against overload currents, Breaking and industrial disconnection as per standards IEC/EN 60947-2. 2.Over voltage resistance, high performance limitation to fast closing independent of the speed of actuation of the toggle.	
Auto Lubricate	Automatic Lubrication System for both X Y axis guide rails and Z ball screw. We can set the adding oil's frequency and quantity by adjusting the relevant parameters on computer, so it largely improve the machine's lifetime, save manpower.	



V. Laser Capacity and Cutting Thickness And Speed

Material	Thickness	1000w	1500w	2000w	3000w	4000w	6000w	8000w	10000w	12000w	15000w	20000w
		m/min	m/min	m/min	m/min	m/min	m/min	m/min	m/min	m/min	m/min	m/min
Carbon Steel (Q235B)	1	24-26	30-38	34-39	37-42	40-50	43-52	48-54	48-54	50-55	55-60	61-72
	2	8-9	12-14	16-17	18-20	21-23	23-29	26-35	28-35	28-40	30-42	32-45
	3	2.8-3.0	2.9-3.2	3.4-3.6	4.0-4.2	5.0-5.2	6-10	10-20	16-25	18-30	20-30	25-35
	4	2.2-2.4	2.4-2.6	3.1-3.2	3.3-3.5	3.5	3.5-3.7	3.5-3.7	3.5-5.5	3.5-5.5	3.5-5.5	4.0-5.0
	5	1.5-1.7	1.8-2.0	2.7-3.0	2.8-3.0	3.0-3.2	3.2-3.3	3.2-3.3	3.3-4.5	3.3-4.8	3.3-4.8	3.5-5.0
	6	1.2-1.4	1.6-1.8	2.0-2.2	2.3-2.5	2.6-2.8	2.6-2.8	2.6-2.8	3.0-4.2	3.0-4.2	3.0-4.2	3.3-4.8
	8	1.0-1.1	1.1-1.3	1.5-1.7	2.1-2.2	2.1-2.3	2.4-2.5	2.4-2.5	2.5-3.5	2.5-3.5	2.5-3.5	3.0-4.0
	10	0.75-0.85	0.9-1.0	1.2-1.4	1.5-1.7	1.8-2.0	2.2-2.3	2.2-2.3	2.2-2.7	2.2-2.7	2.2-2.7	2.5-3.5
	12	0.6-0.65	0.8-0.9	1.0-1.1	1.2-1.4	1.5-1.6	1.9-2.0	1.9-2.0	1.2-2.1	1.2-2.1	1.2-2.1	1.5-2.5
	14		0.6-0.7	0.9-1.0	1.0-1.1	1.2-1.4	1.2-1.5	1.5-1.7	1.7-1.9	1.7-1.9	1.1-1.9	1.3-2.0
	16		0.5-0.6	0.8-0.85	0.85-0.9	0.9-1.0	0.9-1.1	0.85-1.3	0.9-1.7	0.9-1.7	0.9-1.7	1.0-2.0
	18			0.7-0.75	0.7-0.75	0.85-0.95	0.7-0.8	0.7-0.8	0.65-0.9	0.65-0.9	0.65-1.9	0.7-1.5
	20			0.55-0.6	0.6-0.65	0.65-0.7	0.6-0.65	0.6-0.65	0.6-0.9	0.6-0.9	0.6-0.9	0.7-1.3
	22				0.5-0.55	0.55-0.6	0.55-0.6	0.55-0.6	0.8-0.8	0.5-0.8	0.5-0.8	0.6-1.1
	25				0.45-0.5	0.45-0.5	0.5-0.55	0.5-0.55	0.3-0.7	0.3-0.7	0.3-0.7	0.5-0.9
	30						0.3-0.5	0.3-0.7	0.3-0.7	0.3-0.7	0.25-0.35	0.4-0.7
	35								0.37-0.38	0.3-0.4	0.3	0.35
	40								0.25-0.26	0.25-0.35	0.3	0.33
	45									0.2-0.25	0.25	0.3
	50										0.2	0.25
	60											0.2
Stainless Steel (304)	1	28-32	32-35	35-41	38-42	40-45	45-47	55-60	60-75	70-85	72-85	80-92
	2	6-7	9-10	14-15	20-30	32-35	35-37	37-40	40-55	50-66	52-70	55-75
	3	2.8-3.0	4.2-4.5	6.5-7.0	13.5	14-17	18-20	21-23	27-38	33-45	38-50	45-58
	4	0.9-1.2	2.1-2.3	3.5-4.0	5.0-6.5	6.5-7.0	14-15	15-17	18-25	22-32	25-35	30-40
	5	0.8-0.9	1.6-1.8	2.0-2.2	3.0-4.5	4.8-5.0	8-10	11-12	15-22	18-25	20-30	25-36
	6	0.5-0.6	1.0-1.2	1.3-1.5	3.5	4.5	6.0-6.5	8-10	12-15	15-21	18-25	22-35
	8		0.5-0.6	0.7-0.8	1.6	2.0	4.0-4.2	5-6	8-12	10-16	12-18	15-20
	10			0.55-0.60	0.8	1.4	1.8-2.0	3.8-4.1	6-8	8-12	10-15	12-18
	12				0.6	0.9	1.1-1.3	1.7-2.2	3-5	6-8	8-10	9-15
	14					0.4	0.9-1.0	1.1-1.7	1.8-3.0	3-5	3.5-6.0	5-12
	16						0.8-0.85	1.1-1.3	1.7-2.1	2.5-4.5	3.5-5.5	4-9
	18						0.6-0.7	0.9-1.2	1.3-2.0	2.0-3.8	2.5-4.0	3-7
	20						0.5-0.6	0.7-0.9	1.2-1.8	1.8-3.0	2.0-3.5	2.5-5.0
	25							0.2-0.4	0.6-0.7	1.2-1.8	1.5-2.0	2-4
	30								0.5-0.6	0.6-0.7	0.8-1.0	1-2
	35								0.45-0.55	0.5-0.65	0.7-0.9	0.9-1.2
	40								0.4-0.5	0.5-0.6	0.6-0.8	0.7-1.0
	45									0.35-0.45	0.5-0.7	0.6-0.8
	50									0.3-0.55	0.3-0.6	0.5-0.7
	60										0.2	0.4-0.5
	70										0.1	0.3
	80											0.2
	90											0.1
Aluminum	1	19-21	20-28	25-30	30-33	35-37	50-52	55-60	60-75	7-85	70-85	75-90
	2	4.5-5.0	8-9	8-12	10-15	15-17	28-29	37-40	33-45	38-50	40-55	50-65
	3	1.8-2.0	3.8-4.2	5.5-6.0	5.5-5.9	6.5-7.0	15-17	21-23	25-35	30-40	35-45	45-58



	4		2.0-2.2	2.5-3.0	2.8-3.2	4.5-4.8	9-10	15-17	21-30	25-38	30-40	40-55
	5		0.8-1.0	1.5-2.0	2.0-2.2	3.8-4.2	6.0-6.5	11-12	13-20	15-25	20-30	25-35
	6			0.6-0.8	0.7-0.8	2.0-2.2	4.5-5.0	7-8	9-12	13-18	15-24	21-33
	8					1.0-1.2	2.8-2.9	3.5-4.0	4.5-8.0	9-12	11-15	18-28
	10					0.5-0.6	1.9-2.0	2.3-2.7	4-6	4.5-8.0	6-10	12-20
	12						1.1-1.2	1.5-2.0	2.2-3.0	4-6	5-8	9-15
	16						0.5-0.6	0.9-1.1	1.5-2.0	2.2-3.0	2.5-3.5	5-9
	20							0.7-0.9	1.0-1.6	1.5-2.0	2.0-2.5	3.0-5.5
	25							0.4-0.7	0.7-1.0	1.0-1.6	1.2-2.0	2.1-4.8
	30							0.3-0.6	0.5-0.7	0.7-1.0	1.0-1.8	1.5-3.0
	40									0.3-0.7	0.7-1.2	1.2-2.0
	50										0.3-0.7	1.0-1.6
	60											0.9-1.3
	65											0.5-0.8
Brass	1	16-18	25-27	31-35	35-40	35-40	45-55	55-60	65-75	75-85	75-85	80-95
	2	3.0-3.5	7-8	8-10	10-12	12-14	25-35	37-40	33-45	38-50	40-55	60-85
	3	1.1-1.3	2.7-3.0	5.5-6.0	4.5-5.0	6.5-68	17-20	21-23	25-40	30-50	32-55	45-68
	4		1.5-1.7	2.5-3.0	3.0-35	4.5-4.7	10-12	15-17	15-24	25-33	27-35	35-50
	5			1.8-2.0	2.8-3.0	3.8-4.2	7-8	11-12	9-15	15-24	18-26	25-35
	6			0.9-1.1	1.0-1.2	1.3-1.5	5-6	7.3-7.5	7-9	7-9	10-18	20-30
	8				0.5-0.7	0.7-0.8	2-3	3.5-3.8	4.5-6.5	4.5-6.5	8-10	15-23
	10						1.6-2.0	2.3-2.5	2.4-4.0	2.8-4.2	5-7	10-18
	12						1.3-1.7	1.5-1.9	1.5-2.2	1.0-1.8	2.8-4.2	8-12
	14						0.8-1.0	1.0-1.1	0.6-0.8	0.8-1.5	1.0-1.8	5-8
	16						0.5-0.6	0.9-1.0	0.4-0.6	0.6-0.8	0.5-1.5	2.0-4.0
	18							0.7-0.8	0.3-0.5	0.4-0.6	0.6-0.8	1.0-1.5
	20									0.3-0.5	0.4-0.6	0.8-1.0
	25										0.3-0.5	0.6-0.8
	30											0.4-0.6
	35											0.3-0.4

VI. Packing Size

Content	Dimension	Weight
Main machine and accessories	5400*3100*2310mm(main machine) 3550*2000*850mm (worktable)	6000KG

Note: Use full container to transport.