

## JQ-YAG-500W METAL LASER CUTTING MACHINE



### **Metal Cutting Machine Working Principle**

Laser device of our metal laser cutting machine based on High Intensity Discharge (HID) as its driving source, outputs laser beam with high energy and density, and gathered on the surface of metal materials surface, melt and gasify the irradiated area by laser spot partly& flashily. It moves the laser spot shining location and achieves automatic cutting through computer controlled CNC Machinery System. It is one High-tech equipment which units the features of laser tech, precision machinery tech and CNC tech.

### **JQ-500W Large format Gantry Solid Laser Cutting Machine's**

#### **Features:**

#### **1. Reasonable Gantry Structure, stable laser path**

1) Our Solid Laser Cutting machine adopts Gantry Structure, cast Cross Beam, the whole structure is very firm, and it changes the old Cantilever formation, has smaller body, lighter weight, durable structure and high precision.

2) Laser device of this solid laser cutting machine includes two assemblies: mechanical following cutting head and laser device path. Laser Path of mechanical following head and laser device is a whole independence laser path system. This laser path system uses Germany technology design and has stable path, high efficiency. Laser Path of Gantry is more stable than that of cantilever.

**2. Mechanical Following laser cutting head imported from USA, has high sensitivity and good stability.**



Our solid laser cutting machine uses USA imported mechanical following cutting head. Cutting head laser nozzle locking ring touch the metal sheet materials surface, cutting head move up and down, and it can achieve same focal cutting. The cutting head has high sensitivity, stable running and good reliability. When cutting metal sheet, there is no obvious sparks flying phenomenon, and avoids the lower sensitivity and failure caused by air dielectric changing and

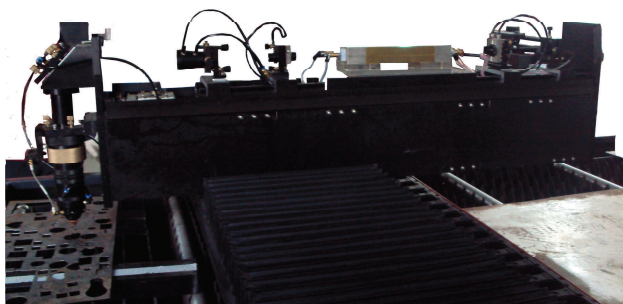
electromagnetic field interference which affect working piece cutting quality and cutting head collision damage. (Traditional ranging cutting head can not avoid this). This mechanical following system adopts USA advanced equipment which can ensure stability and sensitivity.

### 3. Power supply controlled by control cabinet, easy to operate



control cabinet a unique design, including the entire operating system, change the past, independent power operation of complex design, and can control the system on the current, frequency, pulse width and other parameters.

### 4. Precise and rational design, optical adjustment for easy lamp and rod replacement



the solid-state laser cutting machine make use of cantilever structure therefore

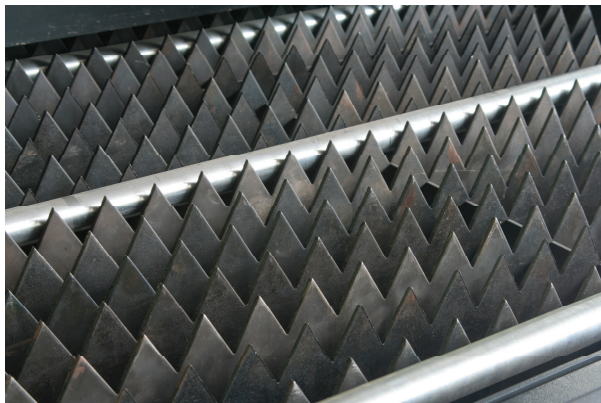
just move beam body to nailbed edge during adjustment of laser path, the operator can replace the side lights and rods behind the beam body

### **5. Japanese Panasonic servo motor to improve the cutting speed and stability.**



XY axes with two 1500W Panasonic servo motor, the moving parts of Z-axis equipped with a 200W Panasonic servo motor, the three combination ensure the stability and efficiency.

### **6. The combine of high precision ballscrews drive system and advanced feed system.**



The movement system adopt the drive system of high precision ballscrews and servo motor, and this assure the high precision of the cutting. Serrate platform and trim strip are very suitable for cutting metal sheets. The user can put in and take out the materials faster and easily.

There is a feeding shaft on the serrate platform, this special worktable can meet special requirements, enlarge the application of this machine, and operate more easily.

### **7. High power and big refrigerating capacity water chiller.**



This water chiller adopt high power 5P water chiller, and it can cool the laser system continuately, adjust the temperature automatically, ensure working for a long time. The temperature of the water can be kept within plus-minus 5 degree. The constant temperature of water can keep the the laser power stable, work more

steady and fast.

## **Advantages of Large format gantry JQ solid laser cutting machine**

- **High precision in cutting. Excellent in stability.**

Adopting the high precision ball screw in transmission system .The optimized CNC control system , which can meet the processing demand in high precision accessory. The motion system is excellent , that suit for the long hours constantly working.
- **High quality in cutting edge**

Adopting the U.S.A imported follow-up cutting head system with high sensitivity and stability.The cutting head moving with the vary of the plate. The cut-off point position will remain unchanged. The kerf is flat and smooth enough no need to handle it again. Meanwhile, the machine can be use to cut both of the flat materials and curving materials .
- **Cutting large format and suitable for cutting more material.**

The machine can cut metal sheet within the thickness of 8mm and not larger than the size of 1250mm\*2500mm.We could make the size as your requirement. The applicable materials include: ordinary carbon steel, stainless steel, Alloy steel, Aluminum, copper, titanium plate etc.
- **With drawer to collect the garbage,easy to change the gas valve.**
- **High performance-price ratio**

For thin sheet it could instead of CO2 laser cutting machine, CNC punch press and shears etc. But the cost of the whole machine is equivalent of CO2 laser machine 1/4, CNC punch press 1/2. We assure that with the normal cost you could get the cutting precision near fiber laser,exceed the axial flow laser cutting quality. JQ 500W with low cost while high efficiency will be your best choice.
- **Low cost for using**

It adopts YAG solid laser equipment, the main consumables is electricity, cooling water, auxiliary gas and laser lamp. The average cost is 4 dollars every hours.
- **Higher cutting speed and efficiency**

The largest speed for cutting carbon steel with this machine is 2m/min., according to average speed 1m / min, 1.2 U.S. dollars per meter and except for auxiliary processing time, it could create the value of 58.56 U.S. dollars per hour averagely, net profit up to around 51.24 U.S. dollars.With the reasonable cost,get the higher profit,we assure the performance will be the same with USA or Germany equipment.
- **Low fees for the future maintain:**

This laser machine with simple structure, is easy to operate with high stability.

## Parameters of Large area Lohmann JQ solid laser cutting machine

### Parameter of the machine

Number	Item	Parameter	Unit
1	Model	JQ-500	
2	Laser wavelength	1064	nm
3	Rated Power	300-500	W
4	Laser power injection	18	KW
5	Water chiller power	5	HP
6	Max. working area	2500*1250	mm
7	X-axis and Y-axis Location accuracy	±0.05	mm
8	X-axis and Y-axis repeat location accuracy	±0.05	mm
9	Fast moving speed	5	m/min
10	Max. cutting speed	2	m/min
11	Min. cutting line width	0.2	mm
12	Applicable material	Stainless steel, carbon steel, aluminum, copper, titanium plate etc	
13	Machine dimension	4.0*2.5*1.5	m

### Applicable materials and industry

stainless steel ,carbon steel and other metal materials precise cutting,suitable for aerospace technology,rocket,plane,robot,elevator,steamship and automobile manufacturing and metal parts processing indudtry for metal plate,advertisement,kitchen ware,bit tool,hardware etc.

### SAMPLES:

