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Nd:YAG Laser Cutting Machine

Suitable to lamp, advertising, hardware, kitchenware and metal processing industries such as cutting and welding of knives, sheet metals

Main Features

- Gantry structure

1) Gantry framework: Welded with metal plates. It is heavy and resistant to deformation with high precision.
2) Laser head moves within various cutting field and the focused beam diameters are same at any locations and thus the cutting edge is also same at any locations.

- Convenient to align the optical route and replace lamp & rod

Just move the laser head to the edge of the table. The operator can stand by the side of the table to make adjustment, repair & replacement.

- Safe & convenient to load/unload the workpiece.

It is convenient to load or unload the workpiece since the table is at reasonable height.

- Unique laser cutting head

The focused beam is always kept at the focus since a self-floating laser cutting head is used. The distance between the cutting nozzle and metal surface is automatically kept unchanged whether the surface is flat, curvature or rough. The height of the nozzle to the metal surface will automatically change according to the metal .

- Multifunction

The maximum 1.5x3m metal sheets can be easily cut. Furthermore metal tubes can be cut using a rotary table.

- Easy transportation and installation

The whole machine can be easily shipped at package. Also the machine can be installed by the users according to our detailed operation manuals.

Advantages

- High precision & high stability
  It combines precision ball screw and optimized CNC system, thus meeting the need of precision processing. Dynamic performance is stable and sustainable even for long time.

- Cutting is smooth & continuous
  Step motor is used to move the cutting nozzle to keep the focus point unchanged during cutting, which meets the requirement for cutting flat or curved sheet metal.

- Applicable for large area cutting in multiple types of materials
  Cutting thickness and cutting area are respectively up to 5mm and 3000mm×1500mm sheet metal. Materials suitable for processing include stainless steel, carbon steel, alloy steel, aluminium, brass, titanium etc.

- Cost-effective
  It can replace CO2 laser cutting machine and plasma cutting machine at much lower cost.

- Low operation cost
  Main consumables include electricity and assistant cutting gas, which are much cheaper than CO2 laser cutting machines.

- High cutting speed

- Low maintenance costs

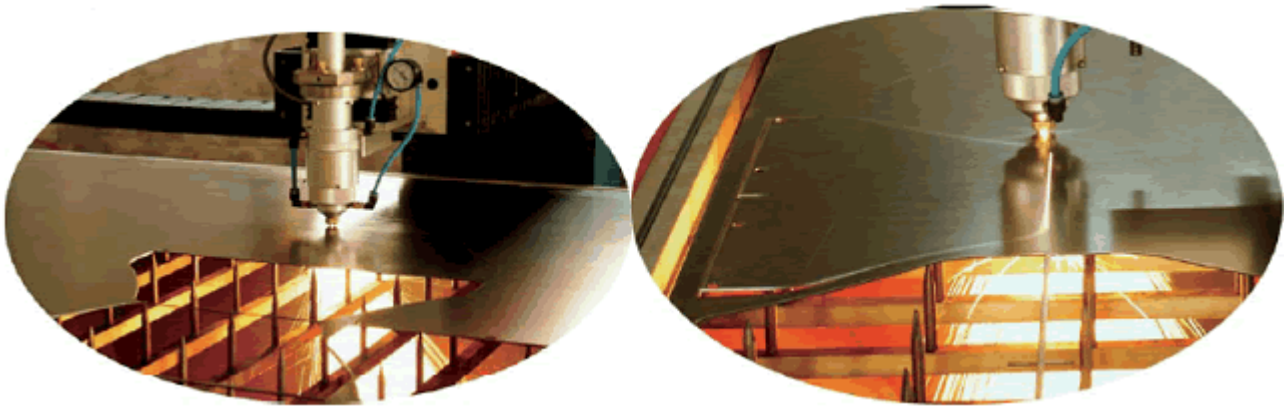
Technical Specifications

Model	C-YAG-500-3000x1500
Wavelength	1064nm
Max laser power	500W
Chiller	5P
Max cutting area	3000x1500mm
Accuracy on axis	+/-0.05mm/m
Max. position speed	10m/min
Max cutting speed	4.5m/min
Min. cutting line width	0.15mm
Max. cutting thickness	Stainless steel 3mm, carbon steel 5mm
Applied materials	Stainless steel, carbon steel, alloy steel, aluminium ally, titanium etc
Dimension & weight	Machine table: 2500kg Laser power supply: Chiller:

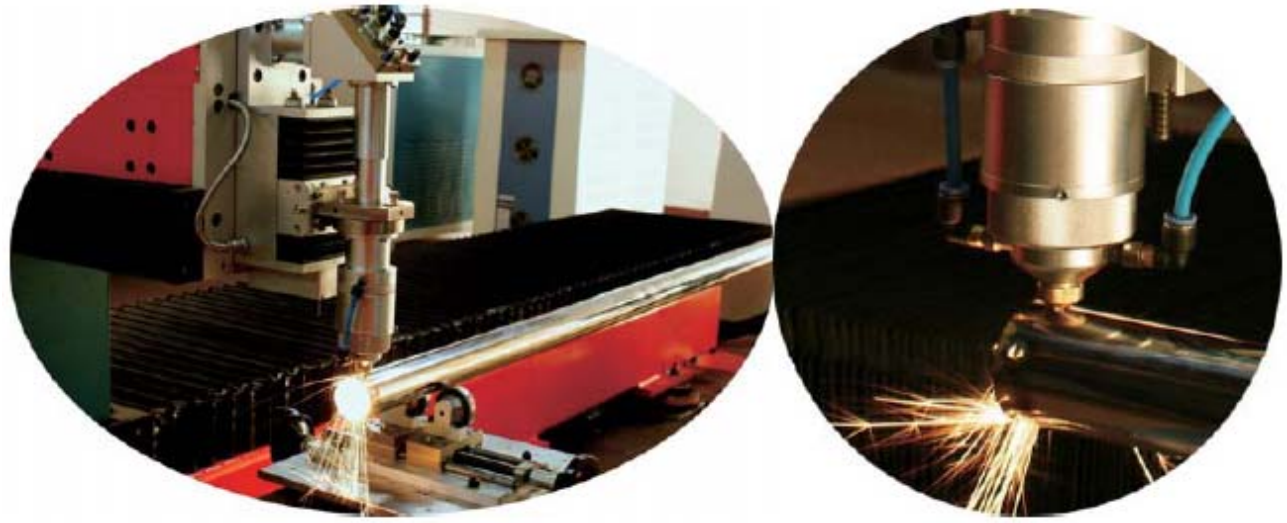
Technical Parameters of 500W Cutting Applications (for reference only)

Material	Thickness (mm)	Drilling diameter (mm)	Max cutting speed (mm/min)	Tilt angle	Min line width (mm)	Gas	Remark
Stainless steel	0.5	0.2	3000	Negligible	0.15	Oxygen usually, Nitrogen will make the surface smooth	Slow down 20% if use Nitrogen
	1	0.25	1500	Negligible	0.15		
	2	0.3	900	1°	0.25		
	3	0.4	600	1.5°	0.3		
	4	0.6	300	1.5°	0.4		
	5	Max 0.7	180	1.5°	0.45		
Carbon steel	1	0.2	2000	Negligible	0.12	Oxygen usually, Nitrogen will make the surface smooth	Slow down 20% if use Nitrogen
	2	0.25	1200	Negligible	0.15		
	3	0.3	900	1°	0.25		
	4	0.4	800	1.5°	0.3		
	5	0.6	700	1.5°	0.4		
	6	Max 0.7	600	1.5°	0.45		
Brass	0.5	0.15	420			Oxygen	
	1	0.2	300				
	2	0.25	200				
	3	0.3	120				
Aluminum	0.5	0.15	320			Oxygen	

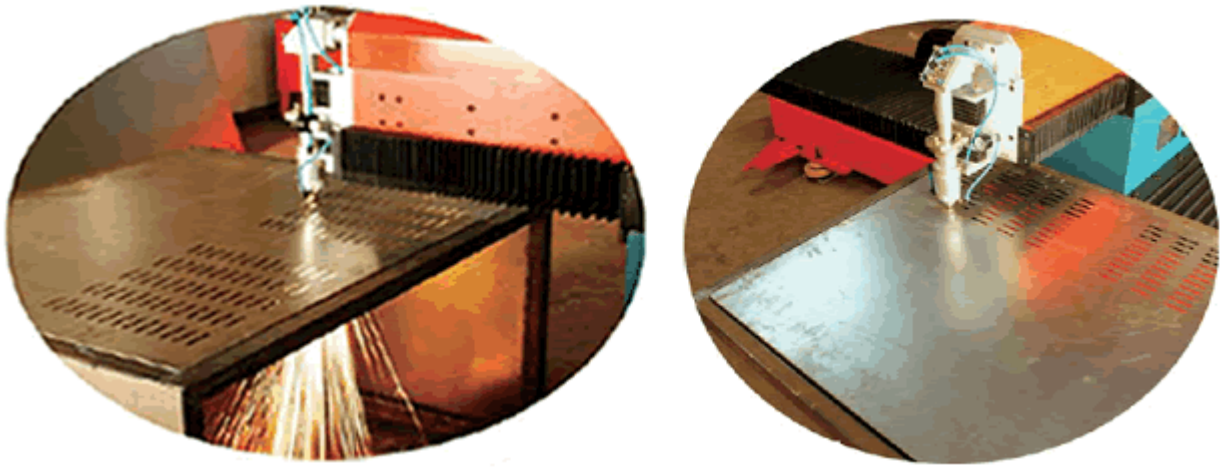
Cutting Solutions-----Metal sheet being processed



Cutting solutions-----Metal tube being processed



Cutting solutions-----Metal racks and cabinets being processed



Cut Samples

1mm stainless steel

1mm copper

1mm aluminum

3mm carbon steel

Φ57X1.5mm steel pipe

1mm carbon steel

2mm brass