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## PRODUCT INTRODUCTION

- ! HK-KB6200-M metal tube laser cutter is also called tube laser cutting machine, which is used for cutting round tube, square tube, and other metal tube.
- ! Pipe processing range 6000mm\*  $\Phi$ 20~240mm (square tube: 20\*20-160\*160mm).

## TECHNICAL PARAMETER

Item	Parameter HK-KB6200-M
Pipe Length	1000-6000mm
Pipe Diameter	$\Phi$ 20~ $\Phi$ 240mm
Z-axis Travel	170mm
X/Y axis Positioning Accuracy	$\pm 0.05$ mm
X/Y axis Repeated Positioning	$\pm 0.02$ mm
Maximum Speed	100m/min
Chuck Maximum speed	100r/min
Maximum Acceleration	0.8G
Machine Total Weight(Host Machine)	4200KG
Maximum Load of pipe Cutter	150KG
Outline size(Host Machine)	9700*1900*2900mm
Power parameters	Three-phase AC380V 50Hz/60Hz
Protection Level of Total Power Supply	IP54

## MAIN FEATURES

### Wide Processing Range, Large Loading Ability

- ! Round Tube Diameter:  $\Phi$ 20mm-240mm
- ! Side Length of Square Tube: 20\*20mm-160\*160mm
- ! Processing round pipes, square pipes, rectangular pipes.

- Single tube load bearing up to 150kg.

### Powerful Dynamic Performance

- Maximum speed can reach 100m/min, the chuck speed can reach 100r/min, which has achieved fast dynamic performance.
- This new tube laser cutting machine, with ultra-high performance and ultra-high precision, can meet your strict requirements for products in the field of tube cutting.
- Clamping round tube  $\varnothing 20 \sim \varnothing 220$ mm. Servo motor and reducer are driven synchronously to ensure processing accuracy.
- Both front and rear chucks are pneumatically tightened.

### Automatic Loading and Unloading System (Optional)

- Machine unit dimension : 5400x1600x1300mm (with a 6m tube cutter)
- Machine unit weight : 560Kg (with three units)
- Machine loading : 600Kg single one can support 60Kg
- Applicable length : 6—12m
- Applicable tubes :
  - Round tubes  $\varnothing 20 - \varnothing 100$ mm Maximum thickness 3mm
  - Square tubes 20—100mm Maximum thickness 3mm
  - Rectangular tubes 40x20—120x60mm Maximum thickness 3mm
- This machine is suitable for the loading of flat tubes
- Loading speed : About 15S/unit

### Pneumatic Self-Centering Chuck

- High clamping accuracy and fast speed.
- Self-centering gear transmission, high efficiency.
- Intelligent pneumatic jaws, large clamping force, stable feeding, more precise cutting.

### Automatic Focusing Fiber Laser Cutting Head

- Multiple protective lenses, efficient protection of collimating and focusing lenses
- Automatic focusing, reducing human intervention
- Highly dustproof, IP65 dustproof, patented protection lens holder cover, dustproof

and no dead ends

- High-speed cutting

### Raycus Laser Device

- 25nm fiber core quasi-single mode output
- 50nm fiber core quasi-single mode output
- The electro-optical efficiency up to 35%
- Multi-level security and a protection against high-relective damages
- The power monitoring accuracy is increased to 3%

### Professional Tube cutting Control System

The HK-KB6200-M is equipped with the operating system, which is developed for pipe processing. It supports the high precision and high efficiency cutting of square pipe, round pipe, track type and elliptical pipes, as well as angle steel and channel steel. The adaptation software is TubePro software, and its characteristics are as follows :

- Support offset tube center error in production to improve through holes cutting precision
- Support separate technique for corner cutting
- Support auto loading/unloading process, cycle production and automatic tube feeding.
- Trajectory accuracy is 0.02mm, positioning accuracy is 0.001mm, repeated positioning accuracy is 0.003mm
- Access encoder feedback in real time, to compare command and machine toolpath.

### 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.

### 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

### 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.

### Cutting Materials

carbon steel, stainless steel, aluminum alloy, galvanized sheet, titanium alloy, manganese alloy, etc.

### Application Industry

- Metal tube processing
- Auto parts manufacturing
- Elevator manufacturing
- Mechanical processing
- Petroleum machinery
- Food machinery
- Decorative advertisements

### Cutting Thickness

Material	Thickness (MM)	1500W	2000W	3000W	4000W	6000W
		Cutting Speed (m/min) (gas)				
Carbon Steel	1	10—13	13—15	20—25	20—25	20—25
	2	4.8—5.5	4.2—4.8	7—10	13—17	13—17
	3	3.5—4	4.1—4.5	4.5—5	7—9	7—9
	4	2.4—3	3.1—3.5	3.5—4	3.5—4	3.5—4
	5	1.7—2	1.7—2	3.0—3.2	3.0—3.2	3.0—3.2
	6	1.5—1.8	1.6—1.9	2—2.5	2—2.5	2—2.5
	8	/	1.5—1.7	1.8—2.2	2—2.3	2—2.3
	10	/	/	20—25	1.8—2.2	1.8—2.2
	12	/	/	/	0.9—1.2	0.9—1.2
	14	/	/	/	/	0.8
Stainless Steel	1	15—18	18—20	20—25	20—25	20—25
	2	6—7	8—9	10—12	12—18	16—20
	3	2.5—3	4.1—4.5	5—6	8—10	12—18
	4	1.3—1.7	2.1—2.5	4—5	5—7	9—12
	5	0.8—1.1	1.7—2	3—4	4—5	7—9
	6	0.3—0.6	0.6—1	2—3	3—4	4.5—6
	8	/	/	1	2—3	2.5—3.5
	10	/	/	/	/	1.2—2
	12	/	/	/	/	1—1.5
	1	/	18—20	20—25	20—25	20—25
Brass	2	/	8—9	10—12	12—18	16—20
	3	/	/	5—6	8—10	12—18
	4	/	/	/	5—7	9—12
	5	/	/	/	/	7—9
	6	/	/	/	/	4.5—6
	1	/	10—15	15—20	15—22	20—25
Aluminum	2	/	/	12—14	16—20	16—20
	3	/	/	5—7	10—13	10—13
	4	/	/	4—5	5—7	6—8
	5	/	/	/	3.5—5	4—6
	6	/	/	/	/	3—4
	8	/	/	/	/	2—2.5

**Note:** As gas purity, on-site voltage and current, plate type and operator expertise are different, the cutting parameters above are only for your reference.