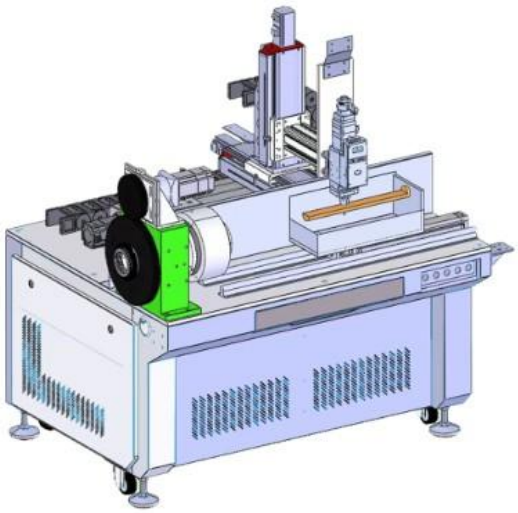
Sintec Optronics

Precision laser cutting machine for hardware fittings

The precision laser cutting machine for metal fittings is specially designed for mass rapid cutting of small metal fittings. It is a specialized non-standard laser processing equipment for precision fiber laser cutting and micro hole cutting of thin-walled metal circular fittings. It is carefully developed based on the precision processing needs of metal small fittings, precision circular fittings, and other precision processing needs. The entire machine adopts a first-class brand fiber laser and a dedicated intelligent collision prevention cutting head The precision servo translation workbench and high-performance fiber laser cutting control system are equipped with a complete set of precise control, simple operation, intuitive convenience, and various detection functions and cutting processes. The fusion of independently developed laser mode and power control has unique advantages for thick wall, small hole cutting, and groove cutting. The excellent spot quality and strong dynamic performance effectively ensure the high-precision requirements during cutting and the stability of long-term work, Easily achieve hole cutting, arc cutting, grooving or hollowing out of various irregular small pipes within 1.5 meters. The cutting section is smooth and does not damage the workpiece, generally without the need for secondary processing or a small amount of polishing processing, saving mold development, greatly reducing the process flow, production costs, and greatly improving the speed and processing efficiency of new product development.



Main features:

- ✧ Strong adaptability to materials, able to adapt to the cutting and processing of various irregular small hardware parts;
- ✧ High production efficiency, which can replace traditional manufacturing processes such as CNC punching, shearing, and manual work;
- ✧ Fast cutting speed, no edge collapse phenomenon, no damage to the workpiece, with a high yield rate;
- ✧ High cutting accuracy, smooth cut surface without burrs, good verticality, and no need for subsequent secondary processing;
- ✧ The operation is simple and fast, with a rich process database embedded, which can be called or modified with one click;
- ✧ Stable and reliable performance, efficient and energy-saving, low maintenance costs, and long service life;
- ✧ Various non-standard models and fully automatic feeding devices can be customized to shorten the feeding time;
- ✧ Green and environmentally friendly processing, no pollutants, no consumables, and high yield rate;

Main technical parameters:

Laser generator	High performance anti high reflection fiber laser
Laser power	1500W/2000W/3000W
X. Y-axis positioning accuracy	⩽ 0.1mm
X. Y-axis speed	⩽ 30m/min
X-axis Y-axis/Z-axis travel	200mm/1000mm/200mm
Cutting aperture	⩾ 1.2mm
Cutting speed	⩽ 25m/min
Workpiece to be cut	4mm ⩽ length ⩽ 1500mm, diameter ⩽ 400mm
Cutting wall thickness	Carbon steel ⩽ 8mm, stainless steel ⩽ 4mm, aluminum ⩽ 3mm
Cutting hole roundness	± 0.1mm
Cutting accuracy	⩽ 0.05mm
Overall power	11KW
Power requirements	Three phase five wire system AC380V 50HZ
Equipment footprint	≈ 4m ²

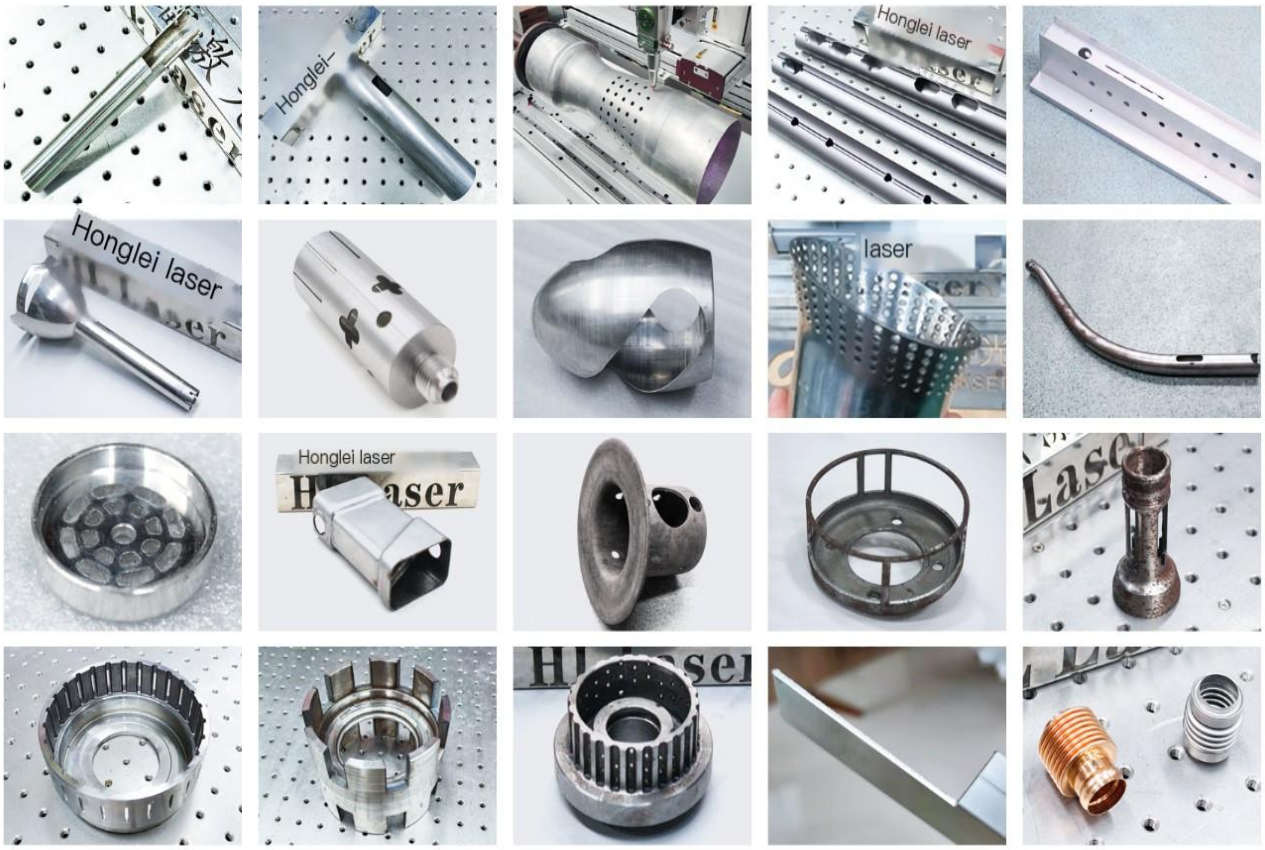
Remarks: 1. This equipment is not suitable for cutting metal waste, solid cylindrical workpieces, and non-metallic materials; 2. Although the processed workpiece belongs to the same specification variety, there may be differences in processing performance and quality due to differences in actual processing parts, surface conditions, material

composition, or processing shapes; 3. Non standard customization can be made according to customer requirements, and the configuration and parameters of each model are subject to the technical solution provided by our company.

Application field:

Mainly suitable for high-precision hole cutting, slotting, hollowing out, and arc cutting of various irregular small hardware parts and circular pipes, square pipes, bent pipes, variable pipes, U-shaped pipes, curved pipes, and curved hardware within 1.5 meters. It has fast cutting speed, smooth cuts, good verticality, one-time forming, and no need for subsequent polishing and processing. Widely used in hardware lighting, kitchenware, automotive oil pipes, instrument panel pipe racks, electric tools, exhaust pipes, stainless steel furnace cores, automotive hardware fittings, etc.

Sample display:



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Ordering Guide

Model STC-XXXX-YY-AABB

STC	XXXX Laser power (W)	YY model	AA X-axis stroke	BB Travel Y-axis
laser cutting	one thousand and five hundred	BS: Standard version	01:100mm	04:400mm
	two thousand	DS: Dual workstation model	02:200mm	06:600mm
	three thousand	EE: Eccentric style		08:800mm
		TE: Fully enclosed pneumatic chuck		10: 1000mm
		**: Other customization	**： Other customization	**： Other customization

Optional:

1 Standard BS

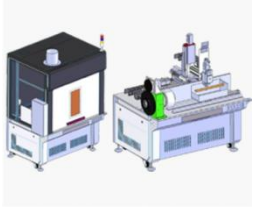
2 dual workstation DS

Integrated row and dual workstation design, dual effect linkage "fast" imagine; Efficiency increased by 100%, purchase cost and land occupation decreased by 50%, and can independently cut the same or different workpieces synchronously or asynchronously without interference, making it the king model for laser processing of small metal pipes.

3 Eccentric EE

Tailored tire molds, ejector pins, and eccentric structures; It can quickly cut various irregular structural hardware components to achieve a significant increase in efficiency, production capacity, accuracy, and economic benefits with less floor space and lower purchasing costs.

4 fully enclosed pneumatic chuck models TE



Fully enclosed sealing structure intervenes to block light and debris, protecting operators and the environment; Fully automatic self centering pneumatic chuck, super intelligent automatic clamping technology, four claw roller type clamping, automatic centering, can automatically adjust and adapt the workpiece according to the customer's pipe size, without scratching the workpiece, without manual labor, small inertia, and can achieve high-speed processing. It can also be equipped with claw clamping to hold multiple types of profiles, meeting the needs of fast cutting of various small pipe parts.