HT Serials of Stent Laser Cutting Machine Profile

Theta Micro has the aid of many years laser process technologies and experience of precise in the fields of laser micromachining, in order to meet stent industry demands for a new generation of biodegradable non-metallic stent research and production, has developed metallic and non-metallic stent laser cutting machine.

HT serials stent laser cutting machine includes TLS-HT1100 and TLS-HT1200.

Metallic stent laser cutting machine

TLS-HT1100

Application range:

- Micromachining of metal stent materials;
- Micromachining metal thin–walled tubular materials;

Features:

1、Flexibility for Multi–Brand Fiber Laser Sources

2、Natural granite platform

3、Cut width smaller than 15 microns

4、Fastest and most accurate stent cutting system on the market

5、Graphical user interface, what you see is what you get

6、Compatible with dry cutting and wet cutting processing

7、Process monitoring via camera

8、Automatic precision feeding

Technical Specifications:

Model	TLS-HT1100
Process Performance	
Max Running Speed	300mm/s (X axis); 600rpm (θ axis)
Location Accuracy	±2μm (X axis); ±25arcsec (θ axis); ±3μm (Z axis)
Repeatability Accuracy	±0.2μm (X axis); ±4arcsec (θ axis); ±0.5μm (Z axis)
Tube Correlation	
Tube Types	SS, Niti, CoCr, Mg+, Fe+ and other kinds of metal tubes
Tube Wall Thickness	0~0.5mm
Tube Diameter	0.1~7.9mm
Laser Source Correlation	
Laser Type	Fiber Laser
Laser Wavelength	1064nm ± 10nm
Average Power	100W, 200W, 300W
Laser Frequency	0~50KHz
Beam Quality	M2<1.1
Power Stability	< ± 3%(continuously running 8hours)
Input Data Format	
Input Data format	DXF, Gerber
Power, Water and Gas Correlation	
Input Voltage	220VAC ± 10%, 50/60Hz, single phase
Power Consumption	1.8KW
Compressed Air Pressure	0.6Mpa~0.8Mpa
Process Gas Pressure	<2.0Mpa(<20Kg)
Environmental Requirement	
Operating Temperature	23 ± 3°C
Operating Humidity	30%~70%RH (no condensation)
Floor Load	1000Kg/M²
Dimensions and Weight	
Dimensions (L × W × H)	1120mm × 1200mm × 1600mm
Weight	approx.1000Kg

Non-metallic stent laser cutting machine
TLS-HT1200

TLS-HT1200 cutting system is suitable for cutting sensitive materials such as polymers stent. The system is "cold" laser cutting process with high precision, excellent cut quality and minimum post-processing.

Application range:

- Micromachining of metal and polymer stents;
- Micromachining metal and polymer thin-walled tubular materials;

Features:

1、No cast of burr

2、High precision processing

3、Natural granite platform

4、Fastest and most accurate stent cutting system on the market

5、Graphical user interface, what you see is what you get

6、Process monitoring via camera

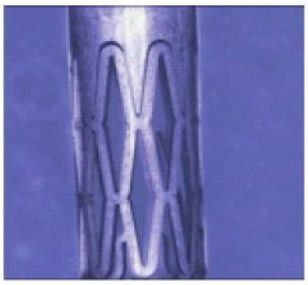
7、Automatic precision feeding

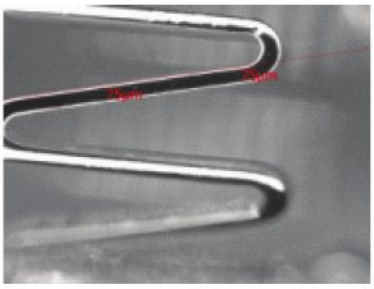
Technical Specifications:

Model	TLS-HT1200
Process Performance	
Max. Running Speed	2000mm/s (X axis); 300rpm (θ axis)
Location Accuracy	±2μm (X axis);±15arcsec (θ axis); ±3μm (Z axis)
Repeatability Accuracy	±0.5μm (X axis);±6arcsec (θ axis); ±0.5μm (Z axis)
Tube Correlation	
Tube Types	High Molecular Polymer Tubes and other non-metallic tubes SS, Niti, CoCr, Me, Fe and other kinds of metal tubes.
Tube Wall Thickness	<2mm
Tube Diameter	0.5~18mm
Laser Source Correlation	
Laser Type	Femtosecond lasers
Laser Wavelength	1064nm
Average Power	4W@100K（16W@100K option）
Mode	TEM00
Beam Quality	M2<1.3
Power Stability	<±3%(continuously running 8hours)
Input Data format	
Input Data format	DXF, Gerber
Power, Water and Gas Correlation	
Input Voltage	220VAC±10%, 50/60Hz
Power Consumption	3.5KW
Compressed Air	0.6Mpa~0.8Mpa
Process Gas Pressure	<2Mpa(<20Kg)
Environmental Requirement	
Operating Temperature	23±3°C
Operating Humidity	30%~70%RH (no condensation)
Floor Load	2000Kg/M^2
Dimensions and Weight	
Dimensions (L×W×H)	2250mm×1350mm×1650mm
Weight	approx.2800Kg

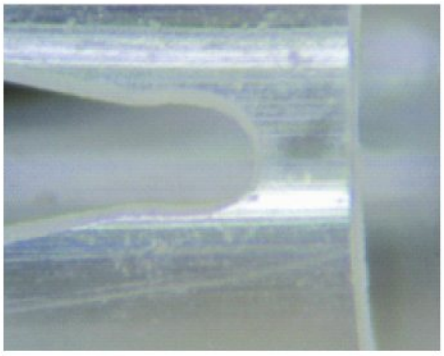
Pictures of Stents and Thin-walledTubular Components Cutting:

1、Stents of SS316L Niti, CoCr, Magnesium alloy

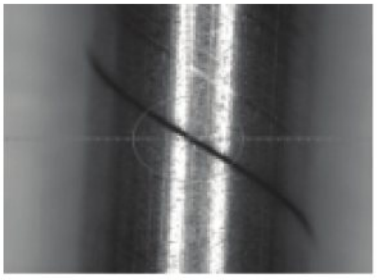




2、Stents of bio-absorbable polymers(polylactic acids)




3、Catheters



4、SEM pictures