

Tube Laser Cutting Machine



TLS-TC315

Characteristics:

- 1. Flexibility for Multi-Type Fiber Laser Sources:** Suitable for high performance fiber laser of different brands and different type, suitable for processing all kinds of metal tube diameter and length of the requirements, high cutting quality and cutting process stability
- 2. Compatible with kinds of laser cutting head:** Different level of cutting head can be options, can be changed fast and easily Monitoring processing state region ,spot quality and cutting process recording.
- 3. Natural Granite Platform :**The support part of the machine is made of natural granite, sports pedestal part adopts pillar structure, which ensures the machine' s high precision and stability.
- 4. Precise Multi Axis Platform:** The system consists of rotation axis and direct-drive, highly-precise linear axis. This design employs high-resolution linear gauge and high-precise optical encoder for position feedback, which incorporates closed-loop control. It eliminates the limitations of the structure of traditional rotary servo motor and ballscrew , such as: rigid insufficiency, backlash and deadband, etc. The cutting machine has higher speed, accuracy and better sealing. Lifetime use of the key components reduces the maintenance cost.
- 5. Tube feeding and clamping fixture design:** Adopting high precision fixture, and using the technology of control pneumatic tube feeding, a precise and reliable, fully automated process can be achieved.
- 6. Compatible with dry cutting and wet cutting processing:** The water-resistant design provides optimal processing solutions based on different materials.
- 7. Tube Support Adjust Function :** Tube feeding and support device with special modular design ,avoid disturbance of the tube material in cutting process .With the tube position of the coarse and fine adjustment function
- 8. Autofocus Function:** Focus automatically during the process; no additional adjustment.
- 9. Software:** ThetaLaser is a smart laser micromachining application platform , that is user-friendly.
- 10. EP Function:** New EqualPower laser process will get the best cutting quality without distortion and burrs.(Optional)

Application range:

- Highly-precise square tube; highly-precise circular tube; highly-precise oval tube etc.
- Highly-precise medical equipment tube cutting;
- Other types of special-shaped pipe cutting;

THETA Kunshan Theta Micro Co.,Ltd.

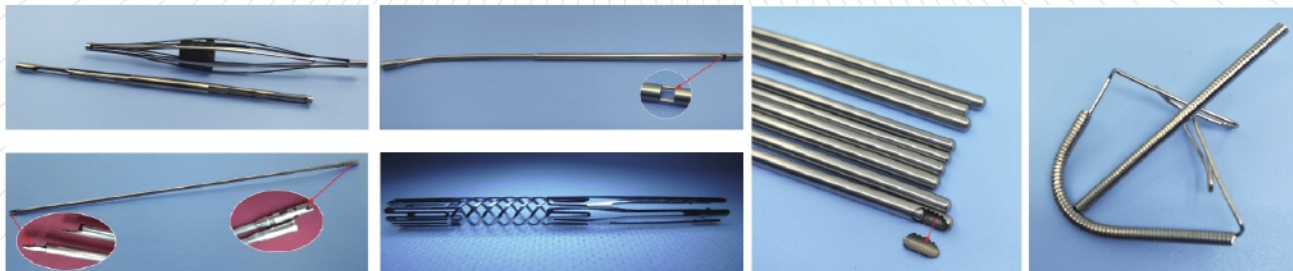
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Technical Specifications: (3Sigma)

TLS-TC315

| | |
|---------------------------|----------------------------------------------------------------------------------------------------|
| Model | TLS-TC315-3; TLS-TC315-4; TLS-TC315-5; |
| Process Performance: | |
| Travel | 300mm (X1 axis) ; 360 ° (θ axis) ; 30mm (Y axis option) ; 500mm (X2 axis option) ; 45mm (Z axis) ; |
| Max. Running Speed | 300mm/s (X1 axis) ; 300rpm (θ axis) ; 300mm/s (Y axis) ; 100mm/s (X2 axis) ; |
| Location Accuracy | ±0.5μm (X1 axis) ; ±4arcsec (θ轴) ; ±0.5μm (Y axis) ; ±3μm (X2 axis) ; ±10μm (Z axis) |
| Repeatability Accuracy | ±2μm (X1 axis) ; ±25arcsec (θ axis) ; ±2μm (Y axis) ; ±6μm (X2 axis) ; ±3μm (Z axis) |
| Min Cutting Kerf | 15μm |
| Tube Correlation | |
| Tube Types | SS, Niti, CoCr, Mg+, Fe+ and other kinds of metal tubes |
| Tube Length (mm) | >2500mm |
| Tube Wall Thickness(mm) | <2.5mm |
| Tube Diameter (mm) | 0.5~25mm(dry cutting);0.1~7.9mm(wet cutting) |
| Operating Temperature(°C) | 23±3°C |
| Operating Humidity | 30%~70%RH (no condensation) |
| Cutting Length(mm) | 500mm |
| Laser Source Correlation | |
| Laser Type | Fiber Laser |
| Average Power | 100W,200W,300W,400W |
| Laser Wavelength | 1064nm±10nm |
| Laser Frequency | 0~50KHz |
| Input Data Format | |
| Input Data Format | Gerber, DXF, HPGL |
| Power and Gas Correlation | |
| Power | 220VAC±10%;15A; 50/60Hz, single phase |
| Compressed Air Pressure | 0.6Mpa~0.8Mpa |
| Process Gas Pressure | <2Mpa |
| Floor Load | 1000Kg/m² |
| Dimensions and Weight | |
| Dimensions (L×W×H) | 1480mm×1020mm×1680mm |
| Weight | approx.2000Kg |



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