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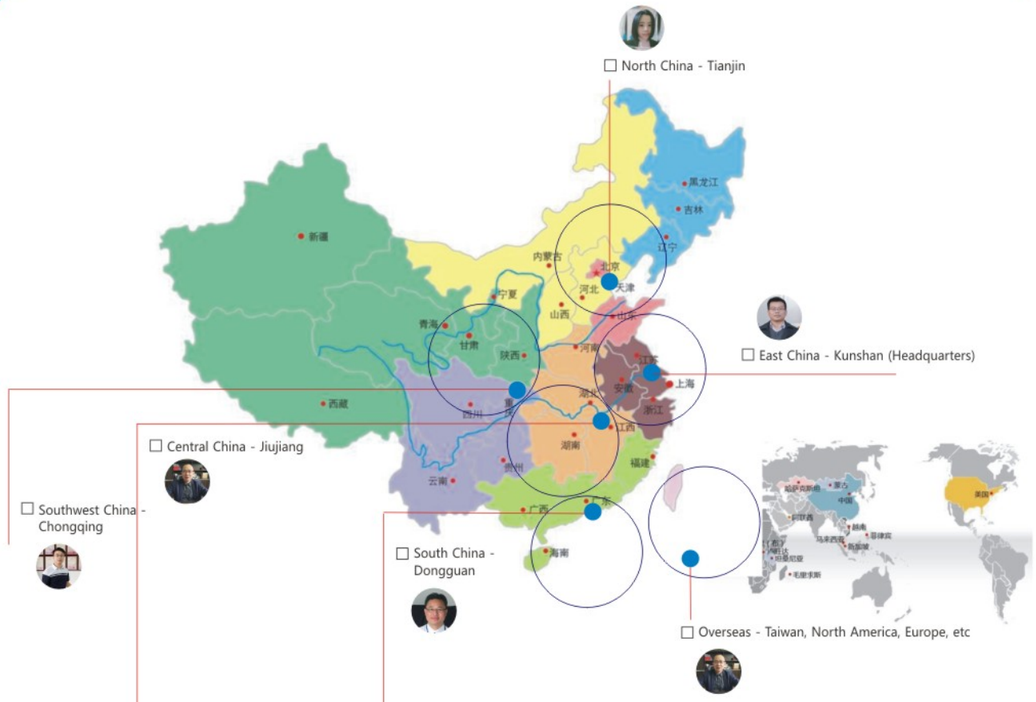
National Service Email:
services@yunco.cn



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YUNCO PRECISION

MEDICAL DEVICES LASER MICRO PROCESSING SYSTEM SOLUTIONS

Kunshan Yunco Precision Co.,Ltd

Governing the affairs of hundred officials, ingenuity can be forged.

Governing the affairs of hundred officials, ingenuity can be forged.

"Shangshu – Yaodian" record: "King Yao instructed Xihe to closely observe the cycle of time and measure the rules/nature/schedule of the Sun, Moon and Stars so as to create a calendar for calculating time. And King Yao also ordered Xihe four person to leave for four directions of east, south, west and north to govern four seasons of spring, summer, autumn and winter, and the King Yao said 'ah! You Xi Clan and He Clan, one year has three hundred and sixty-six days, you should use leap month to determine spring, summer, autumn and winter, this will make one year. To govern the affairs of hundred officials therefrom, many things will flourish' ".

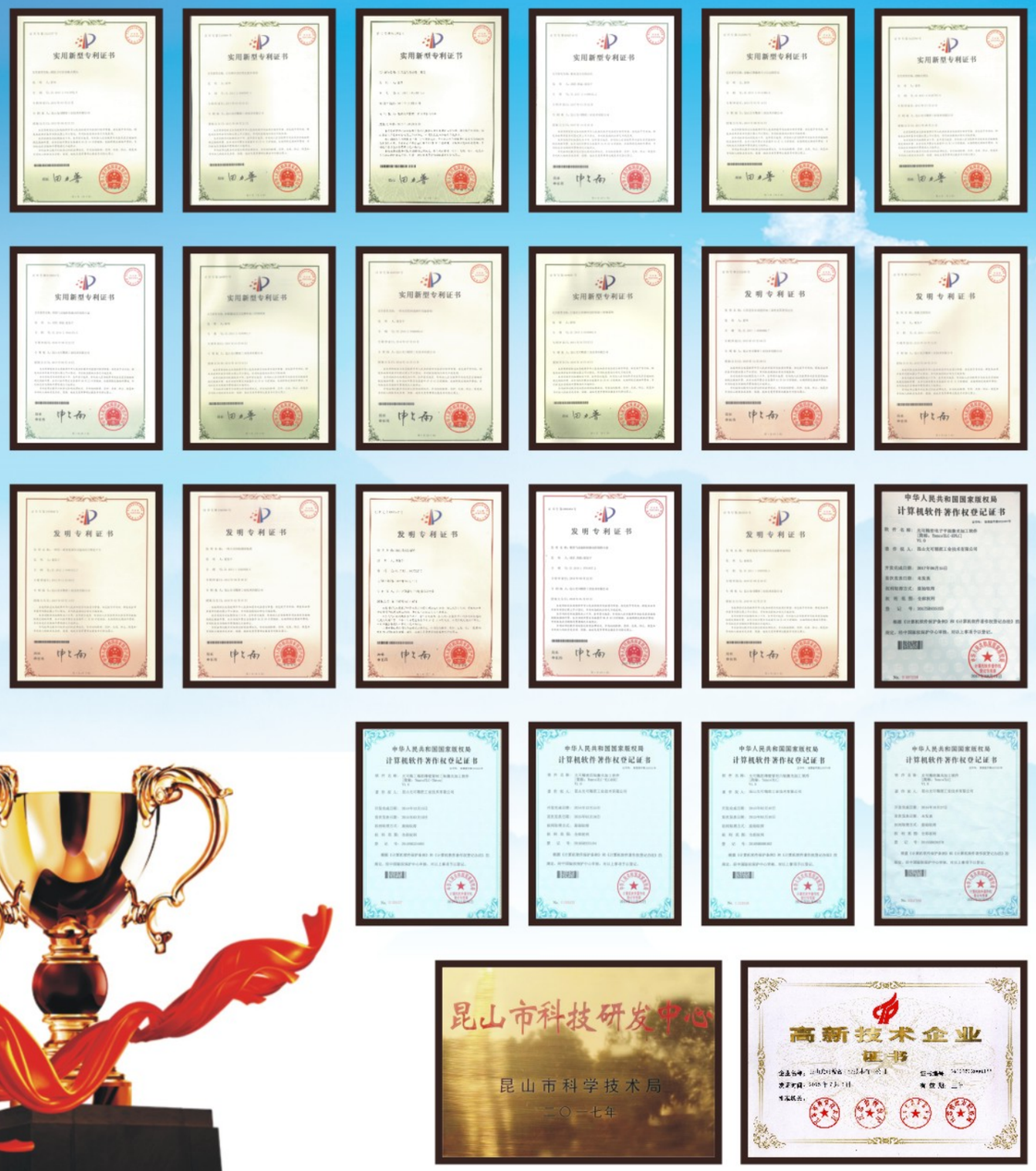
Yunco Precision adheres to the ancient Chinese culture, pressing forward day and night alike, continuing to study hard with technological innovation, aiming to create national self-improvement technology and products while contributing to the innovation and development of China's high-end intelligent equipment and processing service platform.
The company's product parts, components, systems, appearances etc. all condense the heart power and professionalism of the Yunco workers, while the subtle extremes show the craftsmanship of Yunco Precision.

COMPANY INTRODUCTION

Kunshan Yunco Precision Co., Ltd. is a high-tech enterprise specializing in R&D, production, sales, after-sales and high-end equipment processing services for laser micro-machining systems, precision measurement systems, and precision automation systems. It was founded by the postgraduate entrepreneurial team of well-known domestic universities such as Huazhong University of Science and Technology, Zhongnan University of Economics and Law, Suzhou University in July 2012 in Kunshan Economic and Technological Development Zone Science and Technology Entrepreneurship Base. After 5 years of successful incubation, it entered the Industrial Park located at No. 335 Jinyang Road, Lujia Town, Kunshan city in May 2018 to realize industrialization. The existing park covers an area of 25 mu, which is made up of Precision Laser Systems Division, Precision Automation Systems Division, Precision Laser Micromachining Division, Medical Device High-end Manufacturing System Innovation Service Platform, Technology R&D Center, Laser Engineering Center, Production Operation Center etc. And the company established South China Branch and Central China Branch in Dongguan city and Jiujiang city respectively, as well as a strategic cooperation base in Tianjin, and now the company has more than 150 employees.

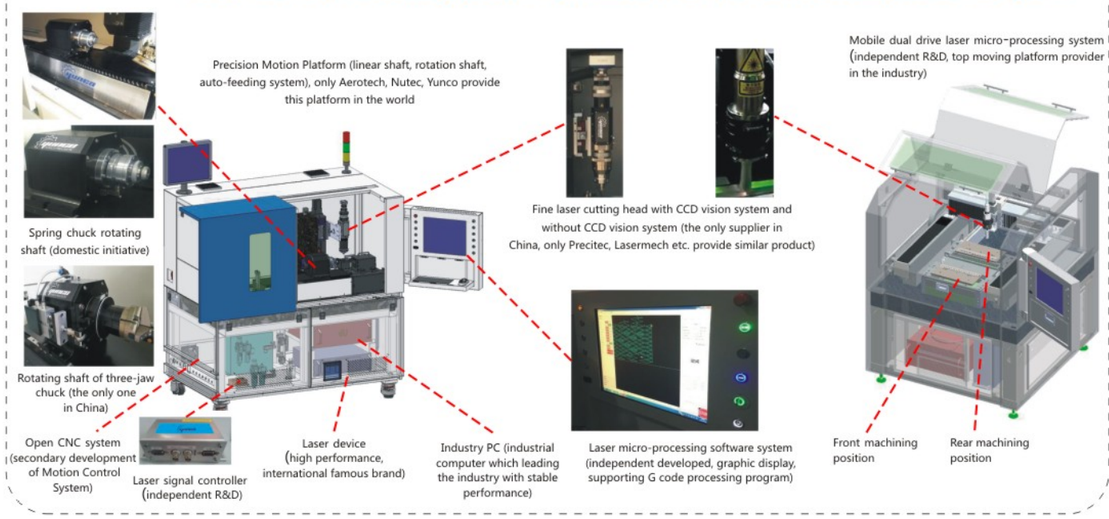
Driven by independent innovation technology, Yunco Precision has a number of patented technologies for Opto-Mechatronics precision systems and applications, providing laser micro-machining and innovative service system solutions for the fields of medical, electronics, and automotive, aerospace, military and daily-use hardware. The company has been rated as Jiangsu High-tech Enterprise, Jiangsu Private Technology Enterprise, Kunshan Science and Technology Research and Development Center, Lujia Town Gazelle Cultivation Enterprise and Excellent Private Enterprise and is gradually becoming the industry' s leading laser micro-processing manufacturing system innovative service complex.

PATENT CERTIFICATE

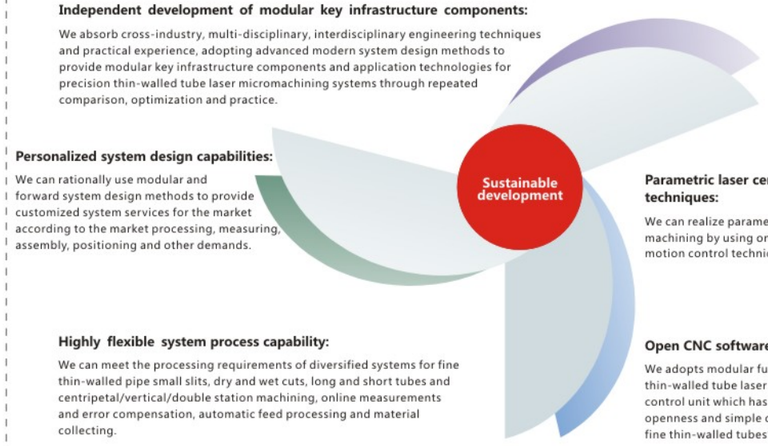


INNOVATIVE LASER MICRO-MACHINING SYSTEM SOLUTIONS

Laser micro-processing system key function component decomposition diagram



Key innovation technology



Independent development of modular key infrastructure components:

We absorb cross-industry, multi-disciplinary, interdisciplinary engineering techniques and practical experience, adopting advanced modern system design methods to provide modular key infrastructure components and application technologies for precision thin-walled tube laser micromachining systems through repeated comparison, optimization and practice.

Online error measurement and correction processing technology:

We use self-developed multi-axis system and online measurement system to realize online error measurement and correction processing of fine thin-walled pipes, and the machining accuracy and stability of the system can be significantly improved.

Personalized system design capabilities:

We can rationally use modular and forward system design methods to provide customized system services for the market according to the market processing, measuring, assembly, positioning and other demands.

Parametric laser centripetal and normal incidence machining techniques:

We can realize parametric control of laser centripetal or normal incidence machining by using online measurement techniques and follow-up multi-axis motion control techniques.

Highly flexible system process capability:

We can meet the processing requirements of diversified systems for fine thin-walled pipe small slits, dry and wet cuts, long and short tubes and centripetal/vertical/double station machining, online measurements and error compensation, automatic feed processing and material collecting.

Open CNC software platform:

We adopts modular function development technology embedded with thin-walled tube laser machining process library and multi-axis motion control unit which has the characteristics of good system stability, high openness and simple operation. It provides systematic solutions for fine thin-walled tubes' complex and diversified machining process.

Integrated Service Capability

Technology R&D center | Production operation center | Laser engineering center | Laser micro-machining division | Quality inspection center | Systematic management

YUNCO PRECISION

Content

Biological & metal stent femtosecond laser cutting machine

YC-FSLC300

• Fine Cutting

- Small slit width: <20um
- High cutting precision: ≤±5um
- Good cutting quality: No burrs, smooth cuts, small heat affected zone
- High processing efficiency: one-time cut through the single side wall, continuous automatic feed processing

• Strong adaptability

- Support laser cutting, drilling processing
- Can process 316L, Ni-Ti, L605, Fe, Mg-AI, Zn, PLLA, PI and other metal and non-metal materials
- Diverse combined precision tube clamping system, automatic microtubule clamping and feeding with adaptive shape tolerance change
- Has continuous automatic feeding processing, material collecting and pipe automatic up and down solution options
- Open ECAD and laser processing CAM software

• Flexible design

- Exquisite appearance
- Ultra-fast laser system and optical path system design
- Precision vision online video surveillance during processing
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

• Technical certification

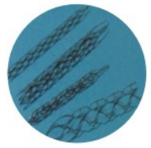
- CE
- ISO9001

Sample display :

PLA&PLLA poly-lactic acid degradation stent

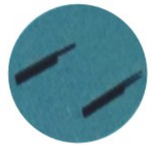
Mg-AI/Fe/Zn degradation stent

Φ6.5 magnesium aluminum filter



Ni-Ti embolectomy stent

Φ0.36 SUS Conical hypo-tube



Φ0.4 intracranial stent

Technical parameters:

Max operating speed	300mm/s(X); 600rpm(θ); 100mm/s(Z);
Positioning accuracy	±1um(X); ±15arcsec(θ); ±3um(Z);
Repositioning accuracy	±0.5um(X); ±3arcsec(θ); ±1um(Z);
Min slit width	10um(Kerf:15um~20um)
Consistency of strut width	<±5um (3σ);
Processing material	316L, Ni-Ti, L605, Fe, Mg-Al, Zn and other metal material plus PLA, PLLA, PI and other non-metal material;
Tube blank length	<2.5m;
Processing wall thickness	0~0.5±0.02 mm;
Machining tube diameter	0.3~16.0 +0.02 mm optional;
Single processing range	0~300mm (longer products will be processed by piecewise splicing);
Laser type	Femtosecond laser;
Wavelength	1030nm~1070nm± 10nm;
Capacity	Standard configuration: 16W (8W, 10W, 16W, 20W are optional);
Power Supply	220V±10%; 50Hz; AC 15A (main circuit breakera);
Compatible file format	DXF、DWG;
Size	2000mmx1000mmx1600mm;
Weight	1500Kg;

Medical stent laser cutting machine

YC-SLC300

• Fine Cutting

- Small slit width: ＜20um
- High cutting precision: ≤±5um
- Good cutting quality: No burrs, smooth cuts
- High processing efficiency: one-time cut through the single side wall, continuous automatic feed processing

• Strong adaptability

- Support laser dry cutting, wet cutting, drilling, digging blind trench and fine processing
- Can process 316L, Ni-Ti, L605, Fe, Mg-AI, Zn, and other metal materials
- Diverse combined precision tube clamping system, automatic microtubule clamping and feeding with adaptive shape tolerance change
- Has continuous automatic feeding processing, material collecting and pipe automatic up and down solution options
- Open ECAD and laser processing CAM software

• Flexible design

- Exquisite appearance
- Precision vision online video surveillance during processing
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

• Technical certification

- CE
- ISO9001

Technical parameters:

Max operating speed	300mm/s(X)；600rpm(θ)；100mm/s(Z)；
Positioning accuracy	±1um(X)；±15arcsec(θ)；±3um(Z)；
Repositioning accuracy	±0.5um(X)；±3arcsec(θ)；±1um(Z)；
Min slit width	10um(Kerf:15um~20um)
Consistency of strut width	＜±5um（3σ）；
Processing material	316L, Ni-Ti, L605, Fe, Mg-Al, Zn and other metal material;
Tube blank length	<2.5m（customizable support fixture）；
Processing wall thickness	0~0.3±0.01 mm；
Machining pipe diameter	Φ0.3~Φ7.5±0.02 mm；
Single processing range	0~300mm（longer products will be processed by piecewise splicing）；
Laser type	Fiber Laser；
Wavelength	1064nm± 10nm；
Capacity	Standard configuration: 100W（200W, 300W are optional）
Power Supply	220V±10%；50Hz； AC 15A（main circuit breaker）；
Compatible file format	DXF、DWG；
Size	2000mmx1000mmx1600mm；
Weight	1500Kg；

Sample display :

Medical large stent laser cutting machine

YC-BSLC300

• Fine Cutting

- Small slit width: 20-30um
- High cutting precision: ≤±5um
- Good cutting quality: No burrs, smooth cuts
- High processing efficiency: one-time cut through the single side wall, continuous automatic feed processing

• Strong adaptability

- Support laser dry cutting, wet cutting, drilling, digging blind trench and fine processing for large diameter stent and thick-walled large stent
- Can process 316L, Ni-Ti, L605, Fe, Mg-AI, Zn, and other metal materials
- Diverse combined precision tube clamping system, automatic microtu bule clamping and feeding with adaptive shape tolerance change
- Has continuous automatic feeding processing, material collecting and pipe automatic up and down solution options
- Open ECAD and laser processing CAM software

• Flexible design

- Exquisite appearance
- Precision vision online video surveillance during processing
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

• Technical certification

- CE
- ISO9001

Sample display :

Technical parameters:

Max operating speed	300mm/s(X)；600rpm(θ)；100mm/s(Z)；
Positioning accuracy	±1um(X)；±15arcsec(θ)；±3um(Z)；
Repositioning accuracy	±0.5um(X)；±3arcsec(θ)；±1um(Z)；
Min slit width	15um(Kerf:20um~30um)
Consistency of strut width	＜±5um（3σ）；
Processing material	316L, Ni-Ti, L605, Fe, Mg-Al, Zn and other metal material;
Tube blank length	<2.5m（customizable support fixture）；
Processing wall thickness	0~1.0±0.01 mm；
Machining pipe diameter	Φ0.3~Φ16.0±0.01 mm；
Single processing range	0~300mm（longer products will be processed by piecewise splicing）；
Laser type	Fiber Laser；
Wavelength	1030nm~1070nm± 10nm；
Capacity	Standard configuration: 300W（500W is optional)；
Power Supply	220V±10%；50Hz； AC 15A（main circuit breaker）；
Compatible file format	DXF、DWG；
Size	1300mmx1500mmx1800mm；
Weight	1500Kg；

Hypo-tube laser cutting machine

YC-HTLC300

• Fine Cutting

- Small slit width: 20~40um
- High cutting precision: ≤ ±5um
- Good cutting quality: No burrs, smooth cuts
- High processing efficiency: one-time cut through the single side wall, continuous automatic feed processing

• Strong adaptability

- Support centripetal opening featured laser cutting, drilling, and fine processing
- Can process 304, 316L, Ni-Ti, L605, and other metal materials
- Can process precision instruments with equal diameter tube
- Has continuous automatic feeding processing and pipe automatic up and down solution options
- Open ECAD and laser processing CAM software

• Flexible design

- Exquisite appearance
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

• Technical certification

- CE
- ISO9001

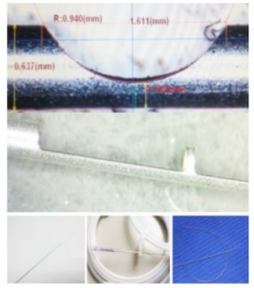
Technical parameters:

Max operating speed	300mm/s(X)；600rpm(θ)；100mm/s(Z)；
Positioning accuracy	±2um(X)； ±15arcsec(θ)； ±3um(Z)；
Repositioning accuracy	±0.5um(X)； ±3arcsec(θ)； ±1um(Z)；
Min slit width	15um(Kerf:16um~20um)
Processing material	304, 316L, Ni-Ti, L605, and other metal material；
Tube blank length	<2.5m；
Processing wall thickness	0~0.3±0.02 mm；
Machining pipe diameter	Φ0.3~Φ7.5±0.02 mm；
Single processing range	0~300mm（longer products will be processed by piecewise splicing）；
Laser type	Fiber laser；
Wavelength	1030nm~1070nm± 10nm；
Capacity	Standard configuration: 100W (250W, 500W are optional)；
Power Supply	220V±10%；50Hz； AC 15A（(main circuit breaker)；
Compatible file format	DXF、DWG；
Size	1300mmx1500mmx1800mm；
Weight	1500Kg；

Sample display :

Φ0.15/Φ0.18/Φ0.25.4 /Φ0.35/Φ0.5Φ0.65 stainless hypo-tube cutting effect

Φ0.36 SUS conical hypo-tube



Medical Devices Laser Micro-processing System Solutions

Medical instrument UV laser marking machine

YC-UVM300

• Fine marking

- Small marking line width: <40um
- High marking precision: the radial runout of tube instruments in rotating movement <10um
- Good marking quality: smooth surface of sculpture point, no obvious deformation or bumps or pits, good stability
- High processing efficiency: pipe is pneumatically controlled with automatic clamping, compatible with pipe automatic loading and unloading system

• Strong adaptability

- Fine vision positioning system during processing configuration
- Can engrave various fine and complex patterns on the tiny surface
- Can be used for engraving and processing of equal-diameter tubes, deformation tubes, semi-finished tubes and small-format flat instruments
- Can process 316L, Ni-Ti, Ti, AI, Cu, Teflon, plastic and other similar materials
- Diverse combined precision tube automatic clamping system
- Open ECAD and laser processing CAM software

• Flexible design

- Exquisite appearance
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

• Technical certification

- CE
- ISO9001

Sample display :

Hypo-tube marking ring

Hypo-tube marking ring

Technical parameters:

Max operating speed	50mm/s（X）； 50mm/s（Y）；50mm/s（Z）； 500rpm(θ)；
Positioning accuracy	±5um（X）； ±5um（Y）； ±5um（Z）； ±25arcsec（θ）；
Repositioning accuracy	±3um（X1）； ±3um（Y）； ±3um（Z）； ±10arcsec（θ）；
Marking line width	< 40um (generally speaking: 30um~50um)；
Processing material	316L, Ni-Ti, L605, Ti, AI, Cu Teflon, plastic and other material；
Processing wall thickness	0~1.0±0.02 mm；
Tube machining range	ϕ0.3~ϕ0.75 ±0.02 mm; and ϕ1.0~ϕ16.0 ±0.02mm are optional; (Can customize fixture system for larger tube clamping)；
Plane processing range	300mm*300m；
Processing range	0~300mm；
Laser type	Fiber laser；
Laser Wavelength	355nm±10nm；
Laser capacity	Standard configuration: 3W（5W, 10W are optional)；
Modulation frequency range	30~60KHZ；
Sculpture speed	≤7000mm/s；
Min character height	0.2mm；
Sculpture depth	0.4mm（depending on the material)；
Power supply	220V±10%， 50KHz； AC 15A（main circuit breaker)；
Compatible file format	DXF、DWG；
Equipment size	1200mmx850mmx1450mm；
Equipment weight	700Kg；

Endoscopic snake bone laser machining center

YC-ESM16

● Fine Cutting

- Small slit width: <20um
- High cutting precision: ≤±10um
- Good cutting quality: No burrs, smooth cuts
- High processing efficiency: one-time cut through the single side wall, continuous automatic feed processing

● Strong adaptability

- Compatible with centripetal opening, vertical opening featured fine cutting processing
- Support laser cutting, drilling
- Can process 304, 316L, Ni-Ti, L605, and other metal materials
- Can process equal-diameter tubes, deformation tubes, semi-finished tubes and small-format flat instruments
- Has continuous automatic feeding processing function, and pipe automatic up and down solution options
- Open ECAD and laser processing CAM software

● Flexible design

- Exquisite appearance
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

● Technical certification

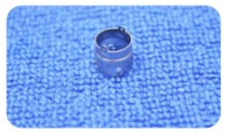
- CE
- ISO9001

Technical parameters:

Max operating speed	300mm/s(X1)；100mm/s(X2)；50mm/s(Y)；50mm/s(Z)；600rpm(θ)；
Positioning accuracy	±3um(X1)； ±5um(X2)；±3um(Y)；±3um(Z)； ±15arcsec(θ)；
Repositioning accuracy	±1um(X1)；±3um(X2)；±1um(Y)；±1um(Z)；±3arcsec(θ)；
Cutting slit width	20um~40um
Processing material	304,316L, Ni-Ti, L605, Li, Al and other metal alloy;
Tube blank length	<2.5m（customizable support fixture）；
Processing wall thickness	0~0.1±0.02 mm；
Tube machining range	Φ0.3~Φ16.0±0.02 mm；
Plane machining range	200mm*100mm
Processing range	0~300mm (longer products will be processed by piecewise splicing)；
Oddment length	80mm；
Laser type	Fiber laser；
Laser Wavelength	1030nm~1070nm± 10nm； ；
Laser capacity	Standard configuration: 250W（200W, 300W,500W are optional)；
Power supply	220V±10%；50Hz； AC 15A(main circuit breaker)；
Compatible file format	DXF、DWG；
Equipment size	1200mmx1300mmx1800mm；
Equipment weight	1500Kg；

Sample display :

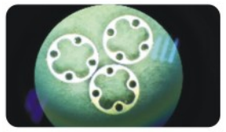
Gastrointestinal endoscope with 10mm outer diameter and 2m length



14mm endoscope snake bone

Endoscope snake bone tube

Stainless disposable snake bone



Snake bone connector

Riveting type endoscope snake bone

Endoscopic snake bone laser cutting machine

YC-ETLC16

● Fine Cutting

- Small slit width: 20-40um
- High cutting precision: ≤±10um
- Good cutting quality: No burrs, smooth cuts
- High processing efficiency: one-time cut through the single side wall, continuous automatic feed processing

● Strong adaptability

- Support centripetal opening featured laser dry cutting, wet cutting, drilling, and fine processing
- Can process 304, 316L, Ni-Ti, L605, Fe, and other metal materials
- Can process precision instruments with equal diameter tube
- Has continuous automatic feeding processing and pipe automatic up and down solution options
- Open ECAD and laser processing CAM software

● Flexible design

- Exquisite appearance
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

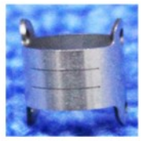
● Technical certification

- CE
- ISO9001

Sample display :

SUS304Φ2.6-700mm disposable urological snake bone

SUS304Φ16.0mm anorectal snake bone



SUS304Φ5.5mm snake bone joint

Ni-TiΦ2.8-80mm urological snake bone

SUS304Φ2.7-700mm urological snake bone

SUS304Φ9.7mm gastrointestinal snake bone

SUS304Φ8.6mm~Φ16mm snake bone joint

Technical parameters:

Max operating speed	300mm/s(X)；50mm/s(Z)；600rpm(θ)；
Positioning accuracy	±3um(X)； ±3um(Z)；±15arcsec(θ)；
Repositioning accuracy	±1um(X)；±1um(Z)；±3arcsec(θ)；
Cutting slit width	20um~40um)
Processing material	304, 316L, Ni-Ti, L605, and other alloy;
Tube blank length	<2.5m（customizable support fixture, compatible with infinite tube feeding）；
Processing wall thickness	0~1.0±0.02 mm；
Tube machining range	Φ0.3~Φ16.0±0.02 mm；
Processing range	0~300mm （longer products will be processed by piecewise splicing）；
Oddment length	80mm
Laser type	Fiber laser；
Laser wavelength	1030nm~1070nm± 10nm； ；
Laser Capacity	Standard configuration: 250W（200W, 300W, 500W are optional)；
Power Supply	220V±10%；50Hz； AC 15A（main circuit breaker）；
Compatible file format	DXF、DWG；
Size	1200mmx1300mmx1800mm；
Weight	1500Kg；

Precision thin-walled tube five-axis laser cutting machine

YC-TLM500

● Fine Cutting

- Small slit width: <20um
- High cutting precision: ≤±10um
- Good cutting quality: No burrs, smooth cuts
- High processing efficiency: one-time cut through the single side wall, continuous automatic feed processing

● Strong adaptability

- Compatible with centripetal opening, vertical opening featured fine cutting processing
- Support laser cutting, drilling
- Can process 304, 316L, Ni-Ti, AI, and other metal materials
- Can process equal-diameter tubes, deformation tubes, semi-finished tubes and small-format planar instruments
- Has continuous automatic feeding processing function, and pipe automatic up and down solution options
- Open ECAD and laser processing CAM software

● Flexible design

- Exquisite appearance
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

● Technical certification

- CE
- ISO9001

Technical parameters:

Max operating speed	300mm/s(X1); 100mm/s(X2); 50mm/s(Y); 50mm/s(Z); 600rpm(θ);
Positioning accuracy	±3um(X1); ±5um(X2); ±3um(Y); ±3um(Z); ±15arcsec(θ);
Repositioning accuracy	±1um(X1); ±3um(X2); ±1um(Y); ±1um(Z); ±3arcsec(θ);
Cutting slit width	20um~40um;
Processing material	304,316L, Ni-Ti, Al and other alloy;
Tube blank length	<2.5m（customizable support fixture）;
Processing wall thickness	0~1.0±0.02 mm;
Tube machining range	Φ0.3~Φ16.0±0.02 mm;
Plane machining range	200mm*100mm;
Processing range	0~300mm（longer products will be processed by piecewise splicing）;
Oddment length	80mm;
Laser type	Fiber laser
Laser Wavelength	1030nm~1070nm± 10nm; ;
Laser capacity	Standard configuration: 250W（200W, 300W,500W, QCW150W are optional);
Power supply	220V±10%, 50Hz; AC 15A（main circuit breaker）;
Compatible file format	DXF,DWG;
Equipment size	1200mmx1300mmx1800mm;
Equipment weight	1500Kg;

Sample display :


Cavity mirror nail box sleeve


Stapler sleeve


Stapler inner and outer sleeve


Inner and outer sleeve of ultrasonic knife


Inner and outer sleeve of ultrasonic knife

Orthopedic tubular instrument laser cutting machine

YC-OTLM500

● Fine Cutting

- Small slit width: <20um
- High cutting precision: ≤±10um
- Good cutting quality: No burrs, smooth cuts
- High processing efficiency: one-time cut through the single side wall, continuous automatic feed processing

● Strong adaptability

- Compatible with centripetal opening, vertical opening featured fine cutting
- Support laser cutting, drilling
- Can process 304, 316L, Ni-Ti, Ti, L605, Li, Mg, AI, Cu, Fe, and other metal materials
- Can process equal-diameter tubes, deformation tubes, semi-finished tubes and small-format planar instruments
- Compatible with continuous automatic feeding, vision positioning and automatic loading and unloading system
- Compatible with acutilingual or flat-moused long & short focal distance fine laser cutting head
- Open ECAD and laser processing CAM software

● Flexible design

- Exquisite appearance
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

● Technical certification

- CE
- ISO9001

Sample display :

Technical parameters:

Max operating speed	300mm/s(X1); 100mm/s(X2); 50mm/s(Y); 50mm/s(Z); 600rpm(θ);
Positioning accuracy	±3um(X1); ±5um(X2); ±3um(Y); ±3um(Z); ±15arcsec(θ);
Repositioning accuracy	±1um(X1); ±3um(X2); ±1um(Y); ±1um(Z); ±3arcsec(θ);
Cutting slit width	20um~40um;
Processing material	304, 316L, Ni-Ti, Ti, L605, Mg, Al, Cu, Fe and other alloy
Tube blank length	<2.5m（customizable support fixture）;
Processing wall thickness	0~2.0±0.02 mm;
Tube machining range	Φ0.3~Φ16.0±0.02 mm;
Plane machining range	200mm*100mm;
Processing range	0~300mm（(longer products will be processed by piecewise splicing）;
Oddment length	80mm
Laser type	Fiber laser;
Laser Wavelength	1030nm~1070nm± 10nm; ;
Laser capacity	Standard configuration: 500W（200W, 300W, QCW150W, QCW450W are optional);
Power supply	220V±10%; 50Hz; AC 15A（main circuit breaker）;
Compatible file format	DXF、DWG;
Size	1200mmx1300mmx1800mm;
Weight	1500Kg;

Medical needle tube laser cutting machine

YC-NTLC300

• Fine Cutting

- Small slit width: ＜20um
- High cutting precision: ≤±10um
- Good cutting quality: No burrs, smooth cuts
- High processing efficiency: one-time cut through the single side wall, continuous automatic feed processing

• Strong adaptability

- Compatible with laser dry cutting, wet cutting
- Support laser cutting, drilling
- Can process 304, 316L, Ni-Ti, L605, and other metal materials
- Has continuous automatic feeding processing function, and pipe automatic up and down solution options
- Open ECAD and laser processing CAM software

• Flexible design

- Exquisite appearance
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

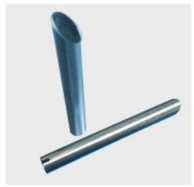
• Technical certification

- CE
- ISO9001

Technical parameters:

Max operating speed	300mm/s（X）；100mm/s（Z）；600rpm（θ）；
Positioning accuracy	±2um（X）；±3um（Z）；±15arcsec（θ）；
Repositioning accuracy	±0.5um（X）；±1um（Z）；±3arcsec（θ）；
Min slit width	15um（Kerf：16um~25 um）；
Processing material	304,316L, Ni-Ti, L605 and other metal material;
Tube blank length	<2.5m（customizable support fixture）；
Processing wall thickness	0~0.5±0.02 mm;
Machining tube diameter	Φ0.3~Φ7.5±0.02 mm;
Single processing range	0~300mm（longer products will be processed by piecewise splicing）；
Laser type	Fiber laser;
Laser Wavelength	1030nm~1070nm± 10nm；；
Laser capacity	Standard configuration: 200W（100W, 150W, 250W, 300W are optional);
Power supply	220V±10%，50Hz；AC 15A（main circuit breaker）；
Compatible file format	DXF、DWG;
Size	1200mmx1300mmx1700mm;
Weight	1500Kg;

Sample display :



Pediatric puncture tube

Detaining needle

Φ0.7 needle tube with slot width 0.3mm

Φ1.3 needle pinpoint and hemostatic mouth

Spiral tube of puncture needle

Medical needle tube laser cutting machine

YC-NTLM300

• Fine Cutting

- Small slit width: ＜20um
- High cutting precision: ≤±10um
- Good cutting quality: No burrs, smooth cuts
- High processing efficiency: one-time cut through the single side wall, continuous automatic feed processing

• Strong adaptability

- Compatible with centripetal opening, vertical opening featured dry cutting and wet cutting
- Support laser cutting, drilling
- Can process 304, 316L, Ni-Ti, L605, and other metal materials
- Has continuous automatic feeding function and pipe automatic up and down solution options
- Open ECAD and laser processing CAM software

• Flexible design

- Exquisite appearance
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

• Technical certification

- CE
- ISO9001

Sample display :

Necking tube opening

Needle tube forming

Φ2.5Needle tube forming

Needle tube forming

Φ3.4puncture spiral tube

Φ3.4puncture spiral tube

Technical parameters:

Max operating speed	300mm/s（X）；100mm/s（Y）；100mm/s（Z）；600rpm（θ）；
Positioning accuracy	±2um（X）；±3um（Y）；±3um（Z）；±15arcsec（θ）；
Repositioning accuracy	±0.5um（X）；±1um（Z）；±1um（Z）；±3arcsec（θ）；
Min slit width	15um（Kerf：16um~25 um）；
Processing material	304, 316L, Ni-Ti, L605, Mg, and other metal material;
Tube blank length	<2.5m（customizable support fixture）；
Processing wall thickness	0~0.5±0.02 mm;
Machining tube diameter	Φ0.3~Φ7.5±0.02 mm;
Single processing range	0~300mm（longer products will be processed by piecewise splicing）；
Laser type	Fiber laser;
Laser Wavelength	1064nm± 10nm;
Laser capacity	Standard configuration: 200W（100W, 150W, 250W, 300W are optional);
Power supply	220V±10%，50Hz；AC 15A（main circuit breaker）；
Compatible file format	DXF、DWG;
Size	1200mmx1300mmx1700mm;
Weight	1500Kg;

Medical instrument laser welding machine

YC-LWM300

• Fine Cutting

- Small welding facula: <100um
- High welding precision: The radial runout of tube instruments in the rotating movement <10um
- Good welding quality: smooth welding surface, no obvious deformation or bumps or pits or discoloration, good stability
- High processing efficiency: pipe is pneumatically controlled with automatic clamping, compatible with pipe automatic loading and unloading system

• Strong adaptability

- Fine vision positioning system during processing configuration
- Can weld equal-diameter tube, deformation tube, semi-finished tube and small-format planar instruments
- Can process 316L, Ni-Ti, Ti, Al, Cu and other metal materials
- Diverse combined precision tube automatic clamping system
- Open ECAD and laser processing CAM software

• Flexible design

- Exquisite appearance
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

• Technical certification

- CE
- ISO9001

Technical parameters:

Max operating speed	50mm/s (X) ; 50mm/s (Y) ; 50mm/s (Z) ; 500rpm(θ);
Positioning accuracy	±5um (X) ; ±5um (Y) ; ±5um (Z) ; ±25arcsec (θ) ;
Repositioning accuracy	±3um (X1) ; ±3um (Y) ; ±3um (Z) ; ±10arcsec (θ) ;
Welding facula	<Φ100um (generally speaking: 100um~400um) ;
Processing material	316L, Ni-Ti, Ti, Al, Cu and other alloy;
Processing wall thickness	0~1.0 ± 0.02 mm;
Tube machining range	Φ0.3~Φ7.5 ± 0.02mm&Φ1.0~Φ16.0 ± 0.02 mmare optional (can customize fixture system for larger tube clamping);
Plane processing range	300mm*300m;
Processing range	0 ~ 300mm;
Laser type	YAG and fiber laser are optiona;
Laser Wavelength	1064nm ± 10nm;
Laser capacity	Standard configuration: 200W (300W, QCW150W are optional) ;
Max energy of single-pulse	50J;
Laser welding frequency	1~20Hz;
Laser welding depth	0.1~1.0mm;
Pulse width	0.1~20ms;
Power supply	220V ± 10%, 50Hz; AC 15A (main circuit breaker) ;
Compatible file format	DXF、DWG;
Equipment size	1200mmx1300mmx160mm;
Equipment weight	700Kg;

Sample display :

Welded head of puncture tube

Spiral welded head of puncture tube

Samples of welded wire and tube

Metal tube welding

Samples of welded wire and tube

Metal tube welding

Medical Devices Laser Micro-processing System Solutions

Medical instrument optical fiber laser marking machine

YC-LMM300

• Fine marking

- Small marking line width: <50um
- High marking precision: the radial runout of tube instruments in rotating movement <10um
- Good marking quality: smooth surface of sculpture point, no obvious deformation or bumps or pits, good stability
- High processing efficiency: pipe is pneumatically controlled with automatic clamping, compatible with pipe automatic loading and unloading system

• Strong adaptability

- Fine vision positioning system during processing configuration
- Can engrave various fine and complex patterns on the tiny surface
- Can be used for engraving and processing of equal-diameter tubes, deformation tubes, semi-finished tubes and small-format flat instruments
- Can process 316L, Ni-Ti, Ti, Al, Cu, plastic and other similar materials
- Diverse combined precision tube automatic clamping system
- Open ECAD and laser processing CAM software

• Flexible design

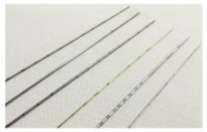
- Exquisite appearance
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

• Technical certification

- CE
- ISO9001

Sample display :

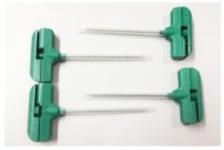
Spiral ring marking



16G needle tube marking

Spiral ring marking

Spiral ring marking



Puncture needle tube marking

Puncture needle tube marking

Technical parameters:

Max operating speed	50mm/s (X) ; 50mm/s (Y) ; 50mm/s (Z) ; 500rpm(θ);
Positioning accuracy	±5um (X) ; ±5um (Y) ; ±5um (Z) ; ±25arcsec (θ) ;
Repositioning accuracy	±3um (X1) ; ±3um (Y) ; ±3um (Z) ; ±10arcsec (θ) ;
Marking line width	<Φ50um (generally speaking: 40um~60um) ;
Processing material	316L, Ni-Ti, L605, Ti, Al, Cu, plastic and other material;
Processing wall thickness	0~1.0 ± 0.02 mm;
Tube machining range	Φ0.3~Φ7.5 ± 0.02mm&Φ1.0~Φ16.0 ± 0.02 mmare optional; (Can customize fixture system for larger tube clamping);
Plane processing range	300mm*300m;
Processing range	0 ~ 300mm;
Laser type	Fiber laser;
Laser Wavelength	1030nm~1070nm ± 10nm; ;
Laser capacity	Standard configuration: 30W (20W, 50W are optional);
Modulation frequency range	30~60KHZ;
Sculpture speed	≤7000mm/s;
Min character height	0.2mm;
Sculpture depth	0.4mm (depending on the material) ;
Power supply	220V ± 10%, 50KHz; AC 15A (main circuit breaker) ;
Compatible file format	DXF、DWG;
Equipment size	900mmx850mmx1450mm;
Equipment weight	500Kg;

Medical planar instrument laser cutting machine

YC-MPLC6045

• Fine Cutting

- Small slit width: ＜20um
- High cutting precision: ≤±10um
- Good cutting quality: No burrs, smooth cuts
- High processing efficiency: Direct driving mobile double-drive system, one-time cut through the single side wall

• Strong adaptability

- Support laser cutting, drilling and underlining
- Can process 304, 316L, Ni-Ti, L605, Li, Mg, AI, Cu, Fe, Ceramic and other materials
- Can process plane type and curved surface instruments
- Compatible with dual station configuration, vision positioning and automatic loading and unloading system
- Compatible with acutilingual or flat-moused long & short focal distance fine laser cutting head
- Open ECAD and laser processing CAM software

• Flexible design

- Exquisite appearance
- Flexible function collocation, support personalized function customization
- Support innovative design from component level to system level
- Intuitive interface, simple operation

• Technical certification

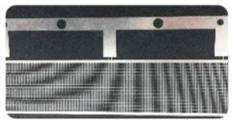
- CE
- ISO9001

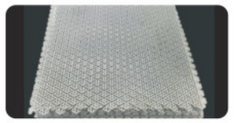
Technical parameters:

Max operating speed	500mm/s (X) ; 500mm/s (Y1&Y2) ; 50mm/s (Z) ;
Positioning accuracy	±3um (X) ; ±3um (Y1&Y2) ; ±5um (Z) ;
Repositioning accuracy	±1um (X) ; ±1um (Y1&Y2) ; ±3um (Z) ;
Processing material	304,316L, Ni-Ti, L605, Li, Mg, AI, Cu, Fe, Ceramic and other material;
Processing wall thickness	0~1.5±0.02 mm;
Plane machining range	450*600mm ;
Laser type	Fiber laser;
Wavelength	1030nm~1070nm± 10nm; ;
Capacity	Standard configuration:QCW150W(100W, 200W, 250W, 300W, 500W are optional);
Power supply	220V±10%，50Hz; AC 15A (main circuit breaker) ;
Compatible file format	DXF、DWG;
Size	1400mmx1600mmx1500mm;
Weight	1500Kg;

Sample display :


Medical plane instruments (tungsten, molybdenum, nickel and titanium)

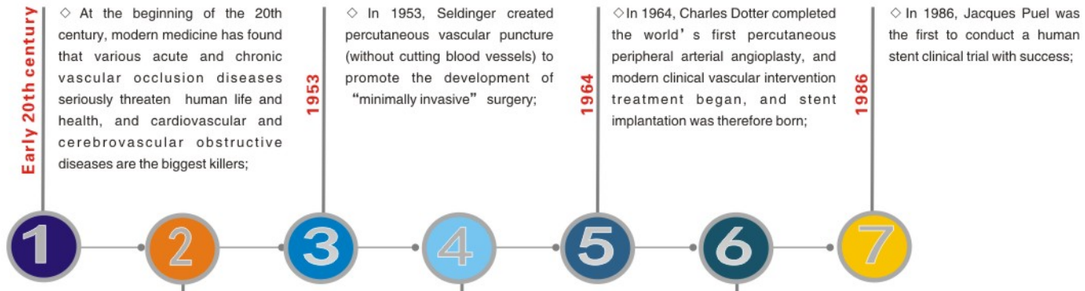

Tungsten steel sheet


Neurocranium fixing sheet


Stainless steel connecting rod


Ceramic sheet

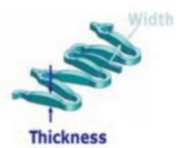
Origin of interventional surgery



(a) Stenosis of the right coronary artery;
(b) Catheter enters human body;
(c)Stenosis location determined by angiography;
(d) Balloon dilating and crushing plaque

Stent; Balloon; Carrier

Comparison of processing techniques of cardiovascular and cerebrovascular stent

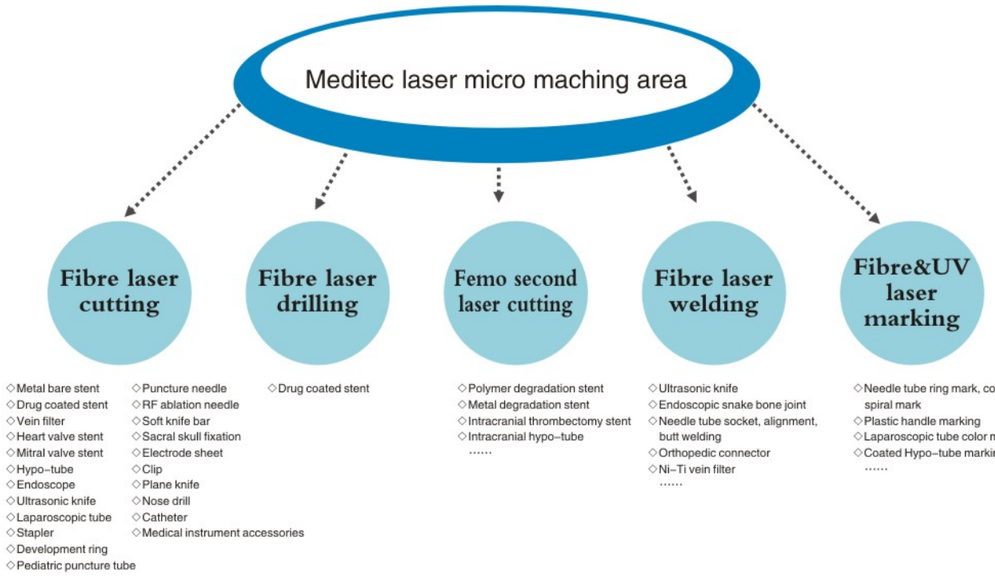


Typical structural characteristics of stent

Processing requirements	Statement of requirements
Diverse materials	316L, Ni–Ti, L605, Fe, Zn, Mg–Al, Polymer, etc.;
Complex structure	Thin wall, and ribs, rods, mesh are cross–connected, machining of through hole and blind hole
High processing accuracy	＜±5um;
Biocompatibility	The surface of the slit is smooth, no splattering, no burr, no internal residue, etc.

Machining process	Process comparison
Stamping processing	Down edge, burrs and precision cannot meet the requirements, processing speed is slow and quality is unstable;
Die casting	Accuracy, material residue cannot meet the requirements, processing speed is slow and quality is unstable;
Plane chemical etching	Need to match bending process and laser welding process, while the strength, forming precision, welding point quality is difficult to control, processing speed is slow and quality is unstable;
3D optical etching	Processing speed is slow and quality is unstable;
Micro discharge	Processing speed is slow and quality is unstable;
Laser cutting	Simple process, high speed, small slit width, good parallelism of the cut, small surface roughness, high dimensional accuracy, small deformation and heat affected zone, no mechanical stress and surface damage. The consistency, surface finish and process stability can meet the processing requirements of stent and micro–devices, which is the main processing method of the stent;
3D printing	Slow processing speed, low precision, poor finish and unstable quality;

The Application trend of laser micro-processing of medical devices



- ◇Metal bare stent
- ◇Drug coated stent
- ◇Vein filter
- ◇Heart valve stent
- ◇Mitral valve stent
- ◇Hypo-tube
- ◇Endoscope
- ◇Ultrasonic knife
- ◇Laparoscopic tube
- ◇Stapler
- ◇Development ring
- ◇Pediatric puncture tube

- ◇Puncture needle
- ◇RF ablation needle
- ◇Soft knife bar
- ◇Sacral skull fixation
- ◇Electrode sheet
- ◇Clip
- ◇Plane knife
- ◇Nose drill
- ◇Catheter
- ◇Medical instrument accessories

- ◇Drug coated stent

- ◇Polymer degradation stent
- ◇Metal degradation stent
- ◇Intracranial thrombectomy stent
- ◇Intracranial hypo-tube
- ……

- ◇Ultrasonic knife
- ◇Endoscopic snake bone joint
- ◇Needle tube socket, alignment, butt welding
- ◇Orthopedic connector
- ◇Ni-Ti vein filter
- ……

- ◇Needle tube ring mark, color mark, spiral mark
- ◇Plastic handle marking
- ◇Laparoscopic tube color mark
- ◇Coated Hypo-tube marking ring
- ……

Changes in market demand

New demand

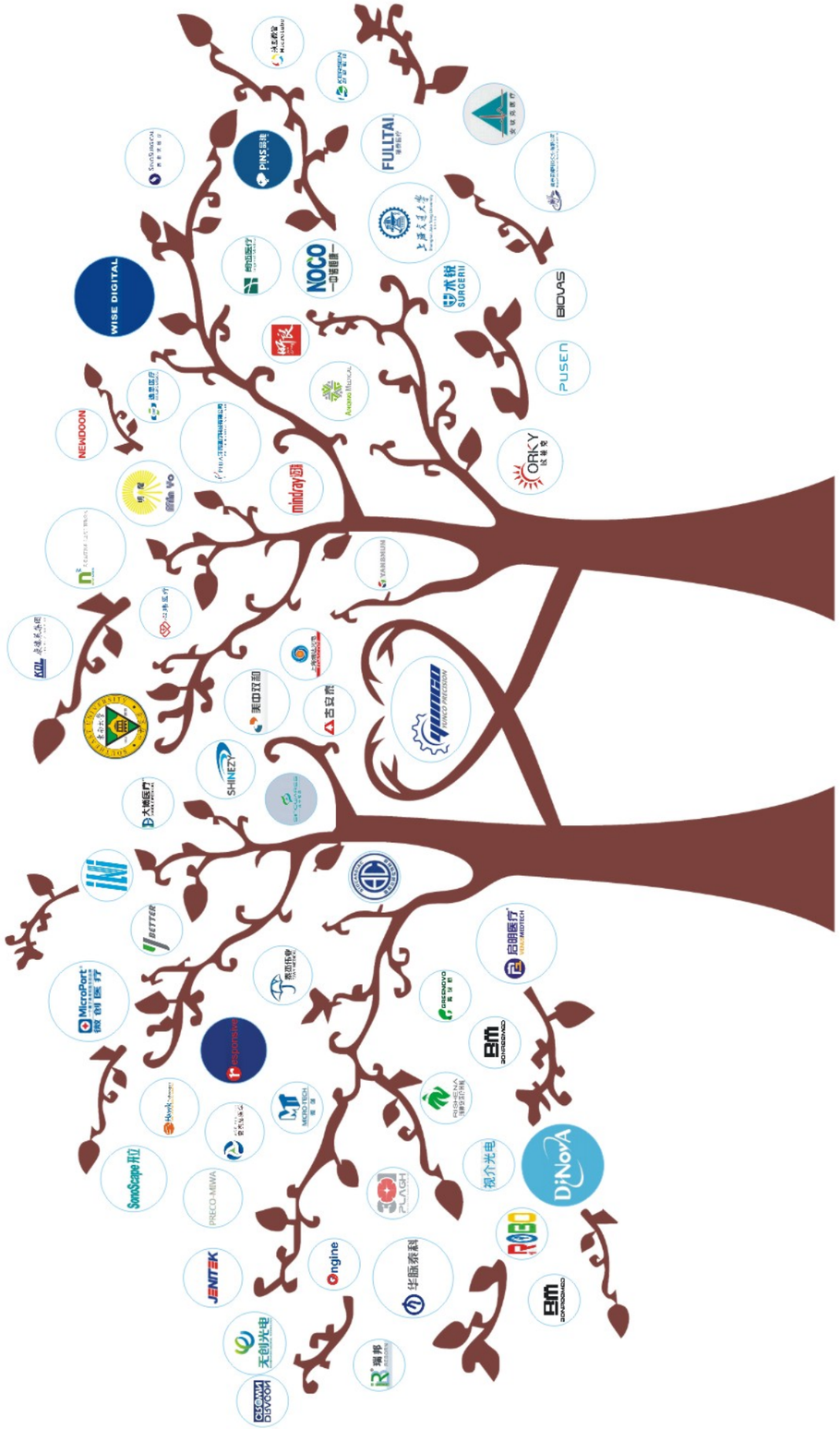
High flexibility machining

◇ Process flexibility: centripetal, vertical, composite featured; dry cutting, wet cutting, precise parameter control;
◇ Diversified materials and shapes: metal and non-metal, plane and equal diameter tube and reducer compatible processing;
◇ Micro and large scale instruments processing: fine processing of intracranial instruments and arterial instruments;
◇ Process diversification: cutting, drilling, trenching, welding, marking;
◇ Process automation: automatic loading and unloading, automatic feed machining, machining process simulation, online measuring, positioning and monitoring;

Precision service

◇ Diversification of service modes: equipment sales, leasing, old equipment upgrading, new products aided design, proofing, small batches and OEM;
◇ One-stop processing service: provide the expansion services related to relevant material, processing, measuring in addition to laser micro-processing;
◇ High cost-effective personalized service: provide cost-effective laser micro-machining system solutions for market segment;
◇ Soft power training: provide system and process and market segment information and the theoretical knowledge and practical training services of professional technology;

Medical Devices Laser Micro-processing System Solutions



THE MAIN PARTNERS