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www.tianhonglaser.com

天弘激光
TIANHONG LASER

激光焊接产品手册

Laser cutting product brochure

苏州天弘激光股份有限公司
SUZHOU TIANHONG LASER CO.,LTD

更好的天弘 更好的激光

BETTER TIANHONG BETTER LASER

目录

CATALOG

COMPANY PROFILE

Suzhou Tianhong Laser Co., Ltd. is the world's leading provider of comprehensive laser solutions, founded in January 2001, with a registered capital of 72.32 million yuan and a property of more than 70,000 square meters. Tianhong Laser Group has 6 factories, 1 software company and 1 sub-brand company, including Suzhou Tianhong Headquarters, Suqian Tianhong, Zhejiang Tianhong, Guangdong Tianhong, Guangdong Xinshijie, Zhangjiagang Collect, and Suzhou Tianzuo Data and Suzhou ECO2 Laser; Tianhong group has nine kinds of standardized intelligent equipment production bases, including high-power laser cutting, laser tube cutting, medium and small power laser processing, laser welding, laser micro (precision) processing, laser cladding (re manufacturing), laser quenching (strengthening), laser 3D printing, laser automated production lines, etc. Tianhong Laser focuses on the research and development, manufacturing and service of industrial intelligent equipment.

The company's technology covers: software, machinery, electrical, motion control, robotics, lasers, optics, images, materials, laser technology, etc.

Suzhou Headquarter

Guangdong Tianhong

Zhejiang Tianhong

Suqian Tianhong

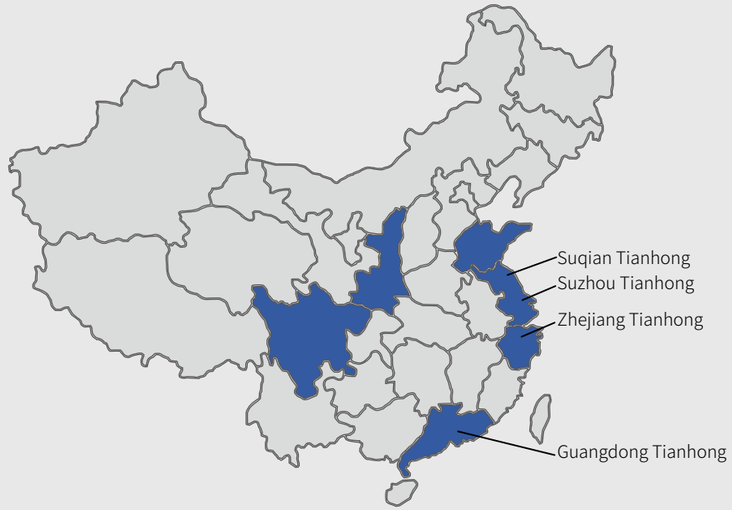
Exhibition Hall

Workshop

2001	The company was established to carry out small and medium power laser marking business
2004	Launching solid state laser welding machine business
2007	Laser micro-machining business started in the semi-conductor field
2008	Certified as “National High-tech Enterprises”; Rated as “Jiangsu Province Private Science and Technology Enterprises”
2009	Joint stock company was formally established and started development of laser cutting machine
2011	The development of laser cutting machine was carried out; the joint-stock company was formally established
2012	Certified as a "Double Hundred Project" technology enterprise in Suzhou Industrial Park; rated as a famous brand enterprise in Jiangsu Province and a famous brand product enterprise in Suzhou;
2013	Certified as "Jiangsu Province Laser 3D Forming and Micro-manufacturing Engineering Technology Research Center"; cooperated with Soochow University to set up Jiangsu Province Enterprise Graduate Workstation;In October, the company's new factory was completed
2014	Completed the acceptance of the 863 project of the 12th Five-Year Plan of the Ministry of Science and Technology of "High-power and picosecond laser industrialization application demonstration"; started the intelligent automatic robot production line business
2015	Listed on the New Third Board of the National Equities Exchange and Quotations; "Tianzuo Data" subsidiary was established
2016	Acquired Collect to start 3D printing and remanufacturing services, and acquired CO2 laser business; certified as a demonstration pilot enterprise for the integration of industrialization and industrialization in Jiangsu Province
2017	Selected as Suzhou "Gazelle Plan" enterprise; Won the "OFweek 2016 Most Growing Laser Enterprise" award; Won the New Third Board "Entrepreneurial Leader Star" Award to establish a high-power and high-speed cutting team
2018	Subsidiary ECO2 Laser (mass production of CO2 lasers); Tianhong Laser (Suqian) was established; certified as "the most promising high-tech enterprise"; certified as "Suzhou Top 100 Specialized, Specialized, New, and New Enterprises"; certified subsidiary Tianzuo is a "software enterpris
2019	Selected as an enterprise in the "Gazelle Plan" of Suzhou Industrial Park Selected as Excellent Demonstration Enterprise of Science and Technology Innovation in Jiangsu Province
2020	Tianhong Laser (Guangdong) Company; Guangdong Xinshijie Power Technology Co., Ltd.; Zhejiang Tianhong Laser Technology Co., Ltd. was established

企业风采

CORPORAT STYLE

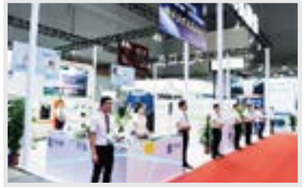


OFFICE

Qingdao	Office	Zhucheng	Office
Weifang	Office	Chongqing	Office
Chengdu	Office	Zhengzhou	Office
Fujian	Office	Shenzhen	Office
Guangzhou	Office	XiAn	Office
Beijing	Office	Tijin	Office
Hebei	Office	Anhui	Office
Ningbo	Office	Hangzhou	Office
Jinhua	Office	Leqing	Office
Yancheng	Office	Nanjing	Office
Suqian	Office	Foshan	Office
Yangtai	Office		

Exported to more than 30 countries and regions
4 R&D productionbases

Malaysian Customer



Market Activities

Team Construction

Wenling Municipal Party Committee Inspection

Suzhou SIP Municipal Party Committee Inspection

863 project Acceptance

激光焊接
常用光源介绍

Laser Welding Commonly Used Light Source Introduction

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Principle of laser welding

An efficient and precise welding method using a high-energy-density laser beam as a heat source. The surface of the workpiece is heated by laser radiation, and the surface heat diffuses to the interior through heat conduction. By controlling the parameters of the pulse width, energy, peak power and repetition frequency of the laser, the workpiece is melted to form a specific molten pool. After the material is melted, it solidifies and crystallizes to form a welding area. , to achieve the purpose of welding.

Laser light source type

Laser source	Laser wavelength	Light module	Application range
Pulsed YAG laser	1064nm	Pulse	Spot welding / seam applications of
Semiconductor laser	808nm、915nm、980nm	Pulse/Continuous	Plastic Welding / Laser Soldering
CW fiber laser	1070nm、1080nm	Continuous	Intermittent/continuous welding of the same metal
QCW Laser	1070±10mm	Pulse/Continuous	Pulse spot welding and continuous welding of copper, aluminum and other highly reflective materials, stainless steel and various alloy materials

Comparison of laser welding and traditional welding

Welding way	Heat-affected zone	Thermal deformation	Welding seam quality	Add solder or not	Welding environment
Laser welding	small	small	good	No	No demand
Hard-solder	commmon	commmon	commmon	Yes	Overall heat
Argon arc welding	more	more	commmon	Yes	Electrode
ERW	more	more	commmon	No	Electrode
Plasma welding	commmon	commmon	commmon	Yes	Electrode
Electron beam welding	small	small	good	No	Vacuum

Product requirements for laser welding

1.The product gap is required to be small, generally less than 0.2mm.

2.It is required that the product has good consistency and high repeatability.

TH-FC 系列光纤连续焊接激光器

Single Platform Sheet Metal & Pipe Fiber Laser Cutting Machine

Introduction

Fiber laser is the newly developed solid laser all over the world. It has distinct advantage of big heat dissipation area, excellent beam quality and compact size compared with traditional gas laser and solid laser. And it takes more and more significant position of high accuracy laser processing field.
The pump laser of fiber laser source could be installed separately, so it has a good performance of heat dissipation only with air cooling system or when installed in high density it only need small amount of water cooling.

Technical Parameters

Model	TH-FC500	TH-FC1000	TH-FC2000	TH-FC3000	TH-FC4000	TH-FC6000	TH-FC8000
Laser wavelength	1070nm±10nm						
Working method	Continuous laser output						
Laser optical path	Standard 1 optical path (multi-path as optional)						
Location system	Red Light, or coaxial CCD as optional						
Cooling system	Water cooling						
Power unstability	±1%						
Optical fiber diamater (standard)				100μm	100μm	150μm	200μm
Total consumption	1.9KW	3.3kW	8.0kW	12.0kW	16.0kW	24.0kW	29.0kW
Electrical consumption	200-240 VAC, 50/60 Hz	400–460/3P+PE VAC，50/60 Hz					
Working Environment temperature	10-40°C						

TH-RF 系列 YAG 光纤脉冲焊接激光器

Single Platform Sheet Metal & Pipe Fiber Laser Cutting Machine

Introduction

It adopts Xenon lamp pump, with fiber cable output and energy feedback mode for higher stability, beam quality and good welding performance. Ifs suitable for assembly of fixture and moving working table to finish complex and high accurate required welding.Also with this laser, it's easy to realize full automation online operation together with robot (famous brand ABB, KUKA etc.).The max optical output path is 4. Double station processing or more is available with it. It provides high working efficiency with labor cost saved and loading and unloading time saved, realizes multi-angle welding and complex welding, and significantly enlarges laser welding applications.

Technical Parameters

Model	TH-RF25	TH-RF75	TH-RF150	TH-RF300	TH-RF500
Laser power	25W	75W	150W	300W	500W
Peak laser power	3.5KW	3.5KW	5.5KW	7.5KW	9.5KW
Single pulse energy	25J	25J	70J	100J	100J
Pulse width	0.1-15ms	0.5-15ms	0.5-15ms	0.5-15ms	0.5-20ms
Output frequency	50Hz	100Hz	100Hz	100Hz	100Hz
Wave point number	20	20	20	20	20
Save waveform group number	32	32	32	32	32
Power stability	±3%	±3%	±3%	±3%	±3%
Power split homogeneity	±1%	±1%	±1%	±1%	±1%
Light split method	Time or energy	Time or energy	Time or energy	Time or energy	Time or energy
Max beam spilt quantity	4	4	4	4	4
Feedback	Energy negative feedback	Energy negative feedback	Energy negative feedback	Energy negative feedback	Energy negative feedback
Electric requirement	Single phase three wire 220VAC	Single phase three wire 220VAC	Single phase three wire 220VAC	Single phase three wire 220VAC	Single phase three wire 220VAC
Max electric load	3KW	5KW	8KW	12KW	16KW
Working environment temperature	10-40°C	10-40°C	10-40°C	10-40°C	10-40°C

TH-FQ 系列光纤脉冲焊接激光器（QCW）

Single Platform Sheet Metal & Pipe Fiber Laser Cutting Machine

Introduction

With latest generation pulse laser in full fiber structure, it bears below advantages: Estimated Diode Lifetime >100,000 hours.
30% wall plug efficiency; Cost effective and environment friendly. Air cooling for long distance welding and online assembly; Excellent Beam Parameter Product (BPP). Constant BPP over Entire Power Range; Pulse energy fluctuation rate below 1%.
Dual laser output modes (continuous mode and pulse mode) with spot welding and continuous welding for high reflective material as copper; aluminum, stainless steel, different alloy material.

Technical Parameters

Model	TH-FC500	TH-FC1000	TH-FC2000
Model	TH-FQ150	TH-FQ300	TH-FQ450
Continuous model power	150W	300W	450W
Pulse model average power	150W	300W	450W
Pulse model peak power	1500W	3000W	4500W
Laser wavelength		1070±10nm	
Working mode		Continuous and pulse adjustable	
Pulse width		0.2ms-10ms	
Single pulse max output energy	15J	30J	45J
Auxiliary positioning		Red light	
Power stability under continuous work		＜ ±1%	
Fiber length		5m/10m	
Working environment temperature		10°C -40°C	
Working fiber		Max 4 light split	

TH-FM 系列光纤 MOPA 焊接激光器

Single Platform Sheet Metal & Pipe Fiber Laser Cutting Machine

Introduction

Excellent beam quality (BBP), constant BBP over the full power range;
Using a long focal length, a small spot can be obtained, and the photoelectric conversion efficiency is 30%;
Maintenance-free operation, modular design, plug and play, compact size, easy to install;
100,000 hours of mean time between failures.

Technical Parameters

Model	TH-FM100	TH-FM200	TH-FM500
Average power	100W	200W	500W
Peak power		⩽ 15KW	
Laser Wavelength		1070±10nm	
Pulse Width		2-500ns	
Repeat frequency		10-2000KHz	
Pulse energy		1-10mJ	
Auxiliary positioning		红光指示	
Power stability under continuous work		＜ ±1%	
Fiber length		5m	
Working environment temperature		10°C -40°C	

通用激光
焊接机系列

General Laser Welding Machine Series

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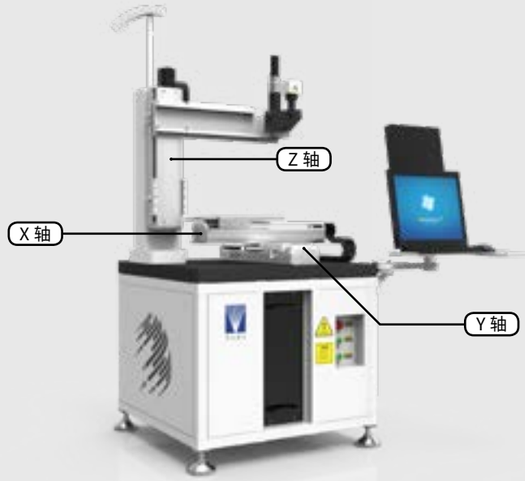
三轴平台

Three-axis Platform

This equipment is suitable for welding of flat shapes and materials such as stainless steel, carbon steel, aluminum



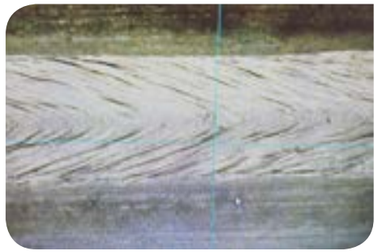
* 图片仅供参考，产品请以实物为准

Introduction

» It can realize four-axis three-linkage numerical control system, which is simple and convenient to program, stable and reliable.

» The workbench adopts high-precision module, the stroke of the slide table module is optional, and the repeat positioning accuracy is ±0.02mm, which effectively ensures the stability and precision of the welding process.

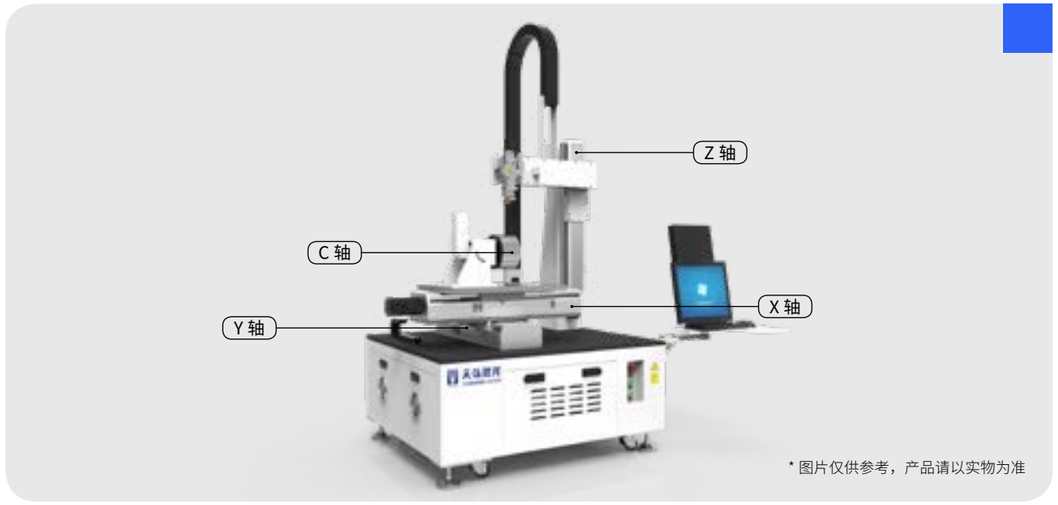
» Laser welding with different processes can weld different products. In addition, with CCD monitoring, you can observe the welding products at anytime



四轴平台

Four-axis Platform

This equipment is suitable for the welding of cylindrical shapes and materials such as stainless steel, carbon steel, aluminum, etc.



* 图片仅供参考，产品请以实物为准

Introduction

» The hardware configuration YAG laser or continuous laser, It can realize the real-time compensation of power to ensure the stable performance of each light energy.

» The four-axis three-link CNC system is simple, convenient, stable and reliable.

» The workbench adopts high-precision module, the slide table module is optional, and the repeat positioning accuracy is ±0.02mm, which effectively ensures the stability and precision of the welding process.

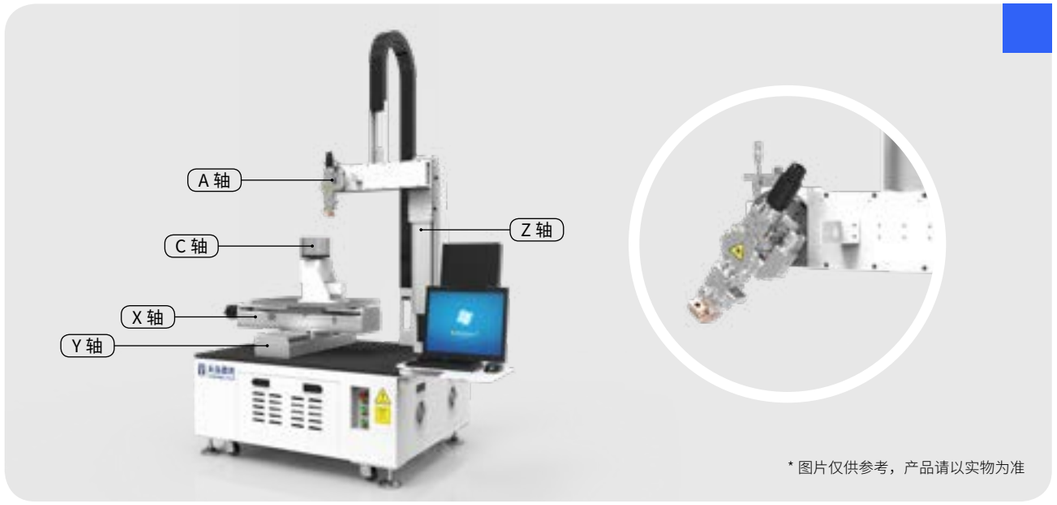
» Laser welding of different processes can be used to weld products of different lengths. In addition, CCD monitoring can be carried out at the same time, and the condition of the product can be observed at any time.

通用设备
Tianhong laser

五轴平台

Five-axis Platform

This equipment is suitable for welding special-shaped parts made of stainless steel, carbon steel, aluminum and other product.



* 图片仅供参考，产品请以实物为准

Introduction

» The hardware configuration YAG laser or continuous laser, It can realize the real-time compensation of power to ensure the stable performance of each light energy.

» The four-axis three-link numerical control system is used to expand the one-axis welding head angle swinging shaft, which is simple and convenient to operate, stable and reliable.

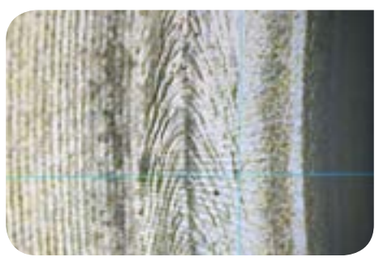
» The workbench adopts high-precision module, the slide table module is optional, and the repeat positioning accuracy is ±0.02mm, which effectively ensures the stability and precision of the welding process.

» Laser welding of different processes can be used to weld products of different lengths. In addition, CCD monitoring can be carried out at the same time, and the condition of the product can be observed at any time.

» Using high-precision rotary chuck, the product can be fixed at different angles to achieve rotary welding.

» The welding software used is simple to program and easy to operate.

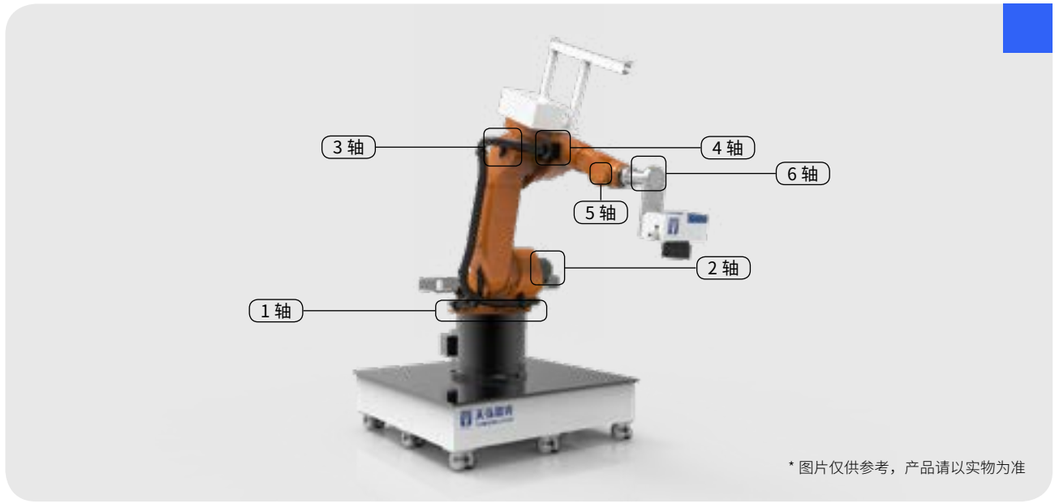
» It can be programmed by CCD positioning instruction.



机械手 + 振镜

Manipulator + Galvanometer

This equipment is suitable for welding products in the automotive new energy industry



* 图片仅供参考，产品请以实物为准

Introduction

» The hardware configuration adopts high-power, high-performance fiber laser, which is basically maintenance-free and lossless.

» Using Omron's control system, and robot IO control, stable and reliable.

» Using a 6-axis robot and a well-known vibrating head, using CCD for visual positioning, and transmitting data to the robot, the robot automatically welds the two-station products, saving the time of manual feeding and increasing the output.

» This equipment is used for welding in the automotive new energy industry.

通用设备
Tianhong laser

专用工作台 + 振镜

Special Worktable + Galvanometer

This equipment is suitable for welding with multiple solder joints in a small area, mainly for 3C industry products

* 图片仅供参考，产品请以实物为准

Introduction

» Simple and convenient programming, stable and reliable.

» The worktable adopts high-precision modules, the travel of the slide module is optional, and the repeat positioning accuracy is ±0.02mm, which effectively ensures the stability and accuracy of the welding process.

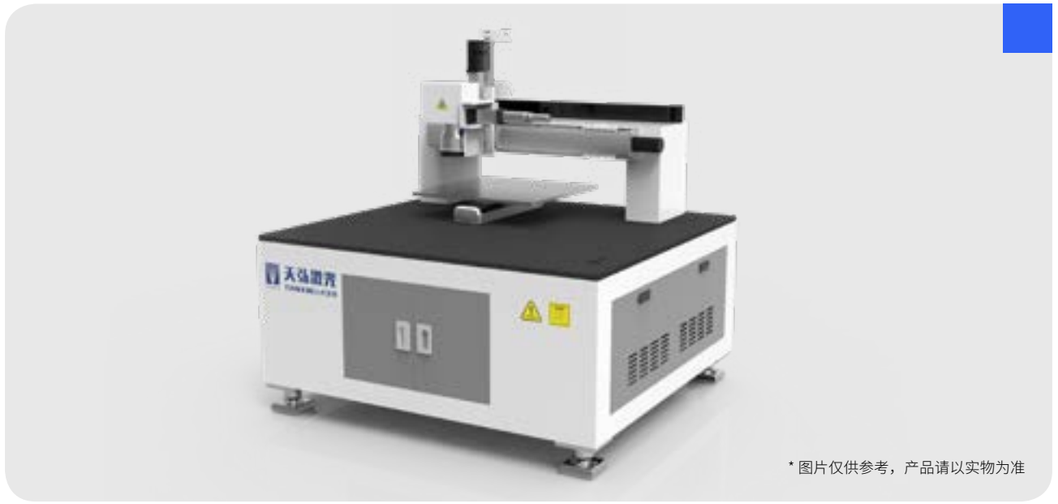
» For different graphics, welding with different process parameters, by importing drawings, can achieve fast response, reduce drawing time, and improve production efficiency.

» This equipment is widely used in welding fields.

振镜扫描 +XY 平台

5.6.Galvanometer Scan + XY Platform

This equipment is suitable for high-speed spot welding of large format



* 图片仅供参考，产品请以实物为准

Introduction

» A galvanometer control system that can realize four-axis three-linkage, simple and convenient programming, stable and reliable.

» The worktable adopts high-precision modules, the travel of the slide module is optional, and the repeat positioning accuracy is ±0.02mm, which effectively ensures the stability and accuracy of the welding process.

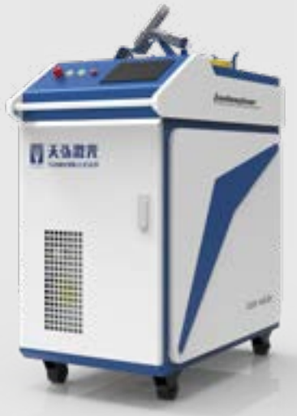
» Using high-power galvanometers, welding with different process parameters for different graphics, by importing drawings, it can achieve fast response, reduce drawing time, and improve production efficiency.

» This equipment is used for high-speed spot welding of large format.

手持焊接机

Handheld Laser Welding Machine

This equipment is suitable for the application of plastic welding products in 3c, automotive, medical and other industries



* 图片仅供参考，产品请以实物为准

Introduction

» Hand-held laser welding machine is a kind of laser welding equipment that couples high-energy laser beams into optical fibers, and after long-distance transmission, collimates them into parallel light through collimating mirrors, and then focuses on the workpiece for welding.It has more flexibility for welding inaccessible parts, as well as bulky products that are inconvenient to move.

» The equipment adopts the latest generation of fiber lasers and is equipped with self-developed welding heads. It has the advantages of simple operation, beautiful welding seam, fast welding speed, and no consumables. It can perfectly replace thin stainless steel plates, iron plates, galvanized plates and other metal materials. Traditional argon arc welding, electric welding and other processes.

» High reliability of the equipment, 24 hours of continuous and stable processing, compact design to ensure the smallest footprint, easy to move.

塑料焊接机

Plastic Welding Machine

This equipment is suitable for the application of plastic welding products in 3c, automotive, medical and other industries

* 图片仅供参考，产品请以实物为准

Introduction

» The hardware is equipped with high-performance semiconductor lasers, which can basically achieve maintenance-free and lossless.

» A CNC system that can realize four-axis three-linkage, simple and convenient programming, stable and reliable.

» The worktable adopts high-precision modules, the travel of the slide module is optional, and the repeat positioning accuracy is ±0.02mm, which effectively ensures the stability and accuracy of the welding process.

» Automatic assembly line to realize automatic welding.

通用设备
Tianhong laser

激光锡焊机

Laser Soldering Machine

This equipment is suitable for the application of 3c microelectronics, automotive microelectronics, optical communication and other industrial products

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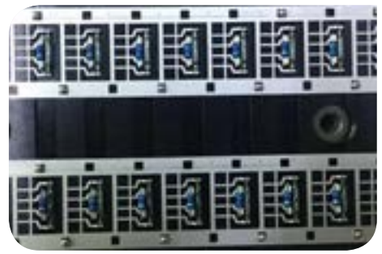
Introduction

» Handware configuration of semiconductor laser imported from Germany, Adopt precise temperature control system and precise wire feeding system , Maintenance free and loss free.

» The four-axis three-linkage CNC system can communicate with the Mitsubishi control system, and the Ethernet bus control is simple and convenient to program, stable



行业专用激光焊接机系列

Industry-specific Laser Welding Machine Series

更好的天弘 更好的激光

BETTER TIANHONG BETTER LASER

汽车齿轮激光焊接机

Automobile Gear Laser Welding Machine

Case: six-axis manipulator + rotary double station

* 图片仅供参考，产品请以实物为准

Introduction

» Hardware configuration Imported medium and high power laser, laser power control can be realized by analog quantity or internal parameter call to ensure the stability of each light output power.

» 6 + 2 operating system of ABB, KUKA, etc, 2 external rotating shafts. Safe, stable and reliable.

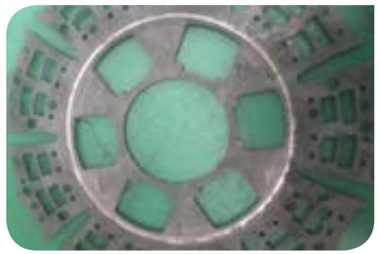
» The workbench adopts a 2-point brake splitter with high precision repeat positioning accuracy. Effectively ensure the stability and accuracy of the position of the welding product.

» Add red light correction to facilitate the alignment of the laser red light

» during the trial process and find the focus point.

» Flexible operation of the sports system, user-friendly design, replacement.

» Division of loading and welding area, Improve work efficiency to improve security.



汽车减震器激光焊接机

Automobile Shock Absorber Laser Welding Machine

Case: Exported Double Rotation Platform

* 图片仅供参考，产品请以实物为准

Introduction

» The hardware configuration adopts high-power fiber laser and PRECITEC welding head imported from Germany, which is basically maintenance-free and lossless.

» The robot imported from Switzerland realizes automatic loading and unloading and automatic welding of double stations, which saves the time of manual loading and increases the output. At the same time, it is equipped with a dust collector with large air volume to reduce smoke and welding slag.

» This equipment is used for welding in the automotive industry.

汽配行业
行业专机

汽车盘套自动激光焊接工作站

Automobile Disc Sleeve Automatic Laser Welding Workstation

Case: Automatic welding workstation

* 图片仅供参考，产品请以实物为准

Introduction

» The hardware configuration adopts high-performance, medium and high-power lasers, which can realize laser power control through analog quantity or internal parameter calling to ensure the stability of each output light power.

» The worktable adopts a 4-part divider structure, and the precise positioning of the divider realizes the positioning and precise welding of the product, which effectively ensures the stability and precision of the welding process.

» Loading and unloading adopts belt pulley, motor and cylinder, optical fiber photoelectric to realize the positioning of product loading and unloading and the function of searching for special points of products.

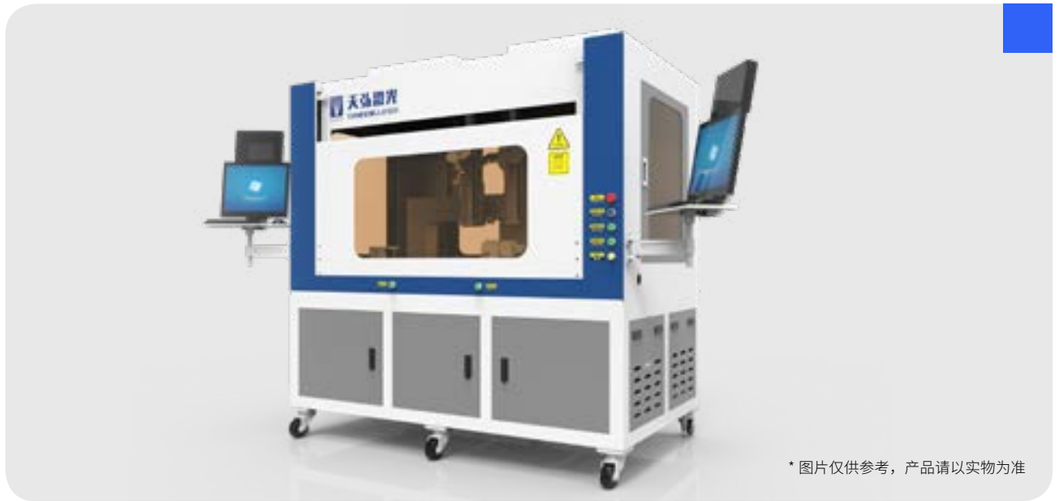
» Targeted welding products are parts welding on automobiles.

» The equipment realizes the automatic loading and unloading process. The simple and easy-to-operate welding automation system can monitor the presence or absence of products and welding conditions at each station in the equipment in real time on the touch screen to ensure orderly processing.

汽车管类配件激光焊接机

Automobile Pipe Fittings Laser Welding Machine

Case：Four-axis double station



* 图片仅供参考，产品请以实物为准

Introduction

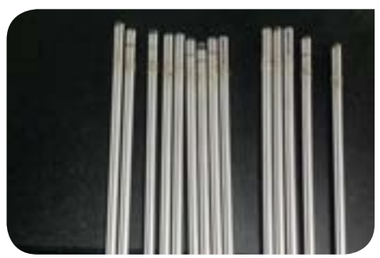
» The hardware is configured with YAG laser, which can realize real-time power compensation to ensure the stable output of light energy each time.

» Using four-axis three-link CNC system, programming is simple and convenient, stable and reliable.

» The worktable adopts high-precision modules, the travel of the slide module is optional, and the repeat positioning accuracy is ±0.02mm, which effectively ensures the stability and accuracy of the welding process.

» Using dual-station welding with different lasers, different products can be welded at the same time. In addition, it is equipped with CCD monitoring, which can observe the welding products at any time.

» Using a high-precision rotary chuck, it is easy to operate and compatible with the welding of various products.



汽配行业
行业专机

汽车尾气处理雾化装置激光焊接工作站

Automobile Exhaust Gas Treatment Atomization Device Laser Welding Machine

Case: Rotary table + six stations

* 图片仅供参考，产品请以实物为准

Introduction

» The hardware configuration adopts high-power fiber laser, which is basically maintenance-free and lossless.

» Using Mitsubishi's control system, and robot IO control, stable and reliable.

» The worktable adopts a high-precision rotary table, which effectively ensures the stability and precision of the welding process.

» Using a 6-axis robot and an external axis, the six-station automatic welding saves the time of manual feeding and increases the output. At the same time, it is equipped with CCD monitoring, which can observe the welding products at any time.

» » This equipment is used for welding in the automotive industry.

Introduction

氧气传感器激光焊接机

Oxygen Sensor Laser Welding Machine

Case: Wiring automatic loading and unloading

* 图片仅供参考，产品请以实物为准

Introduction

» The hardware configuration adopts high-power fiber laser, which is basically maintenance-free and lossless.

» Adopt four-axis three-linkage control system, Ethernet bus control, various process parameters can be adjusted, stable and reliable.

» The worktable adopts a high-precision rotary table, the stroke of the slide table module is optional, and the repeat positioning accuracy is ±0.01mm, which effectively ensures the stability and accuracy of the welding process.

» Automatic loading and unloading is realized, saving the time of manual loading and increasing the output.

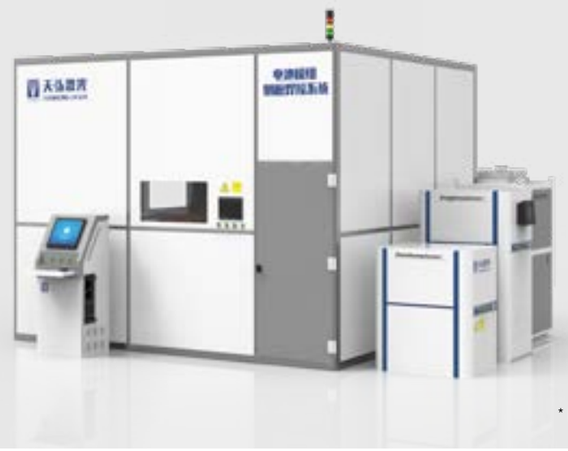
» The welding seam tracking system adopts the Canadian control system, which can track the welding seam in real time and complete the welding automatically. At the same time, it is equipped with CCD monitoring, which can observe the welding products at any time.

» This equipment is used for welding in the automotive new energy industry.

方形电池侧板激光焊接工作站

Square Battery Side Plate Laser Welding Workstation

Case: six-axis manipulator + double station



* 图片仅供参考，产品请以实物为准

Introduction

» The hardware configuration adopts high-power fiber laser, which is basically maintenance-free and lossless.

» Using Omron's control system, and robot IO control, stable and reliable.

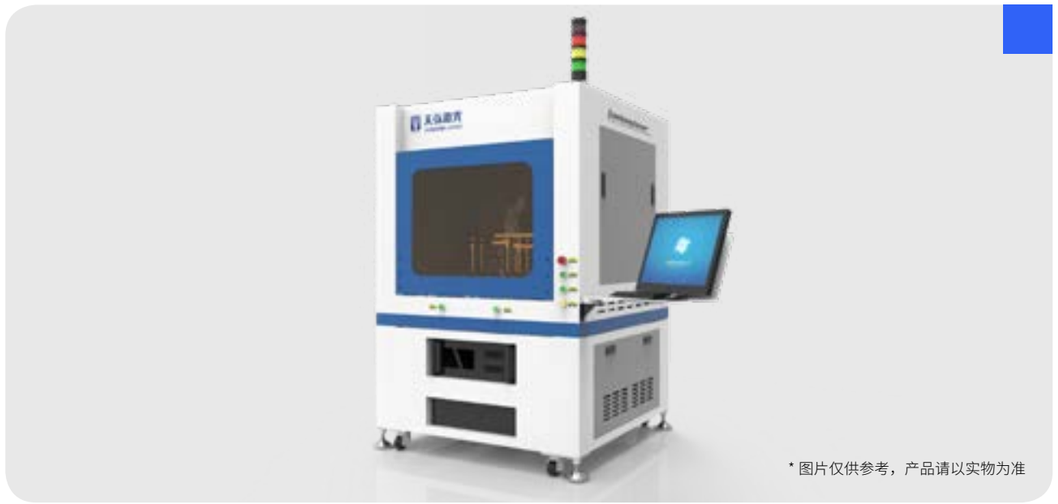
» The worktable adopts high-precision modules, the travel of the slide module is optional, and the repeat positioning accuracy is ±0.02mm, which effectively ensures the stability and accuracy of the welding process.

» Using imported 6-axis robot and German IPG robot, two-station automatic welding saves the time of manual feeding, and increases the output at the same time. At the same time, it is equipped with CCD monitoring, which can observe the situation of welding products at any time.

接触器类激光焊接机

Contactor Laser Welding Machine

Case: Six-axis double station



* 图片仅供参考，产品请以实物为准

Introduction

» The hardware configuration adopts high-power fiber laser, which is basically maintenance-free and lossless.

» Using six-axis control system, Ethernet bus control, various process parameters can be adjusted, stable and reliable. » The worktable adopts a high-precision rotary table, the travel of the sliding table module is optional, and the repeat positioning accuracy is ±0.02mm, which effectively ensures the stability and accuracy of the welding process.

» The automatic welding of double stations saves the time of manual feeding and increases the output at the same time.

» This equipment is used for welding in the new energy industry.

新能源行业
行业专机

软包电池极耳激光焊接机

Laser welding of electrode lug of soft pack battery

Case: double station

* 图片仅供参考，产品请以实物为准

Introduction

» Using high-performance, high-power lasers to ensure the stability of each output light power;

» The equipment adopts double gantry and double station design structure to ensure production efficiency;

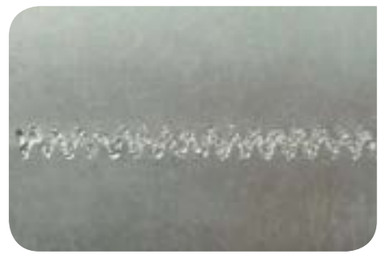
» Using three-axis linkage numerical control system, the programming is simple and convenient, stable and reliable;

» High-quality lens, adjustable high-performance air knife assembly, to ensure continuous beam quality;

» The worktable adopts high-precision modules to effectively ensure the stability and precision of the welding process;

» Flexible operating system and ergonomic design;

» The equipment is used for tab welding in the new energy industry.



方形电池顶盖激光焊接机

Laser welding machine for square battery cover

Case: Rotary Duplex

* 图片仅供参考，产品请以实物为准

Introduction

» The hardware is equipped with high-performance lasers, which are basically maintenance-free and lossless.

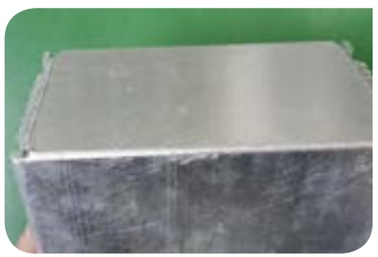
» Using four-axis three-link CNC system, programming is simple and convenient, stable and reliable.

» The worktable adopts high-precision modules, the travel of the slide module is optional, and the repeat positioning accuracy is ±0.02mm, which effectively ensures the stability and accuracy of the welding process.

» Laser welding of different processes can be used to weld different products. In addition, it is equipped with CCD monitoring at the same time, which can observe the condition of welding products at any time.

» Rotary duplex welding, fast and efficient.

» The equipment is used in the packaging and welding of new energy batteries.



新能源行业
行业专机

电池 PACK 焊接流水线

Battery PACK Welding Line

Case: Integrated Pipeline

* 图片仅供参考，产品请以实物为准

Introduction

» Save labor costs and improve work efficiency.

» The equipment integrates light, machine, electricity and gas integration process.

» The equipment has high welding reliability, fast welding speed, and no manual intervention.

» The automatic unloading and unloading operation area is completely isolated from the welding processing area to ensure the safe operation of the operator.

» CCD has high processing precision and high speed, and can realize intelligent, automatic and flexible operation, etc.

新能源行业

行业专机

方形电池顶盖激光焊接工作站

Square Battery Cover Laser Welding Workstation

Case: Flexible Design

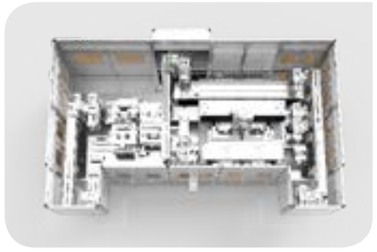
* 图片仅供参考，产品请以实物为准

Introduction

» Working with ring-spot laser, the energy fluctuation is less than 2%, the welding speed can reach 250mm/s, and the performance is stable.

» Laser welding adopts coaxial real-time turbine dust removal device, and is equipped with special dust removal mechanism for welding jig to improve welding yield.

» The product compatibility of the equipment is good, and the whole machine adopts a flexible design, which is convenient to change.



新能源行业

行业专机

方形电池密封钉激光焊接工作站

Square Battery Sealing Nail Laser Welding Workstation

Case: Rotary multi-station

* 图片仅供参考，产品请以实物为准

Introduction

» Using high-energy pulsed laser operation, the heat-affected zone in the welding process is small, the maximum single-pulse energy is high, and the yield rate can reach more than 99.5%.

» During the welding process of sealing nails, floating pressing is adopted, and the pressing nails do not damage the surface of the product and ensure the welding quality. » The positioning mechanism adopts the positioning mode on the top cover of the battery + the distance measurement of the high-precision laser rangefinder to compensate the defocus amount, which double ensures the consistency of the welding focus.

» The design of the whole machine is compact, occupies a small area and has high efficiency.

厨卫
行业
行业专机

厨具类激光焊接机

Kitchenware Laser Welding Machine

Case: Six-axis manipulator

* 图片仅供参考，产品请以实物为准

Introduction

» The hardware is equipped with high-performance, medium and high-power lasers, and the laser power can be controlled through analog or serial communication to ensure the stability of the output power each time.

» Using ABB six-axis manipulator to realize welding at different angles and precise positioning. Programming is simple and convenient. » The work station adopts high-precision fixtures, which can firmly press the liner products to ensure the accuracy of welding.

» Save labor costs and improve work efficiency.

» Flexible operating system, cost-effective, low maintenance costs later.

电机
铁芯
行业专机

电机定子激光焊接机

Motor Stator Laser Welding Machine

Case: single station / double station

* 图片仅供参考，产品请以实物为准

Introduction

» Using fiber laser as light source, energy fluctuation <2%, good stability, high photoelectric conversion efficiency, maintenance-free, and fast speed.

» Special motor iron core welding machine, welding under pressure, to ensure that the welding accuracy and size of the product meet the requirements.

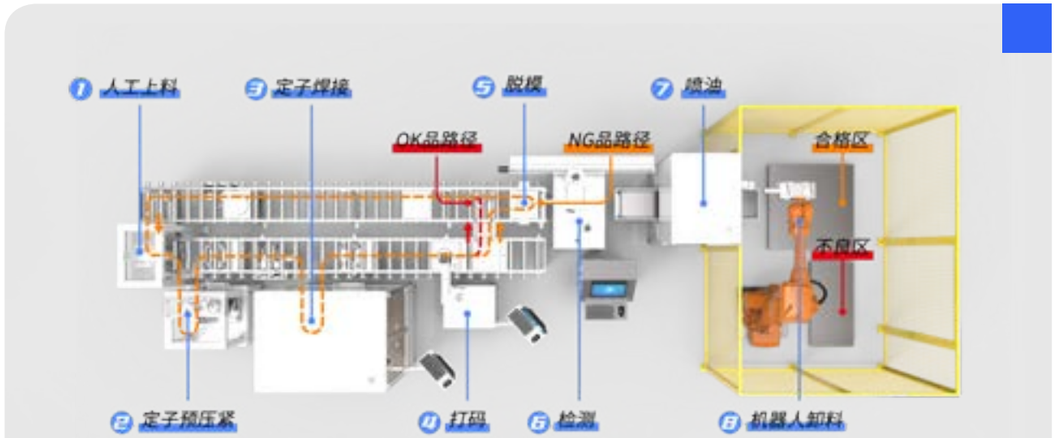
» It can weld various specifications of products, only need to replace the fixture, the equipment has good compatibility, and at the same time, it is equipped with CCD monitoring, which can observe the welding products at any time.

» According to the production capacity, you can choose multi-station or single-station machine, single-welding head or double-welding head, the choice is flexible and economical.

电机定子激光焊接流水线

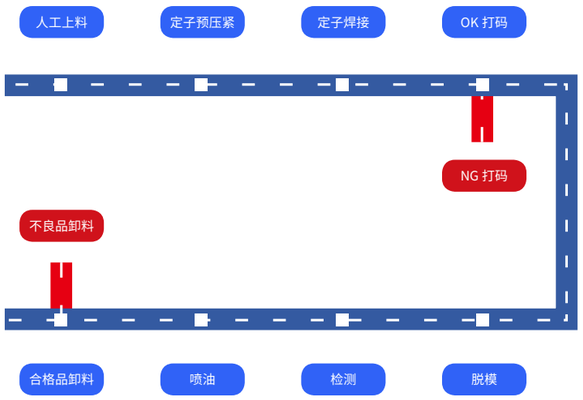
Motor Stator Laser Welding Assembly Line

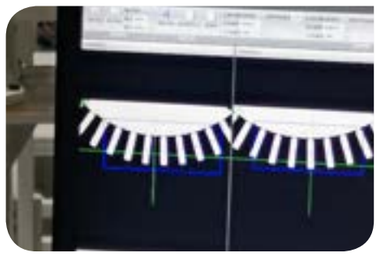
Case: Integrated Pipeline



* 图片仅供参考，产品请以实物为准

Introduction



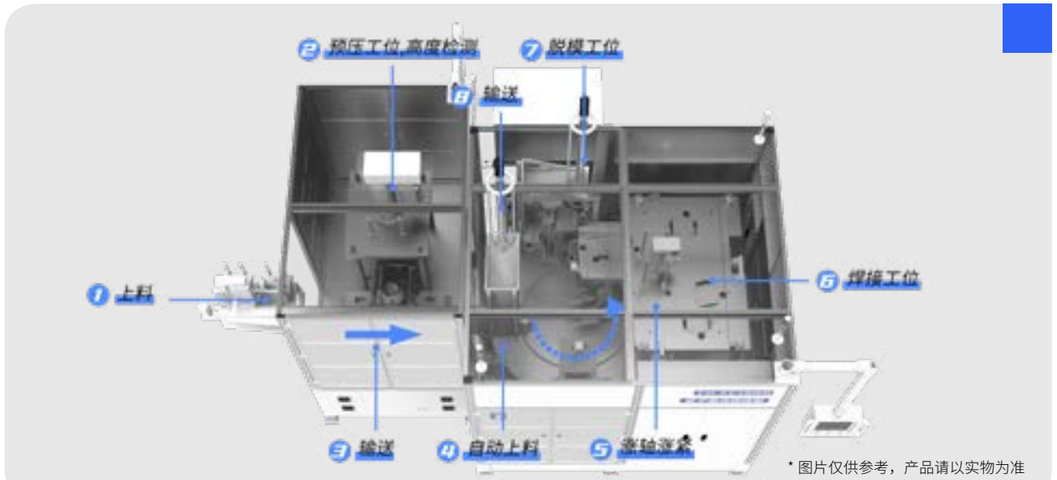


电机铁芯 行业专机

电机定子回转式激光焊接工作站

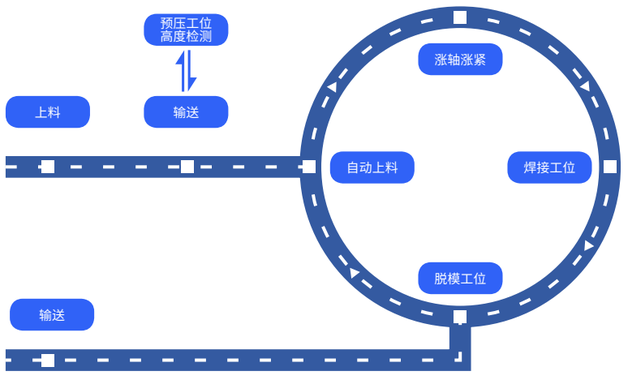
Motor Stator Rotary Laser Welding Workstation

Case: Rotary integrated assembly line



* 图片仅供参考，产品请以实物为准

Introduction



指纹模组激光焊接机

Fingerprint Module Laser Welding Machine

Case: single / double station

* 图片仅供参考，产品请以实物为准

Introduction

» Hardware configurable YAG laser and QCW laser.

» Using four-axis three-linkage control system, and CCD positioning recognition, single-station and double-station optional, simple and convenient programming, stable and reliable.

» The worktable adopts a gantry structure, high-precision sliding table module, the travel of the sliding table module is optional, and the repeat positioning accuracy is ±0.02mm, which effectively ensures the stability and accuracy of the welding process.

» Automatically grab the Mark point with a CCD industrial camera, and achieve high-

3C 行业
行业专机

显示器背板激光焊接机

Display Backplane Laser Welding Machine

Case: six-axis manipulator + rotary

* 图片仅供参考，产品请以实物为准

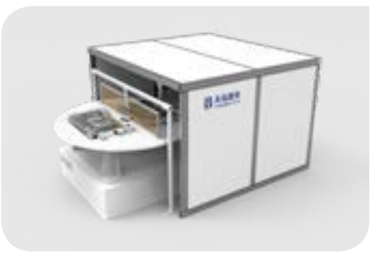
Introduction

» The hardware configuration adopts high-performance, medium and high-power lasers, which can realize laser power control through analog quantity to ensure the stability of each output light power.

» Using the ABB six-axis control system, the multi-angle swing of the welding head is realized, and the product is precisely positioned for welding. » The welding head adopts WOBBLE swing welding head, which can be used for high-precision precision welding.

» The rotating platform adopts a 2-point divider to achieve precise positioning of the position.

» The operating system is simple and convenient, and the maintenance cost is low.



叶轮行业

行业专机

三工位水泵叶轮激光焊接机

Pump Impeller Laser Welding Machine

Case: Six-axis manipulator + multi-station

* 图片仅供参考，产品请以实物为准

Introduction

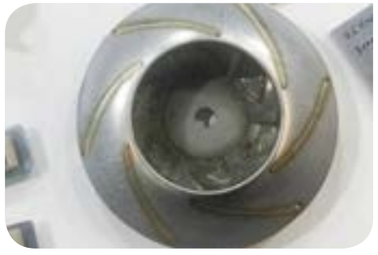
» The hardware configuration adopts high-power fiber laser, which is basically maintenance-free and lossless.

» Adopt Mitsubishi control system, Ethernet bus control, stable and reliable.

» The worktable adopts a high-precision rotary table, which effectively ensures the stability and precision of the welding process.

» Using a 6-axis robot and three-station automatic welding saves the time of manual feeding and increases the output.

» This equipment is used for the welding of impellers.



叶轮行业

行业专机

水泵叶轮激光焊接工作站

Pump Impeller Laser Welding Workstation

Case: Six-axis manipulator + multi-station

* 图片仅供参考，产品请以实物为准

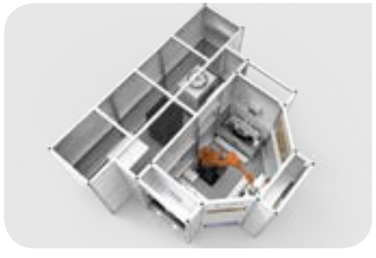
Introduction

» The hardware configuration adopts high-power fiber laser and high-speed galvanometer, which is basically maintenance-free and lossless. » Adopt Siemens control system, Ethernet bus control, stable and reliable.

» The worktable adopts a high-precision rotary table, which effectively ensures the stability and precision of the welding process.

» Using a 6-axis robot, which perfectly cooperates with the galvanometer, plus the automatic welding of 12 sets of tooling in three stations, saves the time of manual feeding and increases the output.

» This equipment is used for the welding of impellers.



圆管激光焊接机

Round Tube Laser Welding Machine

Case: Straight seam welding

* 图片仅供参考，产品请以实物为准

Introduction

» Hardware configuration YAG dual optical path time splitting laser, which can realize real-time power compensation to ensure the stability of each output light energy.

» Using three-axis linkage numerical control system, the operation is simple and convenient, stable and reliable.

» The worktable adopts an integrated elastic pressure structure, and the positioning is slightly assisted, so that the product can be positioned and pressed stably and reliably. Ensure the welding process and precision.

» Laser welding of different processes can be used to weld products of different lengths and sizes, and at the same time, it is equipped with CCD monitoring, which can observe the condition of products at any time.

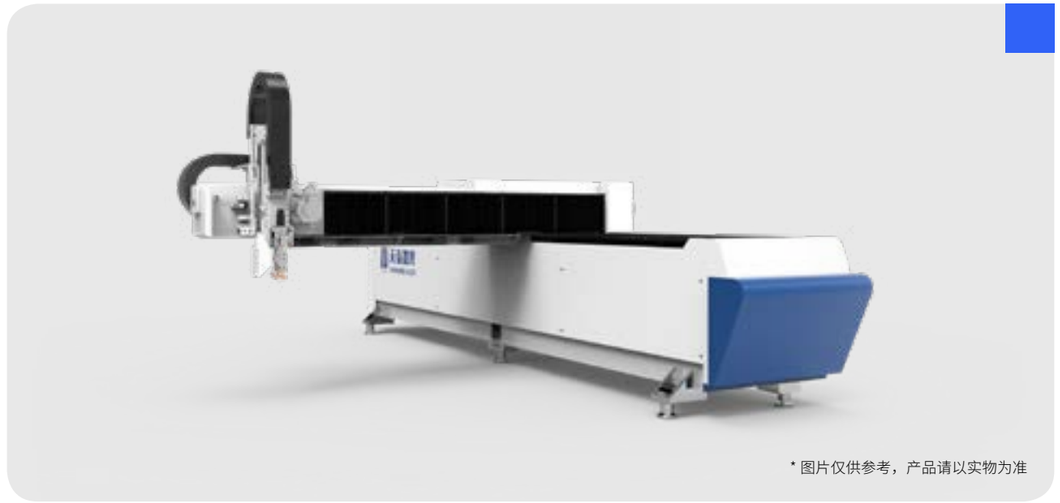
» The welding software used is simple to program and easy to operate.

其他行业
行业专机

热交换器激光焊接机

Heat Exchanger Laser Welding Machine

Case: Cantilever Welding



* 图片仅供参考，产品请以实物为准

Introduction

» The hardware is configured with high-performance, high-power lasers, and the laser power can be controlled through analog or internal parameter calls to ensure the stability of the output power each time.

» Using three-axis linkage CNC system, programming is simple and convenient, stable and reliable.

» The worktable adopts high-precision modules, and the repeat positioning accuracy is ±0.02mm, which effectively ensures the stability and accuracy of the welding process.

» Using different welding processes, different graphic products can be welded, and equipped with CCD monitoring, you can observe the welding products at any time.

» Flexible operation of the motion system, humanized design, and user-friendly experience.

焊接样品展示

Sample

五金工具
Hardware Tools

POS 机芯片
POS Machine Chip

电机定子
Motor Rotor

电机转子
Motor Rotor

过滤网
Strainer

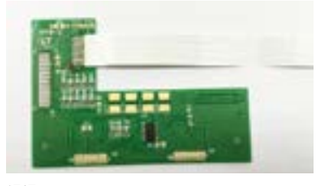
汽车喷油嘴焊接
Auto Fuel Nozzle Welding

汽车喷油嘴焊接
Auto Fuel Nozzle Welding

手机摄像头
Mobile Phone Camera

异形产品焊接
Special-shaped Products Welding

直线电机连续焊
Continuous Welding Of Linear Motor



锡焊
Soldering

极耳焊接
Lug Welding

样品展示
焊接样品

焊接样品展示

Sample

不锈钢丝网焊接
Stainless Steel Wire Mesh Welding

传感器焊接
Sensor Welding

新能源电池 busbar 焊接
New Energy Battery Busbar Welding

钛镍合金与不锈钢
Titanium nickel alloy and stainless steel

传感器焊接
Sensor Welding

新能源电池防爆阀焊接
New Energy Battery Explosion-proof Valve Welding

指纹模组焊接
Fingerprint Module Welding

电机铜端子焊接
Motor Copper Terminal Welding

新能源汽车极柱焊接
New Energy Vehicle Pole Welding

碳钢高频加热焊接
Carbon Steel High Frequency Heating Welding

铝合金焊接
Aluminum Alloy Welding

新能源汽车极柱焊接
New Energy Vehicle Pole Welding

企业荣誉

ENTERPRISE HONOR

103 Patent certificate　**38** Software works　**20th** Development history

高新技术企业

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江苏省科技创新
优秀示范企业

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知识产权工作先进集体

2018 立嘉杯十佳品牌奖

苏州市专精特新百强企业

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