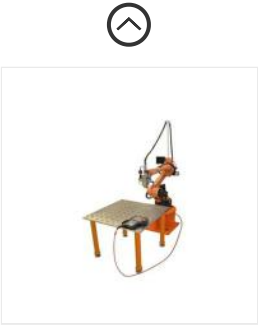




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XQL Robot Welding Machine

Laser welding can be used in welding stainless steel, aluminum, copper and other metals or alloys.

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Product Description

Product Description

1. Laser welding can be used in welding stainless steel, aluminum, copper and other metals or alloys.
2. Laser welding is widely used in the IT industry, medical equipment, communications equipment, aerospace, machinery manufacturing, battery manufacturing, elevator manufacturing, craft gifts, household appliances manufacturing, tooling, gears, automobile shipbuilding, watches and clocks, jewelry and other industries.


Feature & Advantages

Industrial robot welding, six-axis linkage operation, very flexible, professional welding of shaped, complex hardware.

- Supporting robot control system with laser power adjustment, precise position control, multi-channel output, input signal.
- The robot adopts AC servo motor drive system and has power-off memory function to ensure high precision and high reliability.
- High-power high-energy fiber laser, maintenance-free, no need to replace laser tubes, purlins and the like.
- Industrial robots are a flexible tool that can be used in many different industrial applications. This robot can work in very demanding environments with minimal maintenance.
- The industrial robot welding machine can work continuously for 24 hours, which can effectively replace the manual production caused by intermittent work.
- Robot welding uses fiber laser generator as the light source, its working state can reach 100,000 hours, and the laser itself has maintenance-free function without loss.
- Low operating cost, convenient management, high efficiency and high degree of integration.

Main Configuration

Main configuration of XQL-WG1000W model

NO.	NA ME	Number	Original	Manufacturer
	Standard			
1	Fiber laser generator (1000W)	1set	China	Raycus
2	Laser welding head	1pcs	China	WSX  SWING HEAD
3	Machine tool platformand accessories	1set	China	XQL

4	Electrical control	1set	China	AirTAC
7	Machine toolaccessories	1set	China	XQL
8	Control software	1set	Swedish	ABB(gobal brand)
9	Industrial controlcomputer	1set	Swedish	ABB (gobal brand)
12	Water chiller	1set	China	XQL

Fiber laser generator parameters

Name	Technical parameters
Laser type	Fiber laser generator
Laser power	1000W
Laser wavelength	1070-1080nm
Electro-optical conversion efficiency	25-30%
Power adjustment range	10 ~ 100% (0.1-10)
Center wavelength	1080NM
Red light indicates output power	0.5 ~ 1MW
Beam quality	〈1.3
Cooling system	Water chiller
Electricity demand	380V 50Hz/60Hz

Robot performance index

The project name	Technical parameter
Robot brand	ABB
Robot	IRB1600-10/1.45
Robot Height	1294 mm
Welding depth	2 mm
Robot weight	250 KG



Number of working shaft	6 axis
Robot hand weight	20.5 KG
Control mode	Industrial grade special purpose computer
Programming system (touchscreen)	Handheld remote programming
Power demand	200-600V 50Hz/60Hz
Appearance size (length × width × height)	70X1200X2000MM
Loading Weight	10 KG

(the above parameters are for reference only)

The main configuration of the device is introduced:

1) Laser Generator: Ruike 1000W fiber laser

Wuhan Raycus Fiber Laser Technology Co., Ltd. (referred to as "Ruike Laser") is the first in China and is currently the largest enterprise in China specializing in R&D and large- scale production of high-power fiber lasers and core components. Since its establishment in 2007, it has developed two series of 10-100W pulsed fiber lasers and 50-4000W continuous fiber lasers, and has an annual production capacity of 4,000 pulsed lasers and 500 medium and high power continuous lasers. In 2010, the company passed the ISO9001:2008 quality system certification. Several products were listed as national key new products. In 2010, it passed the EU CE certification. Some products are exported to America, Europe, Japan, South Korea and other Asian countries and regions. Raycus' fiber lasers are more environmentally friendly than traditional laser and non-laser equipment:

- Lower power consumption: Fiber lasers are more than 15 times more efficient than conventional lasers.
- Low cooling requirements: The unique design of fiber lasers makes them have a large cooling requirement.
- Large reduction, low power fiber lasers only need to use air cooling.
- Higher spot quality: single mode light source.
- Lower consumption: There are no consumables like replacing lamps or Bars.

a. High stability

The fiber laser series adopts an optical path to generate a resonant cavity type design in the optical fiber. While ensuring high-power laser output, the volume of the laser is reduced, the beam quality is improved, the light beam is transmitted in the optical fiber, and the optical path is not exposed to the air to avoid contamination of the optical path. And has long-term stability. Therefore, the laser welding machine and the large-face laser cutting machine can be used in a relatively harsh industrial environment and have a long working life.

b. High efficiency and low cost

The fiber laser has extremely high electro-optical conversion efficiency, which is several times that of the same power CO2 laser. Its high electro-optical conversion efficiency makes the corresponding power consumption and the power consumption of the chiller the lowest. It is the most stable and efficient mainstream laser in the world.



2) Industrial robots:

The industrial robot system consists of two separate units: Control cabinets and manipulators are further divided into electrical and mechanical systems.

Electrical system:

distributed throughout the manipulator, consisting of two main cable systems; power and signal cables. The power cable supplies power to the motor unit of the manipulator shaft. The signal cable provides various signals for various control parameters, such as shaft position, motor revolutions, and so on. The AC motor unit powers the various manipulator shafts through gears. When the robot cannot be operated for more than 3 minutes in automatic and manual operation, mechanical braking, electrical release, and locking of the motor unit occur.

Mechanical system:

The manipulator has 6 axes and the movement is very flexible. Axis 1 Rotate the manipulator. The shaft 2 reciprocates the lower arm. The lower arm forms a parallelogram with respect to the upper arm together with the parallel arm and the parallel bracket. Parallel brackets are mounted on the bearings of the parallel arms and upper arms. Axis 3 Raise the upper arm of the manipulator. The shaft 4 on the side of the upper arm raises the upper arm. The wrist strap is bolted to the top of the upper arm and includes shafts 5 and 6. These axes form an intersection and the motor is located on the back of the upper arm. Axis 5 is used for tilting and axis 6 is used for rotation.

● Control System:

With the ABB robot-specific control system, the IRC5 M2004 control cabinet contains all the necessary functions for moving and controlling the robot.

The IRC5 controller M2004 can contain a single cabinet or be divided into two separate modules: control module and drive module Piece. In a single cabinet, the control and drive modules are integrated into one module.The control module contains all electronic controls such as the main unit, I/O board and flash memory. All software necessary for robot operation (this is the RobotWare system). The drive module contains all the power supplies that power the robot motor. The IRC5 drive module can contain up to 9 drives, dynamic unit, which can handle 6 external axes with 2 additional axes or additional axes, depending on the model of the robot.When using multiple controllers to run multiple robots (MultiMove option), you must add to each additional robot.

● Laser welding head:

The laser welding head adopts German technology as the special welding head of the fiber laser to ensure the welding precision and efficiency. The lens can withstand 1000 watts of laser power for 24 hours, and the welding head water adopts the whole body water cooling system. The lens is lowered in temperature so that the lens does not produce a thermal effect. The internal structure of the laser head is completely sealed, which can avoid the dust pollution of the optical part. It is equipped with an air knife to prevent the welding slag from flying into the welding head. The laser protection lens is replaced by a drawer type, and the whole replacement process is convenient and fast. The optical path system has the advantages of high efficiency, stability, school illumination, convenient maintenance, etc. The entire optical path system is protected by clean positive air pressure, ensuring that the optical lens and nozzle of the cutting head are free from contamination.

● Cooling System:



The professional chiller adopts the refrigerant control loop, and the high-precision temperature controller controls and displays the water temperature, which is divided into two temperatures. One way to cool the cooling of the welding head, the operation mode is two degrees lower than the room temperature, and the fiber laser is cooled and cooled all the way. Designed to control the temperature of the laser standard, the laser can operate at a constant temperature and high efficiency to ensure a longer lifetime of the internal components of the laser. Fully automatic operation, high efficiency and low noise; the internal water tank and pipeline of the product are made of stainless steel plate, the external gold plate parts are all electrostatically sprayed, which can effectively prevent rust; the use of clean water or deionized water further improves the efficiency and life of the laser equipment.

Work and environmental requirements


1	Voltage:(suggest use voltage stabilizer)(1) Rated output voltage: 380V(2) Frequency: 50Hz(3) Two-phase voltage stability +5%(4) Output voltage adjustment rate: <2%
2	Working piece: Gap is less than One tenth of the thickness of the material
3	Auxiliary gas: High purity argon or nitrogen : purity not less than 99.9% to prevent oxidationof processed parts.
4	Water of water chiller: Need pure water, deionized water or distilled water

Sample

The Sample

Price

The price of main part

<div>Laser generator-Raycus 1000</div> <div></div>	<div>Chinese top laser generator supplier, cooperated with military industry. The fiber laser generator is used as the light source, and its working state can reach 100,000 hours, and the laser itself has maintenance-freefunction without loss.</div>
	<div>Using the world's top Swiss ABB robotic control system, ABB'sin-depth automotive manufacturing expertise provides a full range of robotic production solutions for every component. robot radius 1.45 meters.</div>



WSX Swing welding head



The high-power hand-held welding head is curved, small in size and easy to operate.
WSX welding head with WSX control system can effectively provide welding efficiency and welding effect.

Custom fixture



Professional custom fixtures, pneumatic cylinders designed to meet different sizes of welded objects.
Price: 28000rmb/4060usd





Product quotation

Warranty & service		
The whole machine is guaranteed for one year and laser generator for two years		
Price (ex-factory price)		
XQL-WG1000WRobot welding machine		<div>ABB Robot: Ex works : 40,000 USD</div> <div>Table: extra add 1500 USD</div> <div>With fill wire function1.45 meter radius</div> <div>Step Robot: Ex works: 32,800 USD</div> <div>Table: extra add 1500 USD</div> <div>With fill wire function1.8 meter radius</div>

		
ConsumablesReplace it once every 1~2 months		price: 15usd

Remark

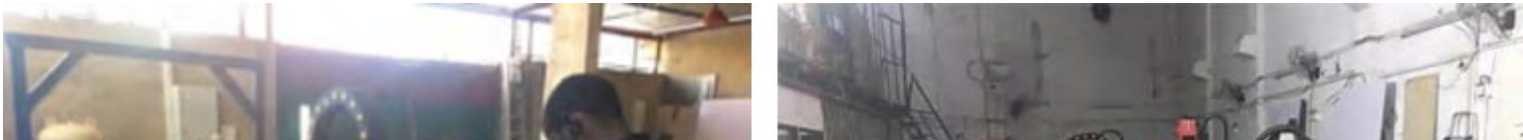
- 1. One year warranty for whole machine (not including consumption), two years warranty for the laser generator.
- 2. Training and installation is free in China, and door-to-door service is available in foreign countries. (*customers need to bear the cost of technical personnel training and installation which is about 150 RMB per day, air tickets, accommodation, meals and so on)
- 3. T/T 30% for deposit, balance should be paid before shipment.

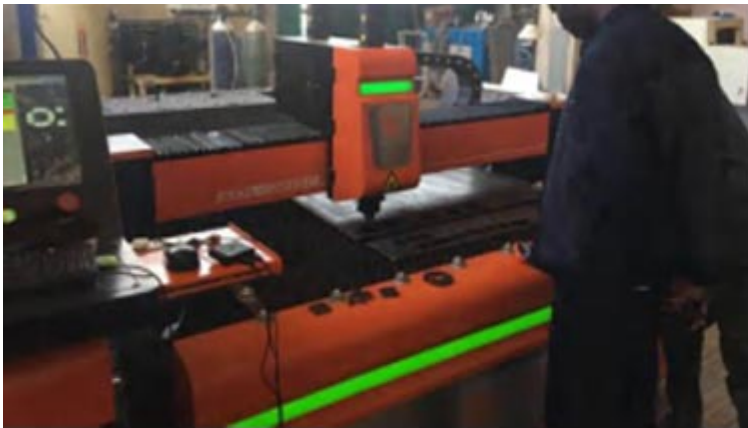
Exhibition Information





Customer site-Installation & training





Packing & Delivery



- * Inquiry and consulting support.
- * Sample testing support.
- * View our Factory.
- * Engineers available to service machinery overseas.
- * 7*24hours online support.

RELATED PRODUCTS



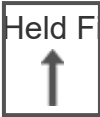
300W YAG Laser Welding Mac...



CSHG300 300w Multifunctional ...



MF1000Z 1000W Hand Held F...



HOT PRODUCTS



MF1000Z 1000W Hand Held Fi...



T6200 Pipe Cutting Machine



3015H Exchange Bed Fiber Las...



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