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WUXI MEIKELE AUTOMATION EQUIPMENT CO., LTD

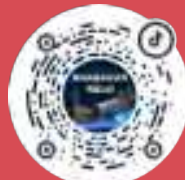
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**FOCUS ON AUTOMATION
WELDING & CUTTING
EQUIPMENT**

WUXI MEIKELE AUTOMATION EQUIPMENT CO., LTD



About Meikele

Wuxi Meikele Automation Equipment Co., Ltd. was founded in 2010 and its annual output value more than 80 million RMB in 2022. It is a high-tech private enterprise, mainly engaged in R&D, manufacturing, installation and sales of various types of plasma welding equipment, DP-TIG welding equipment, robot cutting workstation, wear-resistant & hard surfacing equipment, welding auxiliary equipment, auto filing equipment, pipe going through machine and industrial automation production lines, act as agent of all kinds of import & export business.

The company's main customers include CIMC, CSSC, CNNC, CUC, Johnson Controls, Haier, Midea, Morimatsu, and many other large listed enterprises, the company committed to build up unmanned automation factory according to customer's requirements. The company's business covers chemical machinery, metallurgy, boiler containers, construction cement machinery, auto parts, steel structure of bridge, shipbuilding, aerospace, medical equipment, pharmaceutical production, environmental protection, military industry and other fields. Product sales is spread on Southeast Asia, Africa, Middle East, Europe and the United States and other countries, as result, the company provided high-quality products for global customers.



The company has engaged in welding & cutting equipment for a lot of years and accumulated rich research experience, we passed the national high-tech enterprise certification with a number of invention patent and software copyright certificate. We are in line with the consistent concept of "endless progress" in technology, and will strive to make Meikele automation as a flag of China's auto welding industry.

Wuxi Meikele Automation Equipment Co., Ltd. adheres to the business philosophy of "quality first, technology first, service perfect". We have an excellent enterprise management core and a high-level & high-quality production and R&D teams, committed to providing customers with standardized quality services to enhance customer satisfaction and promote company's reputation. We can provide with full technical support & perfect technical training and timely after-sales service, we would become your trusted partner.



无锡美科勒自动化设备有限公司
Wuxi Meikele Automation Equipment Co., Ltd
无锡沙福智能装备有限公司
Wuxi Shafu Intelligent Equipment Co., Ltd

Technological Innovation Patent



Numerous patented technologies promote technological progress and industrial upgrading, enhance international cooperation capabilities, shape the innovative image of enterprises, and provide strong support for their development.

Technological innovation is the precondition for the Company to occupy the market and realize the market value, so as to enhance core competitiveness. As a developing enterprise, technological innovation has been the power and source for Meikele's development.



Well-experienced



Quality first



Unlimited innovation



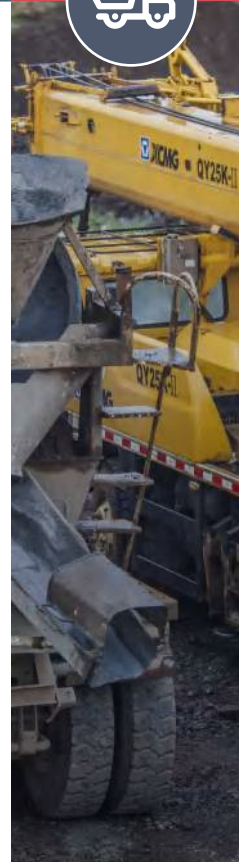
Customized service



Good service

Coverage



Chemical Machinery	Metallurgy	Boiler Container	Construction Cement Machinery	Auto Parts	Bridge Steel Structure	Shipbuilding	Aerospace	Medical Equipment	Military Industry
									
									



Partners

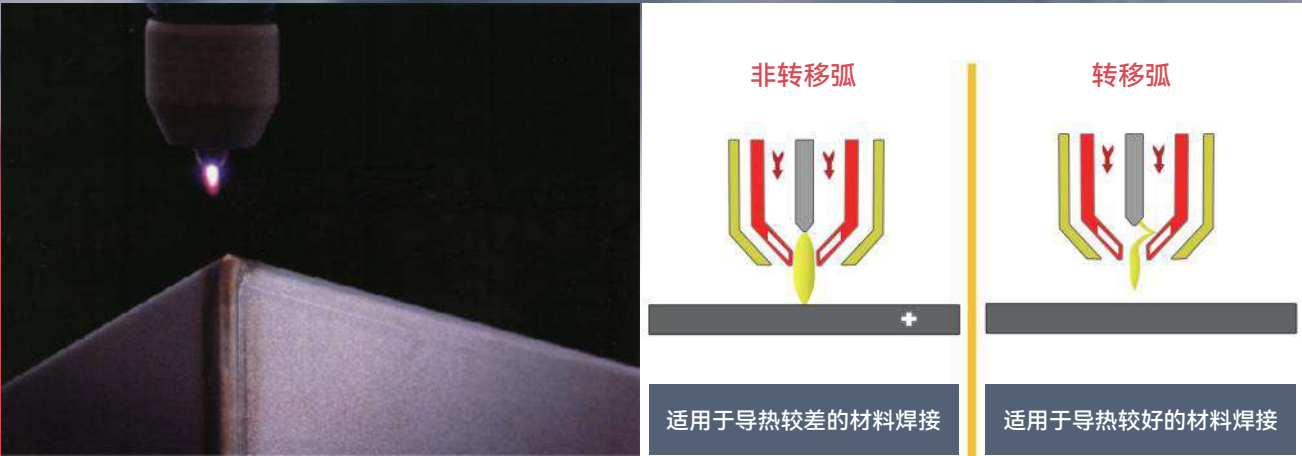
MEIKELE always focus on product quality, we provide best technical support and professional service. Our aim is to create value for our customer and win trust from them.

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Plasma welding principle and technology introduction



★ Summary

Plasma welding is using plasma arc as heat source, is an automatic welding process, it has a great improvement in welding performance compared with the traditional TIG. Plasma gas is generally pure argon, which has good ionization and arc stabilization, the shield gas can be selected according to different materials.

Stainless steel plate welding uses 95%~97% argon & 3%~5% hydrogen mixture; Titanium zirconium and other rare metals welding uses high purity argon; Carbon steel plate welding uses pure argon or argon-hydrogen mixture gas. The principle of selecting the plasma process is based on customer's welding requirements.

★ Principle of plasma welding

Plasma arc is high temperature ionized gas which is generated by ionization, going through the special compression structure of the welding torch and spray from the central hole of the water-cooling torch nozzle to form a stable plasma compression arc, and melt the workpiece to obtain greater penetration. It is usually divided into transfer arc and non-transfer arc and mixed arc three types, commonly used technology is transfer arc process.

★ Technology advantage

- ### Strong penetration

It has strong penetration, bellow 12mm plate welding need not make edge beveling, reducing the preparation time greatly and the amount of wire filling before welding.
- ### Concentrated highly plasma arc energy

The plasma arc energy is concentrated highly, the thermal effected area is smaller during welding and less deformation after plate welding.
- ### Fast welding speed

Plasma welding is faster than handle TIG (3-8mm) and raised by 4-5 times working efficiency.
- ### Single-sided welding & two-sided forming

The rigidity of arc column is strong and using small hole effect can achieve stable performance of single-side welding and two-sided forming, the height, width and narrowness of internal and external welding seams are uniform and beautiful look, which reduces the workload of post-welding seams treatment.
- ### Good welding quality

Good welding quality and suitable for a lot of welding materials.
- ### Long usage life

The electrode is designed in the nozzle of plasma torch, not easy to be burned down and contaminated, long life for electrode usage.
- ### Good controllability

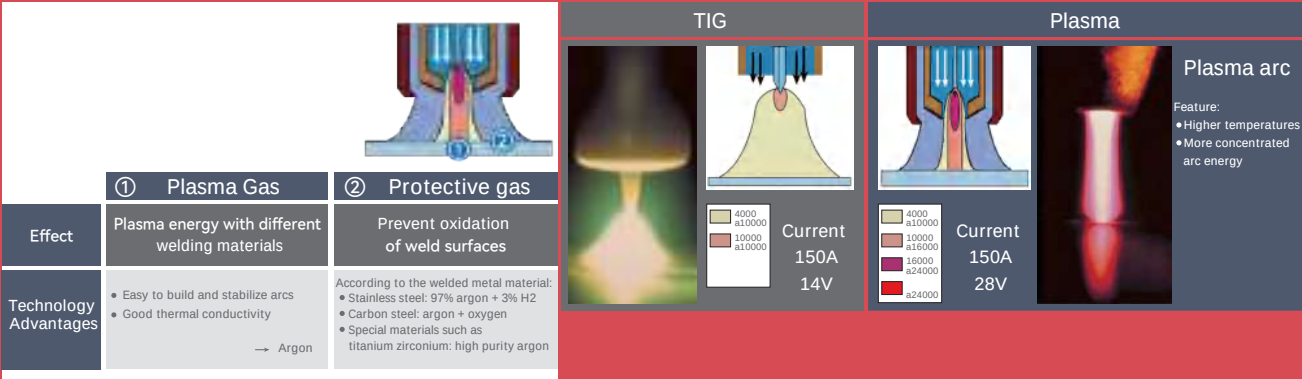
The plasma arc has good controllability and adjustability on welding.
- ### Automatic welding

Plasma welding is automatic mode and easy to be operated, suitable for repeated mass production.

★ Technical parameters

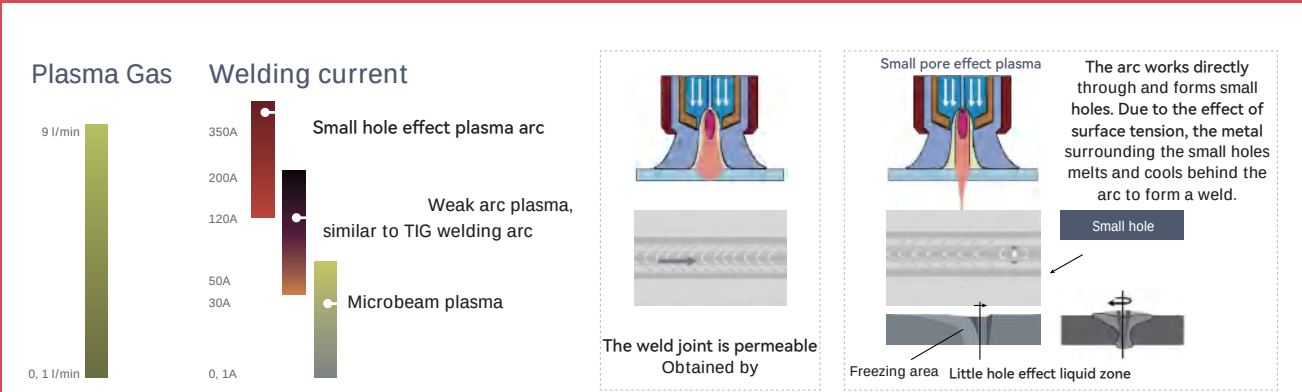
Thickness (mm)	Plasma + TIG welding speed (mm/min)	Lon gas flow (L/min)	Plasma welding amp(A)	TIG welding amp(A)	Single torch plasma welding speed(mm/min)
3	300~500	2.5~4	150~170	200~220	250~450
4	280~500	2.5~4	165~195	220~250	260~400
5	280~460	3.5~4.5	180~210	230~260	200~400
6	250~400	4.0~5.5	190~220	240~275	180~330
8	200~250	4.5~6	210~240	280~330	140~200
10	180~220	5~7	220~260	290~340	160~220
12	160~180	6~8	240~280	300~350	180~250

★ Plasma welding is upgraded from TIG



★ Plasma welding method

According to the arc shape, plasma welding is divided into the following three methods:



According to the thickness of the welded workpiece, small-hole effect plasma, weak arc plasma, and microbeam plasma are 100% welded at a time at a horizontal position. The maximum welding thickness range is as follows:

	0.06	0.5	1.0	2.5	3.0	6.0	8.0	10.0
Stainless steel304/316								
95%Ar								
+5%H ₂ (argon + hydrogen) or								
99.99%Ar								
Titanium or zirconium, etc.								
Special alloy								
99.99%Ar								
Carbon steel								
99.99%Ar								

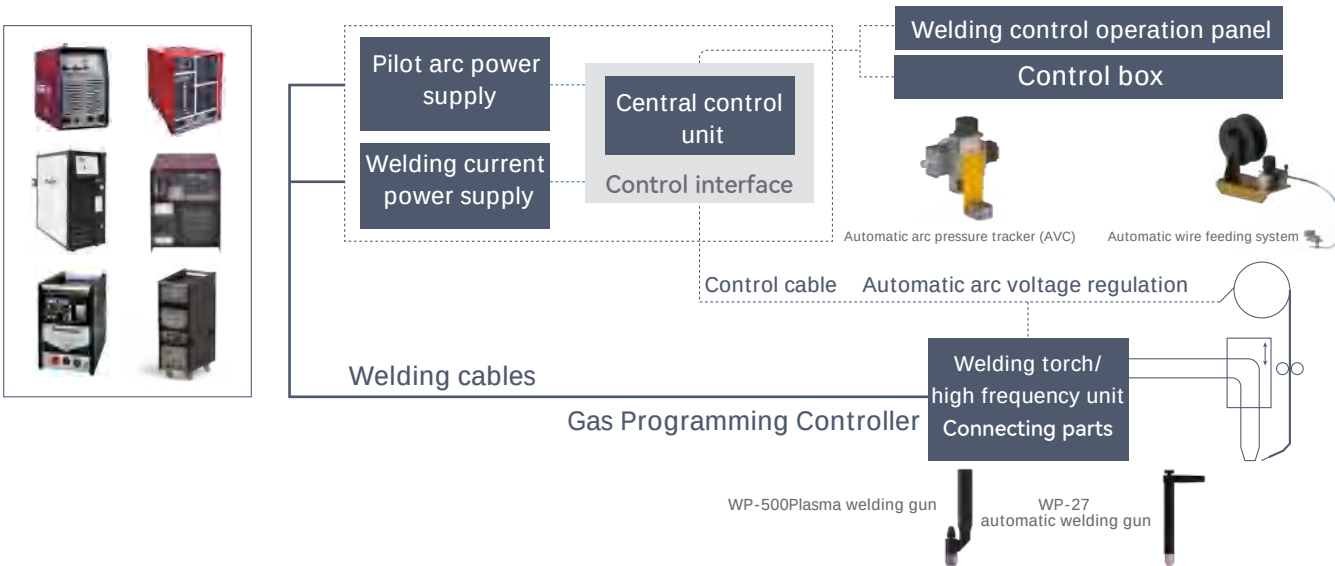
The back protection gas is made of similar gas or nitrogen

When the maximum welding thickness is smaller:

- vertical welding or horizontal horizontal welding position
- Small diameter pipe

Plasma automatic welding system composition

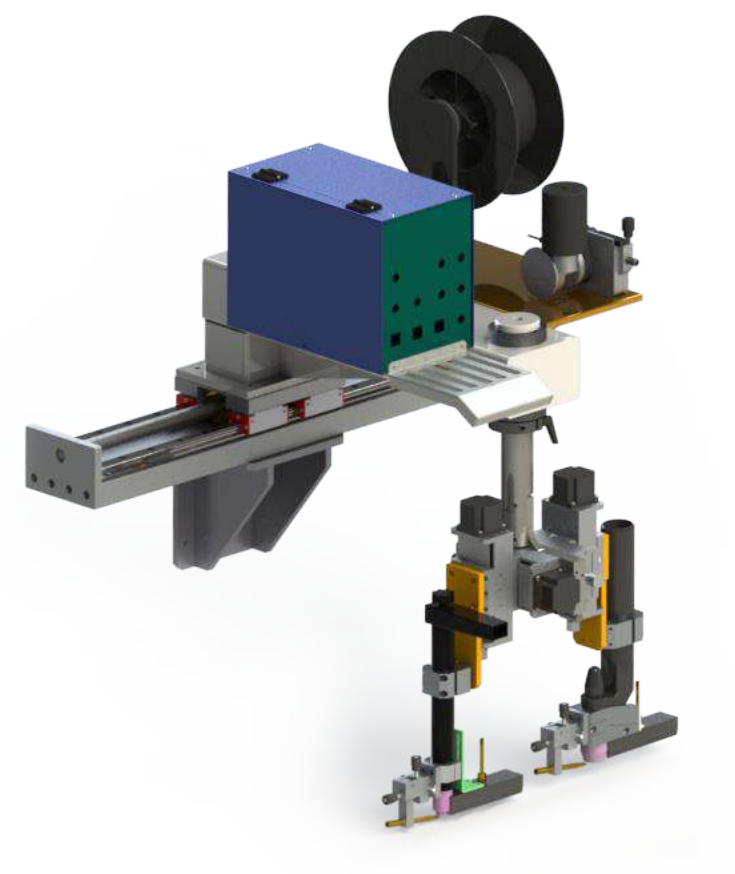
★ System components



★ Multi options for welding power



★ Automatic welding torch



Plasma+TIG Double welding torch technology

- IHERMAL ARC(Victor) 550i plasma welding power + TIG welding power
- Plasma generator
- Plasma welding torch (optional wire filling)
- TIG torch with shield gas dragging cover

Plasma welding accessories

★ Plasma+TIG welding torch combination technology

	WP-500 plasma welding torch • Compact torch body; • Max welding current 500A, duty cycle 60%; • Electrode length 150mm, diameter 4-4.8mm, easy exchange & modulation with auto centering device; • Plasma torch nozzle diameter 2.5-3.0-3.5-4.0mm, cylinder type; • Shield gas nozzle with water-cooling & insulation; • Auto torch is key component of plasma welding, specially designed for small hole plasma welding; • The plasma torch materials and the nozzle shape and size are based on many years research of our technical team and the company applied the patent protection. As result, the patent technology guarantees the better effect of plasma welding and long life of torch consumables.
	Shield gas dragging cover is optional (PLASMA) • Used with WP-500 plasma torch; • Compact design & good outlook; • Excellent effect on ss plate & titanium plate welding, the seam quality is improved greatly; • Made of aluminum alloy and copper plate, it works with plasma torch.
	WP-27 TIG auto welding torch • Max welding current 500A, duty cycle is 60%; • Water-cooling TIG torch; • Tungsten electrode diameter 1.6-4.8mm, the length is 150/175mm, Presetting tungsten electrode protruding length out of nozzle; • Shorter time to exchange tungsten electrode; • The torch cables are enclosed by insulation protection.
	Shield gas dragging cover is optional(TIG) • Used with WP-27 TIG torch; • Compact design & good outlook; • Excellent effect on ss plate & titanium plate welding, the seam quality is improved greatly; • Made of aluminum alloy and copper plate, it works with TIG torch.

★ Other accessory



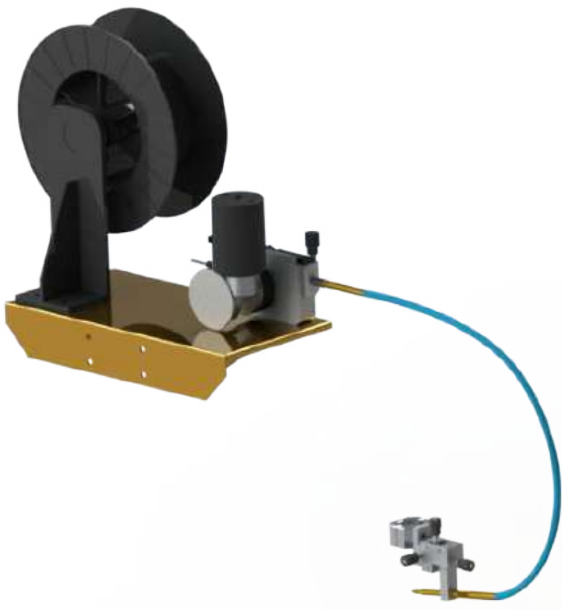
Auto arc voltage tracker (AVC)

- The system contains the following parts:
One motorized bearing and the stroke is 80mm;
One plate to fix welding torch;
One 360° rotary plate with fixed locker.
- Technical Characters:
Auto tracking stroke 80mm;
Torch adjustable range 50mm (forward / backward);
Tracking voltage range 5-50v;
Motorized bearing moving speed precision ±1%;
Tracking voltage precision ±0.1V;
Max moving speed of motorized bearing 250cm/min;
Driving unit;
DC servo system with closed-loop control



Automatic wire feeding system

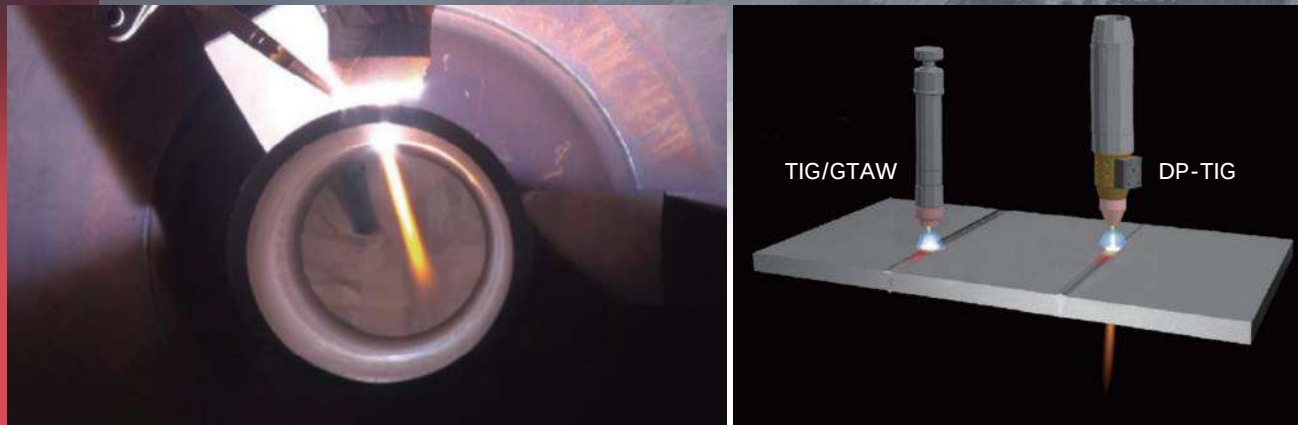
- Because filling materials are often needed during welding;
Prevent welding seam from denting and edge defect;
Low carbon steel with antioxidant elements;
Enhance the strength of welding seam;
Surface hardening.
- The system contains the following parts:
One supporting shaft;
One spool cover of wire feeding Φ300/15KGS;
One speed reducing device of wire feeding;
A wire feeding tube as long as 1.2m;
One adjustable device of wire position;
A torch holder on wire feeder.
 - Technical Characters:
4 feeding rollers driving mode;
DC servo system with closed-loop controller;
Wire feeding speed 0-10m/min;
Speed error tolerance ±1%;
Standard wire diameter Φ1.0-1.2mm,
Optional wire diameter Φ0.8, Φ1.6mm;



Plasma torch series

Model	Work Current (A)	Arc ignition Way	Nozzle cooling Way	Cooling water enters Pressure (MPa)	Cooling water enters Temperature (°C)	Nozzle aperture Range (mm)	Electrode diameter (mm)
 WP-1 (15-220A)	15~220	high frequency	Direct water cooling	0.3~0.6	Not higher than 45°	1.6~4.0	4.8
 WP-2 (30-300A)	30~300	/	/	/	/	2.4~4.8	4.0/4.8
 WP-500 (50-500A)	50~500	/	Indirect water cooling	0.4~0.8	/	2.4~4.8	4.0/4.8
 WP-4 (0.5-50A)	0.5~50	/	Indirect water cooling	0.2~0.4	/	0.8~1.5	1.5/2.4
 WP-5 (1-180A)	1~180	/	Indirect water cooling	0.2~0.4	/	0.8~1.5	2.4
 WP-6 (5-150A)	5~150	/	Indirect water cooling	0.3~0.6	/	0.8~2.5	2.4
 WP-7 (10-180A)	10~180	/	/	0.3~0.6	/	1.6~4.0	2.4/3.2

DP-TIG high efficiency & deep penetration TIG principle & technology introduction



★ Summary

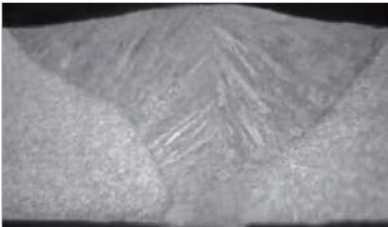
Deep penetration TIG welding (DP-TIG) process is a new efficient automatic welding process, using a new type of "Keyhole" (small hole) welding technology with special high-power welding torch to solve the problems of traditional TIG arc with low stiffness, shallow melting, low welding efficiency.

★ Working principle

DP-TIG achieves the effect of plasma arc through high efficient electromagnetic compression of welding arc. Arc energy is concentrated during welding, arc pressure and surface tension of liquid metal in molten pool are balanced to form stable small hole (keyhole) effect, and it has super penetrating ability. It can do completed penetration on carbon steel plate below 10mm, stainless steel plate below 12mm and titanium alloy plate below 14mm at one time. DP-TIG is a new welding process between traditional TIG welding and plasma arc welding, which has the beautiful covering effect of traditional TIG welding and the excellent penetration of plasma welding.



★ Technology advantage



Welding seam cross section of 8mm stainless steel



V beveling of 16mm stainless steel pipe



Front side welding form

One time with good molding on back penetration

High arc energy & strong arc stiffness, excellent deep penetration welding, all kinds of plates of carbon steel, stainless steel, titanium alloy and other materials can be penetrated well at one time with good molding on back penetration.

Quick welding speed

Quick welding speed is faster 3-8 times than traditional TIG welding.

Good controllability

Good controllability and adjustability on arc modulation.

Low porosity sensitivity

Low porosity sensitivity, avoiding porosity, small holes and other welding defects.

No need to open the bevel in welding

The workpiece need not edge beveling, reducing the preparation time before welding, and the welding thickness has obvious advantages. 12mm stainless steel plate & 14mm titanium plate can be welded without edge beveling.

Single-side welding & two-sided molding

Fully permeable, compressed arc, and adopts the keyhole effect to achieve double-sided molding of single-sided welding, smooth and beautiful welds, and small deformation.

Simpler arc-collection control

Compared with plasma welding process, DP-TIG has no plasma gas control, arc control is simpler and welding is more reliable.

Bigger alignment tolerance

Lower requirements on clearance & unfitness of butt joint, bigger alignment tolerance on workpieces assembly.

Save costs

Reduce the amount of multi-layer welding grinding, as well as the use of welding wire, shield gas and other consumables, saving comprehensive costs.

★ Technical parameters

Welding technology parameters of austenitic stainless steel and its nickel-based alloys:

Material thickness	Welding current (A)	Welding speed (mm/min)	Allowable welding gap (mm)
3mm	270	500	0.5
4mm	325	350	0.5
6mm	425	300	0.8
8mm	480	280	1.0
10mm	500	240	1.5
12mm	520	220	1.5

Welding technology parameters of carbon steel and its alloy steel:

Material thickness	Welding current (A)	Welding speed (mm/min)	Allowable welding gap (mm)
3mm	380	350	0.5
4mm	400	300	0.5
6mm	450	260	0.8
8mm	500	325	1.0
10mm	560	220	1.5

Welding technology parameters of titanium alloy:

Material thickness	Welding current (A)	Welding speed (mm/min)	Allowable welding gap (mm)
3mm	280	500	0.5
4mm	320	500	0.5
6mm	350	350	0.8
8mm	430	300	1.0
10mm	470	280	1.5
13mm	520	240	1.8
15mm	560	200	2.0

Note: The above welding parameters must be achieved under certain conditions:

1. Tungsten electrode 6mm;
2. Shield gas is purified argon, flow rate 20 l/min;
3. The surface oxidation layer and oil pollution on the front and the back of welding area should be removed and clear;
4. The product gap is less than the allowable gap list in the table.

★ System components

Standard configuration:

DP-TIG integrated machine (arc voltage tracking→welding power→water cooling unit→control system) and big power special welding torch.

Standard accessories:

Power cable, earth cable, argon gas meter.

Optional accessories:

Auto wire feeder, weld seam auto tracking system, auto welding auxiliary device, weld seam imaging system.



Front side welding form



Back side welding form



Cross section welding form

Comparison of DP-TIG and other welding technologies

★ Welding quality comparison

◎ High-quality and efficient welding

Welding technology	Welding method	Post-welding form	Summary and comparison
TIG/GMAW Traditional welding			- Multi-layer and multi-channel filling welding, slag inclusion, pores and other phenomena are prone to occur - Large welding deformation - High requirements for operator skills and sense of responsibility - The one-time pass rate of weld film is less than 90%
DP-TIG welding			- One-time welding, no pores, slag inclusion, etc. - Double-sided molding, smooth and beautiful weld seam, small deformation "Nail"-shaped cross-sectional structure enhances the mechanical properties of welds - The one-time pass rate of weld film exceeds 95%.

Note: The above summary of actual welding parameters for 10mm stainless steel

★ Welding efficiency comparison

◎ More than 8 times more efficient

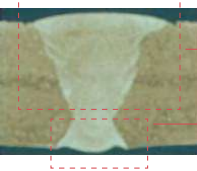
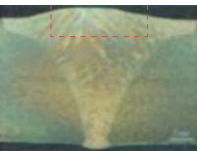
Welding technology	Cut off	Open the bevel	Pre-weld cleaning	Group pairs	Welding front	On the other hand, Kiyone	Welding reverse side	Number of welding times
TIG/GAWM Traditional welding	✓	✓	✓	✓	✓	✓	✓	Multiple welding
DP-TIG welding	✓	✗	✓	✓	✓	✗	✗	One-time welding

Welding speed can reach 500mm/min, one-time welding and double-sided forming

Note: The above summary of actual welding parameters for 10mm stainless steel

★ Welding technology comparison

◎ Material Savings: 95%

Welding techonology	Group pair shape	Post-welding form	Comparison of advantages	Summary and comparison
TIG/GMAW Traditional welding		 Wire fill welding area Self-melting or wire-filling welding area		- Consumption of a lot of welding materials, and waste of bevel materials. - The welding material filling consumption reaches 1000g/m.
DP-TIG welding		 Covered wire fill area, the rest All are self-melting areas		- Welding material filling consumption is low or no welding material is filled. - The fill volume of welding material is not more than 50g/m, which is 5% of traditional TIG.

Note: The above summary of actual welding parameters for 10mm stainless steel

★ Welding cost comparison

◎ 1 high-efficiency deep melt welding equipment = 8 manual welding (daily output)

Serial number	Project	DP-TIG welding	MIG welding
1	Welding cost (yuan/meter)	15.6	57
2	Comprehensive welding speed (mm/min)	280	32
3	Working hours (h)	8	8
4	Number of equipment (units)	1	8
5	Yield (m/day)	125	125
6	Daily welding cost (yuan/day)	1950	7125

Comprehensive welding cost decreased by 3.5 times

Note: The above summary of actual welding parameters for 10mm stainless steel

Gantry Side-beam Auto Welding Equipment



★ Summary

The side beam series welding tools are mainly used to complete circular or straight seam welding of cylinder workpiece, with small floor area, easy lifting and other characteristic, generally must be used with welding positioner & rotator tools, if the wall thickness was less than 2mm, the suspended workpiece is not recommended to use the equipment for welding. The commonly used welding method is MIG/MAG or PAW, which is suitable for longitudinal & circular seam welding of stainless steel welded pipes, containers and tanks.



★ Technology advantage

Straight seam welding

Mainly for straight seam welding of large diameter pipe and cylinder.

Circular seam welding

Works with rotator, column & boom welding tools to finish circular seam welding of cylinder.

Used for various materials

Used for welding of mild steel, stainless steel materials and so on.

Various welding technologies

Suitable for various welding techniques such as PAW, DP-TIG, SAW, MIG/MAG, TIG, etc.

Small footprint

Occupied small floor area and easy lifting for workpieces.



★ Technical parameters

Model	BL8030	BL8040
Max length of cylinder (mm)	6500	6500
Column lifting speed (mm/min)	650	650
Travel speed (mm/min)	80-800	80-800
Dimensions (mm)	8000*4200*5200	8000*4500*6200
Weight (t)	5.2	5.6

Column & Boom Auto Welding Equipment Type -1

★ Summary

Welding manipulator model series have a variety of forms, is one of the main equipment for automatic welding of boilers, pressure vessels, pipelines, chemical industry and metal structural parts, and can work with rotator, positioner, head & tail frame, turning table to form an automatic welding system.

It can be used in various pressure vessels, single or multiple cylinders or large-diameter pipelines, internal & external longitudinal & circular seam welding, spherical vessel head joint welding, cylinder and head inner wall welding, and surfacing welding of the head hole strengthening area. The whole equipment structure is reasonable, the welding process is reliable and efficient, the whole process is controlled by touch LCD and PLC.



★ Technology advantage

Ultra-long girth seam welding

It can realize butt welding of multiple cylinders, with a max total length of up to 10m. Single-sided welding and double-sided forming.

PLC control

The whole set of equipment has a reasonable structure, the welding process is reliable and efficient, and the whole control process adopts touch screen and plc control.

Cooperate with welding auxiliary machine

It can be matched with roller frame, positioner, head and tail frame, flip machine, etc. to form an automatic welding system.

P+T double torch simultaneous welding

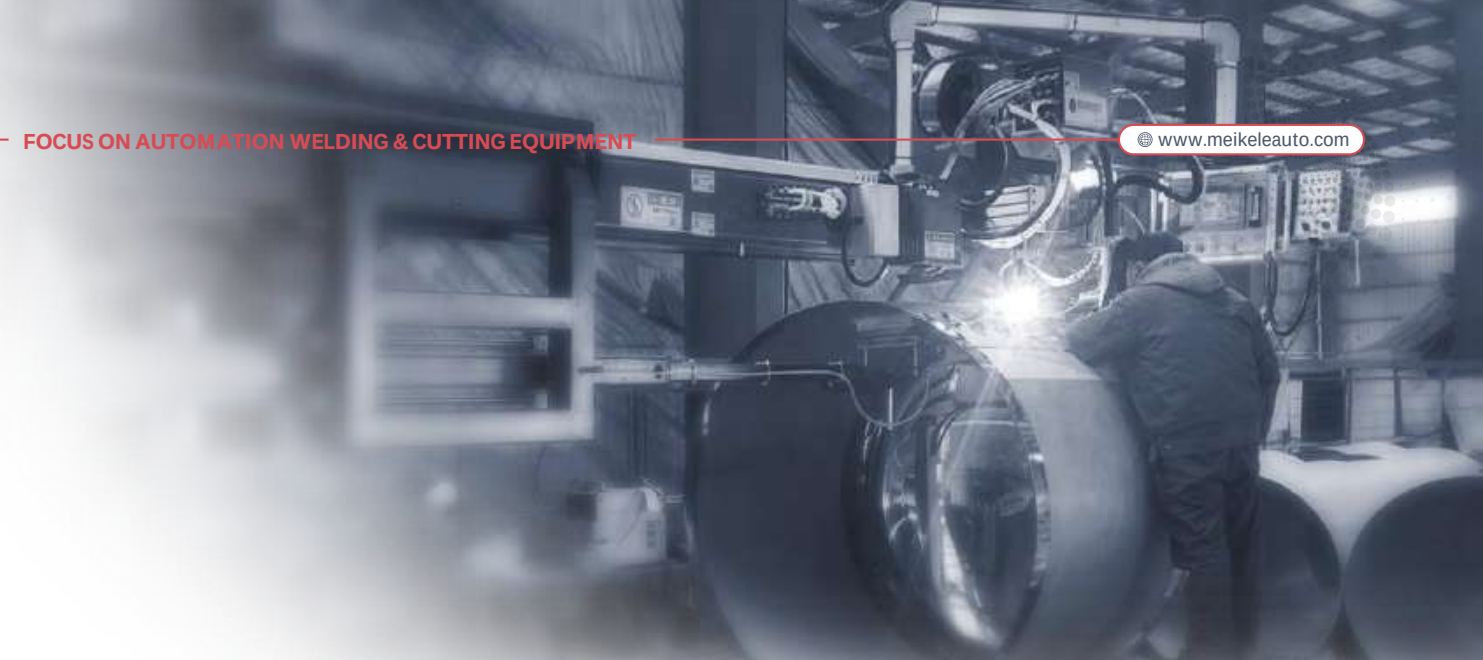
It realizes P+T double torch welding at the same time, and can weld a variety of materials such as carbon steel, stainless steel, titanium alloy, aluminum alloy, etc.

Cylinder longitudinal & girth PAW welding



★ Technical parameters

Model	HJ2020	HJ3030	HJ4040	HJ5040	HJ6050
Vertical travel of beam (mm)	2000	3000	4000	5000	6000
Horizontal travel of beam (mm)	2000	3000	4000	4000	5000
Vertical speed of beam (mm/min)	560	560	800	800	800
Horizontal speed of beam (mm/min)	110-1100				
Column rotation angle	±180°				
Column rotation mode	Electric/Manual/Fixed (Optional)				
Trolley movement mode	Electric/Manual (Optional)				



Column & Boom Auto Welding Equipment Type -2

★ Summary

The manipulator series can be divided into various styles and is one of the main equipment for automatic welding of boilers, pressure vessels, pipelines, chemical industry and metal structures.

It can be used for various pressure vessels, single or multiple cylinders or large diameter pipelines, internal and external longitudinal seams, circumferential seam welding, spherical head splicing welding, cylinder and head inner wall welding, head opening reinforcement area surfacing, etc.



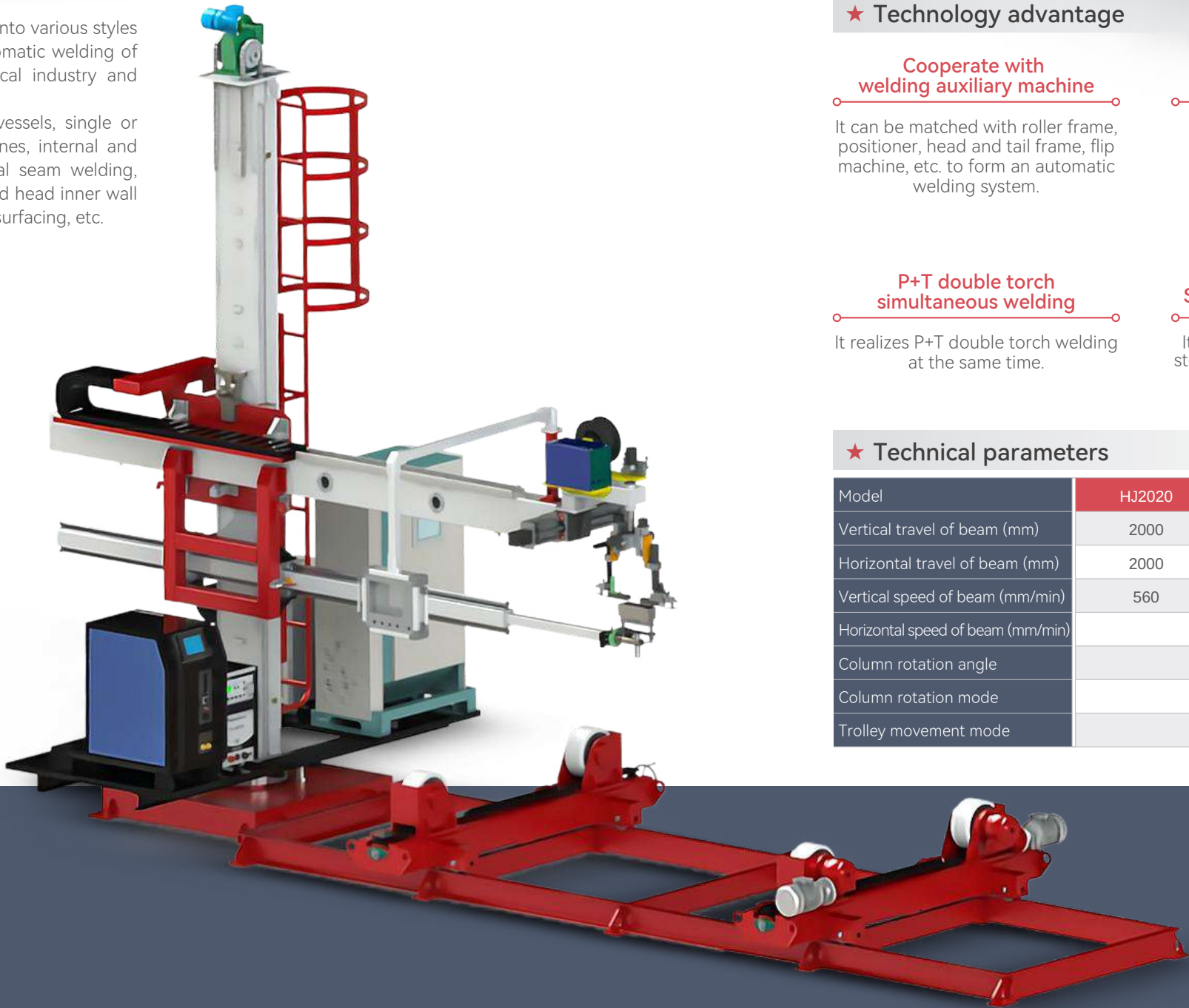
Longitudinal seam welding



Two cylinders join circular seam welding



Multi cylinders join circular welding



★ Technology advantage

Cooperate with welding auxiliary machine

It can be matched with roller frame, positioner, head and tail frame, flip machine, etc. to form an automatic welding system.

One-time forming

Single-sided welding and double-sided forming.

PLC control

The whole set of equipment has a reasonable structure, the welding process is reliable and efficient, and the whole control process adopts touch screen and plc control.

P+T double torch simultaneous welding

It realizes P+T double torch welding at the same time.

Suitable for various materials

It can weld carbon steel, stainless steel, titanium alloy, aluminum alloy and other materials.

★ Technical parameters

Model	HJ2020	HJ3030	HJ4040	HJ5040	HJ6050
Vertical travel of beam (mm)	2000	3000	4000	5000	6000
Horizontal travel of beam (mm)	2000	3000	4000	4000	5000
Vertical speed of beam (mm/min)	560	560	800	800	800
Horizontal speed of beam (mm/min)	110-1100				
Column rotation angle	±180°				
Column rotation mode	Electric/Manual/Fixed (Optional)				
Trolley movement mode	Electric/Manual (Optional)				

Column & Boom Auto Welding Equipment Type -3

★ Summary

Welding manipulator model series have a variety of forms, is one of the main equipment for automatic welding of boilers, pressure vessels, pipelines, chemical industry and metal structural parts, and can work with rotator, positioner, head & tail frame, turning table to form an automatic welding system.

It can be used in various pressure vessels, single or multiple cylinders or large-diameter pipelines, internal & external longitudinal & circular seam welding, spherical vessel head joint welding, cylinder and head inner wall welding, and surfacing welding of the head hole strengthening area. The whole equipment structure is reasonable, the welding process is reliable and efficient, the whole process is controlled by touch LCD and PLC.

工艺优势 | Technology advantage

Cooperate with welding auxiliary machine

It can be matched with roller frame, positioner, head and tail frame, flip machine, etc. to form an automatic welding system.

Longitudinal seam welding

Fixed cylinder on rotator, the longitudinal seam welding can be finished by manipulator.

Suitable for various materials

It can weld carbon steel, stainless steel, titanium alloy, aluminum alloy and other materials.

Circular seam welding

Cylinder is fixed on rotator, and be rotating and driven by rotator, the ultra-long circular seam welding of multi cylinders joint can be finished well, more than 10m long.

P+T double torch simultaneous welding

It realizes P+T double torch welding at the same time.

PLC control

The whole set of equipment has a reasonable structure, the welding process is reliable and efficient, and the whole control process adopts touch screen and plc control.



★ Technical parameters

Model	HJ2020	HJ3030	HJ4040	HJ5040	HJ6050
Vertical travel of beam (mm)	2000	3000	4000	5000	6000
Horizontal travel of beam (mm)	2000	3000	4000	4000	5000
Vertical speed of beam (mm/min)	560	560	800	800	800
Horizontal speed of beam (mm/min)	110-1100				
Column rotation angle	±180°				
Column rotation mode	Electric/Manual/Fixed (Optional)				
Trolley movement mode	Electric/Manual (Optional)				

Fixed Type Longitudinal Seam Auto Welding Equipment

★ Summary

The longitudinal seam series welding tools have a variety of forms, mainly used for the internal & external longitudinal seam welding of thin-wall cylinder, which can work with TIG, MIG/MAG, PAW and other welding solutions. Suitable for carbon steel, stainless steel, aluminum alloys, titanium alloys and other materials welding. It can be used for welding of food machinery, dyeing and finishing equipment, power switches, cylinders, medical machinery, special chemical containers, power pipelines, air conditioner shells and so on, additional protection device can be installed and the height of welding tools can be increased too according to specific situation of workpiece. The welding process is reliable and efficient, the whole welding process is controlled by program.



★ Technology advantage

Keyboard pressing

Using the keyboard pressing mode, the heat dissipation is good during welding, the workpiece deformation is small and the welding quality is perfect.

Longitudinal welding

Longitudinal seam welding of 0.4-12mm thickness cylinder and plate are available.

Single side welding & two-sided forming

Good effect of single side welding & two-sided forming by weld backing, the perfect surface quality can be achieved by frond & back side protection measure.

Multi welding technologies

Suitable for TIG, MIG/MAG, PAW, SAW a variety of welding technologies.

Multi welding material

Suitable for a variety of materials welding such as mild steel, stainless steel, titanium alloy and aluminum alloy.

Customizable

The equipment can be customized according to different workpiece structure.

★ Technical parameters

Model	ZF1500	ZF2000	ZF3000
Max length of cylinder (mm)	1500	2000	3000
Max clamping length (mm)	1590	2132	3100
Max clamping diameter (mm)	Φ750	Φ1000	Φ1200
Min clamping diameter (mm)	Φ110	Φ180	Φ400
Min clamping thickness (mm)	0.4	1.0	1.0
Max clamping thickness (mm)	2.5	8.0	8.0
Key interval adjustable range(mm)	3-25	5-40	5-40
Max pressing force (aside kgf/cm)	15	30	30
Vertical stroke of spindle (mm)	30	30	30
Shaft end bracket adjustment (mm)	10	20	20
Centering device range (mm)	10m	10	10
Max welding trolley travel (mm)	1600	2132	3132
Welding trolley speed (mm/min)	65-1250	65-1250	65-1250
Dimensions (mm)	2330*833*1530	3100*900*2200	4100*900*2200

Lifting Type Longitudinal Seam Auto Welding Equipment



Cylinder longitudinal seam PAW welding

★ Summary

The longitudinal seam series welding tools have a variety of forms, mainly used for the internal & external longitudinal seam welding of thin-wall cylinder, which can work with TIG, MIG/MAG, PAW and other welding solutions. Suitable for carbon steel, stainless steel, aluminum alloys, titanium alloys and other materials welding. It can be used for welding of food machinery, dyeing and finishing equipment, power switches, cylinders, medical machinery, special chemical containers, power pipelines, air conditioner shells and so on, additional protection device can be installed and the height of welding tools can be increased too according to specific situation of workpiece. The welding process is reliable and efficient, the whole welding process is controlled by program.

★ Technology advantage

Piano key compression

The piano-key clamping method is adopted, which has good heat dissipation effect during welding, small deformation of the workpiece and high welding quality.

Longitudinal seam welding

It can solve the longitudinal seam welding of cylinders or plates with a thickness ranging from 0.4 to 12 mm.

Single-sided welding and double-sided forming

The gasket ensures the effect of single-sided welding and double-sided forming. And get the best surface quality through front and back protection.

Suitable for various technologies

Suitable for various welding technologies such as PAW, DP-TIG, MIG/MAG, SAW, TIG, etc.

Suitable for various materials

It can weld carbon steel, stainless steel, titanium alloy, aluminum alloy and other materials.

Customizable

The required equipment can be customized according to the structural requirements of the workpiece.

★ Technical parameters

Model	ZFS3000	ZFS4000	ZFS5000
Max length of cylinder (mm)	3000	3000	3000
Max clamping length (mm)	3100	4160	
Max clamping diameter (mm)	Φ3000	Φ4000	Φ5000
Min clamping diameter (mm)	Φ450	Φ450	Φ450
Min clamping thickness (mm)	1.0	1.5	2.0
Max clamping thickness (mm)	10	10	10
Key interval adjustable range(mm)	5-40	10-40	10-50
Max pressing force (aside kgf/cm)	30	30	30
Vertical stroke of spindle (mm)	30	50	50
Shaft end bracket adjustment (mm)	20	30	50
Welding trolley speed (mm/min)	65-1250		
Dimensions (mm)	4100*4000*1500	5930*4200*1800	7800*4500*2000

Plate Butt Auto Welding Equipment



The end can be made into an open style



★ Summary

Auto butt welding equipments are mainly used in carbon steel, stainless steel, titanium alloy, aluminum alloy plate butt welding, suitable for plate thickness 1.5-8mm, in the case of plate edge could be beveled or milling, the effective clamping thickness could reach up to 12mm. It can be equipped with TIG, MIG/MAG, PAW, SAW and other welding technologies and single-side welding and double-side forming can be finished. The equipment used reasonable gantry structure, the welding technology is reliable and efficient, the welding process is reliable and efficient, the whole welding process is controlled by program.

★ Technology advantage

Thin plate butt welding

Suitable for butt welding of plate thickness is 1.5-12mm, and the max effective welding length can reach 13 meters.

Keyboard pressing

Using the keyboard pressing mode, the heat dissipation is good during welding, the workpiece deformation is small and the welding quality is perfect.

Single side welding & two sides forming

Good effect of single side welding & two-sides forming by using weld backing, the perfect surface quality can be achieved with frond & back side protection measure.

★ Technical parameters

Model	PB3000	PB4000	PB6000	PB8000	PB10000
Max welding length (mm)	3000	4000	6000	8000	10000
Weldable plate thickness (mm)	1.5-12	1.5-12	2.0-12	2.0-12	2.0-12
Max pressing force (aside kgf/cm)	30	30	30	30	30
Key interval adjustable range(mm)	10-40	10-40	10-40	10-40	10-40
Welding trolley speed (mm/min)	65-1250	65-1250	65-1250	65-1250	65-1250
Gasket stroke/method (mm/min)	Manual 0-60	Manual 0-60	Electric 0-60	Electric 0-60	Electric 0-60
Dimensions (mm)	4650*1100*1550	5800*1100*1600	7900*1200*2000	10500*1200*1600	12000*1250*1600
Weight (t)	3.82	5.2	8.0	11.0	13.0

Cylinder Coil Pipe Auto Welding Equipment

★ Summary

- Weld-technology: Half coil pipe fillet welding outside cylinder, it can be equipped with TIG or MIG/MAG welding and other welding technologies.
- Welding wire: The wire material should match up the material of the workpiece. TIG wire can use 1.0 or 1.2mm spool wire and unit spool weight is 15kg. The welding wire should be properly kept and protected to avoid moisture and bending, otherwise the quality of welding seam and the stability of wire feeding would be effected.
- Protective gas: TIG torch uses argon & hydrogen mixed gas (95% Ar & 5% H2), MIG torch uses argon & dioxide mixed gas (98% Ar & 2% CO2) with solid-core wire, or CO2 shield gas with flux-core wire.



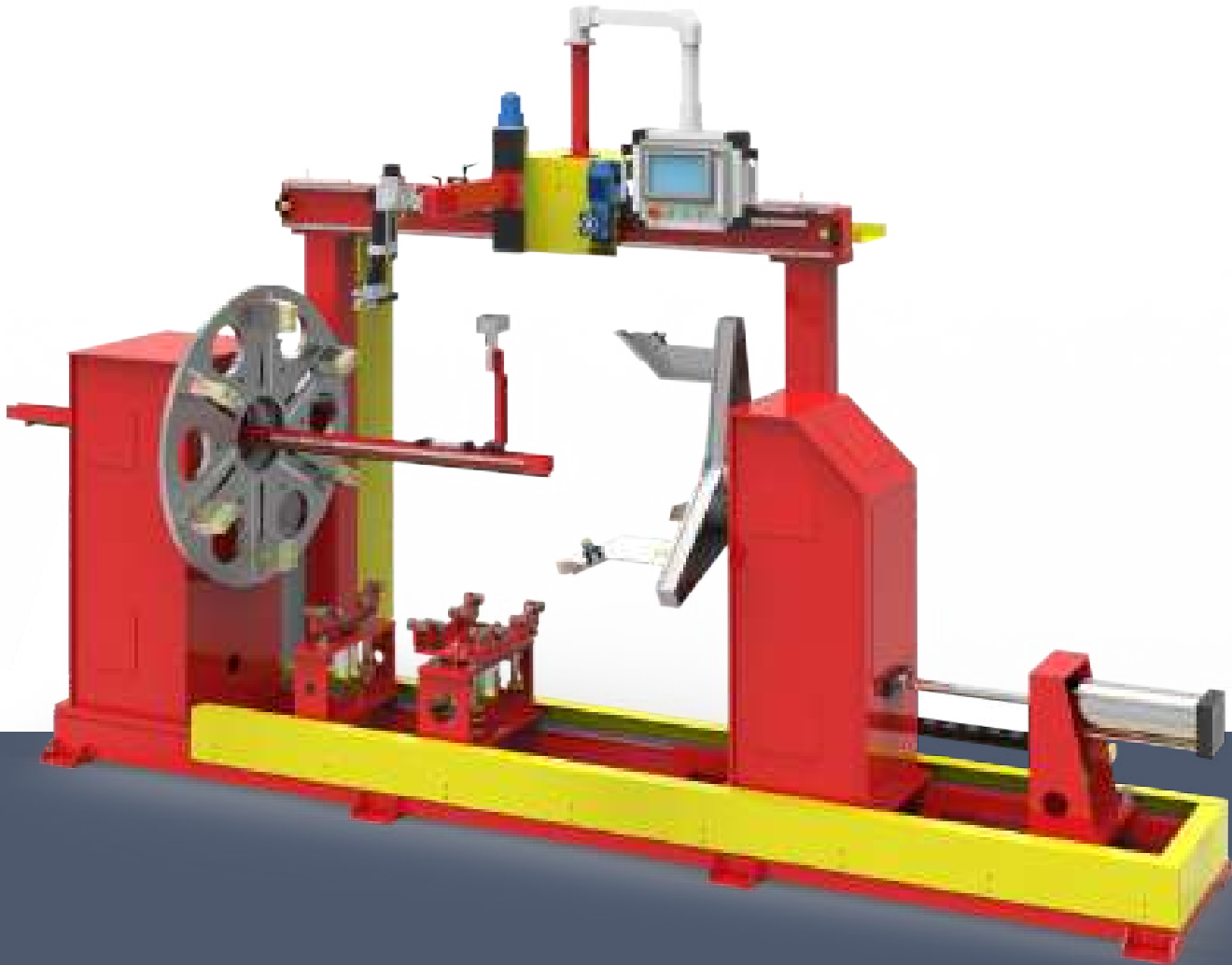
★ Laser scan & vision welding seam tracking system

- Keep the welding torch in right position to ensure continuous welding path without sharp turns.
- Self-developed laser generator base has better heat dissipation and higher stability and good effect for laser power performance.
- One-click solution is provided for the detection of inspection range, inspection capability and common problems during welding.
- Real-time correction of welding seam deviation, intelligent real-time tracking, accurate guidance of welding torch for auto welding.
- It can effectively solve problems caused by welding seam deviation and ensure the perfect welding form.

★ Technical parameters

	Workpiece parameter
Workpiece diameter (mm)	Φ800~3000
Workpiece length(mm)	Single section less than 2500mm
Material	Carbon steel, stainless steel
Thickness	3mm or more
Welding form	Cylinder half pipe fillet welding

Circular Seam Auto Welding Equipment



★ Summary

The circular seam auto welding tools are sorted as the horizontal and the vertical models, its driving mode has chuck type and friction type. The applied industries involve containers, food machinery, oil cylinders, pipe flanges, storage tanks, water heating pipelines, oil pipelines, nuclear storage tanks, construction machinery, central air condition, heat exchangers, tube-plate welding and so on. Suitable for welding of carbon steel, stainless steel, aluminum alloy, titanium alloy, copper and so on, and can be equipped with single welding torch or double welding torches according to customer's requirements. Equipment structure is reasonable and easy to operate, using touch screen and PLC programmed control, coupled with intelligent detection system, can do all-positions circular seam welding.

★ Technology advantage

- Circular seam welding**
Suitable for circular seam welding of cylinder, oil tank and all kinds of containers.
- Suitable for various materials**
Fit for welding of mild steel, austenite stainless steel, titanium alloy and aluminum alloy.
- Multi types welding**
Available for circular seam welding of pipe flange, closure head, pipe-pipe multi types.
- Optional assistant tools**
Pneumatic auto loading and hydraulic clamp assistant tools are optional according to products characteristic.

★ Technical parameters

Model	Small vessels	hydro-cylinder
Max welding diameter(mm)	Φ1200mm	Φ300mm
Min welding diameter(mm)	Φ300mm	Φ50mm
Max welding length(mm)	3000mm	3000mm
Rotational speed(rpm)	0.05~1.0rpm	0.1~2.0rpm
Speed control mode	Stepless speed regulation	Stepless speed regulation
Welding torch adjust angle(°)	±45°	±45°
Spindle motor	Variable frequency/servo motor	Variable frequency/servo motor
Pneumatic travel	500mm	250mm
Welding torch function	Tracking+Swing (optional)	Tracking+Swing (optional)
Bracket method	Pneumatic	Pneumatic
Vertical travel of carriage (mm)	450mm(electric)	300mm(electric)
Arc lateral swing carriage stroke	60mm	60mm
Weight(kg)		2300kg
Spindle switch mode		Manual

Pipe-Flange Auto Welding Equipment

★ Summary

TIG pipe-flange automatic welding equipment is based on the customized designing, suitable for tube-flange, tube-elbow, tube-T, tube-tube joint or corner joint and other forms of pipe welding.

Mainly includes mechanical device, program-controlled welding power source, wire feeding, arc length control, torch head swing control, a variety of mechanical structures are optional, with simple and convenient operation, more wide range of applications.



Clock swing method



Swing method



Pipe-flange internal fillet welding



Pipe-flange external fillet welding



Pipe-high neck flange circular seam welding



Pipe-pipe circular seam welding



Pipe bend circular seam welding



Pipe bend-flange circular seam welding



★ Technology advantage

Solve pipe axial movement

Effectively solve the problem of pipe axial movement.

Reduce pipe radial runout

Effectively solve the problem of pipe radial runout.

Open type design

The open type design is easy & convenient for pipe loading.

Reduce operation difficulty

Motorized 3-claws clamp device with automatic centering and reducing the difficulty of workers operation.

High precision

AC servo motor are quick response, high precision, wide range of speed regulation.

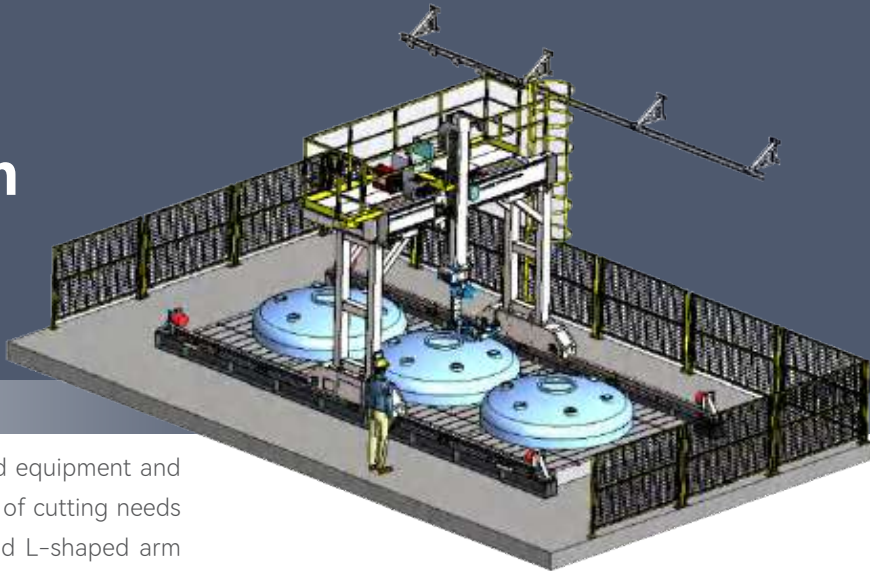
High-efficient transmission

With gear/sprocket wheel drive, high-efficient transmission, large carrying capacity, the equipment can adapt to harsh working conditions.

★ Technical parameters

Model	Integrated	Column & boom type	Pneumatic gantry type
structural type	Hollow chuck structure	Column&boom with positioner	Pneumatic gantry with positioner
Swing method	Clock swing/swing type	Clock swing/swing type	Clock swing/swing type
Column&boom(Fixed/Electric)	-	HCJ1515/2020	-
Workload weight (kg)	500/600	300/600/1200	300/600
Workbench diameter (mm)	500/600	600/800/1000	600/800
Rotation speed (rpm)	0.12-1.2	0.12-1.2	0.12-1.2
Tilt angle	0-135	0-90	0-90
Workbench height (mm)	1050	680/850/1100	680/850
Positioner operating method	System linkage	System linkage	System linkage
Current capacity (A)	300	300	300
Dimensions (mm)	2500*1400*2090	-	2000*1500*1800

Robot Cutting Workstation



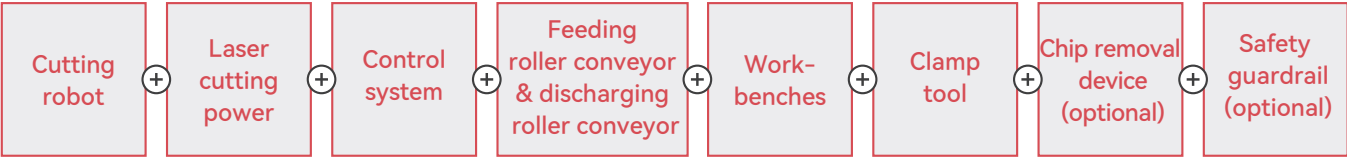
★ Summary

Robot cutting workstation is special designed equipment and produced by our company according to a variety of cutting needs of customers. It has two options: gantry style and L-shaped arm style.

It can be applied to any shaped surface cutting of carbon steel, stainless steel, aluminum alloy, galvanized plate and other metal materials, especially for pre-welding bevel and hole opening on various types of closure heads.

Laser, plasma, flame and other cutting technologies can be selected. And equipped with embedded off-line programming software, off-line teaching, automatic point finding, automatic tracking and visual tracking, which realized intelligent & automatic closure head cutting, greatly improve working efficiency.

★ Working principle



This equipment adopts imported robots and automatic feeding and discharging equipment, forming a continuous operation processing mode from workpiece loading cutting unloading, which not only saves labor but also significantly improves production efficiency.
Tips: Taking laser cutting as an example.

★ Supporting equipment

Optical fiber laser generator

It compact design and small occupation, user-friendly operation system, high quality laser beam and high efficient photovoltaic conversion. Using the single pump control technology, each unit has independent control, even abnormal shutdown the pump could still run, downtime is reduced greatly. Independently developed software, real-time monitoring of machine indicators, dynamic intelligent monitoring, easy to operate. High finished cutting surface and cutting frequency, which fully meet accurate requirements of workpiece cutting.



FANUC Robot

The equipment with Japanese FANUC robots, it can cope with high inertia loadings, the design of built-in cable & toolbox integration can strengthen the arm rigidity, can achieve vibration-free positioning, and intelligent functions such as built-in visual functions or force sensors, the production efficiency can be improved by high-speed and high-precision welding operations.



★ Technology advantage

Suitable for multiple materials

It can be used for cutting on any shaped surface of a variety of metal materials, especially for the pre-welding bevel processing and holes opening of various types of closure heads, customer can select laser, plasma, flame cutting technologies.

Off-line Programming

Equipped with offline programming software, can be embedded in all kinds of 3D designing software, can weld butterfly, spherical and other shapes and sizes of closure heads, can automatically identify closure head and locate welding line positions, automatically generate the motion trajectory and program without cumbersome teaching, it is a real intelligent production system.

Flexible processing

The equipment can carry out continuous cutting with high efficiency & high photoelectric conversion, good equipment stability, small heat affected zone, perfect and firm welding line, low operating cost, easy to learn programming, is the necessary flexible processing equipment for high-quality products.

3D Cutting

Equipped with 3D laser cutting controller and lightweight cutting head with anti-collision to achieve 3D laser cutting, very suitable for 3D cutting of metal parts, it is a perfect flexible joint of robot and laser system.

Highest industry productivity

The high-strength mechanical arm and the most advanced servo control technology effectively improve all axial motions speed and the performance of acceleration & deceleration, and greatly reduce the operation time by more than 15%, achieving the highest productivity in cutting industry.

Automatic brake

The robot rotating shaft is equipped with internal contracting brake, which can automatically lock the rotating shaft in case of power loss to avoid accidents.

High cutting accuracy and convenient operation

Φ500 ~ Φ4000mm closure heads can be cut well, the hole diameter is Φ20 ~ Φ300mm, the gantry moving speed is stepless regulation, using servo motor driving and cooperated with robot, high machining precision and easy operation, which can meet the user's automatic cutting demands.

CNC Closure Head Cutting Machine

★ Summary

CNC closure head cutting equipment is a new generation of high efficient hole-opening equipment which was developed and produced by our company based on foreign advanced technology. The equipment is suitable for six kinds of national standard closure heads, which can cut any plane curve of low carbon steel, medium carbon steel, high strength steel and other materials, and any shaped beveling before welding. High precision and small deformation on cutting surface.

PLC built-in system controller can automatically control the cutting system and automatic ignition system. Equipped with plasma cutting system, the performance is stable and reliable, the equipment can meet workpiece positioning and cutting requirements.

The equipment has the advantages of complete system functions, high degree of automation, simple operation, good dynamic stability and so on, and practices intelligent and automatic production of closure head cutting.



★ Cutting principle

Adopted 3-ways gas supply (preheating, cutting, burning gas), 3-ways gases are connected into the gas console box, the pressure gauge in the box (respectively display three gases pressure values), solenoid valve and gas junction device are centralized display and control, and then the gas divided bar and hose are connected to the back of plasma torch, the plasma is used for preheating cutting area and blowing high-purity cutting oxygen. The metal is oxidized rapidly by the reaction of oxygen and iron, the slag is removed by the high-speed cutting oxygen flow, so as to finish the workpiece edge beveling.

★ Technology advantage

Prevent collision

The CNC controller is equipped with a teaching programmer and a daily operation desk. In addition, considering the safety of the equipment, anti-collision sensor is installed at the back of cutting torch. The plasma torch assembly (including the gun body, cutting nozzle, pressure gauge and pressure reducing valve) is imported from abroad.

High repeat positioning accuracy

CNC controller is modular design, convenient maintenance, good safety. The new AC servo model has characteristics of compact structure, high output, fast response, high reliability, big motion space, better stability and high repeated positioning accuracy.

HD screen color display

Programmer with HD screen color display, functions of online parameter modification and error self-diagnosis display. Conversion of Chinese/English display and easy operation. Dead-man switch installation ensures machine safety.

Perfect cutting closure head

Perfect solutions for the oval, butterfly chart, ball shaped and other national standard closure heads cutting.

Multi-material cutting method

Convenient pipe cutting of mild steel, stainless steel and so on, flame, plasma or laser torch works with plc programming to finish automatic cutting or beveling.

Customizable

Closure head cutting size: DN200-DN5200 (the length can be customized), the cutting thickness: 1-50mm.

Programmed Welding Power Of Pipe MK200

★Summary

MK200 digital program-controlled welding power is composed of control system, inverter power module and cooling system. It is designed as an integrated structure and oriented to the construction of small space on site.



★ Technology advantage

Chinese & English language

Switch between English and Chinese could meet the demand of customers in different fields.

Easy to programming

10 inch HD display with graphical operation interface, built-in expert parameters and providing powerful database and system parameters, easy to operate and make programming simple.

Welding stable

AC220V 50Hz/60Hz single-phase power supply, European-style plug, using of switching power unit for the welding system module to provide stable voltage and current, even though the external power grid within 20% fluctuations, still ensure the stability of each welding repeatability.

Built-in printer

Built-in maintenance-free micro printer, no need to change ink cartridges, one-click printing and automatic printing function.

Failure protection

The fault protection function, automatic diagnosis function and fault alarm information are kept to reduce electrical damage caused by mis-operations.

Spot Welding

Spot welding function is available.

Parameter memory

Parameters adjustment and saved as in memory.

Password protection

Password protection function.

Interval function

Powerful interval function can provide 10 users interval data.

Inverter movement

Imported 200A inverter module is reliable and can ensure the welding stability.

Precise control and sampling

PLC module group adopts modern large-scale IC technology to provide stable redundant design, accurate control and sampling of various output parameters.

Easy to install

The welding torch and the welding machine are connected with European quick-fitting joints and the split structure is convenient for on-site installation.

★ Technical parameters

Model	MK200
Welding power	5-200A
Duty cycle	200A 60% / 155A 100%
No load voltage	65V
Input voltage	220V±10% 50/60Hz
Power	4.5KVA
Torch cooling	External circulation water cooling
Storeable programs	100
Show method	10-inch touch screen

Power supply type	Inversion
	DC/pulse current
Control function	Gas control
	Rotating motion
	Print control
IEC / IP Level	Gas time control
	F/IP21
Partitionable interval	10
Appearance/weight	586*312*370mm 33kg Including cooling water 3.7L



Embedded printer



Programmed Welding Power Of Pipe MK400



★ Summary

MK400 program-controlled welding power is composed of PLC system, imported 400A inverter module and cooling water tank, adopted special industrial design , monitoring a variety of output & sampling signals by high definition . The equipment is advanced & digital circuit, easy operation and reliable and other characteristics.

★ Technology advantage

PLC control

German Siemens PLC control system with specially designed for industry, monitoring a variety of output & sampling signals by high definition.

Reliable hardware

Use imported 400A inverter movement, with reliable hardware and guaranteed welding stability.

Convenient data input

7 inch HD touch screen, related data can be changed directly, the system comes with one-key assignment, reducing the tedious process of data input.

Display data in real time

Real-time display of welding voltage & current, moving distance or rotating degrees, and the welding stroke can be controlled to achieve automatic attenuation.

Precise settings

The distance between the tungsten electrode and the workpiece is precisely set, and the tungsten electrode is raised to the set value after touching the workpiece and the high frequency arc is triggered.

Automatic fault diagnosis

Fault automatic diagnosis function, automatically report the fault type and display the error code.

Modular design

Modular design for easy maintenance and repair.

Arc pressure tracking

Arc voltage tracking & swing functions.

Program Storage

Built-in expert welding parameters, it can store 100 programs and divided into ten sections.

Panel control

Shield gas control;
DC/Pulse switch can be selected, HF arc ignition during welding process, pulse frequency 0.5-50Hz, welding stroke setting and automatic attenuation are available;
The welding direction control (forward/reverse) , the rotation speed control;
The wire feeding switch is selected, wire feeding speed and wire feeding lag time can be set, wire feeding withdraw time and the increment can be set, can modify welding parameters during the welding process;
Automatic arc length control switch: ON/OFF.



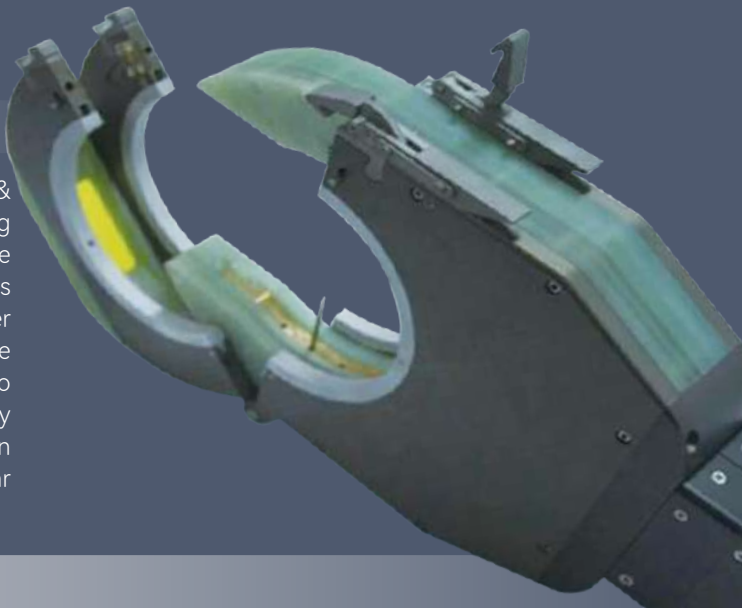
★ Technical parameters

Model	MK400
Welding power supply	5-400A
Temporary loading rate (20℃)	400A 60% 310A 100%
No load voltage	73V
Input voltage	380V±10% 50/60Hz
power	13.2KVA
Welding torch cooling	Built-in circulating water cooling
Storeable programs	100
Partitionable interval	10
Water tank volume	15L
Show method	7-inch touch screen
Power supply type	Inversion
Control function	DC/pulse current
	Rotating motion
	Wire delivery exercise
	Protective gas control
External dimensions	Water cooling control
	1081*445*990mm
Weight (kg)	90kg

Sealed Type All-position Pipe-pipe Welding Machine

★ Summary

The equipment is a specially designed for sealed type & all-position TIG pipe-pipe welding, it adopts the self-melting welding method, which is suitable for thickness 1.5~3mm pipe-pipe automatic welding. Applied for welding of carbon steel, stainless steel and other pipe-pipe joint. Optional for integrated wire feeder or external wire feeder with arc length swing function. It can be used with MK200 program-controlled welding power source to achieve all-position TIG pipe-pipe welding, with high repeatability of welding results and ideal welding effects. Mainly used in chemical, food, engineering installation, boiler, military and nuclear power and other industries.



★ Technical parameters

Model	TC38
Weldable pipe diameter (mm)	6~38.1mm
Max wall thickness of weldable	3mm
Main welding material	Carbon steel, stainless steel, Ti alloy
Main power supply	MK200
Max welding current (A)	85A 40% / 65A 60% / 45A 100%

Torch rotation speed	0.2657~5.3145rpm
Protective gas	Argon
Cooling method	Water cooling
Cooling flow	≥450ml/min
External dimensions	355*115*37.8mm
Weight (kg)	3.5kg

Model	TC78
Weldable pipe diameter (mm)	19.05~76.2mm
Max wall thickness of weldable	3mm
Main welding material	Carbon steel, stainless steel, Ti alloy
Main power supply	MK200
Max welding current (A)	100A 40% / 75A 60% / 55A 100%

Torch rotation speed	0.194~3.877rpm
Protective gas	Argon
Cooling method	Water cooling
Cooling flow	≥450ml/min
External dimensions	425*170*38mm
Weight (kg)	5kg

Model	TC118
Weldable pipe diameter (mm)	38.1~114.3mm
Max wall thickness of weldable	3mm
Main welding material	Carbon steel, stainless steel, Ti alloy
Main power supply	MK200
Max welding current (A)	120A 40% / 100A 60% / 80A 100%

Torch rotation speed	0.092~1.924rpm
Protective gas	Argon
Cooling method	Water cooling
Cooling flow	≥450ml/min
External dimensions	482*210*50mm
Weight (kg)	6.5kg

All position pipe welding

TC series all-position welding head is a special welding head designed for pipe TIG welding, suitable for pipe fitting diameters ranging from 6~38.1mm, 19.05~76.2mm, 38.1~114.3mm

TIG self-melting welding

Sealed type all-position welding, adopting precision TIG self-melting welding technology ensures the beauty of the welding seam.

Equipped with multi fixtures

Equipped with pneumatic loading or hydraulic jacking devices according to the characteristics of products.

Ergonomic

The handle is equipped with operation buttons with ergonomic design.

Applicable to multiple materials

Suitable for thickness 1.5~3mm thin-walled pipe welding of stainless steel, low carbon steel, ti alloy, al alloy and other materials.

Applicable to multiple industries

Mainly used on pharmacy, food process, biology engineering, electrics, instrument & apparatus, pipe installation and other industries.

Non winding structure

Non winding structure, water cooling torch, light weight design and high duty cycle.

Ideal welding effect

Used with MK200 welding power, it can practice TIG all-position precision welding and achieve the ideal welding effect.

Suitable for multi workpieces

Suitable for ring seam welding of cylinder and container, such as flange, closure head, pipe-pipe circular seam welding.

Good welding effect

Enclosed welding is good for protection effect, surface forming with beautiful & compact outlook, suitable for field installation in small operating space with good accessibility.

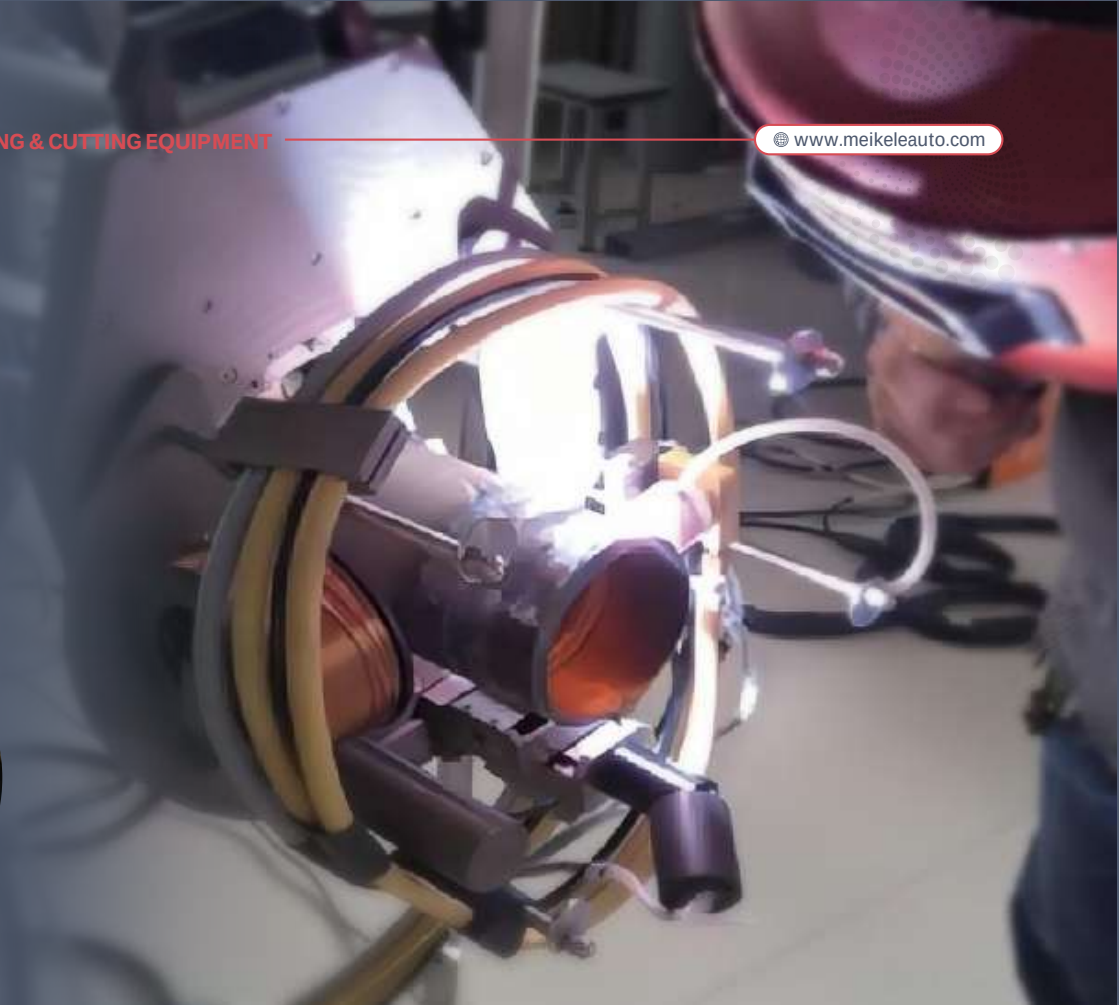
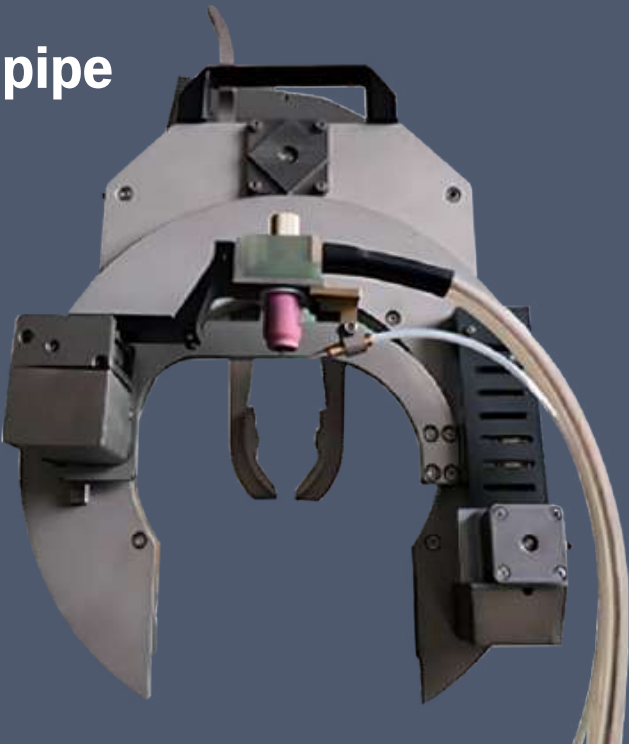
Accurate positioning

Positioning method is clamp block with high accuracy.

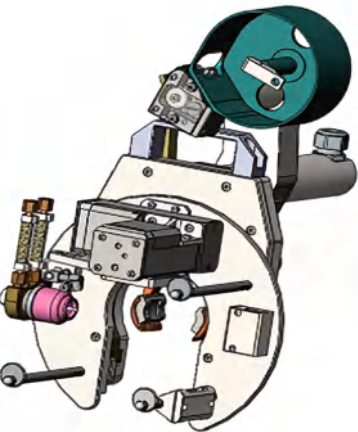
Open type All-position Pipe-pipe Welding Machine

★ Summary

The equipment is a specially designed for open type & all-position TIG pipe-pipe welding, it adopts the wire-filling welding method, which is suitable for thickness 1.5-10mm pipe-pipe automatic welding. Applied for welding of carbon steel, stainless steel and other pipe-pipe joint. Optional for integrated wire feeder or external wire feeder with arc length swing function. It can be used with MK400 program-controlled welding power source to achieve all-position TIG pipe-pipe welding, with high repeatability of welding results and ideal welding effects. Mainly used in chemical, food, engineering installation, boiler, military and nuclear power and other industries.



★ Technology advantage



Automatic welding

The all-position automatic pipe-pipe welding equipment can be used for all kinds of thickness 1.5-10mm pipe joints such as medium & thick wall of carbon steel and stainless steel.

Lightweight structure

The torch head is made of aluminum alloy and lighter structure, the calipers clamping method can be adjusted arbitrarily for different pipes.

Three major structures

Mainly composed of rotating system, clamping device, transmission system.

Supporting welding power

Can be used with MK400 program-controlled welding power supply.

Rotational stability

Adopted the design of gapless gear transmission with stable rotation, small rotation inertia, and little influence in high temperature working environment, no jam on rotations.

Suitable for multi-layer welding

Arc swing design with arc length tracking system and swing wire feeding mechanism, suitable for multi-layer welding process requirements.

Long working hours

Torch head is recycle water cooling with continuous working times.

Wire-filling welding

It adopts wire-filling welding method, widely applicable scenarios.

All-in-one

Used integrated wire feeding device, external wire feeder is also optional.

Widely used

Applied on pipe-pipe and pipe-elbow multi-joint solutions.

★ Technical parameters

Model	WP77	WP130	WP180	WP230	WP324
Weldable pipe diameter (mm)	Inner clampΦ19.05~Φ45 (3/4"~1 3/4")	Inner clampΦ38.1~Φ76 (1 1/2"~3")	Inner clampΦ50.8~Φ114.3 (2"~4 1/2")	Inner clampΦ120~Φ178 (4 1/2"~7")	Inner clampΦ150~Φ230 (6"~9")
	Outer clampΦ45~Φ77 (1 3/4"~3")	Outer clampΦ76~Φ130 (3"~5")	Outer clampΦ114.3~Φ180 (4 1/2"~7")	Outer clampΦ178~Φ230 (7"~9")	Outer clampΦ230~Φ324 (9"~12 3/4")
Tungsten electrode diameter (mm)	Φ2.4、Φ3.2	Φ2.4、Φ3.2	Φ2.4、Φ3.2	Φ2.4、Φ3.2	Φ2.4、Φ3.2
Rotation speed (rpm)	0.19~3.8	0.11~2.2	0.09~1.8	0.05~1.0	0.026~0.52
Protective gas	Argon	Argon	Argon	Argon	Argon
Cooling method	Water cooling	Water cooling	Water cooling	Water cooling	Water cooling
Cooling flow	≥600	≥600	≥600	≥600	≥600
Yack width (mm)	20	40	40	40	40
Arc length height (mm)	40	40	40	40	40
Wire diameter (mm)	Φ1.0Standard	Φ1.0Standard	Φ1.0Standard	Φ1.0Standard	Φ1.0Standard
Max wire feeding speed (mm/min)	1800	1800	1800	1800	1800

Main dimensions (mm)

A	220	300	375	425	550
B	180	235	285	300	315
C	112~132	132~172	184~224	195~235	230~270
D	92	165	225	250	297
E	82	132	182	232	328
F	320	400	525	570	680
Dimensions (mm)	370*220*320mm	435*300*400mm	445*375*525mm	465*425*570mm	430*610*680mm
Weight (kg)	5.5kg	10.8kg	19.5kg	21.5kg	36kg
	No electricity included	No electricity included	No electricity included	No electricity included	No electricity included

Self-melting Pipe-plate Welding Machine

★ Summary

The equipment is designed for automatic TIG self-melting welding on pipe-plate, suitable for automatic welding of pipe-plate of low-pressure vessel, used on welding of titanium alloy, stainless steel, carbon steel and other materials. It has the characteristics of fast welding, good welding seam and high welding quality. It can be used with MK200 and MK400 welding powers. It is widely used in food, medical treatment, power plant and other industries, and has higher welding quality for oxygen-free materials.



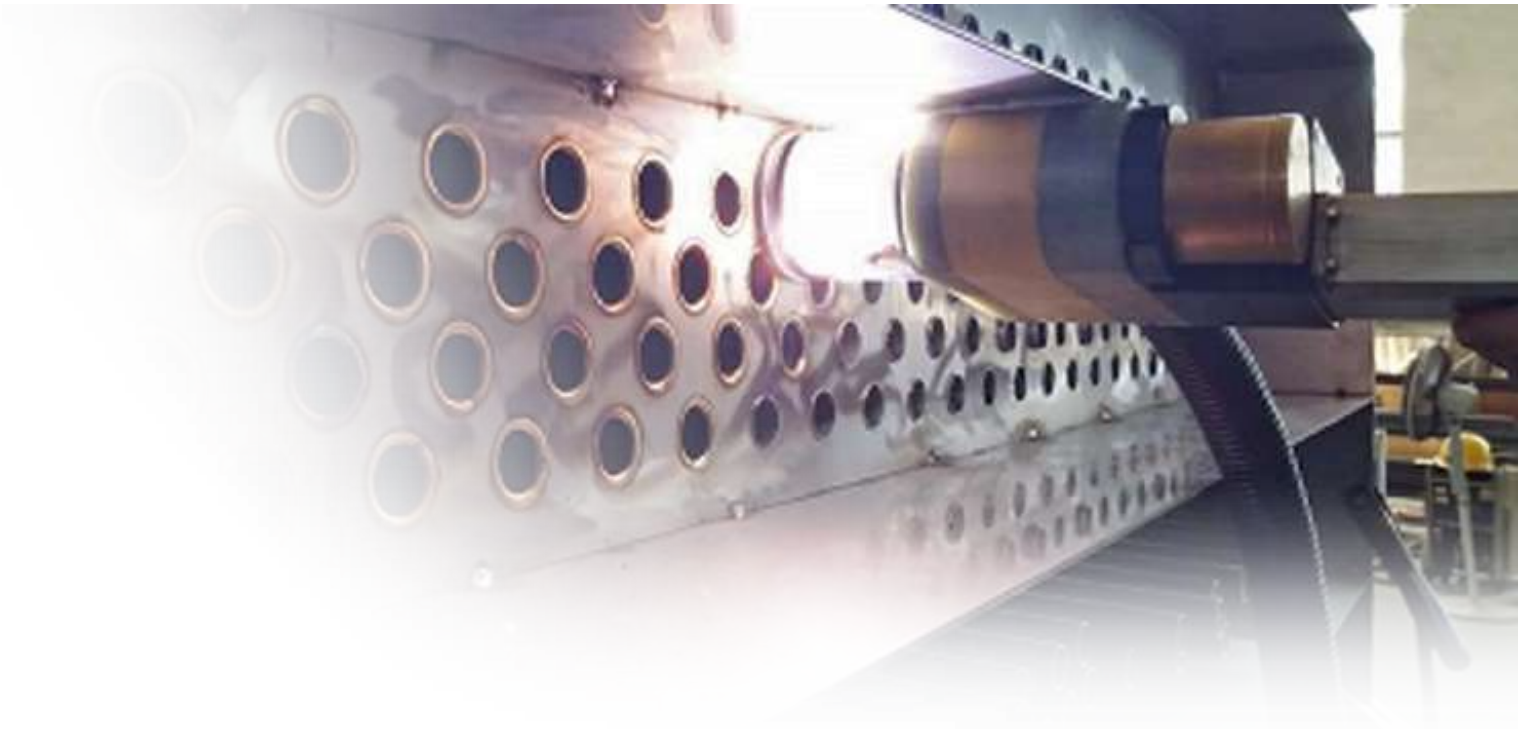
★ Technology advantage

Easy to move

Suitable for pipe-plate welding of wall thickness within 0.3mm~1.5mm, the welding torch is small and easy to move.

Easy to operate, light weight and small size

Adopted the pneumatic core-expansion positioning design and the welding is completely enclosed. The cooling water, shield gas and conduction are universal joint design, which has the characteristics of easy operation, light weight and small volume.



★ Technical parameters

Weldable pipe diameter (mm)	Φ14~32mm
Pipe plate welding form	Flat tube head
Welding head rotation speed (rpm)	0.496~9.93rpm
Tungsten pole inclination angle	0°、5°、7°、15°
Welding protection gas	Argon
Cooling method	Water cooling
Rated current (A)	60% 200A 100% 160A
Dimensions (mm)	315*190*62mm
Weight (kg)	2.1kg



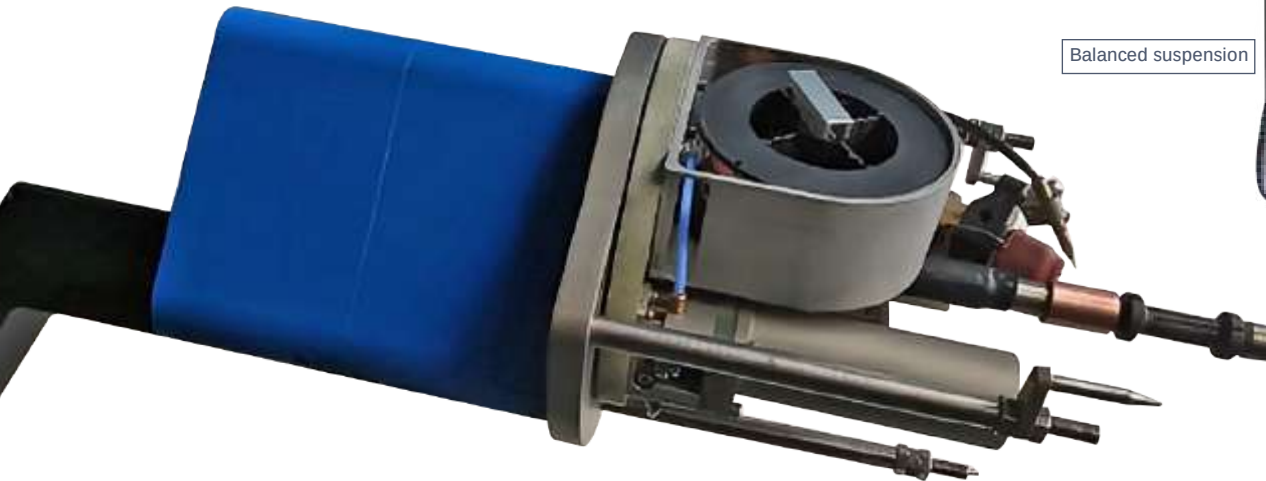
All-Position Pipe-Plate Welding Machine

★ Summary

The welding equipment designed for automatic TIG welding of pipe and pipe-plate is suitable for automatic welding of pipe-plate of high & low pressure vessels, boilers, heat exchangers, etc. It can weld titanium alloy, stainless steel, carbon steel and other materials. Welding methods are flat-head of pipe welding, pipe extension fillet welding, wire welding and self-melted welding without filling wire are available, with fast welding, good welding seam, high quality characteristics, MK400 welding power source is standard configuration, the welding range of pipe diameter is 16-76mm, the flat-head of pipe welding and the pipe extension fillet welding can be completed perfectly. Mainly used in boiler, pressure vessel, heat exchanger, food, pharmacy, power plant and other industries.



Balanced suspension



★ Technology advantage

Precise counting

Hollow cup DC, high performance encoder, precise counting of welding rotation.

3 Claws & Pneumatic positioning

With 3 claws and pneumatic core-expansion positioning device, the torch body has wire feeding structure, can achieve wire filling and non wire filling welding, the wire spool is 1KG loading, tungsten electrode using standard diameters 2.0-3.2mm.

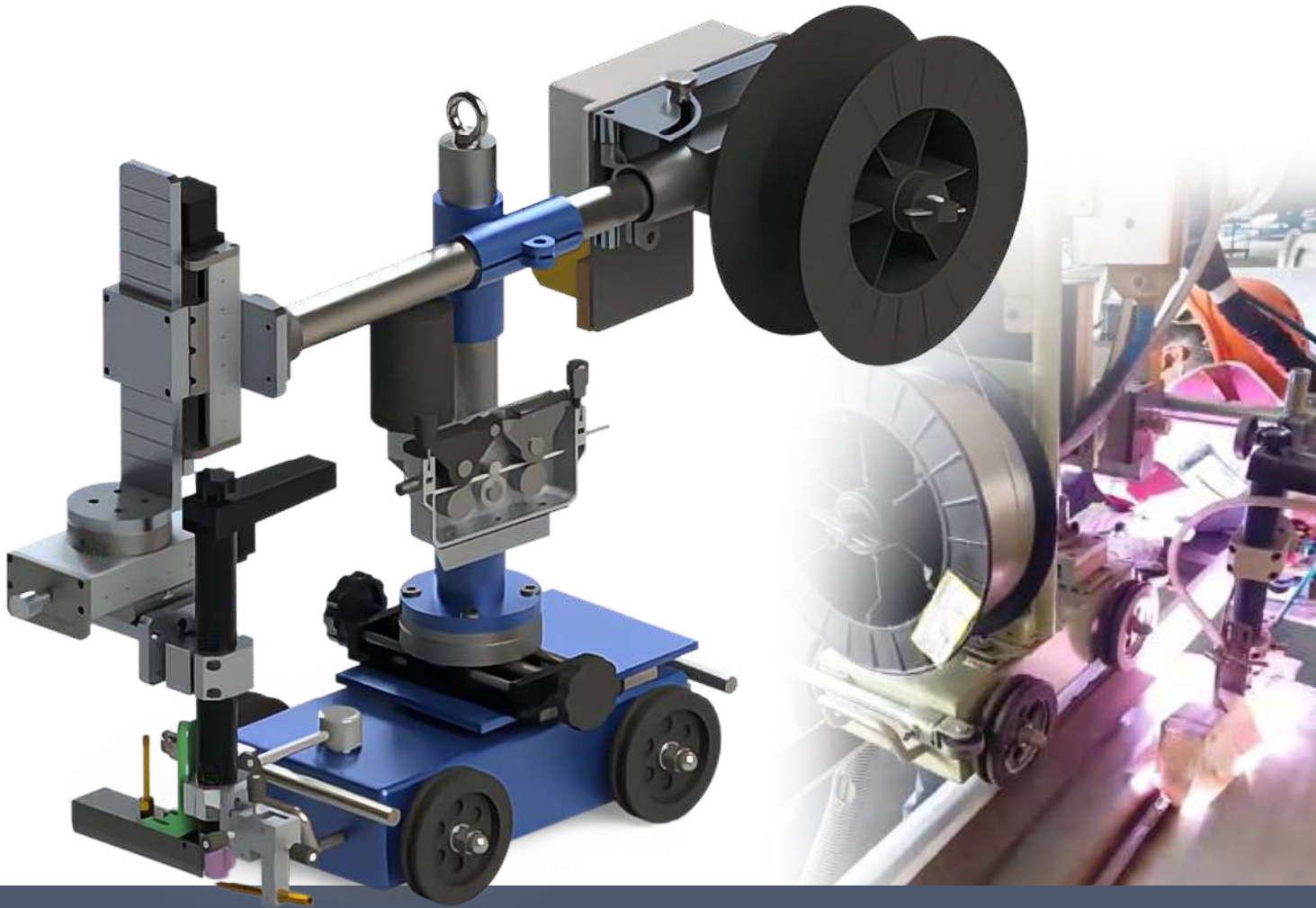
Universal joint design

The cooling water, shield gas and conduction are universal joint design, which has the characteristics of easy operation, light weight and small volume.

★ Technical parameters

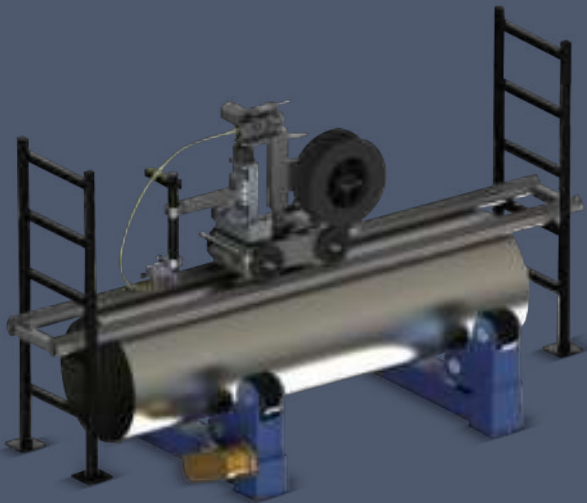
Pipe plate welding form	Pipe extension / Pipe flat-head	Wire diameter (mm)	Φ0.8~1.0mm
Weldable pipe diameter (mm)	Φ16~76mm	Welding protection gas	Argon
Welding head rotation speed (rpm)	0.3~6rpm	Welding material	Carbon steel, stainless steel, titanium alloy, etc.
Arc length adjustment distance (mm)	20mm	Cooling method	Circulating water cooling
Welding torch tilt angle	0°~35°	Rated current (A)	60% 315A
Max welding current (A)	400A	External dimensions	545*292*509mm
Max wire feeding speed (mm/min)	1680mm/min	Weight (kg)	13kg

Auto TIG welding trolley



★ Summary

TIG welding trolley is a kind of automatic and efficient argon arc welding tool, which is the most ideal welding equipment for stainless steel and aluminum alloy to improve welding efficiency, and is widely used in container manufacturing, pharmaceutical machinery, food machinery and other industries.



★ Form a complete set

Welding multi-function power supply

WKD-400 is a three-phase multifunctional inverter DC welding power supply. It has high duty cycle (400A 60%), high efficiency and energy saving, and adaptability to multiple network voltage input. This inverter power supply is equipped with a digital voltage and current meter, and the housing protection level is IP23S. The built-in cooling fan can automatically start and stop according to the temperature inside the welder. The welder can store multiple welding parameters.



Wireless remote control (optional)

The product is equipped with a remote control receiver and a signal transmitter, which is convenient for operators to use and carry, and has excellent sending and receiving performance.



Wired remote control

This product is a standard remote control for automatic TIG welding equipment.



★ Technical parameters

	WKD-400
Wire diameter (mm)	Φ1.0-1.6mm
Welding speed (mm/min)	0.1-1.0m/min
Traveling speed (mm/min)	0-780m/min
Horizontal adjustment range (mm)	Electric fine adjustment 80mm
Longitudinal adjustment range (mm)	Manual fine adjustment 80mm
Driving method	Servo driven four rubber wheels
Clamping adjustment range (mm)	X/Y 20 each
Filler wire angle	0-60°
Wire spool capacity (kg)	20kg
Track gauge (mm)	224mm
Dimensions (mm)	690*620*530
Weight (kg)	15.8kg

Heat Exchanger Manufacturing Automatic Production Line

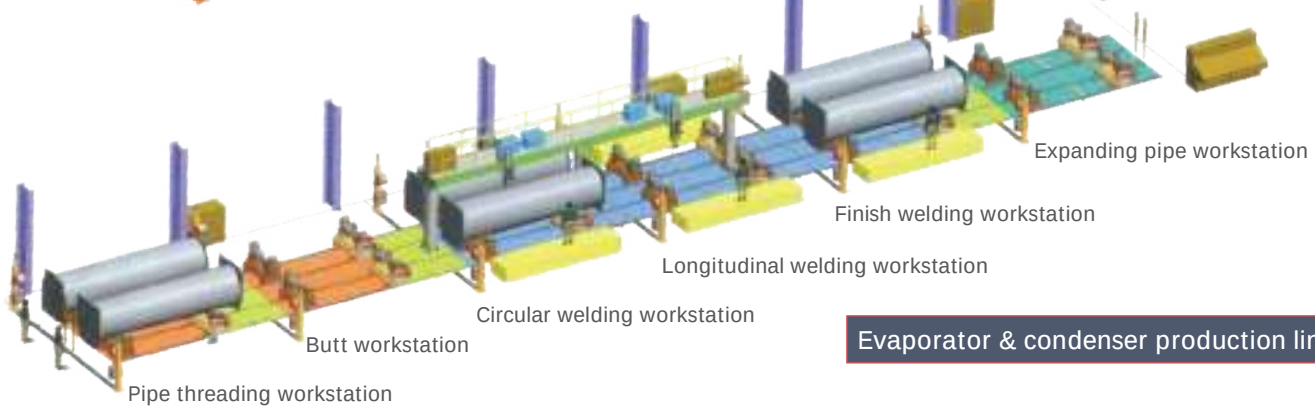
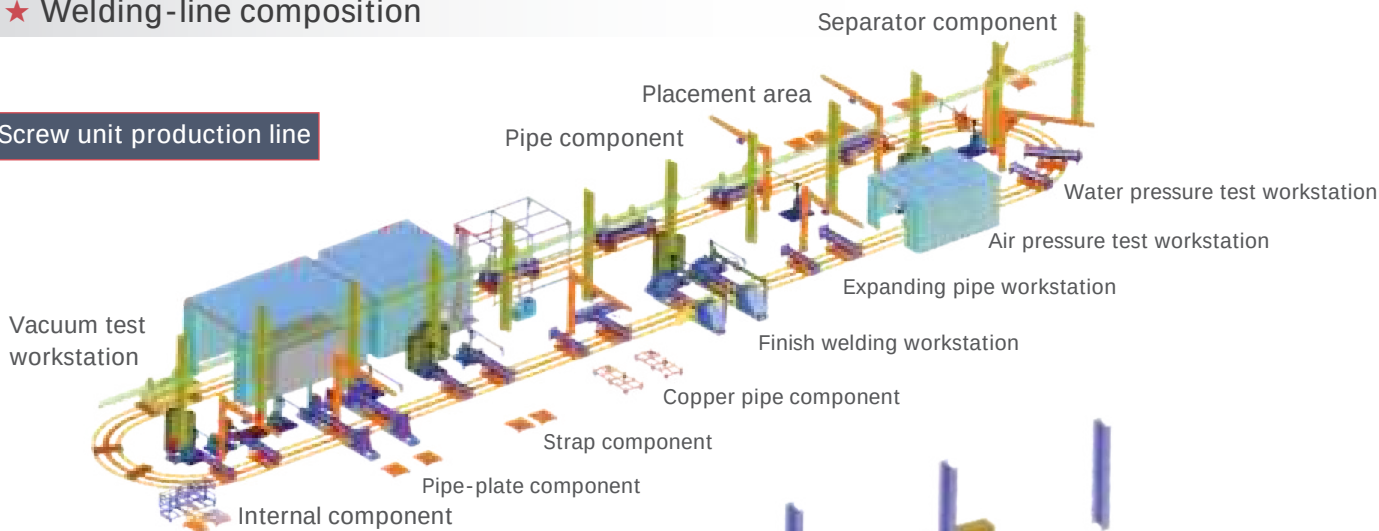
★ Summary

Over the years, in the field of central air conditioning, we have developed a series of automation equipment for the production of heat exchanger with tube-plate auto welding, and continue to provide automatic welding equipment and technical improvement for well-known enterprises such as York (Wuxi) Air conditioning and refrigeration Equipment Co., LTD., and have accumulated rich experience in the development and manufacturing of automatic production line and supporting equipment of heat exchanger shell. It can provide automatic assembly & production line for various types of heat exchanger shells welding.

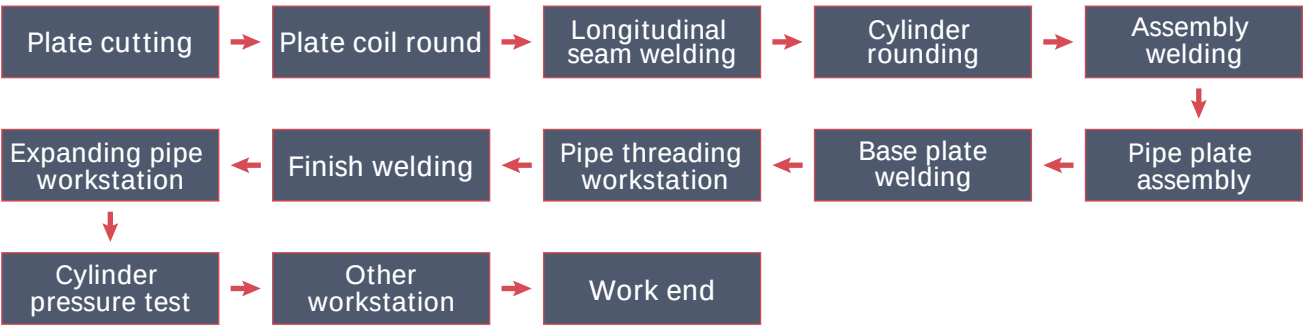


★ Welding-line composition

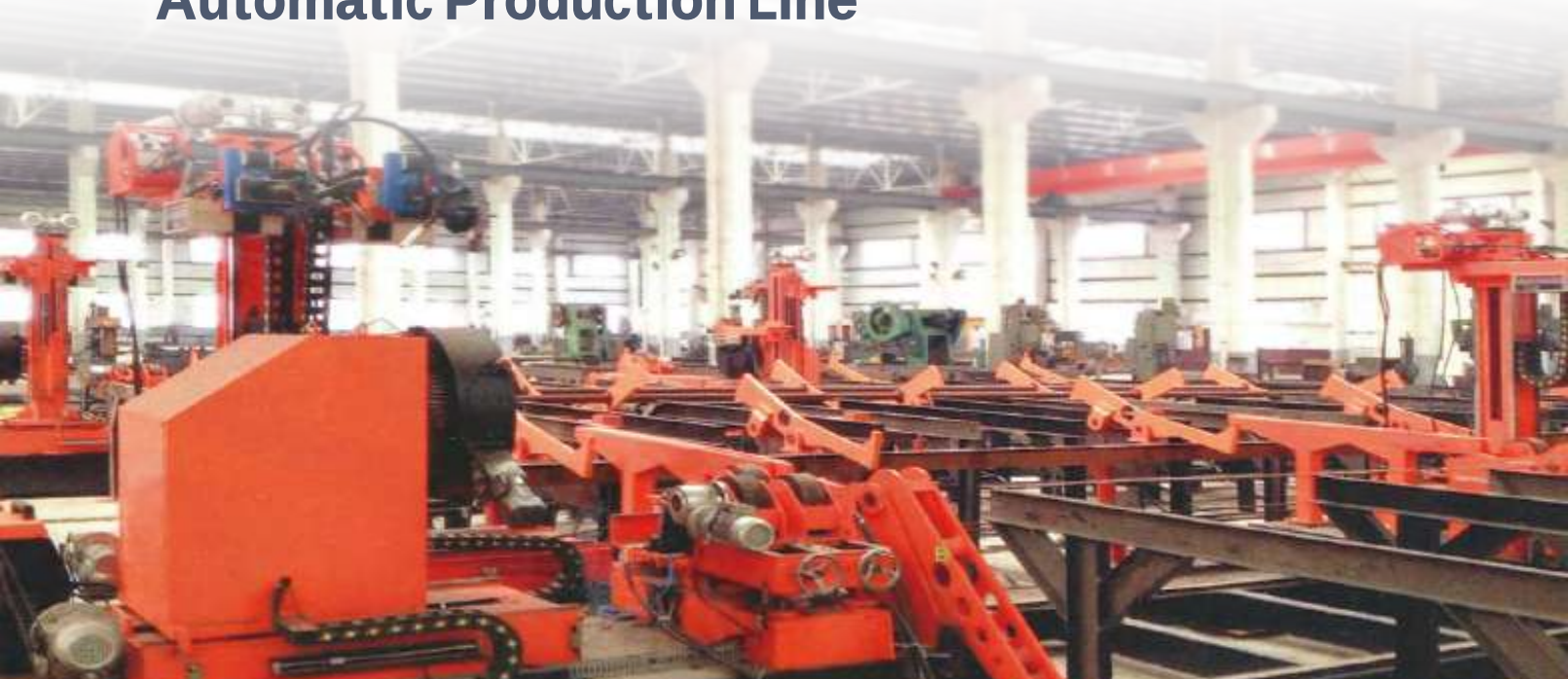
Screw unit production line



★ Technical parameters



Pipe Prefabrication Automatic Production Line



★ Application ranges

- **Industry:** Applied in oil, chemical industry, boiler, shipbuilding, nuclear power, electricity system, pharmacy and construction industries.
- **Field:** Pipeline prefabrication and equipment presetting.
- **Processing type:** Suitable for pipe to pipe, pipe to pipe fitting, pipe fitting to pipe fitting and other processing types.
- **Material:** Fit for various kinds of materials such as mild steel, alloy steel, low-temperature steel, heat resistant steel, stainless steel.
- **Welding technology:** Apply to TIG, MIG/MAG, SAW, PLASMA welding technologies in order to match up different materials.
- **Pipe diameter range:** DN50 -DN1220 (2" -48"), the customized designing can be made.
- **Single line design production capacity:** 300,000-1,000,000 inch diameter/year (according to the different equipment configuration).

★ Technical parameters

★ Summary

The pipeline prefabrication & welding production line is integrated pipe section pretreatment, straight pipe conveying, cutting stock, bevel processing, pipe sections coupling, automatic welding, pipe section post-processing and other multi functions. The production line combines advanced mechanical, control, hydraulic, transmission, cutting and welding technologies in domestic and oversea market. By supporting advanced CNC automation equipment and high efficient automatic welding machine, strengthens the pipeline prefabrication in factory, effectively improve welding quality and production efficiency.

★ Technology advantage

CNC intersecting line cutting

Using CNC intersecting line cutting equipment to practice one-time pipeline cutting and intersecting line holing and bevel processing technology.

Improve welding efficiency & quality

Various types of automatic welding machines improve welding efficiency & quality, reduce the requirements for operator welding skills, and reduce the labor intensity of workers.

high speed beveling machine

Using high speed beveling machine, the efficiency & cutting quality are raised a lot on pipeline beveling and coupling of pipe fitting.

PLC control

Adopted PLC and HMI control system, it is easy to operate and extend.

Auto loading & unloading of pipeline

Automatic logistic conveying system can practice auto loading & unloading of pipeline sections and pipe fitting.



Pipeline auto loading



Pipeline auto transport



Measure length



Pipeline cutting



Edge beveling



Butt welding



Auto welding



Back-end processing

Tanker Automatic Production Line

★ Summary

The tank manufacturing automation production line developed by our company integrates automated manufacturing equipment for multiple processing procedures, including steel plate entering & conveying, steel plate rolled into round, butt longitudinal seam welding, cylinder rounding, cylinder splicing girth seam welding, head joint girth welding and flaw detection. Through the supporting self-developed remote centralized control system and high-efficiency automated welding machine, the automated processing and production of the tank body is realized, the manufacturing hours are reduced, and the welding quality and production efficiency are effectively improved.

Num	Name	Tips
1	Plate conveying	
2	Rolling plate	
3	Longitudinal welding	
4	Cylinder round	
5	Cylinder butt joint	
6	Girth P+T welding	
7	Lifting platform	
8	Head butt joint	
9	Head P+T welding	
10	Roller AGV	One cylinder
11	Lifting AGV	One cylinder
12	NDT Room	



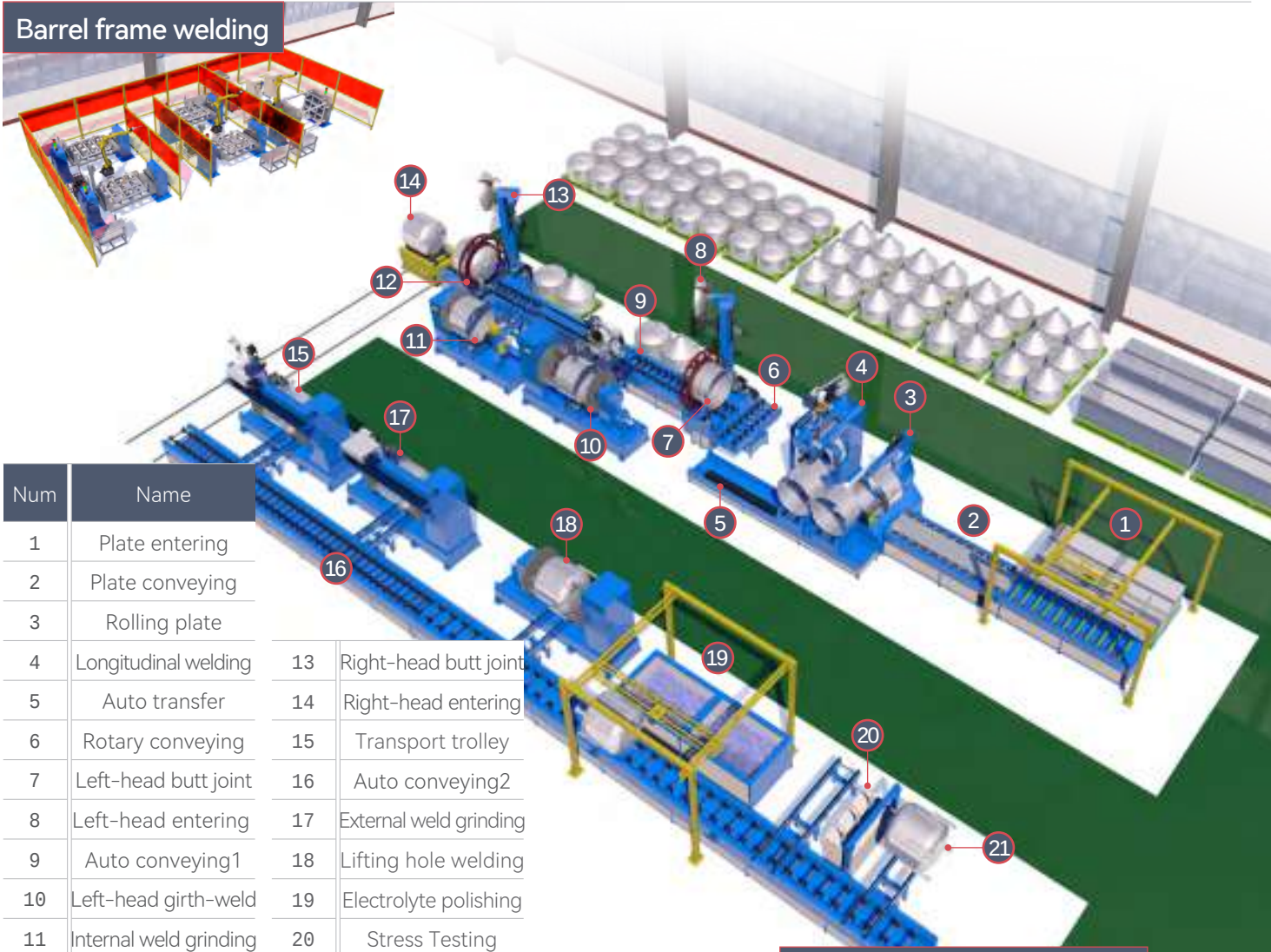
Tanker production line layout

Container&Barrel Auto Production Line

★ Summary

The pressure vessel (barrel) automated production line developed by our company integrates automated manufacturing equipment from multiple processing steps such as steel plate entering & conveying, steel plate rolled into round, heads butt joint girth welding, grinding welds, electrolyte polishing and flaw detection. By equipping with self-developed remote centralized control systems and advanced special welding machines, the remote controlled automated processing and production of pressure vessels has been realized, effectively improving production efficiency.

Barrel frame welding



Num	Name		
1	Plate entering	13	Right-head butt joint
2	Plate conveying	14	Right-head entering
3	Rolling plate	15	Transport trolley
4	Longitudinal welding	16	Auto conveying2
5	Auto transfer	17	External weld grinding
6	Rotary conveying	18	Lifting hole welding
7	Left-head butt joint	19	Electrolyte polishing
8	Left-head entering	20	Stress Testing
9	Auto conveying1	21	Flaw detection
10	Left-head girth-weld		
11	Internal weld grinding		
12	Friction line		

Barrel production line layout