HUAHENG

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HUAHENG WELDING CO., LTD.

Add：No.1588 Boshi Road,Kunshan,Jiangsu,P.R.China. PC：215300
Tel：0512-81866666 Fax：0512-57328188
www.huahengweld.com E-mail：info@huahengweld.com

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HUAHENG

ORBITAL WELDING SYSTEM

HUAHENG WELDING CO., LTD.






Huaheng Welding Co., Ltd. is one of the earliest enterprises in China engaged in the integration of automatic welding equipment and welding system. It is a leading enterprise in China providing integrated solutions in the field of arc welding technology, industrial robot cutting equipment, automation and intelligent equipment.

The company currently has one research and development center and three production bases, as well as twelve subsidiaries both domestically and internationally. The company employs nearly a thousand staff members. The technical research and development center covers an area of nearly 40,000 square meters and includes the China-Ukraine Welding Technology International Joint Laboratory, Jiangsu Province Welding Automation Equipment Key High-tech Research Laboratory, Jiangsu Province Robot Automation Equipment Engineering Laboratory, and a National Enterprise Postdoctoral Research Workstation. The company has successfully undertaken and completed 16 national-level scientific and technological projects related to machine applications and intelligent equipment, including the National High-tech R&D Program (863 Program), Torch Program, Key National Products Program, and Major National Science and Technology Projects. It has participated in the formulation of six national and industry standards related to welding robots, spraying robots, and automated welding communication. The company is a national-level demonstration enterprise for intellectual property rights and has been granted 435 authorized patents (including 140 invention patents), 200 software copyrights, and 48 registered trademarks in China.

The company has established production facilities in Kunshan, Xuzhou, and Changsha, with a total area of over 180,000 square meters. Its main products include automated welding production lines, intelligent logistics and warehousing systems, automated welding and cutting equipment, as well as planetary gear reducers. The business covers various stages such as project planning, research and development, design, complete equipment production, assembly, integrated debugging, and sales, providing turnkey engineering services for overall solutions.

The company's products are widely used in the high-end equipment manufacturing fields of engineering machinery, shipbuilding, rail transportation, aerospace, marine engineering, military, and nuclear power, as well as important industries in the national economy such as petrochemicals, food, and healthcare. They are also exported to countries and regions such as the United States, Europe, India, Brazil, and Southeast Asia.

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Precise Accessory Equipment

60 TPF03 Pneumatic Manipulator, Balancer
61 Desktop Grinder Tungsten, Portable Tungsten Grinder,
Portable Pipe End Flattener
62 Planetary Pipe Cutting Machine, Protection Coolant, Package

Tube Master 200A

Technical specification

Type	Inverter
Welding current	5~200A
Duty cycle	200A 30%/110A 100%
Floating voltage	60V
Main power supply	220±10% 50/60Hz
Max power	4.2KVA
Insulation/Protection	F/IP21S
Working Temperature	-10℃~ 40℃
Transportation/storage temperature	-25℃~ 55℃
Cooling type	Air/Air or water
Screen	10.2"color touch screen
Control function	Gas/Current/Rotation
Max program numbers	200
Max sections	20
Printer	Thermal printer
Cooling tank capacity	1.6L
Dimension(mm)	458*350*247
Weight	24kg
Manufacturing standard	GB15579.1-2013,IE60974/IEC

Summary

Tube master 200A welding power source is designed and manufactured according to advanced technology by Huaheng Welding. The power source adopts industry-leading inverter control technology and equipped with extra-large color touch screen as user's interface. This power source is developed and manufactured with our 20years'experience having the advantages as advanced, digital, easy-to-operate, intelligent, flexible and stable. The PLC controlling system combines with touch HMI achieve centralized setting and storage of the parameter and DSP synchronized controlling. Besides, it offers accurate current output, rotation and shielding gas control. Tube Master200A is specially designed for thin wall thickness tube to tube welding, and widely used in chemical industry, food industry, pharmaceutical industry, electronical tubing, heat exchanger and etc. It's compatible with all Huaheng TC series welding head.

Performance characteristics

- Five operation interfaces: Working status, programming, settings, files and library;
- Welding parameter automatic calculating, convenient thin wall thickness tube to tube welding parameter match;
- Expert database, automatically generate welding parameters for different tube OD and thickness;
- Perfect trouble shooting and error code display, reasonable modular design, easy for maintenance;
- Import/export welding programs by USB driver, easy to switch between different programs;
- Memory function for parameter adjusting, can achieve online real-time memorizing parameter adjustment, convenient comparison between parameters before and after adjustment;
- Welding current and rotation speed can be adjusted while welding to achieve special requirement of some welding seam;
- Online and USB driver upgrade function and offline programming function;
- Adapt to TC-5H, TC36, TC76, TC116, TC156 welding programs.

Tube Master 200

Technical specification

Type	Inverter
Welding current	5~200A
Duty cycle	200A 30%/110A 100%
Floating voltage	60V
Main power supply	220±10% 50/60Hz
Max power	4.2KVA
Insulation/Protection	F/IP21S
Working Temperature	-10℃~ 40℃
Transportation/storage temperature	-25℃~ 55℃
Cooling type	Air/Air or water
Screen	10.4"color touch screen
Control function	Gas/Current/Rotation
Max program numbers	999
Max sections	20
Printer	Integrated printer
Cooling tank capacity	1.6L
Dimension(mm)	458*350*247
Weight	17.8kg
Manufacturing standard	GB15579.1-2013,IE60974/IEC

Summary

Tube master 200 welding power source is designed and manufactured according to advanced technology by Huaheng Welding. The power source adopts industry-leading inverter control technology and equipped with extra-large color touch screen as user's interface. This power source is devel-oped and manufactured with our 20years'experience having the advantages as advanced, digital, easy-to-operate, intelligent, flexible and stable. The PLC controlling system combines with touch HMI achieve centralized setting and storage of the parameter and DSP synchronized controling.Besides, it offers accurate current output, rotation and shielding gas control. Tube Master200 is specially designed for thin wall thickness tube to tube welding, and widely used in chemical industry, food industry, pharmaceutical industry, electronical tubing, heat exchanger and etc. It's compatible with all Huaheng TC series welding head.

Performance characteristics

- Six operation interfaces: Working status, programming, settings, files, library and help;
- Welding parameter automatic calculating, convenient thin wall thickness tube to tube welding parameter match;
- Expert database, automatically generate welding parameters for different tube OD and thickness;
- Perfect trouble shooting and error code display, reasonable modular design, easy for maintenance;
- Import/export welding programs by USB driver, easy to switch between different programs;
- Memory function for parameter adjusting, can achieve online real-time memorizing parameter adjustment, convenient comparison between parameters before and after adjustment;
- Welding current and rotation speed can be adjusted while welding to achieve special requirement of some welding seam;
- Online and USB driver upgrade function and offline programming function;
- Cloud platform support;
- Adapt to TC series and TP040 welding programs.

iOrbital 4000

Technical specification

Type	Inverter
Welding current	5-400A
Duty cycle 20°C	400A 60% 310A 100%
Open circuit voltage	80V
Mains power supply (wave)	380V (-10%-+10%) 50Hz
Cooling	Integrated water cooling
Max power	15KVA
Screen	7industrial touch screen
Control function	Gas/Current /Rotation/ Wire feeding
Language	Chinese/English
Program storage	200
Section	20
Insulation/Protection	F/IP23
Printing	Integrated printer
Dimension L/W/H (mm)	1081x 455 x990
Standard	GB15579.1-1995IEC60974

Summary

This welding power source is designed and manufactured according to advanced technology by Kunshan Huaheng Welding Co., Ltd. It consists of controlling system, power source system and water chiller. This power source was developed and manufactured based on our 20 years' experience, which is advanced, digital, and easy to operate, intelligent, flexible and stable. It is specially designed for tube/tube-sheet welding.

Performance characteristics

- Use popular PLC and digital modular to high definition monitor all the output and input signals;
- Touch screen operation with Chinese and English interface;
- Import/export welding program by USB driver, easy to switch between different programs;
- Built in expert welding programs, generate welding program according to the workpiece;
- Welding parameter printing as record for future checking;
- Powerful water circulation pump and big water tank to ensure continuous working;
- Perfect trouble shooting and error code display, reasonable modular design, easy to maintenance.

iOrbital 5000

Technical specification

Type	Inverter
Welding current	5~500A
Duty cycle (40°C)	500A 60%387A100%
Open circuit voltage	72V
Mains power supply (wave)	3x380V (-15%~+15%) 50
Max power	34KW
Cos p/efficiency	0.98/78%
Insulation/Protection	F/IP23
Working temperature	-10°C~+40°C
Transportation & store temperature	-25°C~+55°C
Power source/weld head cooling	Air/Air or water
Screen	10.4"color touch screen
Control function	Gas/Current /Rotation/ Wire feeding/ AVC&OSC
Program storage	999
Section	20
Printing	Integrated printer
Water pump lift	30m/0.3MPa
Water tank capacity	15L
Weight (without coolant)	110kg
Standard	GB15579.1-2013, IEC60974/IEC

Summary

iOrbital 5000 distributed orbital welding power source is an automatic programmable power source designed by Kunshan Huaheng Welding Co., Ltd. adopting the world's most advanced technology. This power source is using popular invertor and computer science technology and the big colorful touch screen as HMI, which is the pioneer in this industry. It has accurate controlling of welding current, rotation, wire feeding, OSC,AVC, shielding gas and compress gas. It could be used with all TC products, TOK products, TOA products, TP060/TP040 and GT60 welding head that manufactured by Huaheng Welding Co., Ltd. i usually applies in the tube/tube, tube to tube-sheet welding of chemical industry, food industry, medical industry, electric pipeline, all sorts of heat exchangers, engineering machinery. Boiler. Locomotive military industry and nuclear power industry etc.

Performance characteristics

- Controlling interface including: WORK, PROGRAM, CONFIGURATION, FILE, LIBIARY, and HELP;
- Auto-generate the welding parameter for tube/tube-sheet, and thin wall tube/tube welding;
- Intelligent AVC function and carry out mechanism;
- Real time detect and feedback of error like arcing fail, short circuit, over heat, over voltage, lack of gas, lack of water, lower voltage, arc extinguish, communication error etc;
- Import/export welding program by USB driver, easy to switch between different programs;
- Memory of the program editing while welding, and display the difference to original program;
- Parameter like weaving speed/center/width, current, and rotation speed can be adjusted while welding to achieve special requirement of some welding seam;
- Online and USB driver upgrade function and offline program function.

iOrbital 401/600

Programmable Welding Power Source

Summary

iOrbital401/iOrbital600 distributed digital welding power source is designed and manufactured according to advanced technology by Kun shan Huaheng Welding Co,Ltd.It is advanced,digital,easy to operate,intelligent,flexible and stable.It's control system is PC controller,which is one open and updatable em-bedded 32bit Windows CE operating system,sup-port for centralized setting,storing and controlling of all the function parameters.It is commonly used for thermal power,valve,coal mine machinery,nuclear plant,boiler industries etc.

Performance characteristics

- Windows CE embedded version operating system with updatable,simple interface for easy operation;
- External USB support for import and export data;
- Real-time welding parameter record during welding process;
- Control pendant display for real-time data monitoring;
- Adjustable parameter during welding process for some special welding requirements;
- Time&degree exchanging for welding travel and some relevant parameters;
- Built-in various welding head parameter for accurate motion control;
- Perfect fault detection solution,error display,modular design for easy maintenance;
- Chinese&English operation screen;
- Real-time monitoring and sampling printing;
- Multi-pulse&multi-high frequency;
- Option to choose offline programming or offline printing.

Technical specification

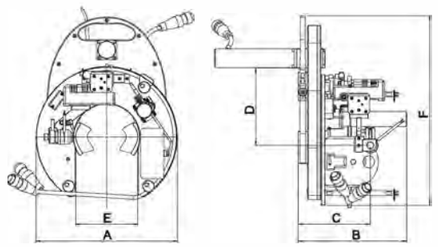
Name	iOrbital 401	iOrbital 600
Type	Inverter	Inverter
Current	5~400A	5~600A
Duty cycle(20℃)	400A 60%	600A 60%
	310A 100%	500A 100%
Hot wire current		5~200A
Duty cycle (20℃)	3*380V±10% 50/60Hz	200A 60%
	13.5KVA	100A 100%
No-load voltage	72V	79V
Input voltage	3*380V±10% 50/60Hz	3*380V±10% 50/60Hz
Power	13.5KVA	35KVA
Cooling	Air cooling	Air cooling
Screen	6.5"Chinese/English display	6.5"Chinese/English display
Programing	HMI	HMI
Display	Remote controller/industrial PC/Parameter real-time display in CN & EN	Remote controller/industrial PC/Parameter real-time display in CN & EN
Program Storage	100	100
Expert parameter	Pre-storage	Pre-storage
Numbers of Level	20	20
Torch cooling	External water circuit	External water circuit
Water tank type	CW-04	CW-04
Weight	260	290
Manufacture Standard	GB15579-2004	GB15579-2004
insulation/Protection Class	H/IP23	H/IP23
Dimension	710*500*1500	810*600*1700

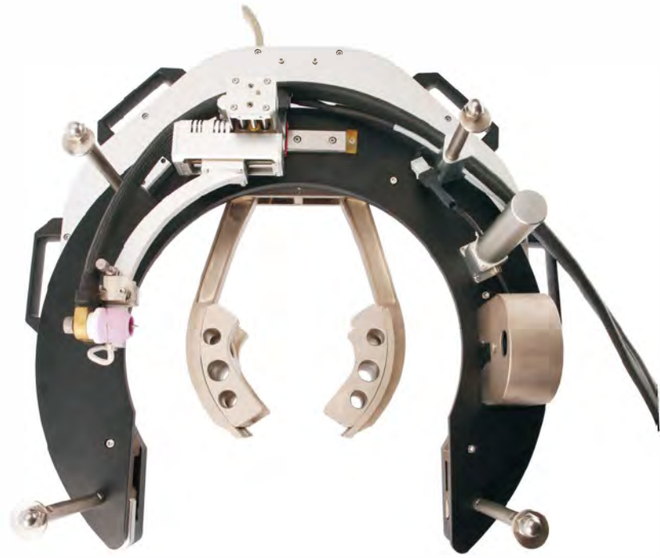
TOA series

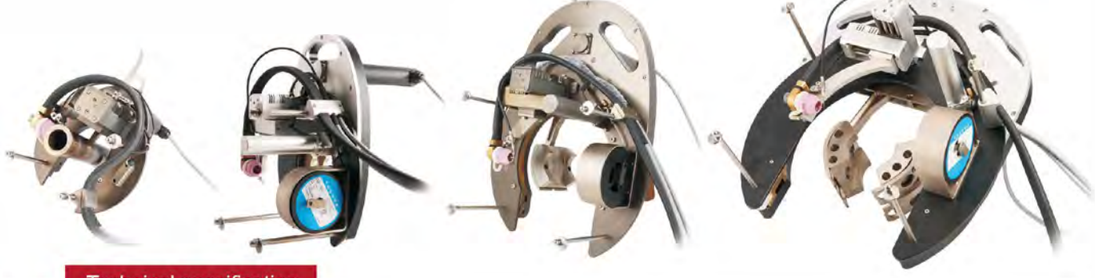
Pipe/pipe Orbital Weld Head

Summary

This welding head is special designed for tube to tube TIG welding,suitable for carbon steel,stain-less steel tube to tube butt joint. It's fit for fusion welding or wire feeding with external TB150 integrated wire feeder with AVC&OSC function.It is compatible with iOrbital 5000 programmable to achieve accurate orbital TIG welding for tube/tube welding with high repeatability. It mainly applied in chemi-cal,food,medicine,engineering installation boiler,military nuclear and so on.





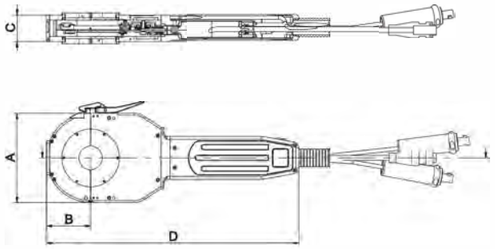


Technical specification

	TOA77	TOA130	TOA180	TOA230	TOA320
Material	Carbon steel, stainless steel	Carbon steel, stainless steel	Carbon steel, stainless steel	Carbon steel, stainless steel	Carbon steel, stainless steel
Tube OD(mm)	inner clamp: Φ19.05~Φ45(3/4"~1 3/4") Outer clamp: Φ45~Φ77(1 3/4"~3")	Inner clamp: Φ38.1~Φ76(1 1/2"~ 3") Outer clamp: Φ76~Φ130(3"~5")	Inner clamp: Φ50.8~Φ114.3(2"~4 1/2") Outer clamp: Φ114.3~Φ180(4 1/2"~7")	Inner clamp: Φ120~Φ178(4 1/2"~7") Outer clamp: Φ178~Φ230(7"~9")	Inner clamp: Φ150~Φ230(6"~9") Outer clamp: Φ230~Φ324(9"~12 3/4")
Tungsten 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	Ar	Ar	Ar	Ar	Ar
Cooling	Water	Water	Water	Water	Water
Coolant flow(ml/min)	≥300	≥300	≥300	≥300	≥300
Rated current	200A 60%	200A 60%	200A 60%	200A 60%	200A 60%
OSC width(mm)	20	20	40	40	40
AVC height(mm)	40	40	40	40	40
Wire diameter(mm)	Φ1.0	Φ1.0	Φ1.0	Φ1.0	Φ1.0
Max wire feeding speed(mm/min)	1800	1800	1800	1800	1800
A	220	300	375	425	550
B	180	235	285	300	315
C	112 ~ 132	156 ~ 196	184 ~ 224	195 ~ 235	230 ~ 270
D	92	165	225	250	297
E	82	132	182	232	328
F	320	400	525	570	680
Weight(kg)	5.5(no cable)	10.8(no cable)	19.5(no cable)	21.5(no cable)	36(no cable)
Dimension(mm)	370 x220 x320	410 x300 x405	395x375 x525	410x425x560	420x610x680

Closed Series

Tube/Tube Orbital Welding Head



Summary

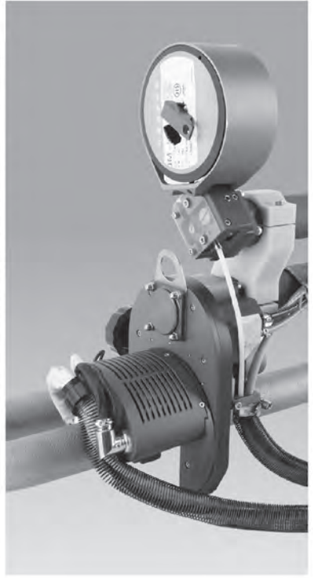
This welding head is specially designed orbital TIG welding head without wire feeding for kinds of pipe fitting. The sealed cavity is filled with protective gas before welding to ensure the quality of welding. This is one high efficiency and high quality welding head with water cooling for welding head&collect and special made collects according to customers' requirements which could ensure accurate positioning without pre-tack. They are compatible with TubeMater200,iOrbital4000,iOrbital5000 programmable Orbital Welding Power Source, and mainly apply in Electronic, instrument, pharmaceutical, engineering installation, military, nuclear and so on.

Performance characteristics

- Aluminum body,light structure;
- Close design,better protection;
- Pattern design of the self-align collet,accurate positioning;
- Suitable for thinner wall mild steel,stainless steel,Titanium tube welding;
- Fusion welding without wire feeding;
- Control button on the weld head,capable for onsite installation.

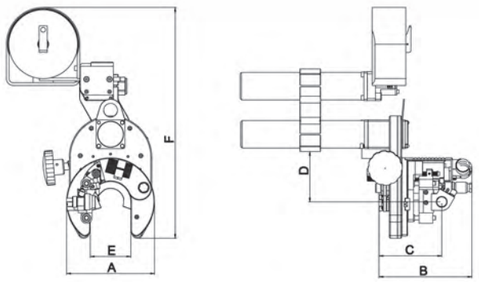
Technical specification

	TC26	TC36	TC76	TC156	TC-5H	TC-500	TC-2	TC-3	TC-4
Material	Carbon steel,Stainless steel,Titanium alloy	Carbon steel,Stainless steel,Titanium alloy	Carbon steel,Stainless steel,Titanium alloy	Carbon steel,Stainless steel,Titanium alloy	Carbon steel,Stainless steel,Titanium alloy	Carbon steel,Stainless steel,Titanium alloy	Carbon steel,Stainless steel,Titanium alloy	Carbon steel,Stainless steel,Titanium alloy	Carbon steel,Stainless steel,Titanium alloy
Tube OD(mm)	Φ6~Φ22(1/4"~7/8")	Φ6~Φ32(1/4"~1 1/4")	Φ19.05~Φ63.5(3/4"~2 1/2")	Φ50.8~Φ168.3(2"~65/8")	Φ3~Φ12.7	Φ8~Φ12.7(1/4" ~ 1/2")	Φ12.7~Φ50.8(1/2" ~ 2")	Φ19.05~Φ76.2(3/4" ~ 3")	Φ38.1~Φ101.6(3/4" ~ 3")
Tungsten OD(mm)	Φ1.0、Φ1.6	Φ1.6、Φ2.4	Φ1.6、Φ2.4	Φ2.4、Φ3.2	Φ1.6	Φ1.0	Φ1.6, Φ2.4	Φ1.6, Φ2.4	Φ1.6, Φ2.4
Rotation speed(rpm)	0.6~12	0.3~6	0.2~4	0.06~1.2	0.7~14.2	0.6~12	0.24~4.8	0.2~4	0.2~4
Protective gas	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar	Ar
Cooling	Water	Water	Water	Water	Air	Air	Water	Water	Water
Cooling flow(ml/min)	≥300	≥300	≥300	≥300			≥300	≥300	≥300
Rate current	60A 60%	65A 60%	75A 60%	100A 60%	30A 100%	30A 60%	75A 60%	75A 60%	100A 60%
A	80	98	145	295	57	65	135	160	195
B	40	47	72	150	51	24	65	79	97
C	40	41	43	61	38	12.5	38	38	57
D	340	360	412	630	186	314	426	453	497
Weight(kg)	2.0(no cable)	2.0(no cable)	3.0(no cable)	10.5(no cable)	1(no cable)	1.3(no cable)	2.5(no cable)	3.5(no cable)	6(no cable)
Dimension(mm)	340x80x40	360x120x41	412x165x43	630x330x61	186x57x38	314x65x42	426x155x38	453x177x38	497x230x57



TOA50

Narrow Spacing Pipe/Pipe Orbital Welding Head



Dimension of TOA50

Technical specification

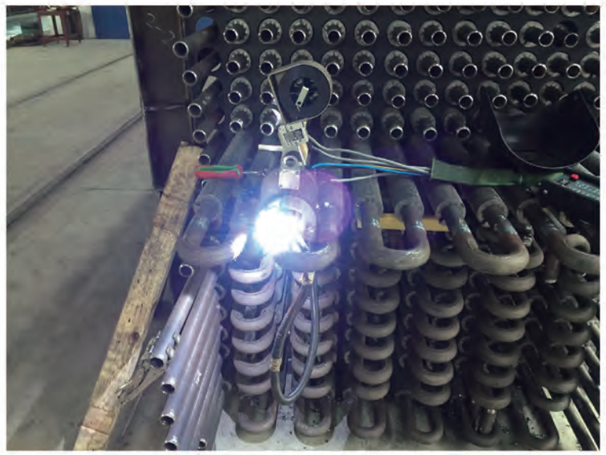
Tube OD (mm)	Φ32~Φ51
Tungsten diameter (mm)	Φ3.2
Wire diameter (mm)	Φ1.0
Rotation speed (rpm)	0.25~5.02
Cooling	Water
Dimension (mm)	
A	128
B	155
C	85~97
D	78
E	59
F	360
Weight (kg)	5

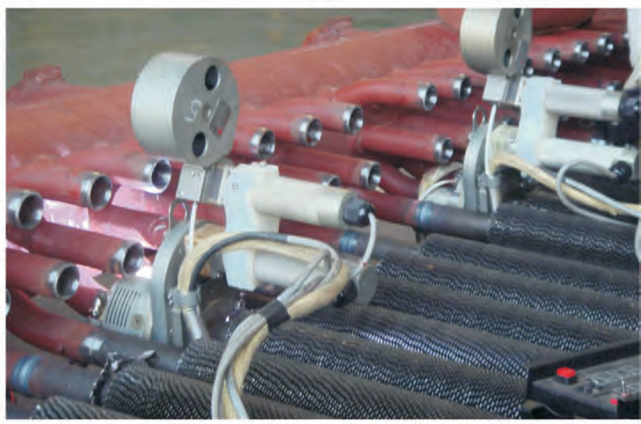
Summary

This welding head is special designed for tube to tube TIG welding, suitable for carbon steel, stainless steel tube to tube (OD32--51mm) butt joint, mainly for wire feeding or self-fusion with AVC & OSC function. It is compatible with iOrbita5000 programmable orbital welding power source to achieve accurate orbital TIG welding for tube/tube welding with high repeatability. It's mainly used for chemical, food, engineering installation, boiler, military, nuclear industry and so on.

Performance characteristics

- Main consists of: rotation system, clamping device, transmission system;
- Light Aluminum body structure, adjustable clamp suit for different diameter tubes;
- No clearance gear transmission, smooth rotation with less inertness or block;
- Motorized AVC & OSC function suit for multi-pass welding;
- Suitable for middle and thick wall thickness carbon steel, stainless steel tube orbital welding;
- Water circuit cooling, achieving long time working;
- Suit for wire feeding or fusion welding;
- Widely used for tube/tube, tube/elbow, tube/flange, and tube/valve onsite installation.



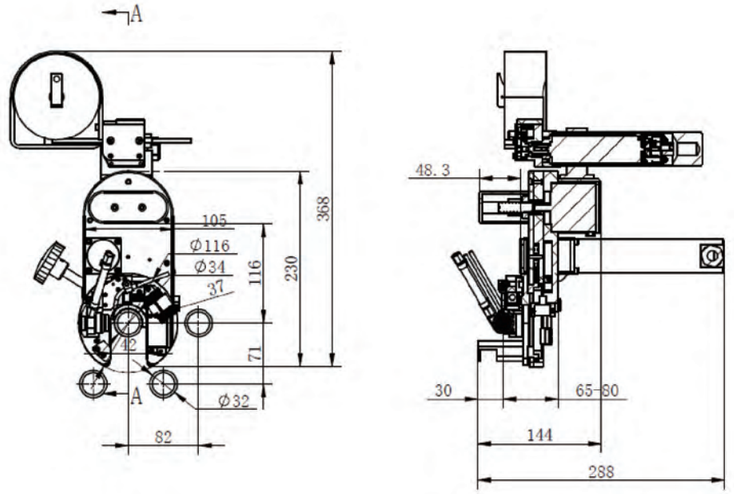


TOA40

Narrow Spacing Pipe Welding

Summary

The welding gun is suitable for automatic welding of tubes/tubes with narrow spacing.It can weld carbon steel,stainless steel and other pipes/pipe butt joints.Pipe diameter range Φ32mm-38mm,either wire filling or self-melting can be selected.It can automatically adjust the arc length and has the function of yaw.It can be used together with iOrbital 5000 program-controlled welding power supply,and can precisely realize all-position TIG pipe/pipe welding,with high reproducibility of welding results and ideal welding effect.It is mainly used in chemical,food,boiler,military and nuclear power industries.

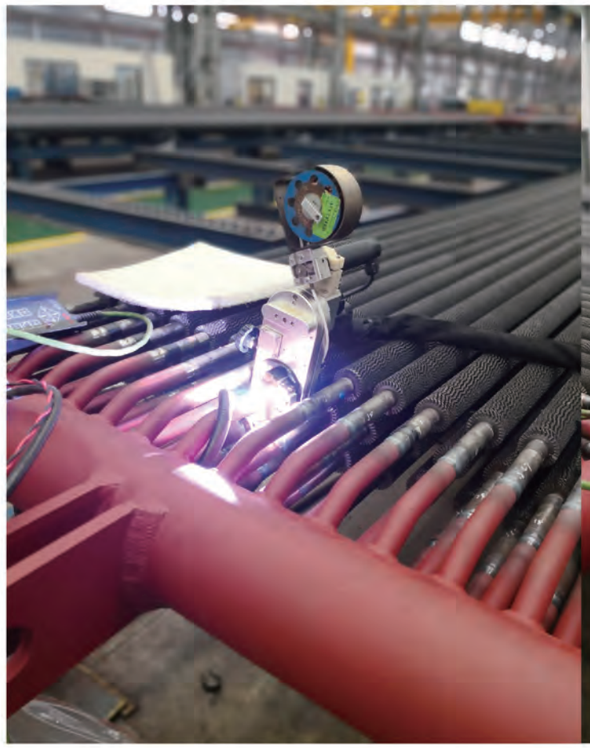


Technical specification

Tube OD(mm)	Φ32 ~ Φ38
Tungsten diameter(mm)	Φ3.2
Wire diameter(mm)	Φ1.0
Rotation speed(rpm)	0.27 ~ 5.35
Yaw range(mm)	0~15
Arc length range(mm)	0~12
Wire feeding speed(mm/min)	100~1800
Cooling	water
Dimension(mm)	As picture
Weight(kg)	6

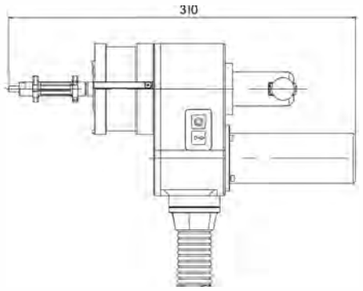
Performance characteristics

- Main consists of:rotation system,clamping device,transmission system;
- Light Aluminum body structure,adjustable clamp suit for different diameter tubes;
- No clearance gear transmission,smooth rotation with less inertness or block;
- Motorized AVC&OSC function suit for multi-pass welding;
- Suitable for middle and thick wall thickness carbon steel,stainless steel tube orbital welding;
- Water circuit cooling,achieving long time working;
- Suit for wire feeding or fusion welding;
- Widely used for tube/tube,tube/elbow,tube/flange,tube/valve onsite installation.



TP040

Tube/Tube Sheet Orbital Weld Head



Summary

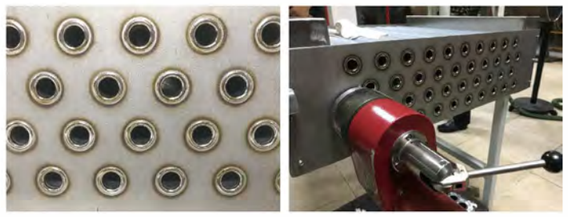
This weld head is special designed automatic TIG orbital welding for tube/tube sheet. It's suit for CS, SS tube/tube sheet flush welding without wire feeding to achieve idea repeatable welding quality. It's compatible with Tube Master200, iOrbital4000, iOrbital5000programmable digital welding power source and apply in chemical, food, medicine, heat exchanger, power plant, military, nuclear etc.

Performance characteristics

- Widely used in power plant/condenser stainless steel/titanium alloy tube to tube-sheet welding;
- Without wire feeding small size and light, easy for operation;
- Expandable collet positioning design, precise position;
- Closed welding achieving perfect welding quality;
- No wire winding twisting, enhanced water cooling system, high duty cycle for long time using.

Technical specification

Material	Carbon steel, stainless steel, titanium alloy
Tube OD (mm)	Φ16~Φ38(5/8"~1 1/2")
Connection	Flush tube
Tungsten OD (mm)	Φ2.4
Rotation Speed (rpm)	0.6~12
Welding angle	0°,7°option (standard 7°)
Protective gas	Ar
Cooling	Water
Cooling flow (ml/min)	≥300
Rate current	100A 60%
Weight (kg)	3.65(no cable)
Dimension (mm)	310 x80x165

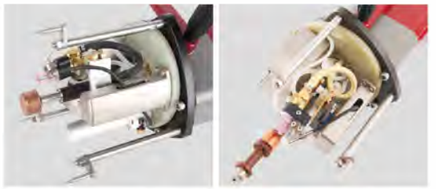


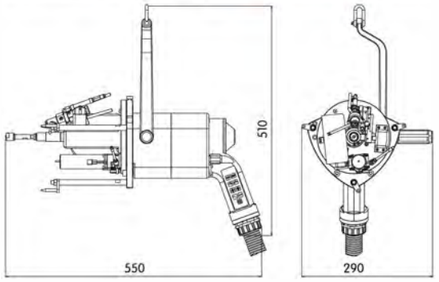
TP060

Tube/Tube Sheet Orbital Weld Head

Summary

This welding head is one special designed TIG welding head for tube to tube-sheet, which is used for carbon steel stainless steel tube to tube-sheet connection, mainly for protrusion tube and flush tube without wire feeding or with wire feeding. The standard small torch with additional gas cover to weld Titanium alloy or other material which need higher protection. For OD32mm and below tube, use localizer to positioning and expansion collet with spring balancer for positioning. It's compatible with Kunshan Huaheng iOrbital4000, iOrbital5000 programmable digital welding power source to apply in chemical, food, medicine, heat exchanger power plant, military and nuclear industries etc.





Technical specification

Material	Carbon steel, stainless steel, titanium alloy (with cover)
Tube OD (mm)	Φ16-Φ60(5/8"-2 1/2")
	(extendable toΦ89)
Connection	Protrusion tube, flush tube
Tungsten OD (mm)	Φ2.4 (standard)、Φ3.2
Wire Diameter (mm)	Φ0.8、Φ1.0
Rotation speed (rpm)	0.37 -7.39
Welding angle	0°- 30° adjustable
Arc adjusting distance (mm)	18
Max wire feeding speed (mm)	1800
Protective gas	Ar
Cooling	Water
Cooling flow (ml/min)	≥600
Duty cycle	300A 60%
Weight (kg)	12 (no cable)
Dimension (mm)	550 x290x510

Auxiliary equipment

Performance characteristics

- Pneumatic clamping to fix the weld head on the work piece, no needhuman interference and lower down the operation skill of the welder;
- Automatic AVC function, optional manual AVC;
- Standard water cooling TIG torch, easy to change and adjust the
- tungsten electrode;
- Wire feeding without twisting, integrated wire feeder with 1.0kg wire;
- Water, gas and electricity without twisting while rotation;
- Operation button on the weld head, convenient to operate;

T8

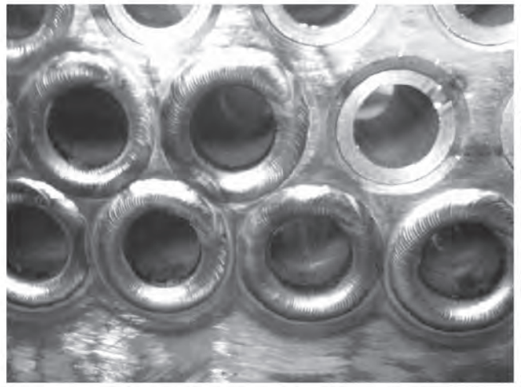
Tube/Tube Sheet Orbital Weld Head

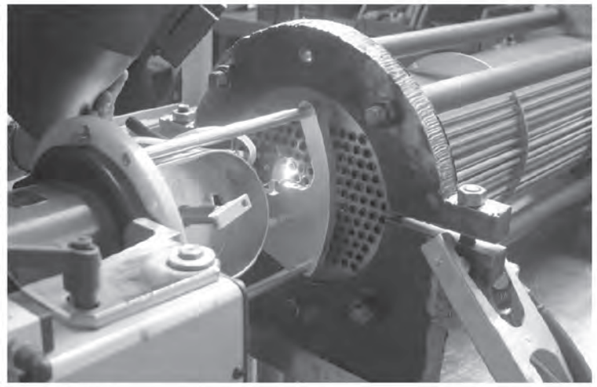
Summary

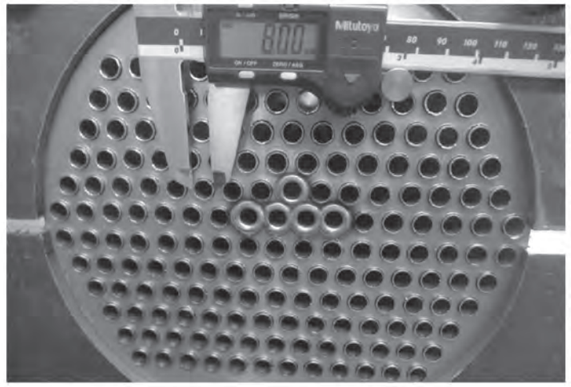
This welding head is one special designed TIG welding head for small diameter tube to tube-sheet which is used for carbon steel, stainless steel tube to tube-sheet connection, mainly for protrusion tube, flush tube, and tube retraction welding without wire feeding or with wire feeding. The standard small torch with additional gas cover to weld Titanium alloy or other material which need higher protection. It's compatible with Huaheng iOrbital5000 programmable digital welding power source to apply in chemical, food, medicine, heat exchanger, power plant, military and nuclear industries etc.

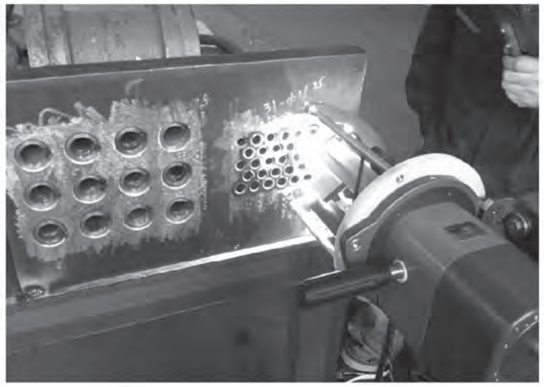
Technical specification

Material	Carbon steel, stainless steel, titanium alloy (with cover)
Tube OD (mm)	Φ8~Φ32(3/8"~1 1/4")
Connection	Retract tube, protrusion tube, and flush tube
Rotation speed (rpm)	0.37~7.39
Arc adjusting distance (mm)	18
Max wire feeding speed (mm)	1800
Wire Diameter (mm)	Φ0.8
Protective gas	Ar
Cooling	Water
Cooling flow (ml/min)	≥300
Duty cycle	300A 60%
Weight (kg)	11(no cable)
Dimension (mm)	477 x363 x 365



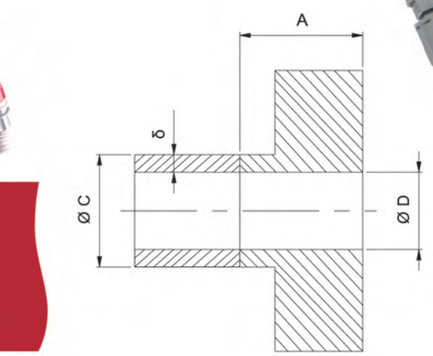






Performance characteristics

- High-precision localizer, fast and accurate, suitable for small heat exchanger;
- Automatic AVC function, optional manual AVC;
- Standard water cooling TIG torch, easy to change and adjust the tungsten electrode;
- Wire feeding without twisting, integrated wire feeder with 1.0kg wire;
- Water, gas and electricity without twisting while rotation;
- Operation button on the weld head, convenient to operate.



TPN19

Inner Bore Orbital Weld Head

Summary

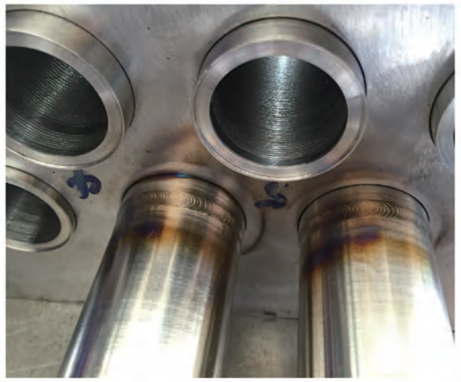
This weld head is special designed for tube/ tube sheet inner bore TIG welding. It can weld tube OD ≥19mm carbon steel and stainless steel without wire feeding. It's compatible with Huaheng iOrbital5000 programmable digital welding power source to apply in chemical, food, medicine, heat exchanger, power plant, military and nuclear industries etc. to achieve precision TIG inner bore welding with high quality and repeatability.

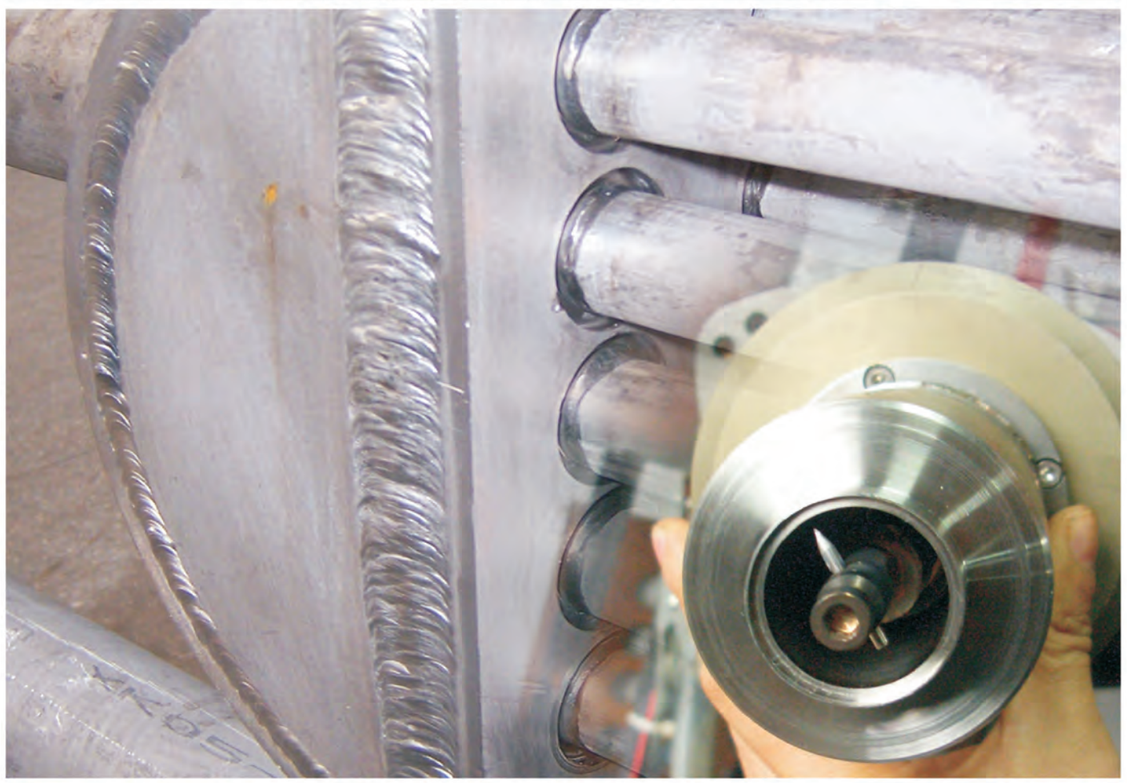
Technical specification

Material	Carbon steel, stainless steel
Tube OD (mm)	≥Φ19
Depth for Inner Tube (mm)	20~120
Tube thickness (mm)	1~2.5
Connection	Tube insert, flush tube
Tungsten diameter (mm)	Φ2.4
Rotation speed (rpm)	0.37-7.39
Arc adjusting distance (mm)	15
Protective gas	Ar
Cooling	Water
Cooling flow (ml/min)	≥300
Weight (kg)	11 (no cable)
Dimension (mm)	570 x290x510

Performance characteristics

- Suitable for the heat exchanger inner tube to tube-sheet welding in petrochemical industry;
- Minimum inner diameter of d 19mm;
- Precise positioning, easy for operation;
- Suitable for carbon steel and stainless steel;
- Customization according to specific requirements.





TPN25

Inner Bore Orbital Weld Head

Summary

This weld head is special designed for tube/ tube sheet inner bore TIG welding. It can weld tube OD≥25m carbon steel and stainless steel without wire feeding, or add wire after fusion welding. It's compatible with Huaheng iOrbital5000 programmable digital welding power source to apply in chemical, food, medicine, heat exchanger, power plant, military and nuclear industries etc. to achieve precision TIG inner bore welding with high quality and repeatability.

Performance characteristics

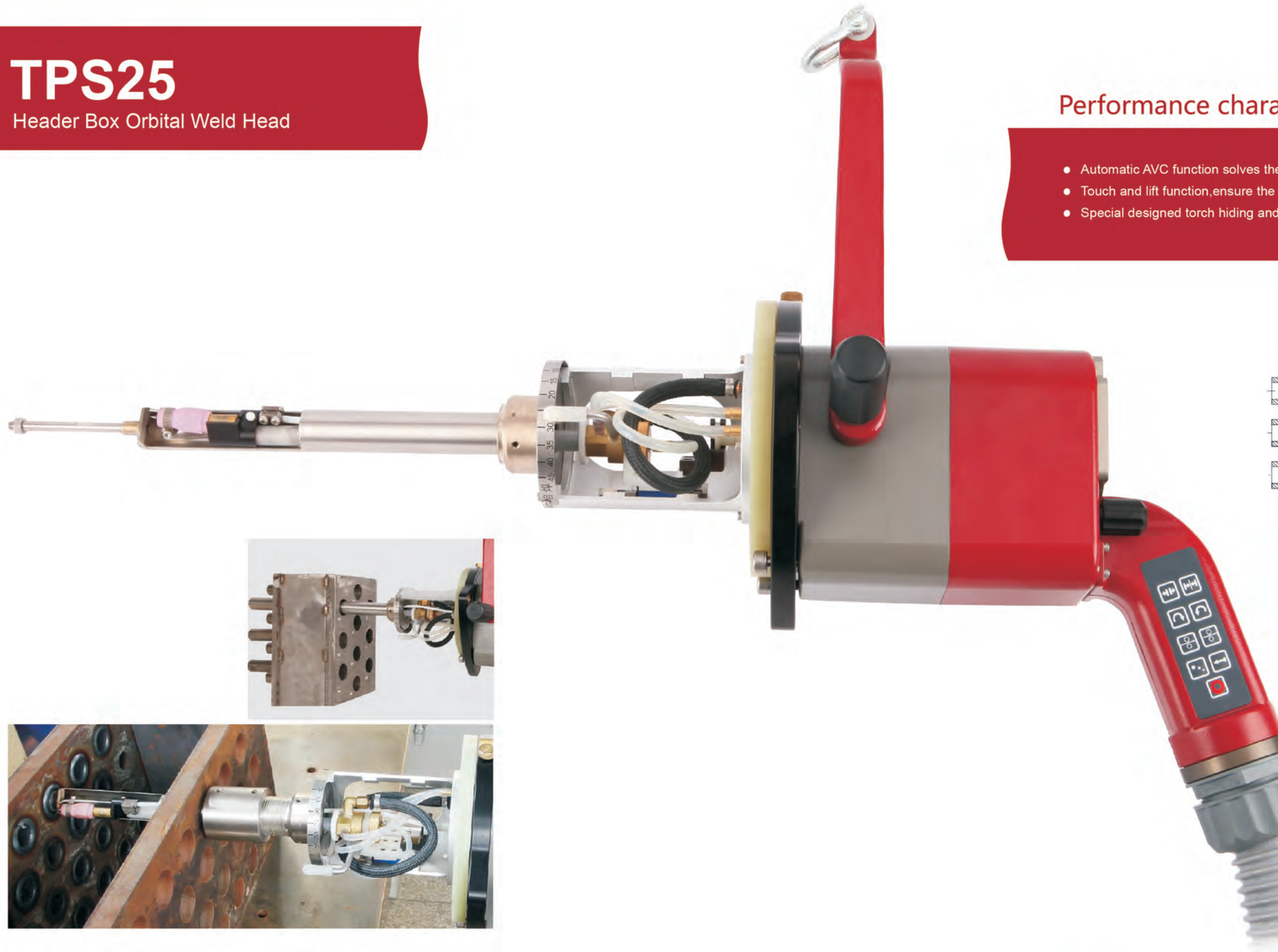
- Inner bore welding with wire feeding, suit for variety types of welding process;
- Imported hollow cup DC servo motor, speed stepless;
- No twisting of water, gas and electricity supplies;
- Automatic AVC function or optional manual AVC;
- Customized water cooling TIG torch;
- Integrated wire feeder with 1.0kg wire coil, no twisting while rotation.

Technical specification

Material	Carbon steel, stainless steel
Tube OD (mm	≥Φ25
Depth for Inner Tube (mm)	20~80
Connection	Tube insert, flush tube
Tungsten diameter (mm)	Φ2.4
Rotation speed (rpm)	0.37-7.39
Arc adjusting distance (mm)	15
Max wire feeding speed (mm/min)	1800
Tungsten diameter (mm)	Φ0.8
Protective gas	Ar
Cooling	Water
Cooling flow (ml/min)	≥300
Weight (kg)	12 (no cable)
Dimension (mm)	570 x290x510

TPS25

Header Box Orbital Weld Head

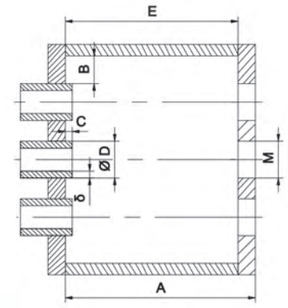


Summary

This weld head is special designed for header box tube/tube sheet orbital TIG welding. It can weld Φ25 and Φ32mm carbon steel and stainless steel tube flush with or without wire feeding.It's compatible with Huaheng iOrbital5000 programmable digital welding power source to apply in boiler, heat exchanger, power plant, chemical industries etc. to achieve precision TIG header box welding with high quality and repeatability.

Performance characteristics

- Automatic AVC function solves the invisible issue of header box welding,optional manual AVC;
- Touch and lift function,ensure the same tungsten distance to work piece;
- Special designed torch hiding and out function,convenient to insert the torch and carry out welding job.



Dimension(mm)

M	M32 × 2	M36 × 3
ΦD	Φ25	Φ32
A	110≤A≤220	
B	≥10	
C	≤1.5	
δ	≤3.5	

Technical specification

Material	Carbon steel,stainless steel
Tube OD(mm)	Φ25 orΦ32(standardΦ25)
Max Depth for Inner Tube(mm)	230(including plate thickness)
Connection	Flush tube
Tungsten diameter(mm)	Φ2.4
Rotation speed(rpm)	0.37-7.39
Torch Angle	-3°
Arc adjusting distance(mm)	18
Max wire feeding speed(mm/min)	1800
Tungsten diameter(mm)	Φ0.8
Protective gas	Ar
Cooling	Water
Cooling flow(ml/min)	≥300
Duty cycle	200A 60%
Weight(kg)	13(no cable)
Dimension(mm)	780 x 290 x 310

Intelligent Tube Plate Robot Welding System

Summary

This equipment is specially designed for tubesheet welding. It adopts advanced and accurate visual positioning control technology to realize a truly unmanned full-automatic tubesheet welding robot. It is mainly used for full-automatic welding of chemical industry, various heat exchangers, boilers, power plants, military industry and nuclear power tubesheet.

Technical specification

TRP2000 Dimension	4200*1340*3040mm
TRP3000 Dimension	5000*1340*3040mm
Welding pipe range	Φ10~Φ80
Welding current	5~500A
Welding material	Carbon/Stainless steel,titanium alloy
Connector Type	Pipe flush/pipe protruding
Welding technology	TIG Self-Fusing/Wire Welding
Protective gas	Argon
Angle range of welding tool	-10°~30°
Welding wire diameter	Φ0.8~Φ10
Tungsten electrode diameter	Φ2.4~Φ3.2
Number of weld layers	Multi-layer Welding
Welding position	All Position Welding
Cooling type	Water Cooling

Performance characteristics

- Suitable for flat welding or fillet welding of tube plate of heat exchanger;
- The main purpose is to solve the unmanned operation of tube plate, efficient TIG welding, one person and more than one machine control, improve productionefficiency, reduce labor intensity;
- It is composed of TPR2000N/TPR3000 body, vision system, 500A program controlled intelligent welding power supply, special welding machine head, data acquisition system, automatic correction function, automatic arc length adjustment of spear head, etc.

Robot Tubesheet Welding System

Summary

Huaheng robot tubesheet welding system is independently developed by Huaheng. The whole system realizes unmanned operation of tubesheet, efficient TIG welding, and one-man multi-machine control, improving production efficiency and reducing labor intensity. It is suitable for automatic welding of general tubesheet in boiler, power construction, chemical industry and other industries.

Technical specification

Weldable material	Carbon/stainless steel, titanium
Tube sheet type	Pipe flush/pipe protruding
Welding pipe range(mm)	Φ8~Φ80
Rotation speed(rpm)	0.3~5.9
Torch inclination	0°~30°
Arc length adjustment	20(mm)
Maximum speed(mm/min)	1800
Wire feeding accuracy error	≤5%
Arc length accuracy error	≤0.1(v)
Protective gas	Argon
Cooling type	Water cooling
Cooling flow (ml/min)	600
Rated current	300A Temporary load rate 60%

Performance characteristics

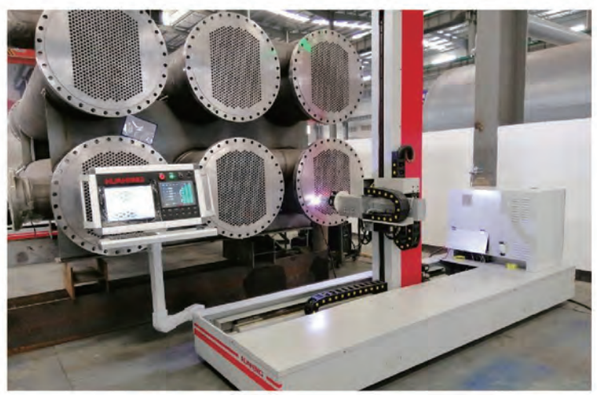
- Laser automatic positioning;
- The robot vision measures the specific position of each pipe diameter,and carries out background welding;
- The robot accurately finds the position of the weld,and automatically turns on the tracking and automatic welding;
- Intelligent fault prediction:replace tungsten electrode,welding wire,etc;
- One person can manage 3-4 robot welding equipment.

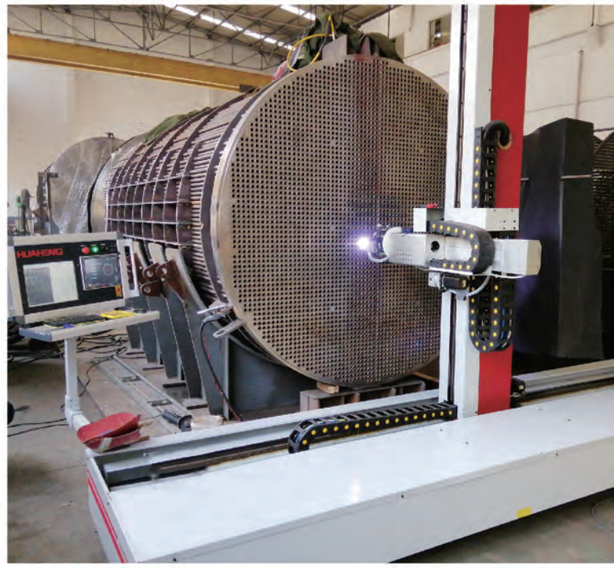
Petrochemical Industry

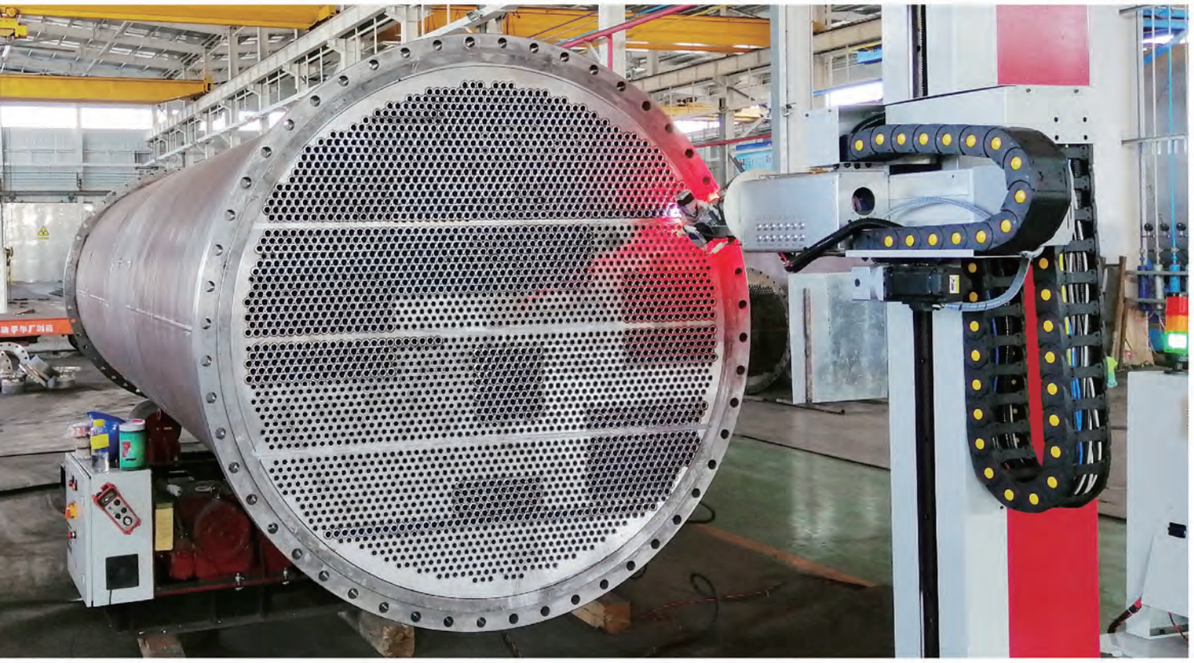
Heat Exchanger Tube to Tube Sheet Orbital Welding Application

Suitable application:

- OD range: Φ16-60, extend to Φ89;
- Material: carbon steel, stainless steel, titanium alloy;
- Welding type: orbital welding;
- Joint type: tube flush; tube protrusion;
- Wire specification: Φ1.0mm; 1kg spool.





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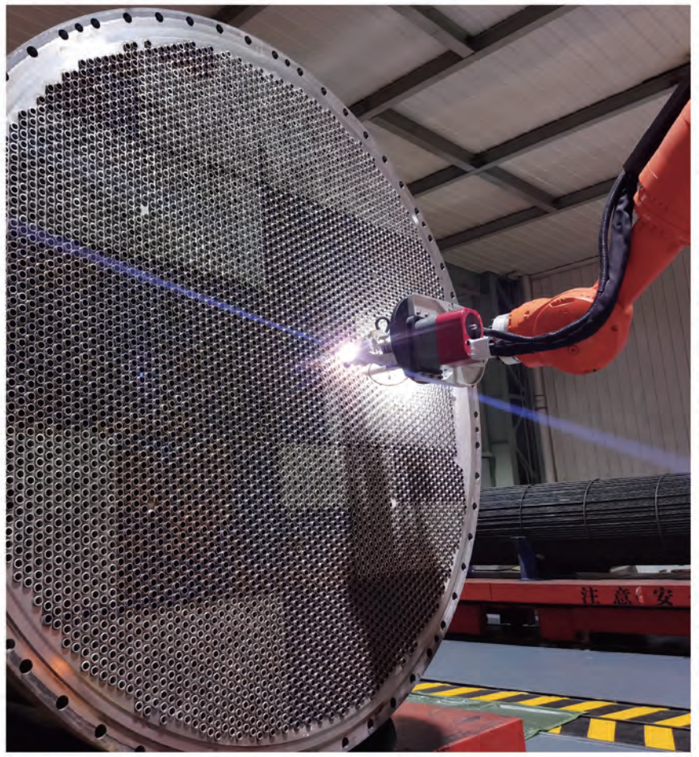
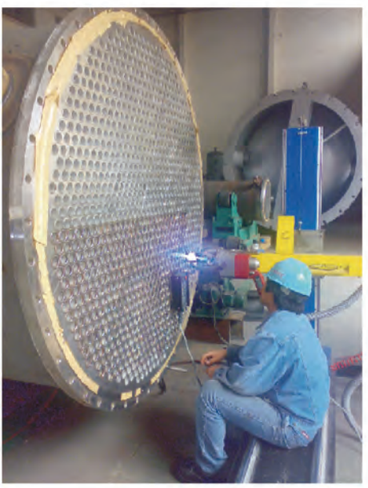


Assembly requirements:

- Before welding, the pipe end shall be 10mm, and the outside of the pipe plate mouth shall be polished for oil removal and rust removal, and the extension range of the exposed metal color pipe shall be 3-5 mm;
- The assembly clearance between the pipe and the plate shall be uniform, and the unilateral clearance shall be controlled within 0.8mm;
- There is no need for spot welding or TIG welding with or without wire;
- The welding point shall not be too high at the flat end of the pipe, and the internal burr shall be removed.

Technical advantages:

- High depth of fusion and uniform appearance Intelligent programming;
- Process parameter management, storage, copy and printing;
- Locator+three-axis gantry positioning;
- No winding of water, electricity, gas and wire point shall not be too high at the flat end of the pipe, and the internal burr shall be removed.



Boiler Industry

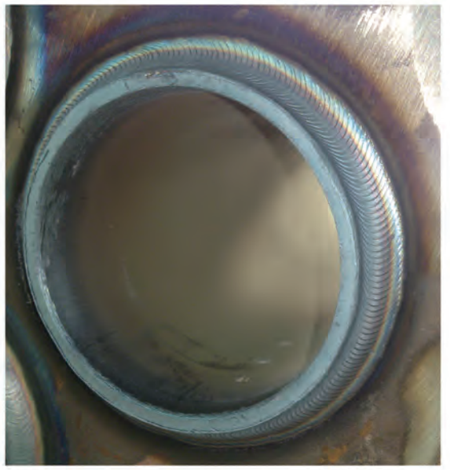
Boiler Outer Tube to Tube Sheet Orbital Welding Application

Suitable application:

- OD range: Φ16-60, extend to Φ89;
- Tube material: carbon steel, stainless steel, titanium alloy;
- Welding type: orbital welding;
- Joint type: tube flush, tube protrusion;
- Wire specification: Φ1.0mm; 1kg.

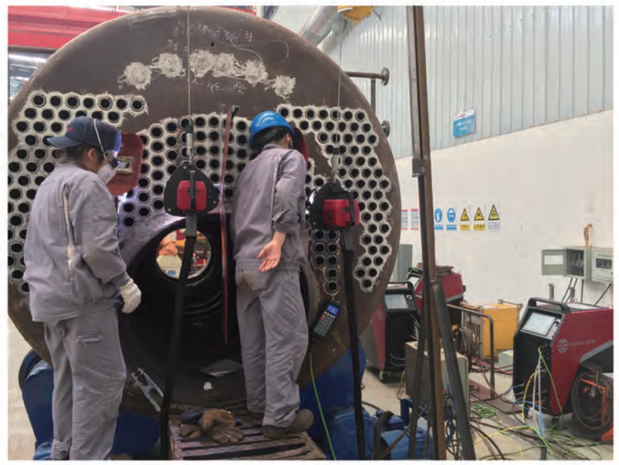
Assembly requirements:

- Cleaning oil, dust and polish to metal color at the end of tube (10mm) and around of tube hole on tube sheet;
- Tube protrusion arrange: 3-6mm;
- Fit-up between tube to tube sheet should be controlled in 0.8mm;
- Bevel on tube sheet: ≤2x45°;
- Using TIG with or without wire in tack welding if necessary. The tack point should be controlled to a small dimension;
- Tube facing and burring.



Technical advantage:

- Deep penetration, no welding leakage, stable welding shape;
- Intelligent programming;
- Pneumatic tube expansion for centering;
- Water, power and gas are un-twine design.



Boiler Industry

Boiler Inner Tube to Tube Sheet Welding Inside Boiler Application

Suitable application:

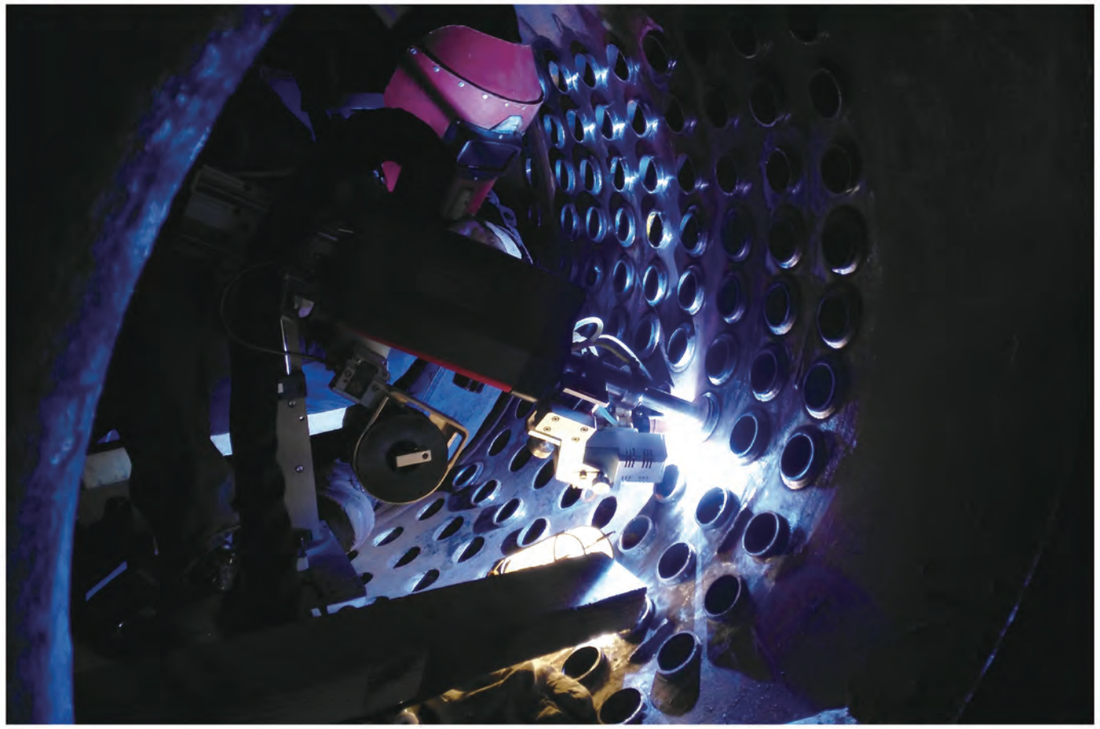
- OD range:Φ45-Φ60;
- Tube material: carbon steel;
- Welding type: orbital with saddle-shaped welding;
- Joint type: tube protrusion;
- Wire specification: Φ1.0mm; 1kg.

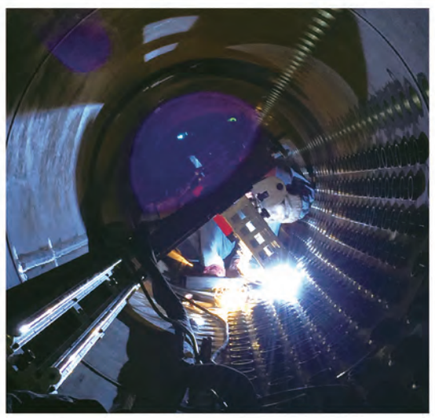
Assembly requirements:

- Cleaning oil, dust and polish to metal color at the end of tube(10mm)and around of tube hole on tube sheet;
- Tube protrusion arrange: 10±1mm;
- Fit-up between tube to tube sheet should be controlled in 0.8mm;
- Using TIG with or without wire in tack welding if necessary. the tack point should be controlled to a small dimension;
- Tube facing and burring.

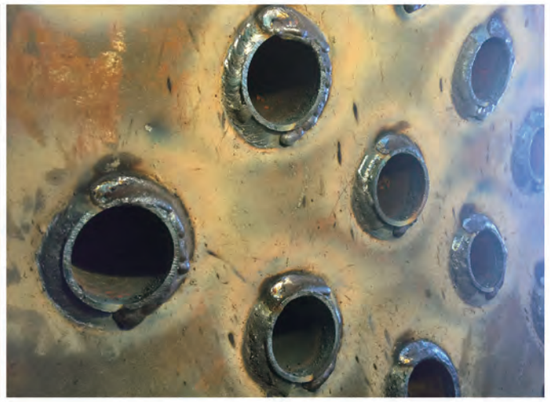
Technical advantage:

- Deep penetration, no welding leakage, stable welding shape;
- Intelligent programming; Pneumatic tube expansion for centering;
- Water, power and gas are un-twine design;
- Automatic arc voltage control, multi-passes welding process is possible;
- Installation, rebuilding and moving are easy to operate.





Manual Welding In Tube To Tube Sheet Welding



Shortages of manual welding:

- Power input: very big;
- Height of fillet joint: Inconsistent and hard to control;
- Welding joint shape: unstable, uneven;
- Lift of boiler barrel: short. there is crack or craze around the heat affected zone;
- Environmental pollution: big, MMA welding process releases lots of poisonous gas;
- Cleaning: MMA welding produces lots of welding spatter needs to be cleaned.

Automatic TIG Tube to Tube Sheet Welding

Advantages of automatic TIG welding:

- Pores in welds: small welding pores propensity;
- Water pressure test: high qualified;
- Tube end: no burn tube end and easy to repair;
- Orbital welding: due to AVC(Arc Voltage Control), it is possible to use in orbital welding process;
- TIG applicate in boiler industry: TIG has been used a lot in horizontal boiler a long time. it suits for the produce standard of boiler.

Boiler Industry

Inner Bore Welding in Tube Header Application

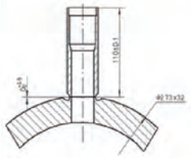
Suitable application:

- Header OD range: Φ219mm-Φ426mm, maximum wall thickness is 50mm, regular size isΦ273 x 32;
- Tube ID range: Φ20mm-Φ60mm, regular sizes are Φ51x7, Φ32x4, Φ38x5;
- Tube length: 100mm-130mm (including pressure testing length), regular size is 110mm;
- Tube material: 20G, 15CrMoG, 12Cr1MoVG, T22 and T91, regular size is 20G;
- Welding type: inner bore welding.

Welding preparation:

- Cleaning oil,dust and polish to metal color at the end of tube (8mm) and around of tube hole on tube sheet;
- Misalignment between bevel on header to inside tube: ±0.1;
- Gap between bevel on header to tube: 0.1;
- Tube length tolerance: 0.1;
- Tube ID tolerance: 0.2;
- Using TIG with or without wire in tack welding if necessary,the tack point should be controlled to a small dimension;
- Tube facing and burring.

A typical workpiece processing nozzle size



Assembly diagram of pipe joint

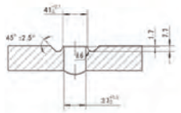
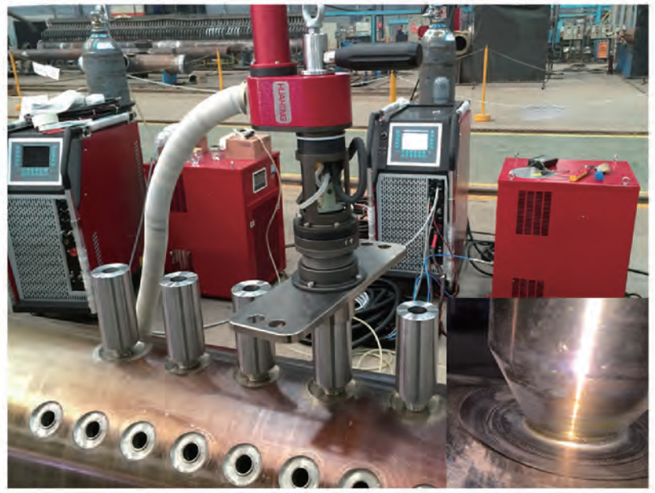


Diagram of header pipe hole

Technical advantage:

- High percentage of pass, no welding leakage stable welding shape;
- Intelligent programming;
- Water, power and gas are un-twine design;
- Tube inside tracking system, special welding process to get full penetration in one side welding;
- High accurate welding head localization, easy to operate.



Environmental Protection Industry

Air Cooling Exchanger Tube To Tube Sheet Welding Application

Suitable application:

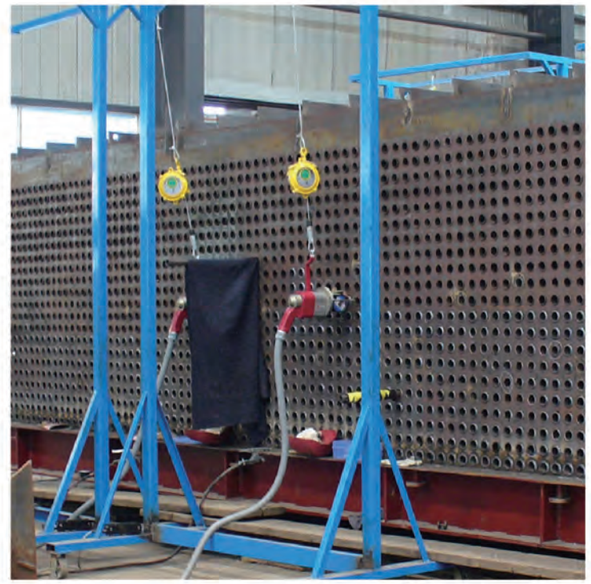
- OD range; Φ32-60, available to extend to Φ120;
- Tube material; carbon steel, low alloy steel, high alloy steel;
- Welding type; orbital welding;
- Joint type; tube flush, tube protrusion;
- Wire specification; Φ1.0mm; 1kg.

Welding preparation:

- Cleaning oil,dust and polish to metal color at the end of tube (10 mm) and around of tube hole on tube sheet;
- Tube protrusion arrange; 3-5 mm;
- Fit-up between tube to tube sheet should be controlled in 0.8 mm;
- Using TIG with or without wire in tack welding if necessary.
the tack point should be controlled to a small dimension;
- Tube facing and burring.

Technical advantage:

- Deep penetration, no welding leakage,stable welding shape;
- Intelligent programming;
- Pneumatic tube expansion for centering;
- Arc voltage control tracking (option);
- Water,power and gas are un-twine design.



Water Treatment Industry

Cleaning Tubing Butt Welding Application

Suitable application:

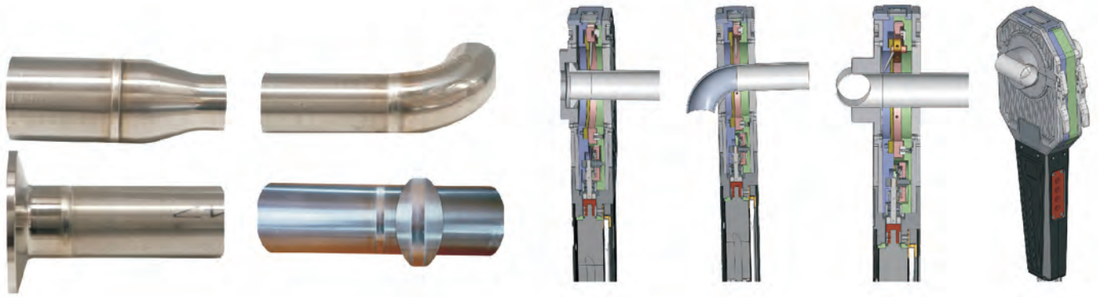
- OD range: Φ8-Φ140;
- Tube material: Stainless Steel, Titanium Alloy;
- Welding type: orbital welding;
- Joint type: fusion butt joint.

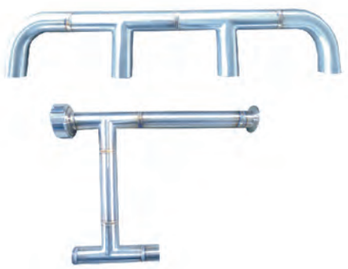
Welding preparation:

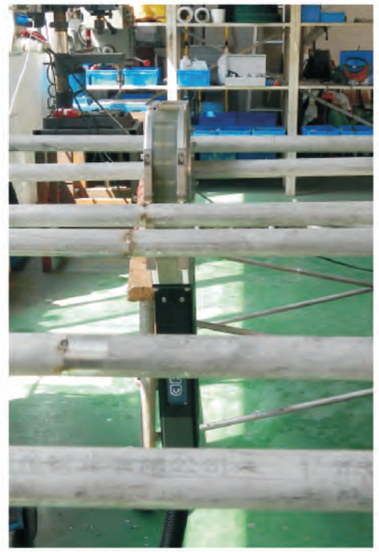
- Facing, cleaning, polish to metal color;
- No gap fit-up;
- No need tack welding;
- Tube burring

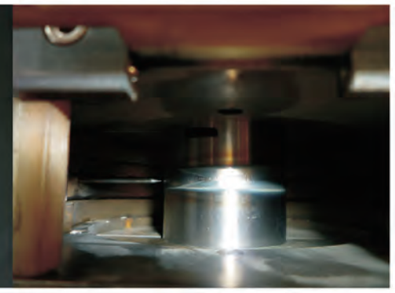
Technical advantage:

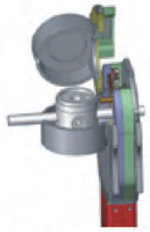
- Intelligent programming, database management;
- One side welding both sides formation to get uniform welding shape;
- Welding procedure parameter management, store, copy and print;
- Easy to teach, learn and understand.

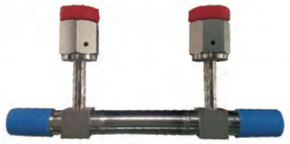




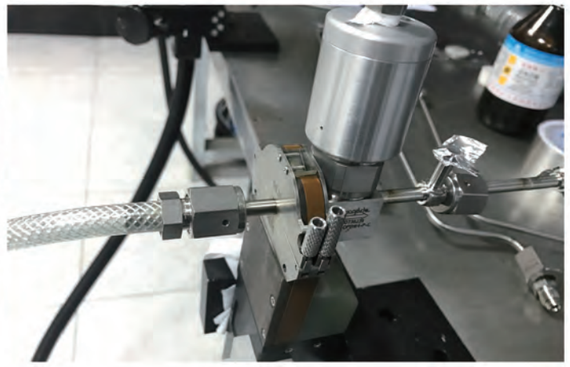










Semiconductor Industry

High-purity Gas Valve And Tubing Welding Application

Suitable application:

- OD range: Φ6-Φ51;
- Tube material: Stainless Steel,Titanium Alloy;
- Welding type: orbital welding;
- Joint type: fusion butt joint.

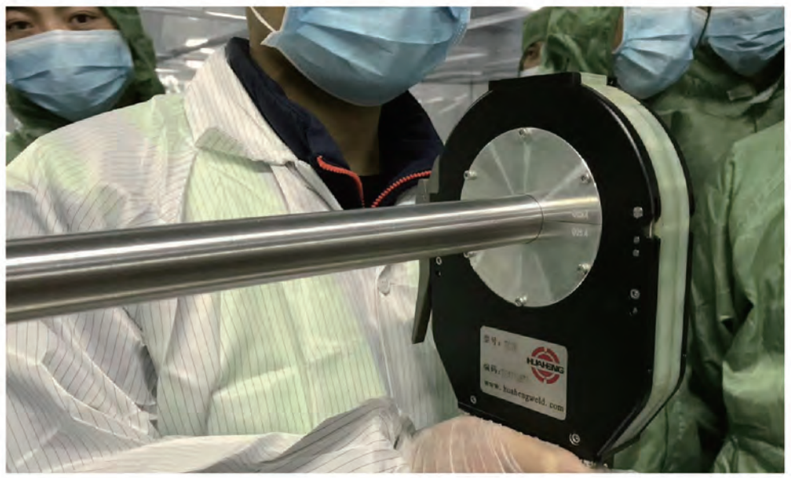
Welding preparation:

- Facing, cleaning, polish to metal color;
- No gap fit-up;
- No need tack welding;
- Tube burring.

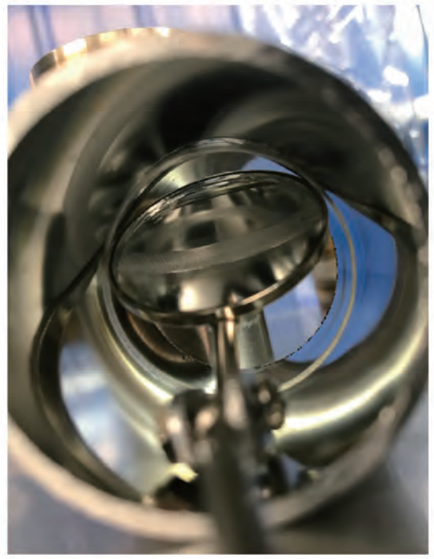
Technical advantage:

- Intelligent programming, database management;
- One side welding both sides formation to get uniform welding shape;
- Welding procedure parameter management, store, copy and print;
- Easy to teach, learn and understand.









Beer Tubing Welding Application

Suitable application:

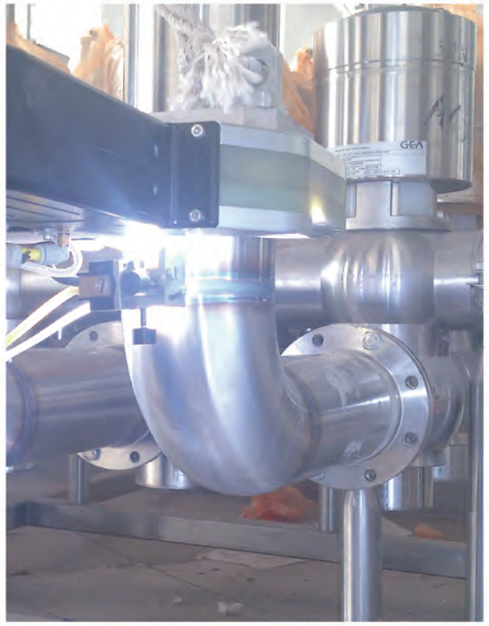
- OD range : Φ19-101;
- Tube material: Stainless Steel, Titanium Alloy;
- Welding type: orbital welding;
- Joint type: fusion butt joint.

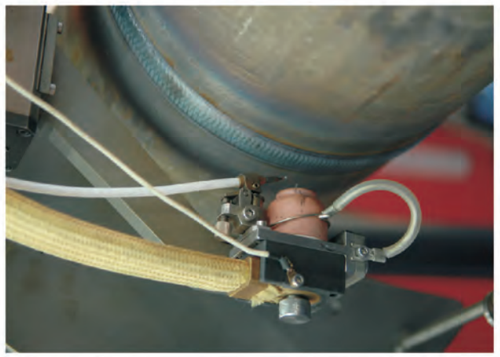
Welding preparation:

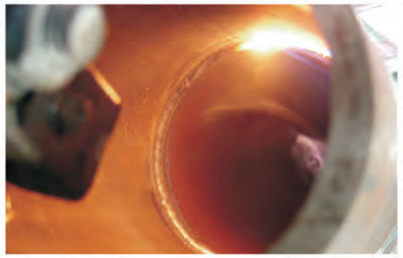
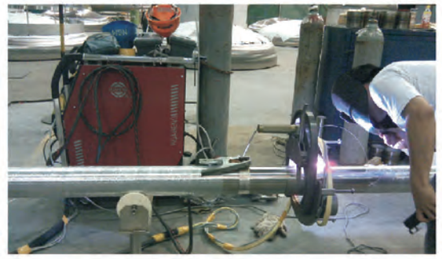
- Facing,cleaning, polish to metal color;
- No gap fit-up;
- No need tack welding;
- Tube burring

Technical advantage:

- Intelligent programming, database management;
- Fast clamp system to suit for row of tubing welding;
- One side welding both sides formation to get uniform welding shape;
- Welding procedure parameter management, store, copy and print;
- Easy to teach,learn and understand.



Industrial Pipeline Installation Pipeline Welding Application

Suitable application:

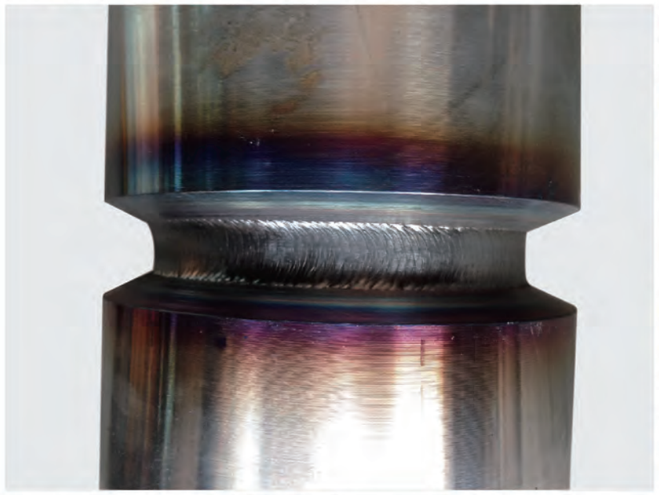
- OD range: 16- 320(different OD range needs to choose different head model);
- Wall thickness range: 1.5-12 mm;
- Tube material: Carbon steel, Stainless Steel, Titanium Alloy:
- Welding type: orbital welding;
- Joint type: fusion butt joint.

Welding preparation:

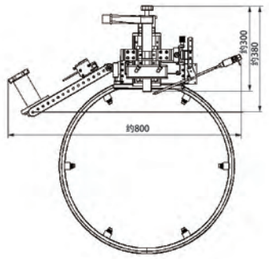
- Facing,cleaning oil and dust,polish to metal color;
- V bevel for carbon steel,J bevel for stainless steel or other special material;
- No gap fit-up;
- No need tack welding;
- Tube burring.

Technical advantage:

- Intelligent programming,database management;
- AVC(arc voltage control)and OSC(auto-oscillation);
- One side welding both sides formation to get uniform welding shape;
- Welding procedure parameter management, store, copy and print.



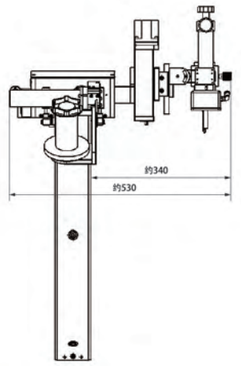
Petroleum Pipe TIG Welding Application



● TIG Track Welding System

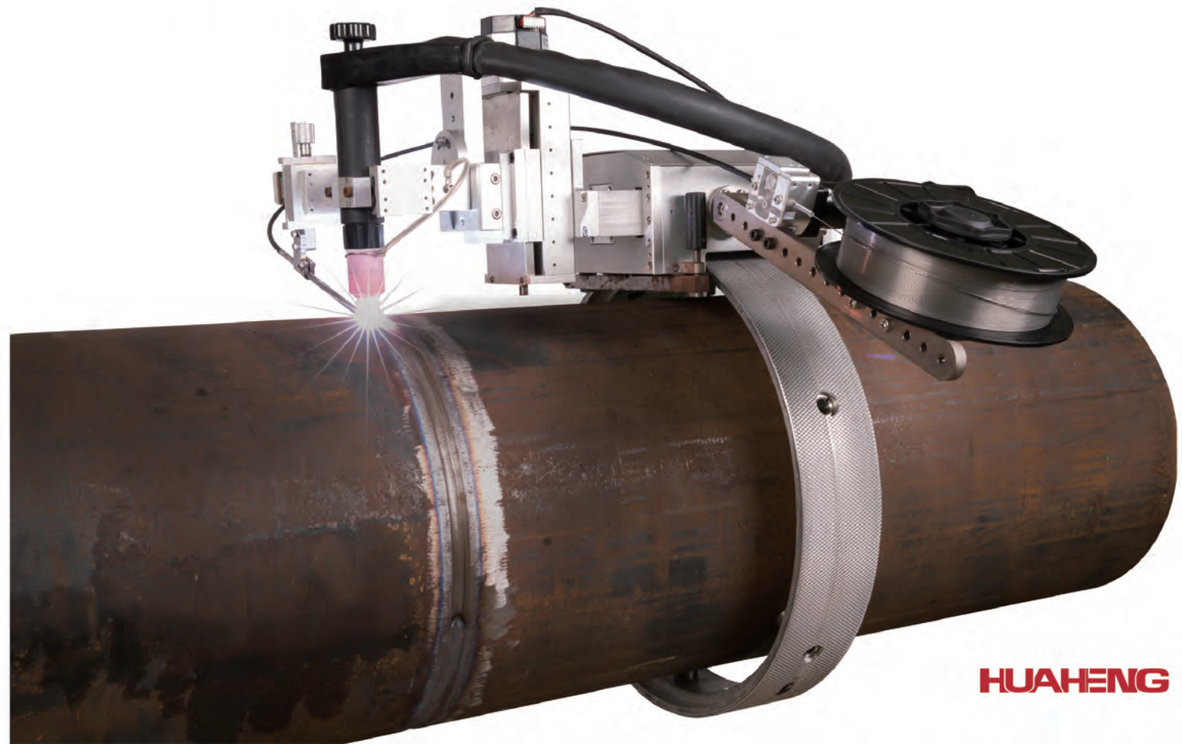
Summary

The system is specially designed for TIG rail welding of pipe-to-pipe butt joint, and the welding range could reach Φ300mm and above by selecting different rail sizes. This system is suitable for root welding, hot welding, filling welding and cover welding. It has the functions of AVC and OSC, and can be used in conjunction with TIG rail welding power supply for on-site manufacturing of liquefied petroleum gas pipeline, petroleum pipeline and pipeline.



Performance characteristics

- Gear transmission, stable rotation speed;
- TIG root welding procedure for different and various pipe joints;
- Using dual water cooling torch for big diameter, thick wall pipe welding procedure;
- Stable wire feeding based on a short wire feeder structure design;
- To choose different tracks for different diameter range.

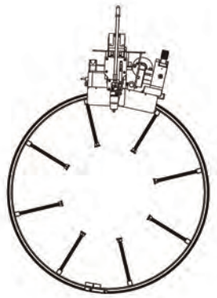


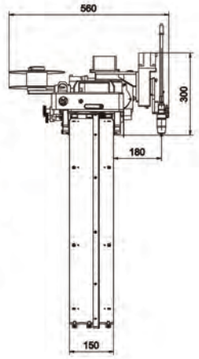
Petroleum Pipe MIG Welding Application

● MIG Track Welding System

Summary

The system is special designed for pipe to pipe butt joint MIG orbital welding,to choose different track size the welding range could reachΦ300 mm and above.The system suits for root welding,hot welding,filling and capping welding.It is with a AVC and OSC functions to work with PHOENIX COLDARC series power source for liquefied petroleum gas pipeline on field,petroleum pipeline on field,and pipe fabrication.





Performance characteristics

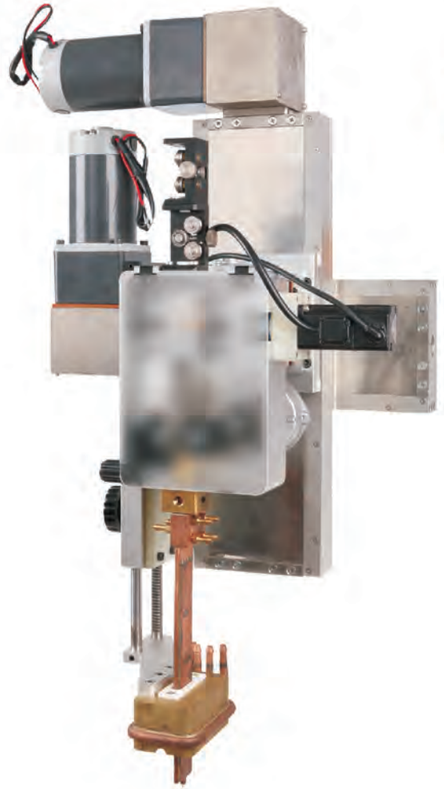
- Gear transmission,stable rotation speed;
- MIG root welding procedure for different and various pipe joints;
- Using dual water cooling torch for big diameter,thick wall pipe welding procedure;
- Stable wire feeding based on a short wire feeder structure design;
- To choose different tracks for different diameter range.

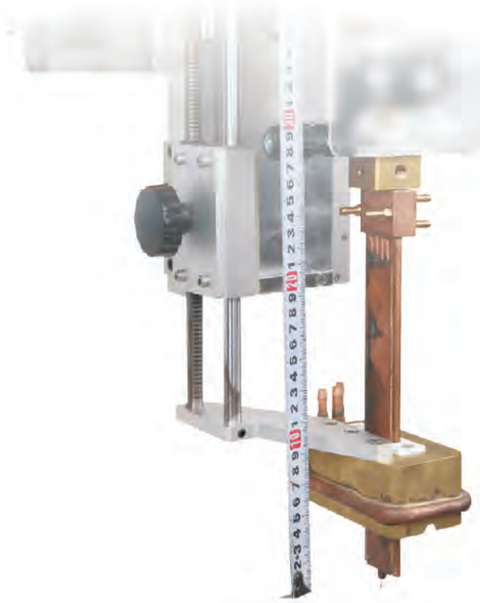
Technical specification

Outer diameter of pipe (mm)	300-1500(12"~60")
Torch rotation speed (mm/min)	40-500
Yaw width (mm)	50
Arc length height (mm)	50
Torch cooling type	Circulating water cooling
Joint type	Straight pipe/Pipe elbow

Steam Turbine Industry

Narrow Groove Welding System For Grating Baffle





Summary

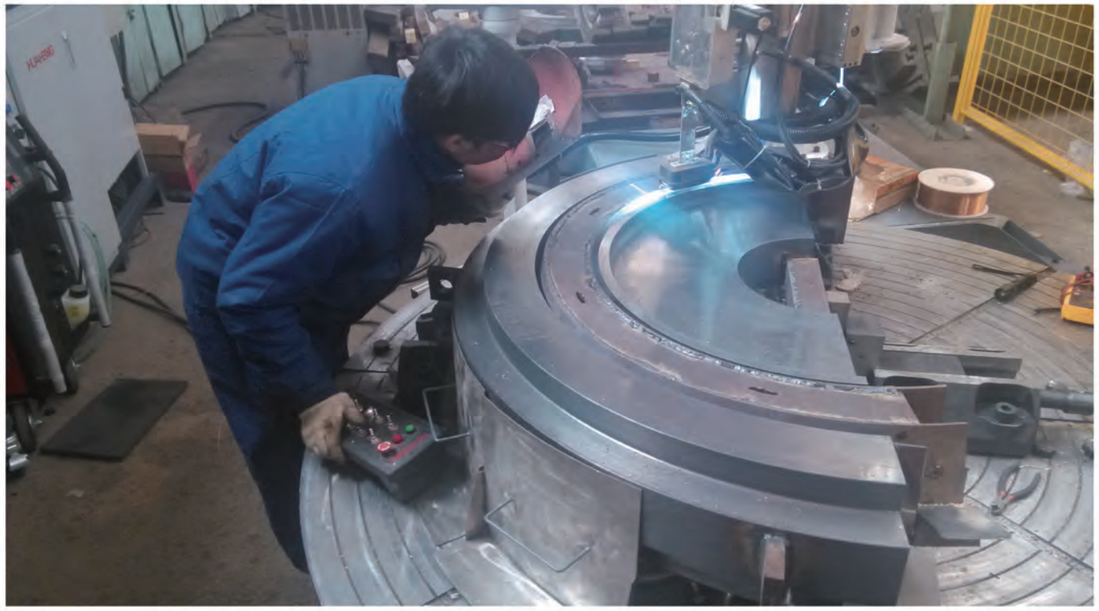
The system consists of a narrow slot MIG welding torch, manipulator, positioner and MIG digital welding power supply. It has a PLC control center to control all sectors working together to finish narrow groove continuous or discontinuous welding. This system is suitable for narrow groove with welding depth of 250 mm (9-12 mm in width and 1/100-2/100-1 groove in inclination). By endowing the welding wire with bending characteristics and using ts waveform formed by the welding wire, the two walls can be fully penetrated at the groove, thus obtaining a high-quality welded joint that passes through one layer at a time. It is used in power industry, valve industry, coal mine machinery industry, construction machinery, boiler industry, etc.

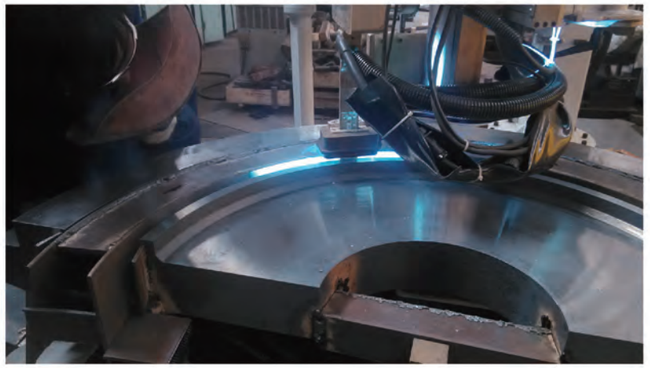
Performance characteristics

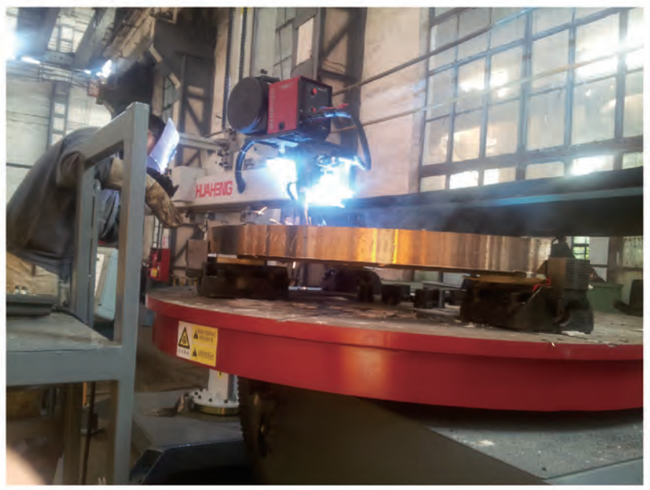
- It is suitable for applications with wall thickness greater than 9mm;
- Wire vibration technology is adopted to ensure double-sided penetration at groove;
- High deposition rate and low energy input;
- Suitable for horizontal welding, vertical welding in longitudinal seam and girth seam;
- High duty ratio with water cooling torch;
- Dual-shielding gas design;
- OD range:Φ19-Φ101;
- Applicable to carbon steel, stainless steel and other materials.

Technical data

Bevel type	U Type, J Type
Suitable wall thickness(mm)	30~250
Suitable bevel width(mm)	9~20
Max.welding current(A)	350
Max.wire feeding speed(mm/min)	24000
Wire diameter(mm)	Φ1.0,Φ1.2
Shielding gas	Mixed gas
Cooling type	Water cooling
Weight(kg)	5
Dimension(mm)	320x200x600





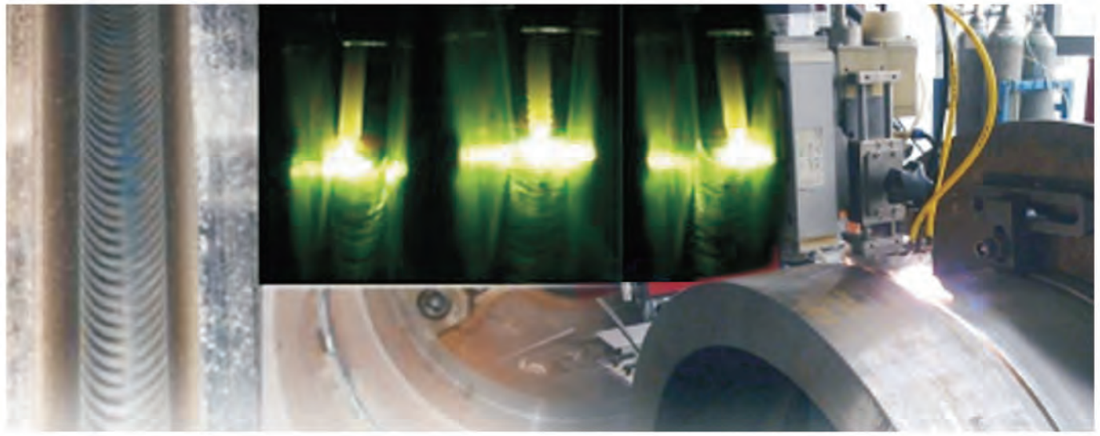


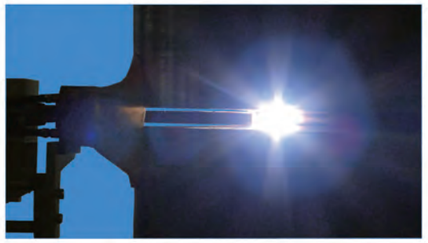
Suitable application:

Applied size:
Max outer circle diameter: Φ1800mm;
Minimum inner circle diameter: Φ700mm;
Wall thickness is 4-10mm (6mm is common);
Material: carbon steel, low alloy steel, martensitic stainless steel;
Welding type: horizontal angular welding technology;
Joint type: butt joint;
Width of groove bottom: 9mm.

Technical advantage:

Auto oscillation;
Pre-heating function,max.
Pre-heating temperature is 350 degrees;
Auto torch lifting in pass to pass;
Dual-shielding gas covers to protect gas area;
Fast clamping locating work piece;
Unify welding parameter adjustment.



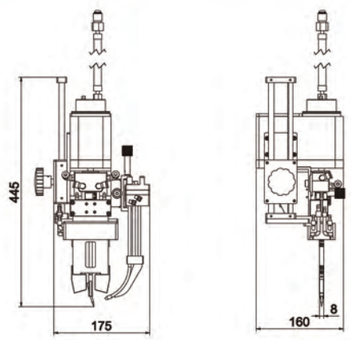


Steam Turbine Industry

TIG Narrow Groove Welding System For Valve Casing Connection Application

Summary

The system consists of a welding torch tungsten oscillating device, a welding torch fixture, a purging gas hood, gas hood elevator, wire feeding adjusting device, a front and rear monitoring system and a stepping motor ball screw holder. The welding torch fixture is made of heat-resistant insulating material, water-cooled design and special protective gas pipeline to ensure its continuous operation at high temperature. The shielding gas cover is using stainless steel shell water cooling, and insulate at the place where connects to torch, it realizes to dual-shieldingas which shields the groove root and also shields outer joint together in welding process, it is a dual - shielding design. It is used for thick-walled applications such as nuclear power industry. Chemical industry, boiler, valves, shipbuilding, motor rotor, etc.



Technical specification

Bevel type	U Type, J Type
Suitable wall thickness(mm)	30~200
Suitable bevel width(mm)	9~20
Max.welding current(A)	350
Max.wire feeding speed(mm/min)	5500
Wire diameter(mm)	Φ1.0~Φ1.2
Shielding gas	Argon 99.99%
Cooling type	Water cooling
Weight(kg)	7
Dimension(mm)	175x160x445

Performance characteristics

It is suitable for applications with wall thickness greater than 9mm;
Tungsten oscillation technology ensures double-sided penetration of the groove;
High deposition rate and low energy input;
Suitable for horizontal weld, vertical weld and girth weld;
5-line water cooling design, which improves the working period;
Dual-shielding gas design to ensure stable welding shape;
Fewer components are consumed, the operation cost is lower, and the torch maintenance is simpler;
Applicable to carbon steel, stainless steel, nickel alloy, titanium alloy and other material.

Suitable application:

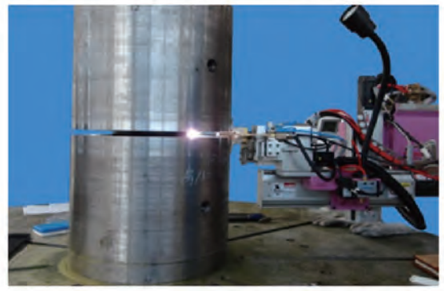
- Pipe connection range: 240-560mm;
- Min. pipe connection diameter: Φ250mm;
- Max. pipe connection diameter: Φ800mm;
- Max. groove depth: 240mm;
- Max. height from ground: 1000-2200mm;
- Weight of Valve cashing: 25T;
- Welding type: 2G horizontal welding.

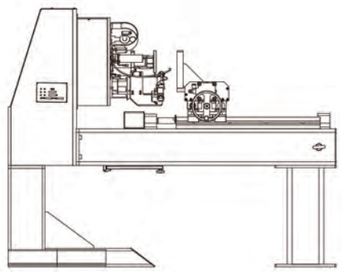
Welding procedure requirement:

- TIG in root pass: full penetration in root pass, and ensure the uniform height at the back side;
- TIG in groove wall fuse: joint full fuses with double wall of groove, no defect;
- 100% pass RT after welding;
- 100% pass MT after welding.

Technical advantage:

- Intelligent programming,database management;
- AVC function(Arc voltage control);
- Auto tungsten oscillation;
- Single pass single layer welding procedure,each pass wall is around 1.8mm-2.5mm;
- Less metal filling,but high welding efficiency;
- 2G narrow groove hot wire welding process for option;
- Narrow groove torch applies at the wall thickness more than 25mm, max.wall thickness will be 250mm.
- The width of the groove is 15-18 mm.





Construction Machinery Industry

Hydraulic pipe TIG welding system

GTX53
hydraulic pipe welding system

Summary

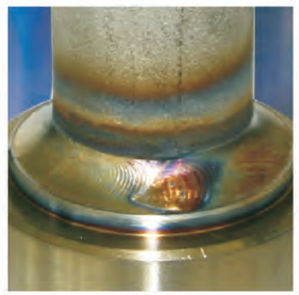
The system is specially designed for TIG welding of pipe and flange. It could do single position welding or orbital welding, joint or angle welding, with option of self-fusion-wire feeding or wire feeding after self-fusion. It could be put vertically or horizontally. Support equipment: iArc 400,408 Programmable Orbital Welding Power Source. Application: Special tube to tube and tube to flange in locomotive, engineering machinery.

Performance characteristics

- Suitable for automatic pipeline flange welding in construction machinery and traction motor industries;
- Switch of melting/wire feeding welding processes, easy to operate;
- It is easy to set the rail welding position or horizontal welding position;
- The pipe clamp can be manually adjusted up and down, left and right;
- Un-twist design to allow continues to weld;
- Pneumatic.

Technical Specification

Material	Carbon steel,stainless steel
Tube OD(mm)	Φ17~Φ76
Tungsten diameter(mm)	Φ2.4、Φ3.2
Rotation speed(rpm)	0.1~3.29
Torch angle	0°~45°
Protective gas	Ar
Cooling	Water
Cooling flow(ml/min)	≥600
OSC width(mm)	40
AVC height(mm)	40
Wire diameter(mm)	Φ1.0(Standard)
Max wire feeding speed(mm/min)	1800
Weight(kg)	290
Dimension(mm)	700 x 640 x 1760



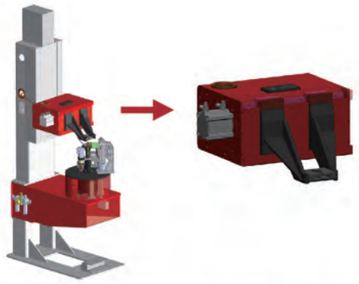
GTX63S hydraulic pipe welding system

This system is specially designed for tube to flange TIG welding. It could do single position welding or orbital welding, joint or angle welding, with option of self-fusion, wire feeding or wire feeding after self-fusion. It could be placed vertical or horizontal. Support equipment: iOrbital 5000-H TIG Programmable Orbital Welding Power Source.

Application: Special tube to tube and tube to flange in locomotive, engineering machinery.

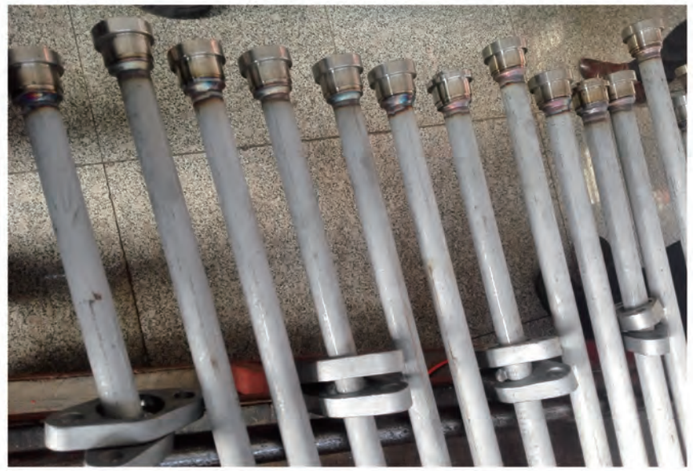
Performance characteristics

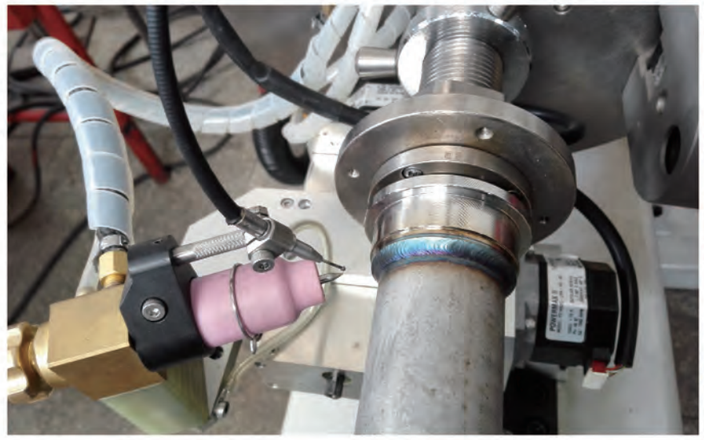
- It is suitable for automatic welding of pipe flanges in construction machinery and locomotive industries;
- According to the needs of welding process, self-fusion, wire filling or self-fusion followed by wire filling can be selected, which is convenient, fast and labor-saving;
- The clamp can be adjusted back and forth through the rocker at the back (bottom) of the hand crank;
- Clamp specific self-centering function, both sides can clamp and loosen the workpiece at the same time, so as to facilitate rapid positioning;
- The rotary drive adopts servo motor, which can adjust speed steplessly within the speed range, and all water, electricity, gas pipes and wires are free of winding;
- Pneumatic clamping mode is adopted to ensure that the workpiece can be firmly positioned on the workbench without human intervention;
- The standard structure of water-cooled TIG welding gun is adopted: the tungsten electrode is tightened from the back to the front to achieve the purpose of tightening the tungsten electrode.It is convenient and quick to replace or adjust the tungsten electrode;
- The wire feed has no winding, and is equipped with an integrated wire feeder, which can be installed with 1.0kg wire reel.

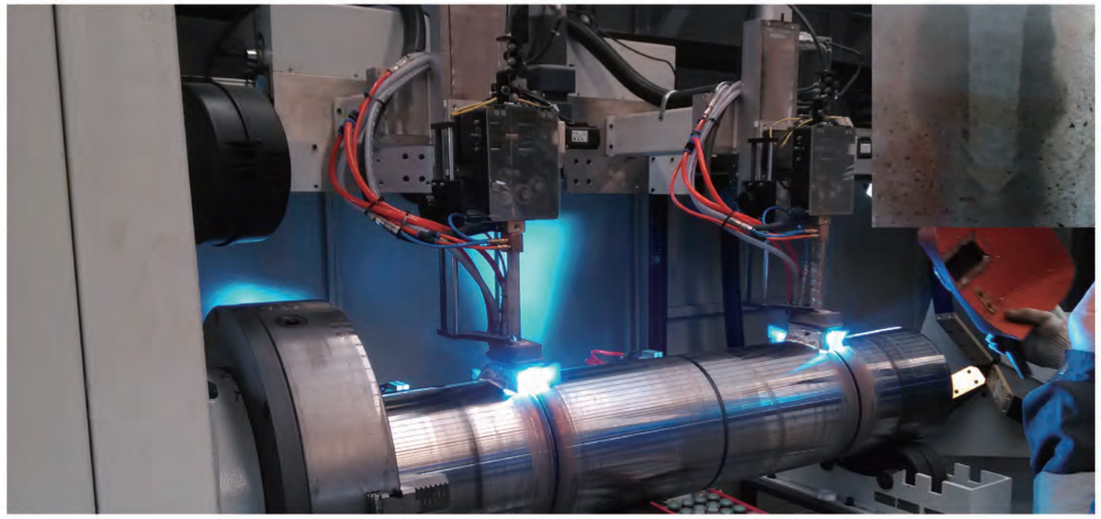


Technical specification

Material	Carbon steel,stainless steel
Tube OD(mm)	Φ8 ~ Φ76
Tungsten diameter(mm)	Φ3.2
Rotation speed(rpm)	0.19 ~ 9.37
Torch angle	0°~45°
Protective gas	Ar
Cooling	Water
Cooling flow(ml/min)	≥600
OSC width(mm)	60
AVC height(mm)	60
Wire diameter(mm)	Φ1.0(Standard)
Max wire feeding speed(mm/min)	1800
Weight(kg)	320
Dimension(mm)	500 x 850 x 2015
The shortest clamping length	45mm
Z-axis travel	300mm







Construction Machinery Industry

Hydraulic cylinder narrow groove MAG welding system

Suitable Application:

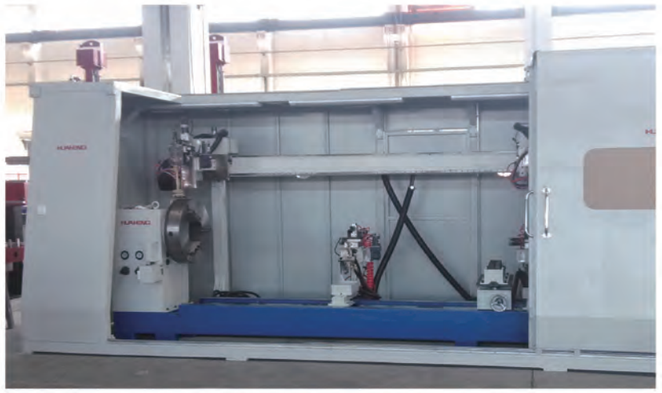
- Apply to weld cylinder bottom,outer cylinder bottom plunger and other narrow groove circumferential seam welding;
- Diameter range: ODΦ114-650, length range: 600mm-3000mm;
- Weight capacity: 2000kg;
- Max.depth of groove:100mm;
- Material:carbon steel,low alloy steel,high allow steel;
- Joint type:narrow groove U bevel butt joint;
- Pre-heat:100-150C around joint.

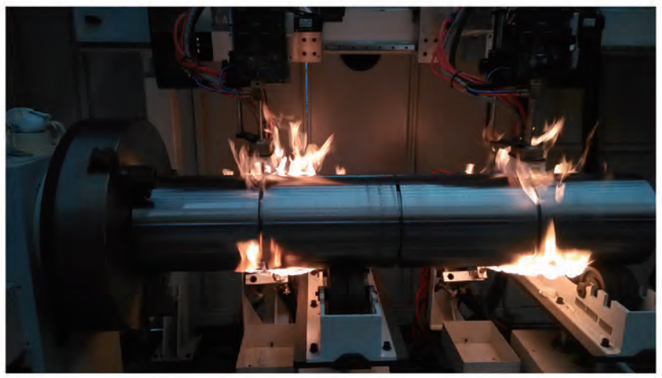
Welding procedure requirement:

- Wall fusion:penetration with wall to joint,no welding defect;
- 100% RT after welding and reach lever II with acceptable.

Feature:

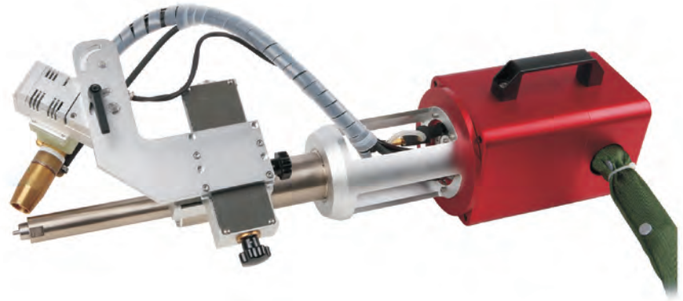
- Oscillation;
- Auto flame pre-heaing, max. temperature goes up to 350°C;
- Torch auto lifting from pass to pass;
- Double shielding covers;
- Faster clamper system with self-centering;
- Unified adjust parameter;
- Double torches welding together.





Construction Machinery Industry

MAG Tube to Tube Sheet Welding



Summary

This system is a specially designed automatic MAG tube to tube-sheet welding system for engineering machinery sleeve.It is fixed by taper localizer, 3D manipulator or intelligent spring balancer,wide range of localization. It is the first no twist design for MAG tube to tube-sheet system,smoothly wire feeding, convenient and fast.
Application:Boiler,engineering machinery,so on.

M90 MAG Tube to Tube Sheet Welding Head

Performance characteristics

- Suitable for engineering machinery sleeve welding,boiler tube to tube-sheet and boiler pull bar MAG welding;
- Adopt a conical locator, which has a wide positioning range;
- No wire twist design and special wire feeding design to achieve complex single-layer welding or multi-layer welding requirements;
- Auto swing during welding;
- Pneumatic locking on manipulator for up and down, left and right moving;
- 15-20kg wire feeding plate, wire diameter: Φ1.0 & Φ1.2.

Technical specification

Material	Carbon steel
Tube OD(mm)	Φ38-Φ260
Rotation speed(rpm)	0.23-4.6
Torch Angle	0°-60°
Protective gas	Ar
Cooling	Water
Cooling flow(ml/min)	≥600
Duty cycle	320A 60%
OSC width(mm)	40
Manual adjusting height(up&down)(mm)	40
Wire diameter(mm)	Φ1.0,Φ1.2(standard)
Weight(kg)	15(no cable)
Dimension(mm)	700x250x240

Precision Circumferential Welding System

Performance characteristics

- Equipped with threading function;
- Arc length tracking and yaw function;
- The workpiece can be clamped once by manual clamping, and the inner circumferential seam can be welded;
- The angle adjustment, the horizontal movement and the flat welding posture adjustment of welding head can be realized.

Technical specification

Material	Stainless Steel,Carbon Steel
Tube OD	Φ20-Φ200
Connection	Fillet joint,lap joint,butt joint
Protective gas	Air
Cooling	Water
Cooling flow(ml/min)	≥450

Precise Accessory Equipment

Technical specification

Min.Height to ground(mm)	500
Horizontal stroke(mm)	1500
Vertical stroke(mm)	1500
Dolly stoke(mm)	450
Weight(kg)	310
Dimension(mm)	2063 X 1269 X 2325

● TPF03 Pneumatic Manipulator

Summary

This manipulator is specially designed for tube to tube-sheet welding head,making the operation easy and convenient.It could control the position of the welding head by 3 axis moving and pneumatic locking,fast find the tube center and weld stably.
Support equipment:TP060,T8 welding head. Suitable for small tube to tube-sheet welding.

Performance characteristics

- Steel structure, durable and stable;
- Linear track for each axis for smooth and reliable motion;
- Three-axis pneumatic locking system;
- Two fixed wheels and two flexible wheels, easy to move.

● Spring Balancer

Summary

Spring balancer is specially designed for tube to tube welding head. controlling welding head position by balance principle. It could make it fast to find tube center and weld stable by using with collect.
Support equipment: TP060 Tube to Tube-Sheet Welding Head Suitable for large tube to tube-sheet welding.

Performance characteristics

- Convenient for moving;
- Maximum loading is adjustable to achieve best status.

Technical specification

Loading(kg)	9-15
Traverse(mm)	2000
Weight(kg)	3.8

Desktop Tungsten Grinder

▲ WMJ06

Portable Tungsten Grinder

▲ WMJ04

Portable pipe end flattening machine

Summary

Portable pipe end flattening machine is a professional beveling and flattening machine for thin-walled pipe end face,so that the pipe end is free of burrs and the end face is completely perpendicular to the pipe axis.After the flat mouth,the pipe can be directly used for high-precision pipe welding or other pipe manufacturing with high requirements,and is suitable for use in high-purity and high-hygiene industries,such as biotechnology,semiconductor,beverage,dairy,-pharmaceutical,water treatment,food and other fields.

Performance characteristics

Novel and unique design, simple operation, with the functions of length cutting and cone grinding. Both length and angle are shown by proportional value.

Technical specification

Suitable tungsten diameter	Standard (with 1.0/1.6/2.4/3.2/4.0) Optional (with 2.4/3.2/4.0/5.0)
Grinding angle	20°-60°
Cut length	>30mm
Power	250w
No Load Rotation Speed(RPM)	2800
Input Power	220V Single phase
Weight	12kg

Performance characteristics

Small and convenient to carry;
With battery motor easy to use repeated;
Stable rotation speed with tungsten cut off function.

Technical specification

Tungsten Diameter(mm)	Φ1.6mm、Φ2.4mm、Φ3.2mm
Grinding Angle	15° - 60°
Charge Voltage(V)	AC 220V
Dimension(mm)	50mm x 50mm x 240mm
Weight(kg)	1.8 kg

Performance characteristics

- After flat machining,the end face is free of any burr,and the end face is 100%vertical to the pipe axis. The structure is exquisite, and the fixture, tool and pipe are easy to install and clamp, and the operation is simple;
- Small size and light weight, suitable for any work occasion;
- It is suitable for flat machining of any ultra-pure thin-walled stainless steel high-end surface;
- It is suitable for double-edge tools with special coating to ensure the highest accuracy of end face processing quality, long service life,and not easy to wear;
- The device can obtain the highest precision end face quality by using the millimeter scale;
- Clamping mode is divided into external enclosed clamping and double V-groove clamping;
- The required groove processing (30°/37°) can be completed by replacing the tool pad.

Technical specification

Model	Pipe diameter	Thickness	Voltage	Net weight	Size
FM1.0	3-25.4mm	0.5-3mm	14.4V charging110/220V	4.8KG	500*280*180mm
FM3.0	12.7-76.2mm	0.5-5mm	110/220V	9.5KG	400*320*240mm
FM4.5	12.7-114.3mm	0.5-5mm	110/220V	19KG	550*300*260mm

Planetary pipe cutter

- Purpose: cold processing, without influence on pipe material products; The cutting end face is vertical without burr; Environmental protection, longer service life; The firm V-shaped clamping design ensures that the workpiece is not loose and not easy to deform. The weight of the equipment is appropriate, which avoids the strong vibration during the cutting process. The driving motor has torque adaptive program, and the cutting process is more smooth; Rotation without winding.

Technical specification

Model(pipe inner diameter)	Thickness	Voltage/power	Net weight
6-76mm	3.5mm	110/220/ 1800W	50KG/165lb
19-120mm	1-7mm	110/220/ 1800W	75KG/165lb
63.5-182mm	2-10mm	110/220/ 1800W	90KG/198lb
150-230mm	2-10mm	110/220/ 1800W	110KG/242lb
215-325mm	2-10mm	110/220/ 1800W	130KG/286lb

Protection Coolant

Summary

10#/5L
Part mumber: 0500-0091-0000--0000
20/5L
Part muumber: 0500-0092-0000-0000

Performance characteristics

Superior freeze-proofing;
Good cooling effect;
Low electric conductivity;
Strong environmental protection;
Not corrosion of equipment, and no scale in circuit running;
Serve to automatic welding system and CNC cutting machine.

Technical specification

Colour	Non-Colour
Smell	Non
Freezing point	10# -10° 20# -20°
Service environment	10# using under -10° to 60° 20# using under -20° to 60°
Capacity	5L
Replacement cycle	1 year

Package