



# 2022

# NEW RELEASE

## WZM-400

**ROBOTIC TUBE-TO-TUBESHEET WELDING SYSTEM**



**Tube diameter 10-60mm**

**Power stations ■ Air conditioners ■ Heat exchangers ■ Boilers ■ Nuclear power**

GBAW | GTAW | GMAW | SAW | Laser | Resistance | Friction | FSW

# ROBOTIC TUBE-TO-TUBESHEET WELDING SYSTEM

## WZM-400

### Technical advantages

- Fast locating speed, locating can be finished in 2s;
- Flexible adjustment, which enjoys extremely low requirements for the placement position and angle of workpiece;
- The levelling of the welding head and the position correction of the workpiece can be finished in 5 minutes after replacing the workpiece;
- Inputting the relevant parameters of the workpiece (tube diameter, deviation, extension length) is the only thing need to finish without establishing a template, which makes visual application convenient;
- There are few requirements for operators and no need to learn robot programming knowledge.

### Features and Benefits

- Full automatic welding, no need for manual intervention;
- Directly import the CAD drawings and transform it to the coordinate of robot, no need to teach and programme for robot;
- Freely marking the welding procedure can prevent tubesheet from deforming;
- The workpiece processing deviation is compensated by vision detecting, which ensures the qualification rate of welding seam;
- 6-axis robot, the locating time is less than 2s;



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# POWER SOURCE AND ACCESSORIES

## POWER SOURCE WZM-400

### Features and Benefits

- Programmable automatic digital system, fine control of welding process.
- Real-time fine tuning welding parameters on remote control box, perfect control of welding process.
- Highly integrated design, compact structure, easy to move.
- Functions:CC or pulse current output/Rotation control/ Wire feeding control/ Protection gas control/ Arc length control/ Horizontal swing control, etc.
- Water shortage, overheating, emergency stop and other protection functions, safe and reliable.

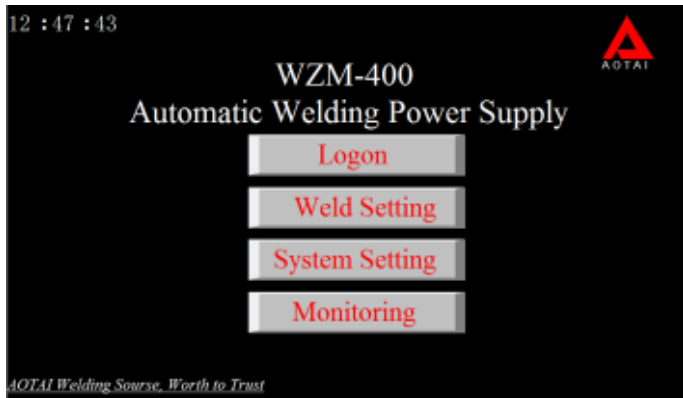


### PRODUCT SPECIFICATIONS

Item	Parameter
Rated input voltage/frequency	380V±10% 50/60 Hz
Rated input Power	13.5KVA
Welding current	5~400A
Duty cycle (20°C)	400A 60%/315A 100%
Savable programs	60
Sections	16
Display	10 inch touch screen digital display
Main function	CC or pulse current output/Rotation control/ Wire feeding control/Protection gas control/ Auto control of arc length/ Horizontal swing control, etc.
Protection/insulation class	IP21S/H
Weight (no coolant)	99Kg
Dimension (mm /inch)	1100*600*1250 /43*23*49



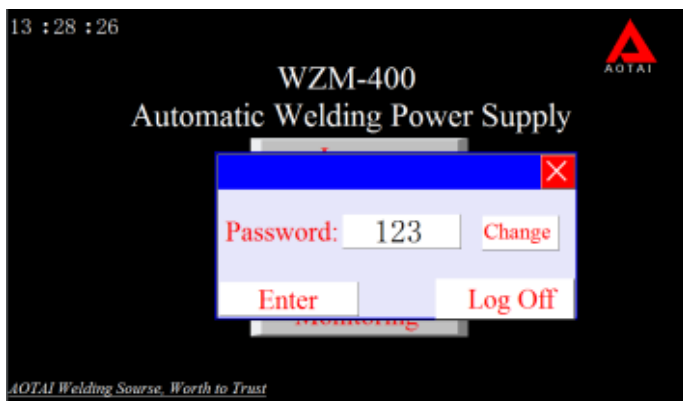
# TOUCH SCREEN CONTROL INTERFACE



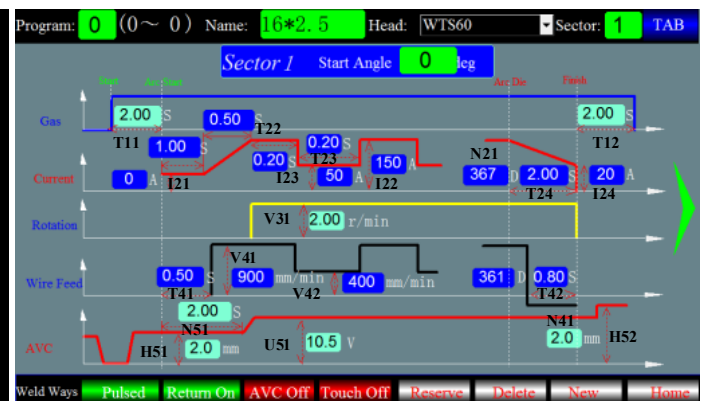
Main interface

## Features and Benefits

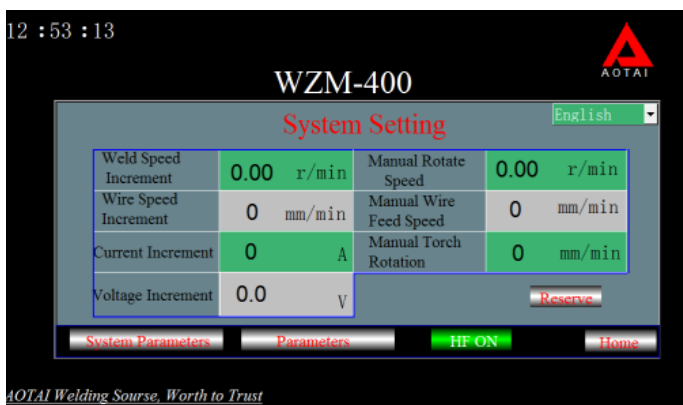
- Soft switch inverter technology, high reliability, energy saving.
- 10-inch touch screen control interface, intuitive image, easy to operate.
- 60 sets of welding specs can be stored and recalled, saving operating time.



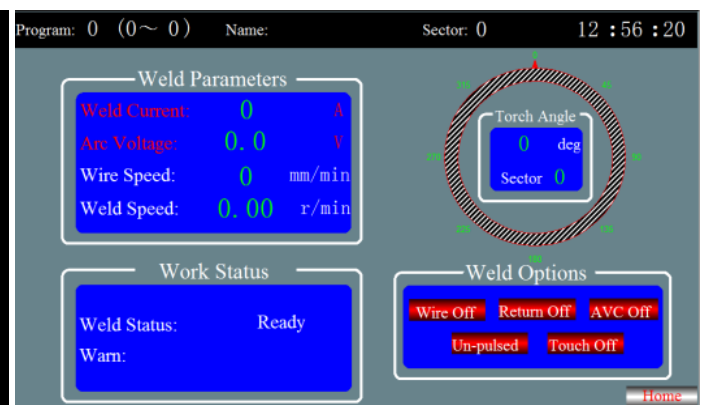
Login interface



Intuitive programming interface



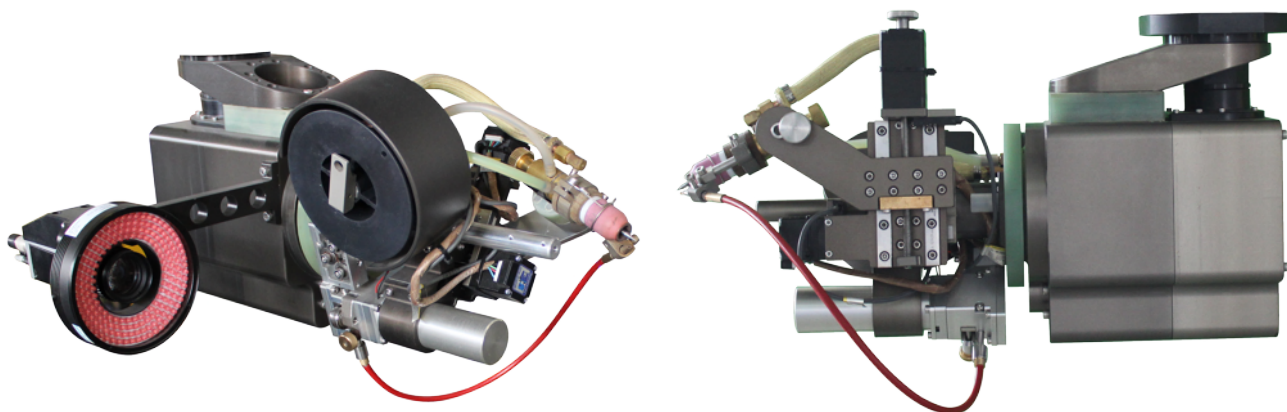
System setting interface



Real-time welding monitoring interface



# RTS60 TUBE-TO-TUBESHEET WELDING HEAD



## Features and Benefits

- This welding head is specially designed for a full automatic tube-to-tubesheet TIG welding, which is suitable for the automatic tube-to-tubesheet welding in the boiler, heat exchanger, power construction, chemical, and other industries.
- This welding head adopts a MAXON DC servo motor to drive rotating and wire feeding. Speed is closed-loop controlled. The continuous rotation can be realized because it is not wound by any water hose, electric wire, and gas hose.
- This welding head equips an automatic arc voltage control system that can ensure the stability of the welding seam by controlling the arc length. The arc following function has already been widely applied in autogenous welding and enjoys good welding effects.
- This welding head adopts the standard structure of a water-cooled TIG torch. It adopts a clamping mechanism that the tungsten electrode enters from the rear, to ensure convenient replacement and adjustment of tungsten electrodes. Both  $\Phi 2.4\text{mm}$  and  $\Phi 3.2\text{mm}$  tungsten electrodes can be adopted, equipped with a standard ceramic nozzle and coolant body, which ensures easy and convenient consumables replacement.

## PRODUCT SPECIFICATIONS

Item	Parameter
The connecting method of tube-to-tubesheet	Welding of protruding tubes and flush tubes
Weldable materials	Carbon steel, stainless steel, titanium alloy and so on
Weldable tube diameter	Φ10~Φ60 mm
Welding torch rotating speed	0.35~6.0 rpm
Maximum wire feeding speed	2500 mm/min
Arc length responding speed	0~250mm/min
Radius adjusting speed	0~250mm/min
Welding torch tilt angle	-10°~30°adjustable
Maximum welding current	300 A
Arc length adjusting interval	0~20 mm
Radius adjusting range	0~50mm
Welding wire diameter	0.8 mm、1.0 mm
Shielding gas	Argon
Cooling method	water cooling
Coolant flow rate	≥600mL/min
Weight	7Kg
Duty cycle	70%@300A
Dimension	386×287×220mm

## WIRELESS REMOTE CONTROLLER

The wireless remote controller adopts full-isolated design and frequency modulation transmission technology to get the greatly improved anti-interference ability. It enjoys a working distance of 200 m, and be powered through 3 AAA batteries.



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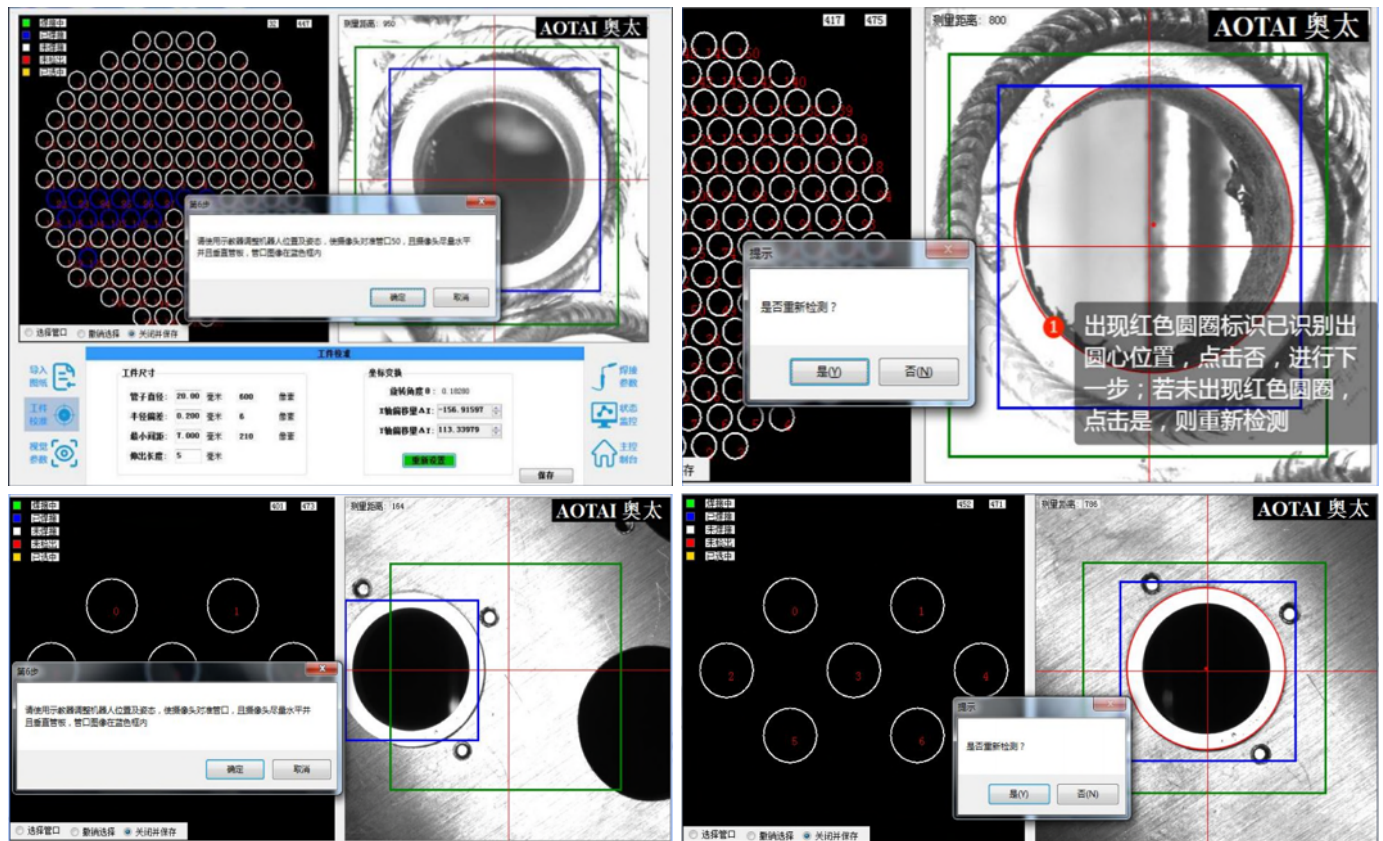
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# SUPERVISORY COMPUTER CONTROL BOX

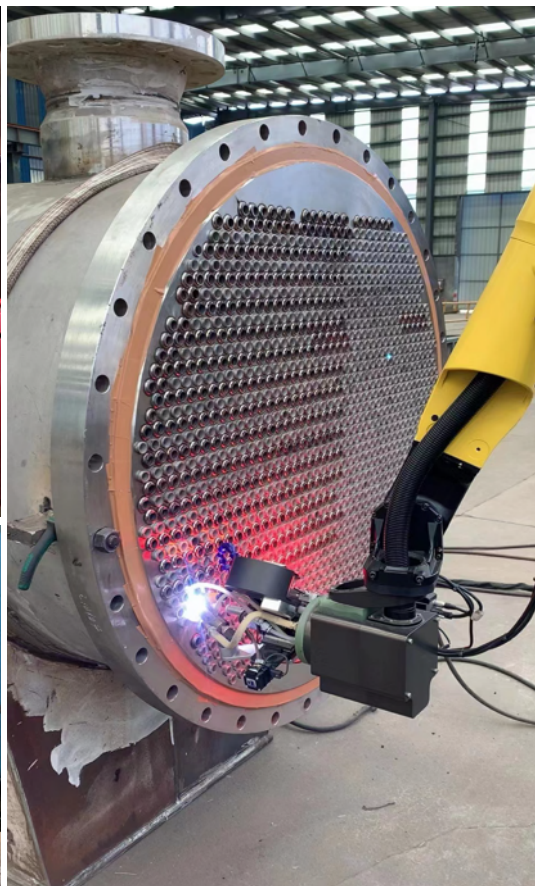


The supervisory computer software is divided into drawings editing area, image display area, drawings importing, welding parameters, status monitoring, main control console, workpiece correcting, visual parameters and other parts.





# INDUSTRY APPLICATION



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