

[teotse]

PROCESS & AUTOMATION SYSTEMS



TEOTSE PROCESS & AUTOMATION SYSTEMS

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Industrial Collaborative Welding Robot



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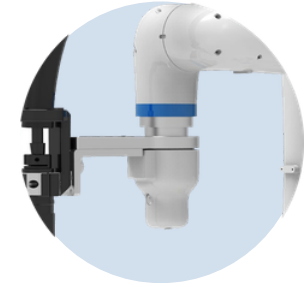
Best Welding Robot in the World!

Combining the advantages of industrial robot and cobot



Extreme protection

The entire machine reaches IP65 protection level, making it easy to cope with various harsh environments.



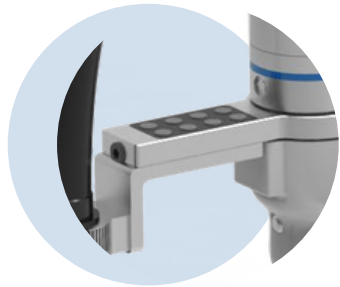
Safe and reliable

Built-in torque sensors with crashing detection function to safeguard user safety.



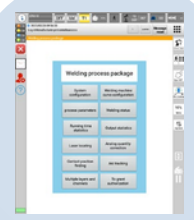
Stronger rigidity

Compared with traditional collaborative robots, it has the high speed, high precision, stability and reliability of industrial robots.



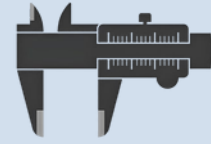
Easy teaching and operation

Program welding paths effortlessly through drag teaching with a professional welding keypad, eliminating complex manual coding and streamlining the workflow.



More User-friendly

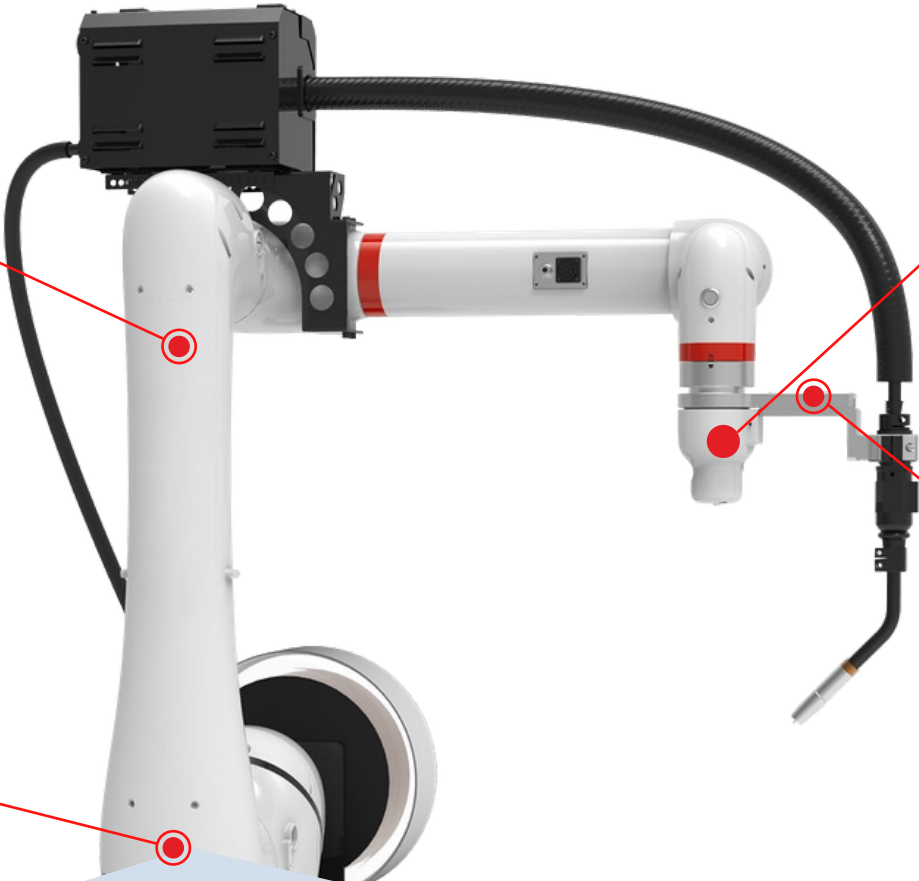
Drag teaching, trajectory reproduction, simple graphical programming.



$\pm 0.02\text{mm}$

Higher precision and better speed

Comparable to the running speed of industrial robots, with repeated positioning accuracy of $\pm 0.02\text{mm}$.



Product Introduction

Industrial Collaborative Welding Robot

Industrial collaborative welding robot combines the crashing detection function into welding application. When the robot touches external equipment (or suffers external force), it can rapidly detect the situation and stop welding, thus increasing its security. Apply force control dragging function to welding track teaching, which simplifies the teaching procedure.

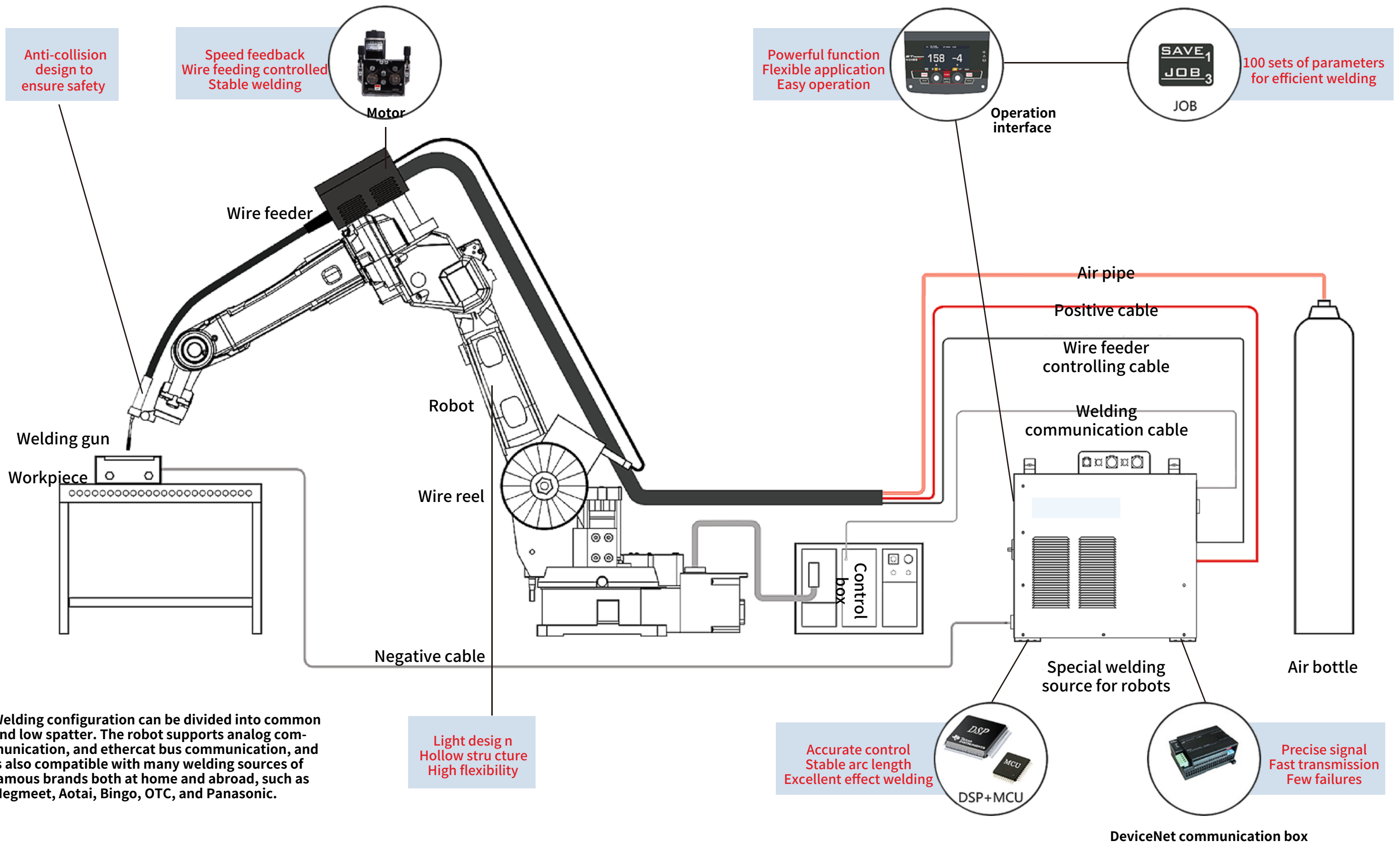


Configuration Table for Model Selection

Robot model	TBOT-6WS790-5		TBOT-6WS1500-10	
Payload	5kg		10kg	
Robot arm length	785mm		1455mm	
Robot weight	24kg		55kg	
Size of vision-control integrated control cabinet for robot	373mm*273mm*165mm			
Welding system	Welding Process Software System			
Dragging mode	Rapid dragging and accurate dragging			
Using mode	Portable	Mobile	Fixed	Mobile
Quick programming button	Yes			
Welding source	It is compatible with common arc-welding source in the market, such as Megmeet, Aotai, OTC, and Panasonic; it also supports laser welding			
Wire feeder	Manual wire feeder, Automatic/Aiding wire feeder, Automatic welding wire feeder			
Welding materials supported	Carbon steel, stainless steel, and aluminum profile			
Plate thickness	Medium-thin plate		Thick plate	
Max output current of welding source	350A		500A	
Recommended mode	Low spatter		Deep penetration and pulse	
Welding source communication interface	Analog/EtherCAT			
Welding process library	Weaving welding, fish-scale welding, and multi-layer and multi-pass welding are supported			
Welding parameter library	Yes			
Cooling mode for welding gun	Air cooling		Water cooling	
Mobile trolley	Optional			
IP class	IP65			
Communication method	Built-in Modbus TCP			
Number of supported	Up to 5 external axes, including 3 synchronous external axes (synchronized) and 2 pulse axes (open-loop)			

Note: 350A type only supports air cooling, 500A type with air cooling as standard, and water cooling is optional.

Product Introduction



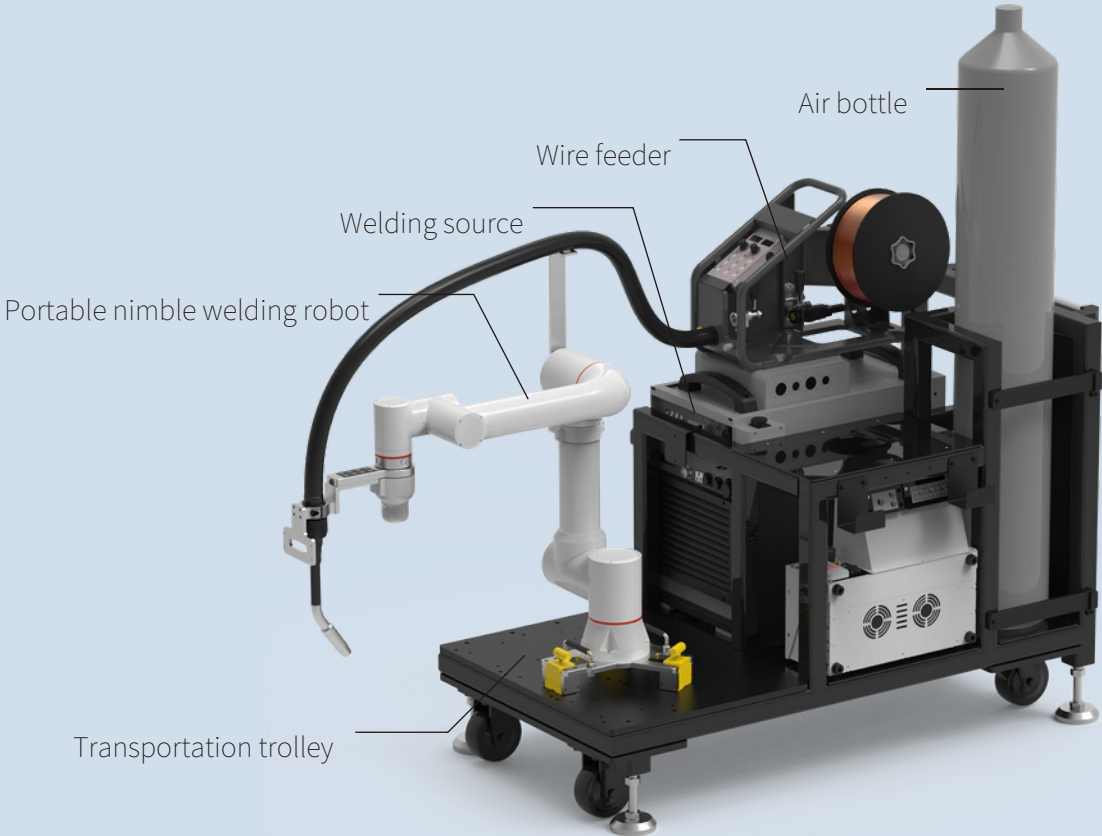
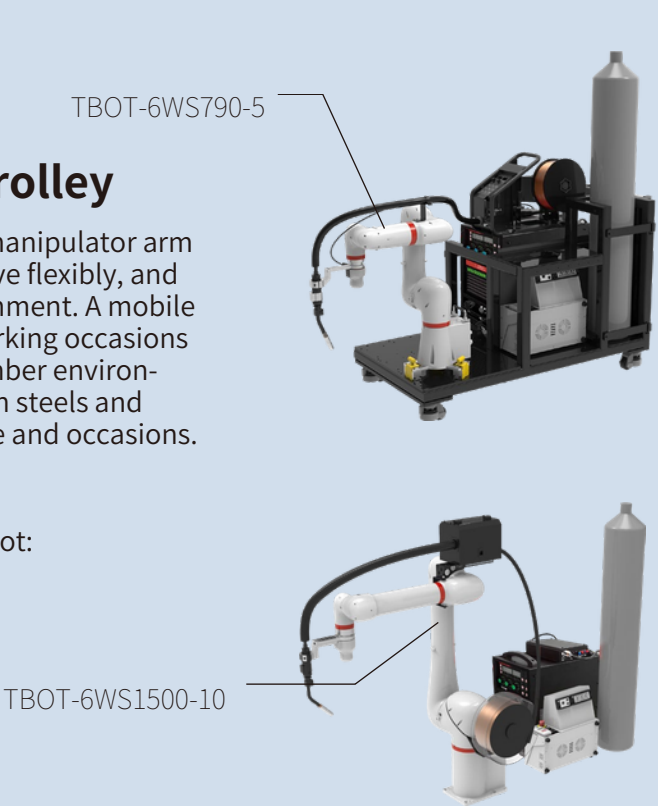
Product Introduction

Mobile Welding Trolley

By virtue of portable nimble manipulator arm and magnetic base, it can move flexibly, and can be installed in any environment. A mobile welding trolley can switch working occasions rapidly, suitable for steel member environments, such as vessels, section steels and narrow and semi-closed space and occasions.

- Configurable industrial collaborative welding robot:

TBOT-6WS790-5
TBOT-6WS1500-10



Product Advantage



Portable and movable

It can be moved after welding without occupying fixed space, and the magnetic base can be fixed on the steel plate in any direction.



Easy to learn and use

Dragging teaching points and welding process package are equipped, allowing the average operator to become proficient after 3 to 5 days of training.



Efficient and convenient

Using the welding mode of GMAW, a commissioning staff can operate 2 to 4 welding robots to weld simultaneously.



Various configuration

Multiple welding configurations are supported to fit various metal plate workpieces in different thickness and materials.



Safe, reliable, and efficient

An industrial collaborative robot has good rigidity and faster speed, and its self-crashing detection function ensures safe and smooth man-machine collaboration.



Widely applied

It is especially suitable for welding in confined space, and also for small batch, multi-variety and frequently changing production modes.

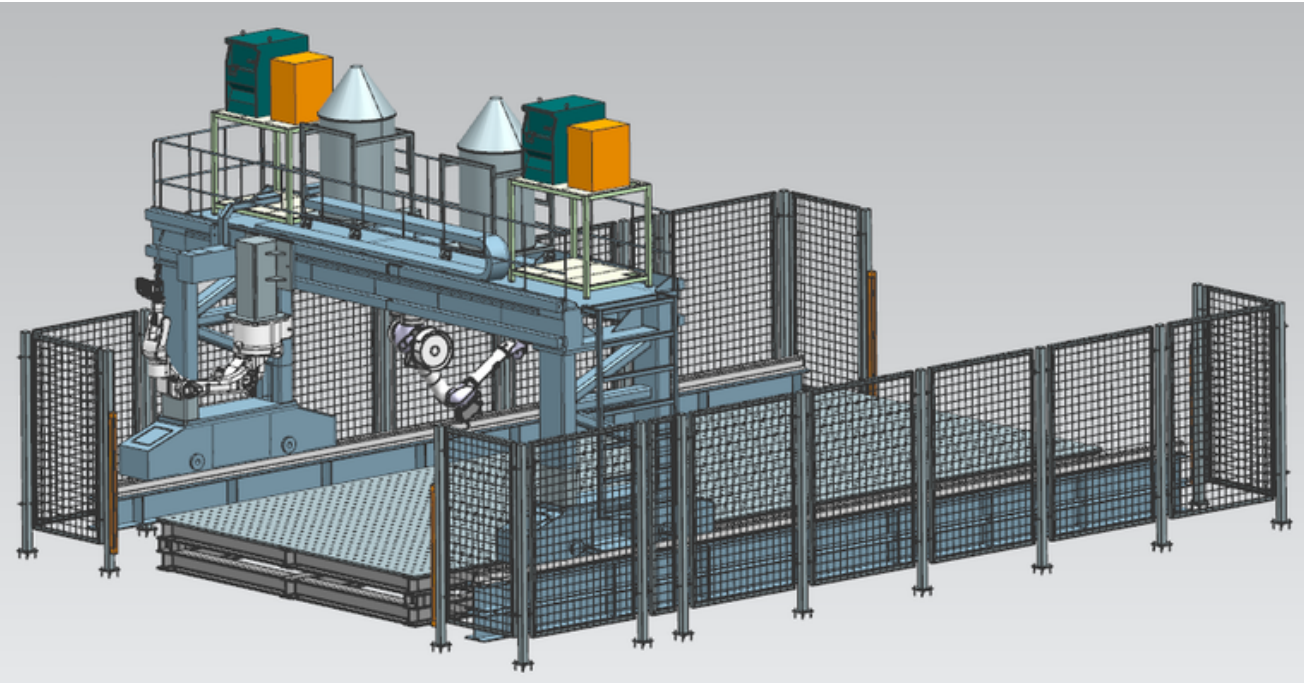
Product Parameter

Robot model	TBOT-6WS790-5	TBOT-6WS1500-10
Payload	5kg	10kg
Robot arm length	785mm	1455mm
Robot weight	24kg	55kg
Max output current of welding source	350A	500A
Cooling mode for welding gun	Air cooling Water cooling	
Using mode	Mobile	
Size of vision-control integrated control cabinet for robot	373mm*273mm*165mm	
Automatic pass ranking for multi-layer and multi-pass welding	Yes	

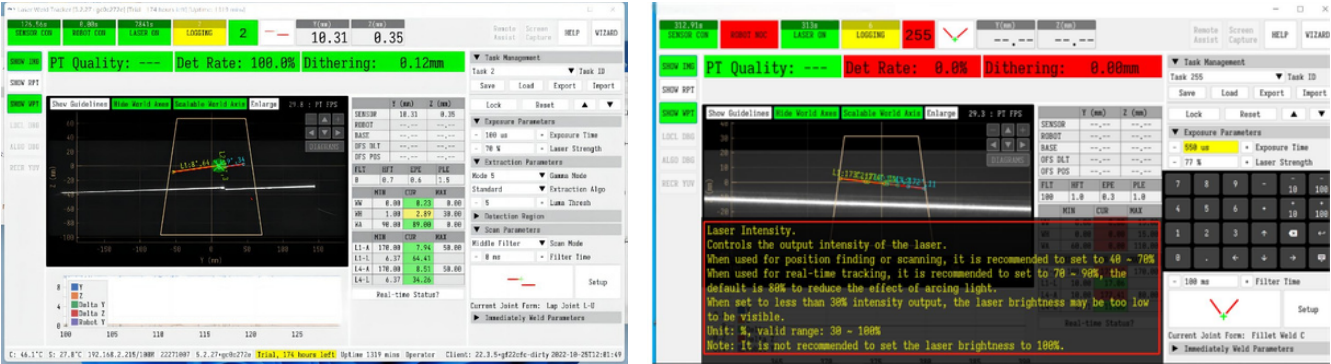
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Process System

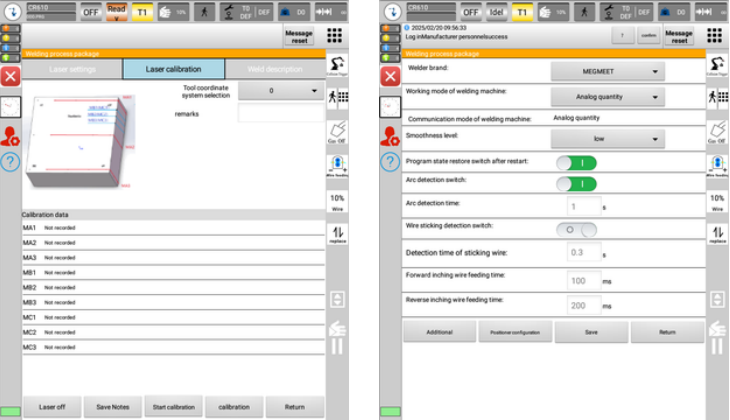
Gantry Teaching-free Welding Platform



Weld Seam Identification

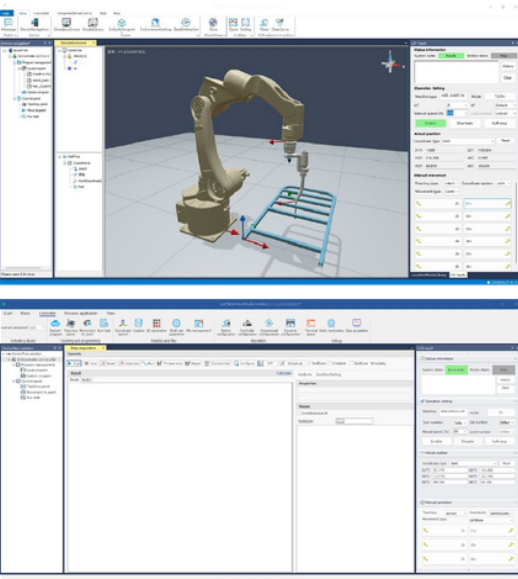


Laser Tracking



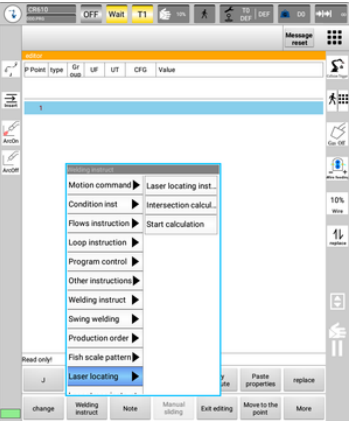
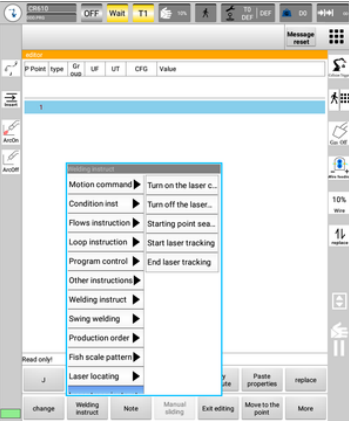
Online Simulated Track

HSR-Studio industrial simulated software is used to introduce digital models and produce weld seam tracks.



Laser tracking and robot calibration interface

Setting interface for laser tracking parameters



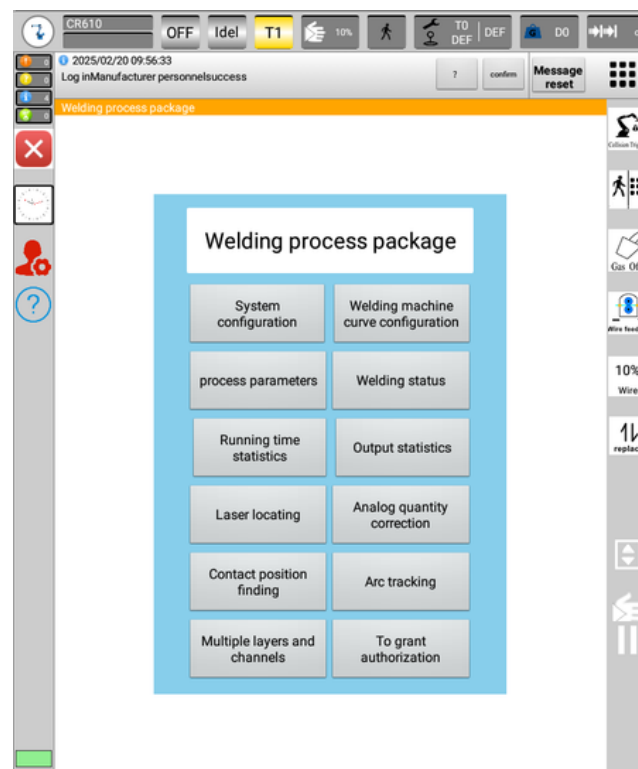
Laser tracking instruction

Laser locating instruction

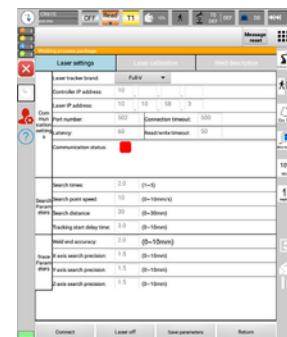
Process System

Functions of Welding Process System

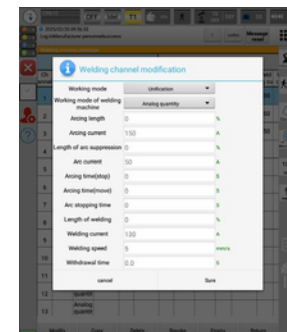
Independently researched and developed by AUCTECH Robotics, the welding process package integrates multiple shorthand instructions with a concise operation interface. The language of welding instructions can be randomly switched between Chinese and English, and it is easy to use with convenient operation and commissioning.



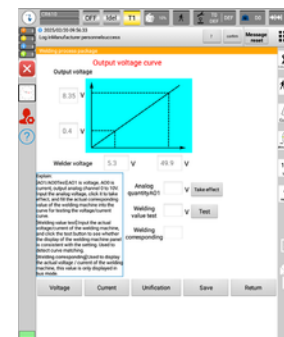
Welding process package



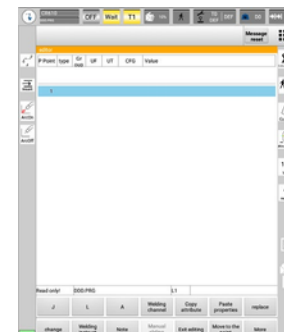
Rapid configuration for welding source



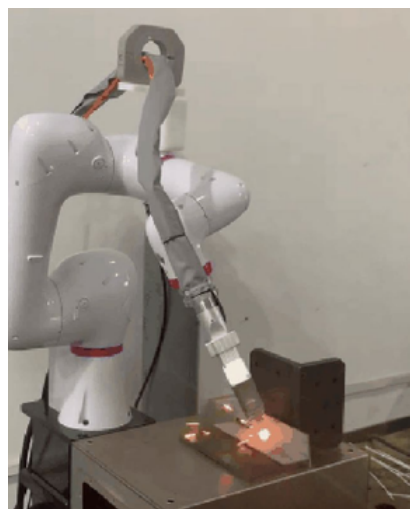
Welding pass setting



Welding source
curve setting



Welding instruction quick setup



Features of Welding Process System

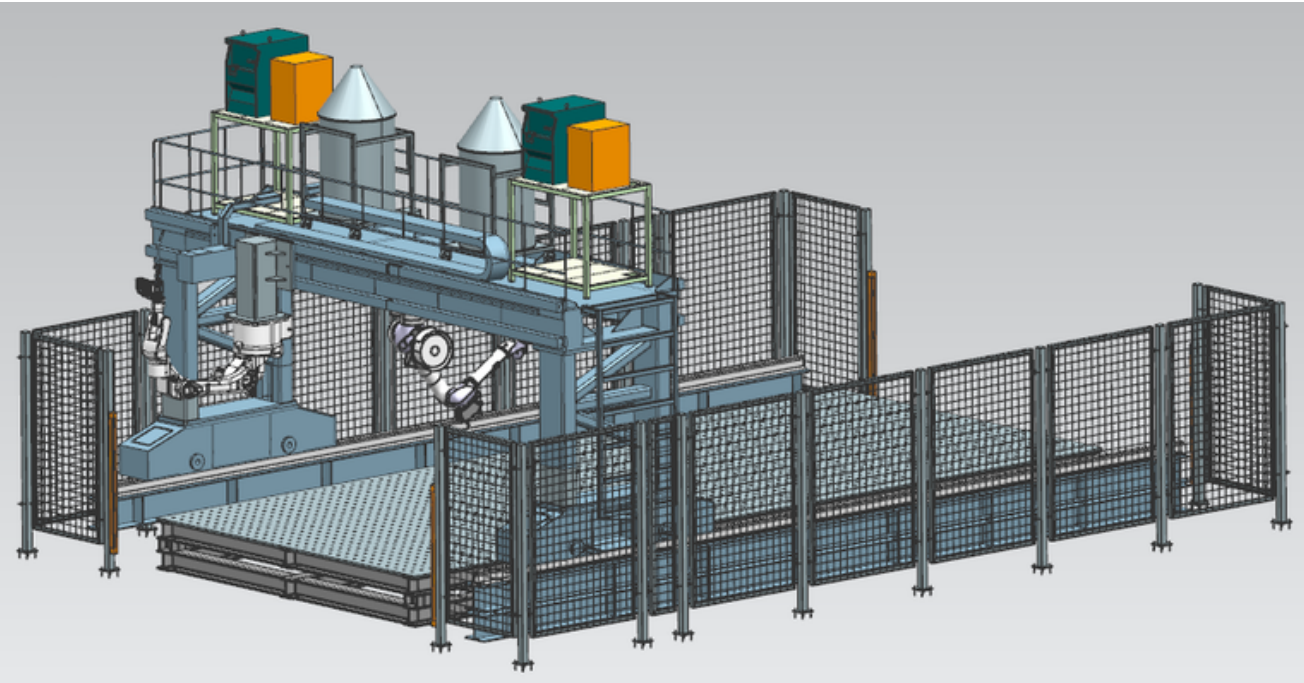


- **Strong accessibility and high commissioning efficiency**
 1. It can be operated according to icons conveniently with fast teaching programming, and allows blind operation;
 2. There are many methods for parameter editing and commissioning with high efficiency.
- **High operation efficiency of robot**
 1. The robot control system applies the self-adaptive algorithm to ensure robot stability and failure-free operation;
 2. The arc starting mechanism design is optimized, shortening the arc starting time from 800ms to 400ms;
 3. The arc starting function that involves a flying process improves the welding beat.
- **High safety of robot**
 1. The system designs 3 security modes to greatly reduce the frequency of machine crashing;
 2. The system intelligently examines whether a welding instruction is right or not to ensure the security.
- **Comprehensive welding functions**
 1. Robot and positioner weld collaboratively to ensure welding quality and efficiency;
 2. Functions to randomly jump and to detect when moving forward or backward enhance commissioning efficiency;
 3. The function to edit a batch parameter increases teaching efficiency.
- **Functions of thin plate**

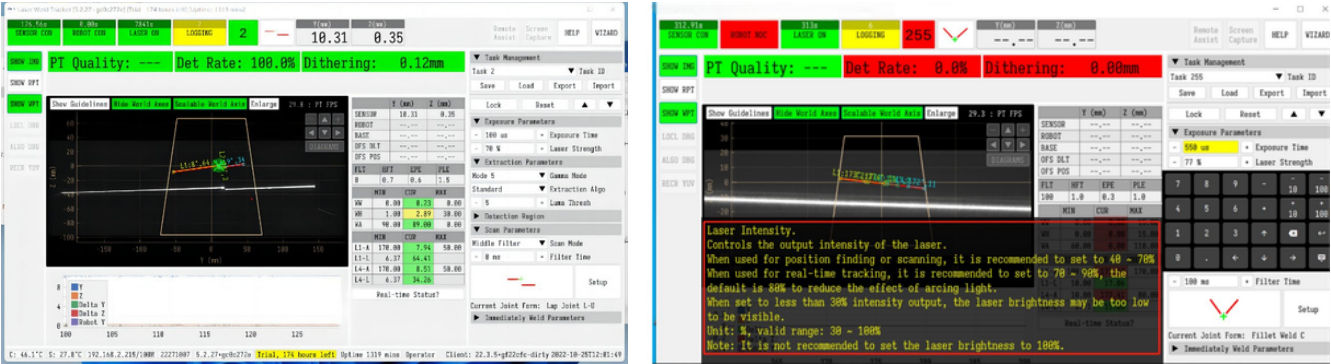
Straight fish-scale welding and circular fish-scale welding can guarantee a good effect under low current, which are of high tolerance to gaps.
- **Functions of medium-thick plate**
 1. Straight weaving welding and circular weaving welding guarantee pass penetration and forming at the pass surface;
 2. Intelligent weaving frequency plan and intelligent automatic weaving planes are available, saving cost and enhancing commissioning efficiency for customers;
 3. Off-line programming, parameterized programming, 3D scanning, and weld seam tracking solve steel structure problems in various kinds and small batch.

Process System

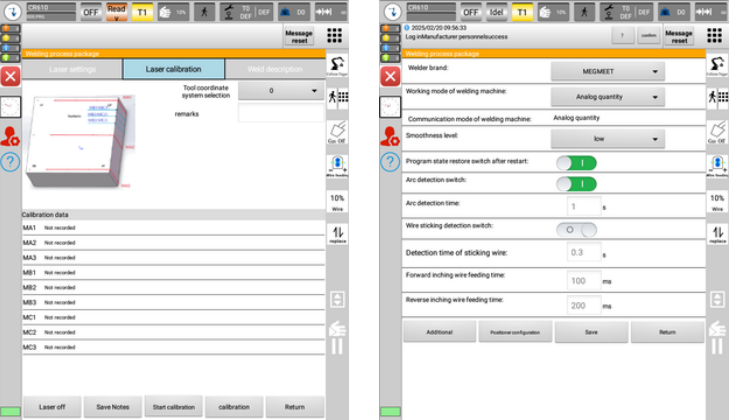
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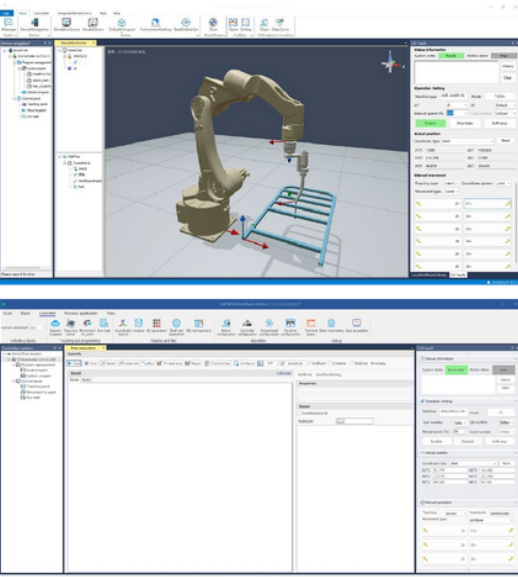


Laser Tracking



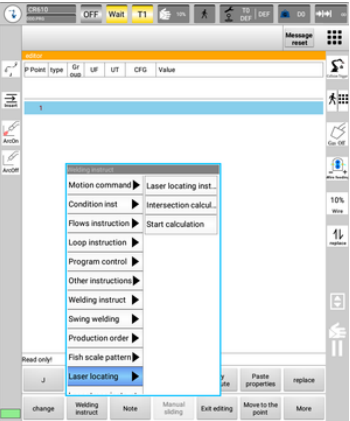
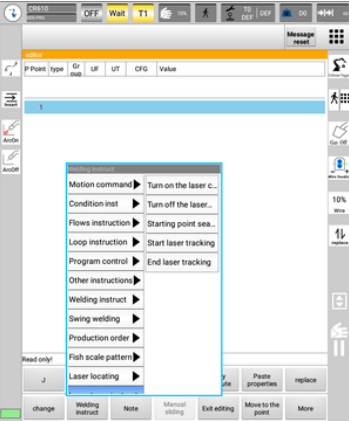
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Laser locating instruction