

Bucket welding technology scheme introduction

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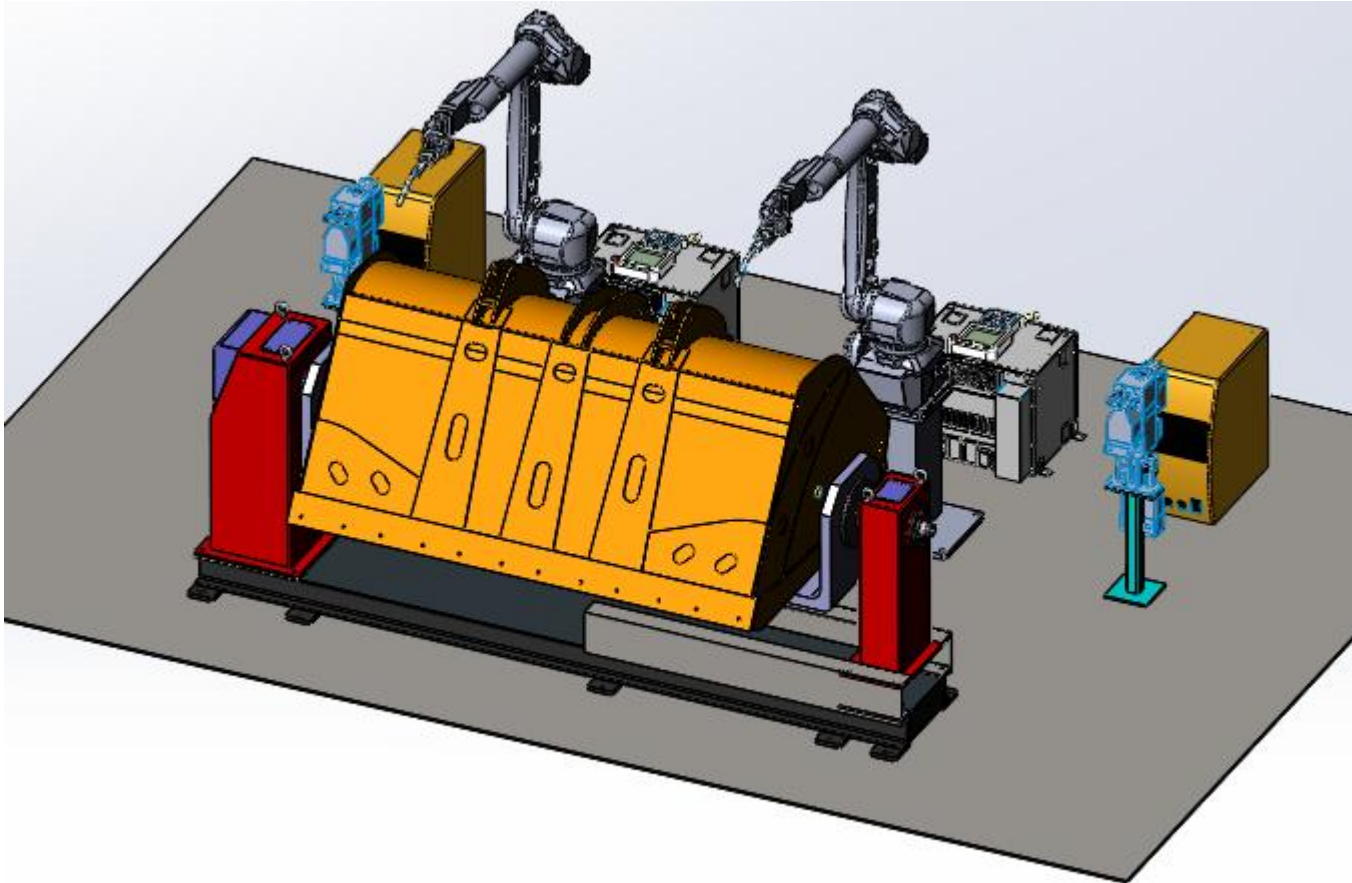
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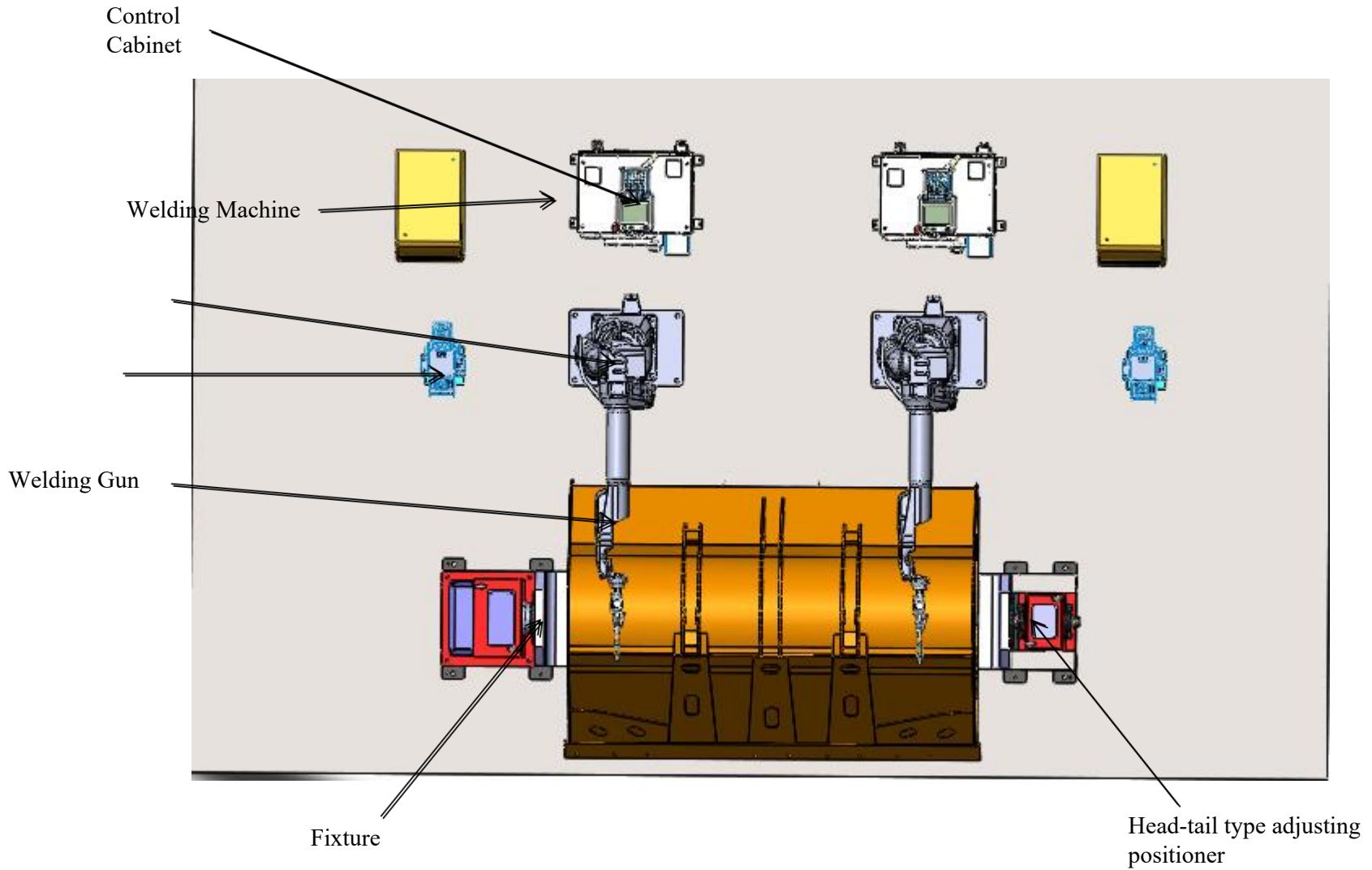
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I. Project Overview

1. 3D Model



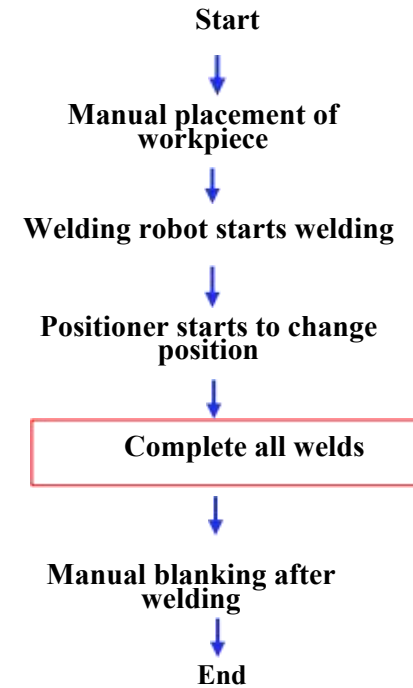
II. Scheme Layout



III. Workflow

3.1 Conditions for workstation operation

- (1) Manually place the workpiece on the positioner and fix it as required;
- (2) There is no alarm prompt after the equipment is powered on, and the equipment is ready.
- (3) The robot stops at the work origin, and the robot running program is the corresponding production program.

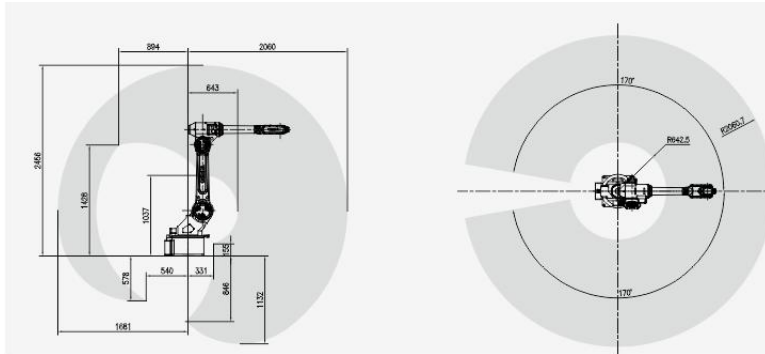


IV. Equipment List

Projects	S/N	Name	Quantity.	Remarks
Robots	1	Shandong Chenxuan Robot	2 Sets	
	2	Robot Control Cabinet	2 Sets	
	3	Robot heightened base	2 Sets	
	4	Welding Gun	2 Sets	
Peripheral Equipment	5	Welding Power Supply	2 Sets	Optional
	6	Head-tail type (adjust length) positioner	1 Set	
	7	Positioning fixture	1 Set	
	8	Dust Removal Equipment	1 Set	
	9	Safety fence	1 Set	
Related Services	10	Installation and Commissioning	1 item	
	11	Packaging and Transportation	1 item	
	12	Technical Training	1 item	

V. Technical Description

5.1 SDCX-RH06A3-1490 18502/060

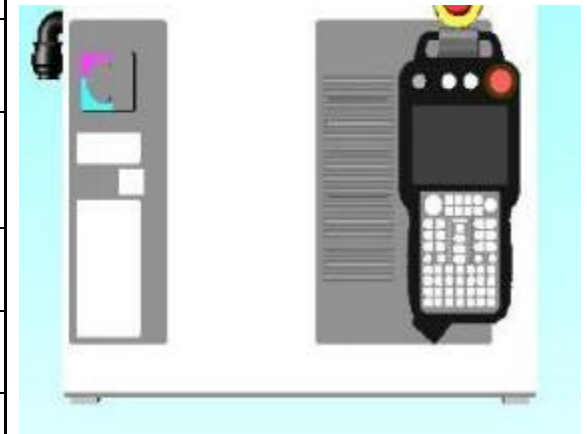


Model No.	RH06A3-1490	RH06A3-1850	RH06A3-2060
Degree of Freedom	6	6	6
Drive mode	AC servo drive	AC servo drive	AC servo drive
Payload (kg)	6	6	6
Repeated positioning accuracy (mm)	±0.05	±0.05	±0.05
Range of motion (°)	J1	±170	±170
	J2	+120~-85	+145~-100
	J3	+83~-150	+75~-165
	J4	±180	±180
	J5	±135	±135
	J6	±360	±360
Maximum speed (°/s)	J1	200	165
	J2	200	165
	J3	200	170
	J4	400	300
	J5	356	356
	J6	600	600
Allowable maximum torque (N.m)	J4	14	40
	J5	12	12
	J6	7	7

V. Technical Description

5.2 Robot Control Cabinet

Projects	Specification
Program Capacity	Task: Step 200,000, Program 10,000
Input and Output	Specific: 19 in, 6 out Universal: 40 in, 40 out
Expansion slot	PCI slot; 1
Interface	Two LAN and one RS-232C
Installation Environment	Operating Temperature: 0 to+45°C, storage temperature: -10~60°C humidity <90%RH (no condensation)
Operation Interface	Chinese Interface
Input voltage	3-phase AC380V+10%,-15%50~60Hz
Weight	Weight< = 75 kg
Safety Level	IP54
Size	598 (W) × 427 (D) × 490 (H)



V. Technical Description

5.3 Welding Power Supply

It is suitable for splicing, lapping, corner joint, tube plate butt joint, intersection line connection and other joint forms, and can realize all position welding

Safe and reliable

The welding machine and wire feeder are equipped with overcurrent, overvoltage and over temperature protection, passed the EMC and electrical performance test required by national standard GB/T 15579, and passed the 3C certification to ensure the reliability and safety in use.

Energy conservation and environmental protection

The gas detection time, advance gas supply time and lag gas supply time are adjustable to ensure the reasonable use of gas. When the welding machine is powered on, if it does not enter the welding state within 2 minutes (time adjustable), it will automatically enter the sleep state. Turn off the fan and reduce the energy consumption.

The pictures are for reference only, subject to final choice



V. Technical Description

5.4 Robot Weld Tracking System

1) It is composed of laser, optical sensor and central processing unit. It uses the principle of optical propagation and imaging to obtain the position information of each point in the laser scanning area, and completes the online real-time monitoring of common welds through complex program algorithms.

2) Adopt intelligent real-time welding tracking technology and contactless tracking mode, measure weld offset through sensor, guide and control accurate positioning of welding gun, avoid welding defect caused by workpiece position deviation, and improve production efficiency and product quality.

3) Improve production efficiency and welding quality.

4) A consistent and reproducible welding effect can be achieved.

5) It can solve the detection range, detection ability and common problems in the welding process.

6) It can effectively solve the problems caused by weld deviation and ensure the perfect weld forming.

7) The pictures are for reference only, subject to final choice.



V. Technical Description

5.5 Safety fence

1. Set the protective fence, the safety door or the safety grating and the safety lock and other devices and carry out necessary interlocking protection.
2. The safety door shall be set at the proper position of the safety fence. All doors shall be equipped with safety switch and button, the reset button and the emergency stop button.
3. The safety door is interlocked with the system through safety lock (switch). When the safety door is opened abnormally, the system stops and gives an alarm.
4. Safety protection measures guarantee the safety of personnel and equipment through hardware and software.
5. The safety fence can be provided by Party A himself. It is recommended to weld with high-quality grid and paint with yellow warning stoving varnish on the surface.



V. Technical Description

5.6 Electrical Control System

1. Including system control and signal communication between equipment, including sensors, cables, trunking, switches, etc.;
 2. The automatic unit is designed with three-color alarm lamp. During normal operation, the three-color lamp displays green; and if the unit fails, the three-color lamp will display red alarm in time;
 3. There are emergency stop buttons on the control cabinet and the demonstration box of the robot. In case of emergency, the emergency stop button can be pressed to realize the system emergency stop and send out alarm signal at the same time;
 4. Through the demonstrator, we can compile many kinds of application programs, which can meet the requirements of product renewal and adding new products;
 5. All emergency stop signals of the whole control system and the safety interlock signals between the processing equipment and robots are connected to the safety system and the interlocked control is conducted through the control program;
 6. The control system realizes the signal connection among the operating equipment such as robots, loading silos, tongs and machining machine tools;
 7. Machine tool system needs to realize signal exchange with robot system.
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5.7 Operating environment (provided by Party A)

Power supply	<ul style="list-style-type: none">·Power supply: Three-phase four-wire AC380V±10%, voltage fluctuation range ±10%, frequency: 50HZ;·The power supply of robot control cabinet shall be equipped with independent air switch;·Robot control cabinet must be grounded with grounding resistance less than 10Ω;·The effective distance between the power source and the robot electric control cabinet shall be within 5 meters.
Air source	<ul style="list-style-type: none">·The compressed air shall be filtered out of water, gas and impurities, and the output pressure after passing through FRL shall be 0.5~0.8Mpa;·The effective distance between the air source and the robot body shall be within 5 meters.
Foundation	<ul style="list-style-type: none">·Treat with the conventional cement floor of Party A's workshop, and the installation base of each equipment shall be fixed to the ground with expansion bolts;·Strength of concrete: 210 kg/cm²;·Thickness of concrete: More than 150 mm;·Foundation unevenness: Less than ±3mm.
Environmental Conditions	<ul style="list-style-type: none">·Ambient temperature: 0~45°C;·Relative humidity: 20%~75%RH (no condensation is allowed);Vibration acceleration: Less than 0.5G
Miscellaneous	<p>Avoid flammable and corrosive gases and fluids, and do not splash oil, water, dust, etc.;</p> <p>Do not approach the source of electrical noise.</p>