

# Pro arc welding robot series recommended configuration



Robot body:  
RH14-10-W  
RH20-06-W

Electric cabinet:G4S  
Welding machine:CRP-DS350-L



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## System configuration

Name: Arc welding robot

Model: RH14-10-W (PRO) RH20-06-W (PRO)

Scope of application:  
Welding of 0.6-6mm thin-walled pipe fittings

### Has included

- 1 body: RH14-10/20-06-W
- 2 Electric cabinet: G4S
- 3 welding power supply: CRP-DS350-L (optional DS500-P)
- 4 welding torch: 350A air cooling
- 5 teaching device: horizontal screen teaching device, line length of 6 meters
- 6 operation box: 2 (line length 5 meters)
- 7 electrical cabinet and body interconnection line 5 meters
- 8 Wire tray and bracket, wire feeder and bracket, wire feeder tube, etc
- 9 positive and negative welding cable
- 10 Two external axes can be selected, Single shaft does not exceed 2KW

## Configuration characteristics

- ◆ Electric cabinet and welding machine integrated design, compact structure, small footprint;
- ◆ The single-phase 220V power supply of the electric cabinet is easy to access quickly;
- ◆ Electric cabinet with UPS, support power regeneration;
- ◆ It can realize ultra-low splash welding of mixture gas and CO2;
- ◆ Welding machine draw arc, constant melting depth, locating;
- ◆ The welding machine comes with fish scale welding, quick arc, clear and beautiful fish scale;
- ◆ Welding machine comes with pulse function, including standard pulse and short arc pulse
- ◆ Welding machine setting using teaching device integrated setting, convenient and fast; At the same time can play the best welding effect;
- ◆ During the welding process, the arc is stable, the weld is uniform, bright and smooth, and the finish is high.



## Body parameter

model		RH14-10-W	RH20-06-W	
Degree of freedom		6	6	
Maximum payload		10kg	6kg	
Maximum reaching distance		1440mm	1920mm	
Repeated positioning accuracy		±0.08mm	±0.08mm	
Maximum travel	J1	Formal/upside down 167°~167°, Wall hanging 30°~30°	Formal/upside down 167°~167°, Wall hanging 30°~30°	
	J2	0°~175°	0°~175°	
	J3	-80°~150°	-80°~150°	
	J4	-190~190°	-190~190°	
	J5	-105°~130°	-105°~130°	
	J6	-210°~210°	-210°~210°	
maximum speed	J1	169°/S	159°/S	
	J2	169°/S	159°/S	
	J3	169°/S	169°/S	
	J4	280°/S	280°/S	
	J5	240°	240°	
	J6	520°	520°	
Arm capacity	Allowable moment	J4	10N.m	
		J5	10N.m	
		J6	3N.m	
	Allowable moment of inertia	J4	0.25kg.m²	
		J5	0.25kg.m²	
		J6	0.05kg.m²	
Installation environment		Temperature: 0~45°, humidity: 20%~80%(no frost and dew)		
Body weight		170kg	288kg	
Way to install		Formal/upside down/wall mounted		
IP level		Body IP54 wrist IP67		

# G4S Robot control cabinet parameters

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Electric cabinet series	G4S
Demonstrator	Touch screen, emergency stop button, mode selection switch, safety switch, shortcut keyboard Model C demonstrator, standard 6 meter cable 8 inch TFT-LCD touch screen
Dimensional weight	G4S Size: 420*550*425 (H*W*D) Size of G4S and DS series after welding overlap: 909*550*425 (H*W*D) (Excluding screws, lugs, connectors and other protrusions) G4S electrical cabinet weight: 43.5kg
Protective construction	IP51, IO built-in
Type of cooling	Forced-air storage temperature : -10-65°C usage temperature: 0-45°C
enviromental parameter	Relative humidity: 20-85% (no condensation) altitude: ≤2000M Corrosion: no corrosive gas, liquid Use place: indoor, ventilated, non-airtight
power supply	Single-phase AC220V±10%, 50/60 Hz, standard capacity 3kVA, reliable grounding
Cable jumper	Power cable standard 3 meters, interconnect standard 5 meters
ground connection	Must have protective grounding (PE)
system configuration	dominant frequency : 500MHz internal storage : 256M DDR SDRAM hard disk : 2G SSD, UPS: 3S Digital I/O interface 20 NPN input /20 output, output voltage 24V, output current 8 relay 3A, 16 transistor 200mA 4 channels 0-10V analog output, 12 bit accuracy 2 encoder signal interface, 5V encoder power supply
hardware interface	One hundred megabit network 1 RS485, 1 CAN2.0, 1 RS232 Cabinet door emergency stop, external emergency stop, anti-collision, servo STO
Robot safety	IEC 61000-6-2:2016
EMC test standards	ModusRTU、ModusTCP
communication protocol	Teaching, reproduction, remote Point to point, straight line interpolation, arc interpolation
mode of operation	Movement, logic, craft, arithmetic
instruction system	Joint coordinates, cartesian coordinates, user coordinates, tool coordinates, base coordinates
coordinated system	welding
Software feature pack	Built-in PLC, power off regeneration
other	6+2 axes (standard configuration 6 axes, external axes need to be selected)
Number of control axes	Six-axis low load PRO series
Supported body models	

## welding machine

Name	Full digital DC IGBT inverter CO2/MAG/MIG multi-functional welding machine	Wire feeder control mode	High precision grating encoder feedback speed control	Welding method	CO2 short circuit welding, MAG/MIG short circuit welding
Model	CRP-DS350-L(CCC compliant)	Advance delivery time of protection gas	0 to 10 seconds (can be set on the instructor)	Welded base material	Carbon steel, stainless steel
Boundary dimension [mm]	426 x550x495(W x L x H)(excluding screws, rings and other protrusions)	Protective gas lag shutdown time	0 to 10 seconds (can be set on the instructor)	Wire feed rate	1.0-18m/min
Number of phases, rated input voltage	Three-phase,380V±10%, 50Hz/60Hz universal	Robot interface	CAN communications	Adjustment of current and voltage waveform control	Display Settings screen adjustment
Rated input	18kVA, 15kW	Power supply for gas regulators	36V/6A	IP level	IP21S
Rated output current	30 to 350A (dependent on wire diameter)	Welding voltage setting method	Display Settings screen adjustment	Wire feeder control cable and welding positive and negative cable	5m(standard) (Option: up to 15m)
Rated output voltage	12 to 36V (depending on wire diameter)	User file	Number of files :10	Weight	About 56kg
Rated load rate	60%(The interval is 10 minutes)				

## Torch parameter

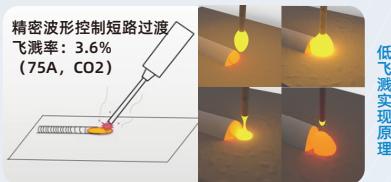
welding gun	350A / 60% temporary load rate, air cooled welding torch	
Torch Angle	Gooseneck 35°	
anti-collision	The recovery accuracy is ±0.1mm	

## Other accessory parameters

Demonstrator	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, line length 6 meters
Length of wire feed tube	1.4/1.8 m
Positive welding cable	5米 (50mm <sup>2</sup> )
Negative welding cable	3米 (50mm <sup>2</sup> )
Control box	Including emergency stop, start, pause, enable, line length 5 meters, standard 2
Wire feeder control cable	5m The electrical cabinet is connected to the body 5m

# Welding power supply DS350-L features

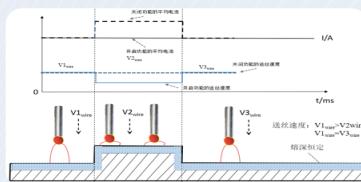
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## • Ultralow splash

Precision waveform control mode to achieve MAG\CO2 can achieve ultra-low splash effect. Beyond the low splash range, the splash volume is also lower year-on-year;

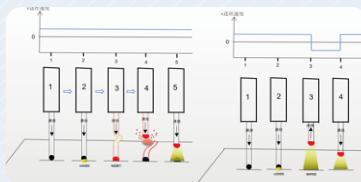
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## • Constant depth function

When the workpiece is detected and the current fluctuations are caused, the wire feed automatically compensates, so that the current quickly returns to the set current, ensuring that the welding current is always constant and the arc is more stable;

3



## • Recoil type arcing

It is easier to start the arc than the ordinary arcing method, and reduces the probability of failing to arc and blasting the wire. The process: when the welding wire contacts the workpiece arc, the welding wire is quickly drawn back to avoid the feeding voltage of the welding wire, and the arc is given time to burn the welding wire, thereby reducing the defective rate of the arc.

4



## • Fish scale welding

The solder joint size is uniform and beautiful, which can weld thinner plates. The robot does not stop, moves forward at a constant speed, and the welding machine repeatedly controls the arc welding to achieve the fishscale effect.

5



## • Parameter integration

More intuitive and fast setting of all parameters, and parameters have Chinese interpretation

6



## • Short arc pulse

Short arc pulse is relative to the conventional pulse, the arc is shorter, the effect is more concentrated heat, fast welding speed, deep melting, and more beautiful weld;