



| Information video |

<http://i.youku.com/u/UMzU5MDE3MjM2/videos>

| Training video |

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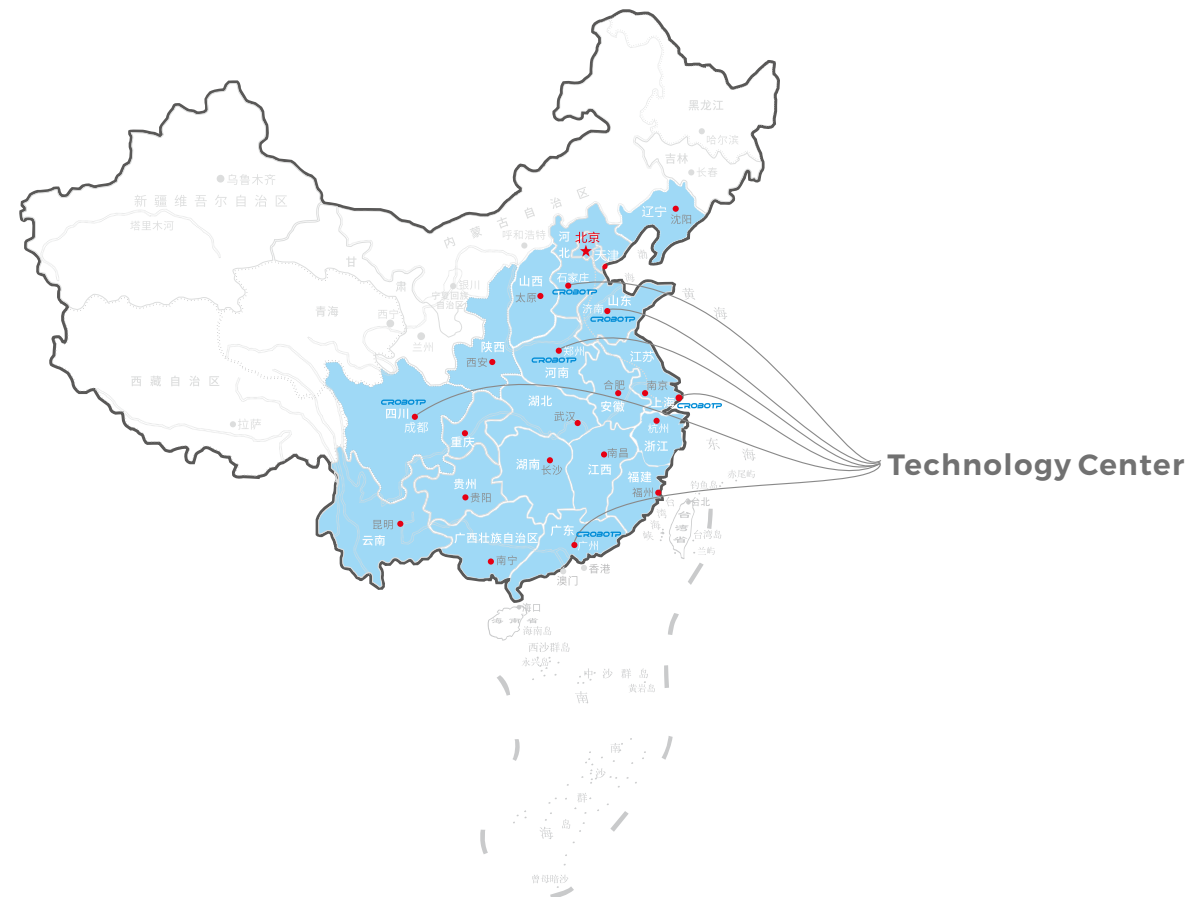
CROBOTP

■ CROBOTP Welding Robot Configuration Recommendation Manual



■ Let customers make good use of robots

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Let customers make good use of robots

high-tech robot manufacturer providing Automation Solutions and Support to our customers.

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| Company Profile |

Chengdu CRP Robot Technology Co., Ltd. (briefly named as "CRP") was established in 2012. It is a national high-tech enterprise focused on the development, production and sales of industrial robot's core components (control systems, servo systems, smart sensors), complete industrial robots and collaborative robots. It is the main drafting unit of four national standards, including industrial robot controllers, electrical systems, servo systems, etc. It is also one of the 100 key new economy cultivation enterprises in Chengdu. The company has successively won more than 10 awards issued by many media and institutions, such as the "Excellent Core Components Award" and the "Golden Finger Award for Best Robot Core Components of the Year". In 2017 and 2018, it received venture capital investment, and the total amount of financing exceeded 100 million yuan. Through years of development, CRP's domestic industrial robot controllers currently occupy half of the domestic market. Starting from the controller, CRP gradually deploys a complete set of electrical solutions for robots, smart sensors (laser tracking, 3D vision, etc.), collaborative robots, and industrial robots. CRP's customers are spread all over the country. Besides, it also exports to other countries, like the United States, Britain, Hungary, Vietnam, and Thailand. Its products are widely applied in welding, handling, palletizing, polishing, grinding and other fields.



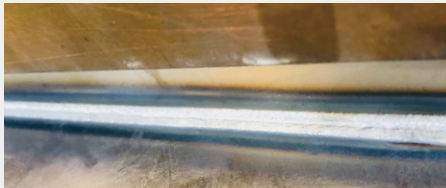
CRP
ROBOTICS
Make good robots for clients.





Welding robot recommendation for sheet metal

- ① Robot body CRP-RH14-10-W
- ② G4 Electric Cabinet CRP-E60-G4
- ③ Welding Power Source CRP-Artsen Plus 350D



Sheet metal process
Soft and stabilized welding arc at low voltage
Low Spatter
The entire weld seam is basically free of spatter
Smooth short-circuit transition
The weld bead is spread out and smooth

Scope of application |

0.8-6mm carbon steel	1.5-6mm stainless steel	1.2-6mm galvanized sheet
Fillet weld/lap weld: 0.7-0.8mm and above Butt/T type: 1.0mm and above	Fillet weld/lap weld: 1.5mm and above Butt/T type: 1.5mm and above	Fillet weld/lap weld: 1.2mm and above Butt/T type: 1.5mm and above

System Configuration |

Name: welding robot Model: RH14-10-W	
Included	Robot body: CRP-RH14-10-W Electric cabinet: G4 RH14
	Welding power source: CRP Artsen Plus 350D 350A Air-cooling welding torch
	Teach Pendant Remote operation box: 2 pcs The cable between electric cabinet and robot body
	wire feeder, wire feed tube, wire reel, welding cable
	0.8/1.0mm wire feed wheels: 1 set

Features |

- The robot moves fast, it can effectively improve the beat and the transition is natural.
- Sheet metal process in arc welding software package:
The acceleration of small line segments and flying start of welding arc effectively improve the beat, and the wire withdrawal function effectively improves the success rate of arc starting, and fish-scale welding can weld thinner plates.
- The robot and welding machine adopt full digital communication which is fast and stable.
- DC,sheet metal, ultra low spatter: both CO2 and mixed gas can be used for ultra low spatter welding.
- The welding arc of sheet metal process controlled by low welding heat is still stable even at very low voltage.
- Smooth short circuit transition:The welding arc is softer with tension and good shape.
- The clearance tolerance is very high:High clearance tolerance for errors in workpiece sets.
- Feedback control of wire feeder encoder:When the arc fluctuates, it can be adjusted quickly.
- Optional fish scale welding function:
There is a dimensional arc during discontinuity to reduce splashing and increase speed at the same time.
- Built-in search function:No need to add additional positioning hardware.

Precautions |

- If 0.8mm is used for sheet metal, please use the matching 0.9 wire feed tube, 0.8mm wire feed wheel and contact tip.
- When the gap is large, it is recommended to use 1.0mm welding wire and accessories for low-heat fill welding.
- Gap tolerance (reference value)
Butt weld 1.0mm<1.0 mm;
Fillet weld 0.8mm<1.5mm;
Fillet weld 1.0mm<2.0mm



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical indicators of electric cabinet	
Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
User storage	200m
Controlled axis	6+4 axis (standard configuration is 6 axis, external 2 axis is optional)
Interface	Digital I/O interface, 22 input/22 output, expandable COM
	4-way 0~10V analog output, 12-bit precision, expandable COM
	Dual encoder signal interface (for position tracking)
	Ethernet interface
	Dual USB interface
Operation mode	Teach, replay, remote
Motion function	Point to point, straight line, circle
Command system	Motion, logic, process, calculation
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Abnormal emergency stop, abnormal servo, abnormal user coordinate, abnormal tool coordinate, safety maintenance, abnormal arc starting, etc.
Robot safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved dedicated interface	Specific arc welding interface, station interface, remote upper interface
Software package	Optional welding, handling, palletizing, spraying etc.
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The cable between electric cabinet and robot body	5m
Power supply	Three-phase 380V AC 50-60Hz
Dimension	550X785X410mm
Weight	65KG



CRP-Artsen Plus 350D
WELDING POWER SOURCE

Technical indicators of welding power source	
Model of welding power source	CRP Artsen Plus 350D
Rated input voltage /phase number	Digital control
Input power frequency	45-65HZ
Rated input power	15KVA /12.7 KW
Power factor	0.94
Output characteristics	CV
Rated output current	350A
Rated output voltage	31.5V
Duty cycle	DC 60%,350A
Rated output OCV	85V
Output current range	30A-350A
Output voltage range	12V-45V
IP level	IP23S
Ambient temperature	-10℃~40℃
Insulation class	H

Other Accessory Parameters	
Welding torch	350A air-cooling torch, 60% duty cycle
Welding torch angle	Gooseneck 35°
Anti-collision	Return accuracy 0.1mm
Wire feeding tube length	1.8m
Positive Welding Cable	3m(50mm²)
Negative Welding Cable	3m(50mm²)
Wire Feeder Control Cable	5m
Remote operation box	Including emergency stop, start, pause and enable buttons, 5m cable, standard configuration with 2pcs

Parameter of recommended sheet metal welding configuration		
Technical indicators of robot body		
Mode	CRP-RH14-10-W	
Arm type	vertically articulated	
Degree of freedom	6 axis	
Maximum payload	10KG	
Maximum travel	1 axis	Floor type/ceiling type -167°-167° walling type -30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum speed	1 axis	169°/S
	2 axis	169°/S
	3 axis	169°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable torque	4 axis	10N.m
	5 axis	10N.m
	6 axis	3N.m
Allowable moment of inertia	4 axis	0.25kg.m²
	5 axis	0.25kg.m²
	6 axis	0.05kg.m²
Position Repeatability	±0.08mm	
Maximum reach	1440mm	
Robot body mass	170KG	
Installation mode	Ground, upside down mounting	
Installation environment	Ambient temperature	0~45℃
	Humidity	20~80%RH, no condensing
	Vibrations	Below 0.5G
	Other	The robot installation must be away from: flammable or corrosive liquids or gases, sources of electrical interference
IP level	Body IP54, wrist IP67	
Features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Welding, cutting, assembly, handling, marking, grinding	

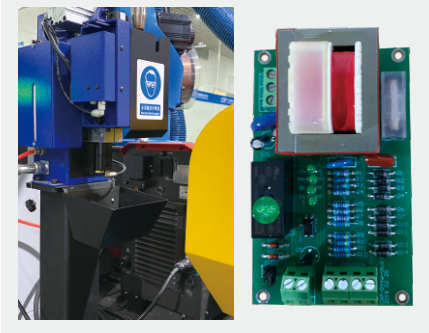
CRP-RH14-10-W
INDUSTRIAL ROBOT
WELDING APPLICATION





Welding robot recommendation for medium and thick plates •general type

- ① Robot body CRP-RH14-10-W
- ② G4 Electric Cabinet CRP-E60-G4
- ③ Welding Power Source Ehave CM500AR
- ④ Water tank (optional)



Option 1
Parts for welding wire positioning:
positioning board, torch
cleaning station



Option 2
Non-contact positioning component:
Point Laser Locator



Option 3
Arc tracking

Scope of application

- 6mm-30mm carbon steel
- If the workpiece deviation is large, below options are available to weld thick plates with large deformation.
Point-finding, arc tracking

System Configuration

Name: welding robot Model: RH14-10-W	
Included	Robot body: CRP-RH14-10-W Electric Cabinet: G4 RH14 (standard welding cabinet)
	Welding power source: Ehave CM500AR(MEGMEET) Hollow 500A water-cooling welding torch with anti-collision
	Hollow 500A water-cooling wire welding torch with anti-collision Water tank, water pipe, water pipe coil wire accessories
	Teach Pendant Remote operation box: 2 pcs wire feeder, wire feed tube, wire reel, welding cable
	The cable between electric cabinet and robot body 1.0/1.2mm wire feed wheels: 1 set
Optional parts	Point-finding board: DYXW-01+ torch cleaning station
	Point laser positioning: DJG-SLHQ-V2 (choose one of 1 and 2 to achieve positioning) Arc tracking: CRP-CLW-V1

Features

- The high stability of CRP robot is the basis of thick plate welding.
- Swing welding + multi-form point-finding + arc tracking are the basic function of medium and thick plate welding, The functions of these arc welding software packages in CRP robot have many market applications and their stability has been verified.
- Stable swing welding can effectively increase the weld width.
- Multiple forms of positioning are used to accurately search for the start and end of various welds, adapting to the deviation of the workpiece.
- Use arc tracking to correct the weld deviation due to deformation or workpiece deviation during the welding process.
- Multi-layer and multi-pass welding software can quickly and flexibly achieve multi-layer and channel programming.
- Hollow 500A water-cooling welding torch which supports for long-term high-current welding;(If the welding wire locating function is required, please select the wire water-cooling torch).
- Good welding power source with 500A/100% duty cycle and high power has high penetration and supports long-term high-current welding with stable arc.
- The welding arc is stable and concentrated with strong penetration.
- Excellent arc starting performance.
- Convenient and adjustable arc characteristics, controllable penetration.
- After the arc is closed, it has a control to quickly cut off the droplets, and the ball cutting effect is good.
- This stable and durable product is adaptable to the harsh factory environment.

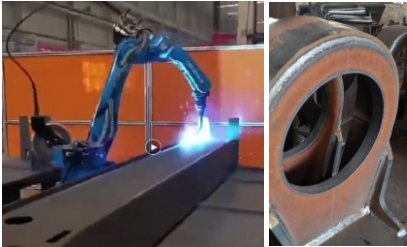


CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical indicators of electric cabinet	
Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
User storage	200m
Controlled axis	6+4 axis (standard configuration is 6 axis, external 2 axis is optional)
Interface	Digital I/O interface, 22 input/22 output, expandable COM
	4-way 0~10V analog output, 12-bit precision, expandable COM
	Dual encoder signal interface (for position tracking)
	Ethernet interface
	Dual USB interface
Operation mode	Teach, replay, remote
Motion function	Point to point, straight line, circle
Command system	Motion, logic, process, calculation
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Abnormal emergency stop, abnormal servo, abnormal user coordinate, abnormal tool coordinate, safety maintenance, abnormal arc starting, etc.
Robot safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved dedicated interface	Specific arc welding interface, station interface, remote upper interface
Software package	Optional welding, handling, palletizing, spraying etc.
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The cable between electric cabinet and robot body	5m
Power supply	Three-phase 380V AC 50-60Hz
Dimension	550X785X410mm
Weight	65KG



Ehave CM500AR
WELDING POWER SOURCE

Technical indicators of welding power source		Other Accessory Parameters	
Model of welding power source	Ehave CM500AR	Welding torch	500A water-cooling torch, 100% duty cycle
Control mode	Analog control	Welding torch angle	Gooseneck 45°
Rated input voltage/phase number	Three-phase 380V AC ±25% (285-475V)	Anti-collision	Return accuracy 0.1mm
Input power frequency	45-65HZ	Wire feeding tube length	1.8m
Rated input power	22.3KVA	Positive Welding Cable	3m (70mm²)
Power factor	0.93	Negative Welding Cable	3m (70mm²)
Duty cycle	100% @500A@25	Wire Feeder Control Cable	5m
Applicable material	Carbon steel	Remote operation box	Including emergency stop, start, pause and enable buttons, 5m cable, standard configuration with 2pcs
Rated output OCV	73.3V		
Output current range	30A-350A		
Output voltage range	12V-45V		
Electromagnetic compatibility	IEC60974:10 EMS		
IP level	IP23S		
Ambient Temperature	Industrial heavy duty, -39°C-50°C		
Insulation class	H		

Welding robot recommendation for medium and thick plates		
Technical indicators of robot body		
Mode	CRP-RH14-10-W	
Arm type	vertically articulated	
Degree of freedom	6 axis	
Maximum payload	10KG	
Maximum travel	1 axis	Floor type/ceiling type -167°-167° walling type -30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum speed	1 axis	169°/S
	2 axis	169°/S
	3 axis	169°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable torque	4 axis	10N.m
	5 axis	10N.m
	6 axis	3N.m
Allowable moment of inertia	4 axis	0.25kg.m²
	5 axis	0.25kg.m²
	6 axis	0.05kg.m²
Position Repeatability	±0.08mm	
Maximum reach	1440mm	
Robot body mass	170KG	
Installation mode	Ground, upside down mounting	
Installation environment	Ambient temperature	0~45°C
	Humidity	20~80%RH, no condensing
	Vibrations	Below 0.5G
	Other	The robot installation must be away from: flammable or corrosive liquids or gases, sources of electrical interference
IP level	Body IP54, wrist IP67	
Features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Welding, cutting, assembly, handling, marking, grinding	

CRP-RH14-10-W
INDUSTRIAL ROBOT
WELDING APPLICATION





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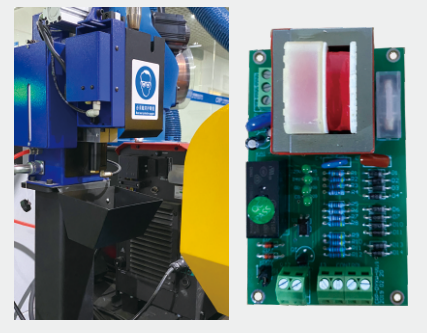
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Welding robot recommendation for medium and thick plates •high-level type

- ① Robot body CRP-RH14-10-W
- ② G4 Electric Cabinet CRP-E60-G4
- ③ Welding Power Source Artsen Pro 500PR
- ④ Water tank (optional)



Option 1
Parts for welding wire positioning:
positioning board, torch
cleaning station



Option 2
Non-contact positioning component:
Point Laser Locator



Option 3
Arc tracking

Scope of application

- 6mm-30mm carbon steel
- If the workpiece deviation is large, below options are available to weld thick plates with large deformation.
Point-finding, arc tracking

System Configuration

Name: welding robot Model: RH14-10-W	
Included	Robot body: CRP-RH14-10-W Electric Cabinet: G4 RH14 (standard welding cabinet)
	Welding power source: Artsen Pro 500PR (MEGMEET) Hollow 500A water-cooling welding torch with anti-collision
	Hollow 500A water-cooling wire welding torch with anti-collision Water tank, water pipe, water pipe coil wire accessories
	Teach Pendant Remote operation box: 2 pcs wire feeder, wire feed tube, wire reel, welding cable
	The cable between electric cabinet and robot body 1.2/1.6mm wire feed wheels: 1 set
Optional parts	Point-finding board+ torch cleaning station
	Point laser positioning: DJG-SLHQ-V2 (choose one of 1 and 2 to achieve positioning) Arc tracking: CRP-CLW-V1

Features

- The high stability of CRP robot is the basis of thick plate welding.
- Swing welding + multi-form point-finding + arc tracking are the basic function of medium and thick plate welding, The functions of these arc welding software packages in CRP robot have many market applications and their stability has been verified.
- Stable swing welding can effectively increase the weld width.
- Multiple forms of positioning are used to accurately search for the start and end of various welds, adapting to the deviation of the workpiece.
- Use arc tracking to correct the weld deviation due to deformation or workpiece deviation during the welding process.
- Multi-layer and multi-pass welding software can quickly and flexibly achieve multi-layer and channel programming.
- Hollow 500A water-cooling welding torch which supports for long-term high-current welding;(If the welding wire locating function is required, please select the wire water-cooling torch).
- Good welding power source with 500A/100% duty cycle and high power has high penetration and supports long-term high-current welding with stable arc.
- The welding arc is stable and concentrated with strong penetration.
- Excellent arc starting performance.
- Convenient and adjustable arc characteristics, controllable penetration.
- After the arc is closed, it has a control to quickly cut off the droplets, and the ball cutting effect is good.
- This stable and durable product is adaptable to the harsh factory environment.




CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical indicators of electric cabinet	
Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
User storage	200m
Controlled axis	6+4 axis (standard configuration is 6 axis, external 2 axis is optional)
Interface	Digital I/O interface, 22 input/22 output, expandable COM
	4-way 0~10V analog output, 12-bit precision, expandable COM
	Dual encoder signal interface (for position tracking)
	Ethernet interface
	Dual USB interface
Operation mode	Teach, replay, remote
Motion function	Point to point, straight line, circle
Command system	Motion, logic, process, calculation
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Abnormal emergency stop, abnormal servo, abnormal user coordinate, abnormal tool coordinate, safety maintenance, abnormal arc starting, etc.
Robot safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved dedicated interface	Specific arc welding interface, station interface, remote upper interface
Software package	Optional welding, handling, palletizing, spraying etc.
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The cable between electric cabinet and robot body	5m
Power supply	Three-phase 380V AC 50-60Hz
Dimension	550X785X410mm
Weight	65KG



Artsen Pro 500PR
WELDING POWER SOURCE

Technical indicators of welding power source		Other Accessory Parameters	
Model of welding power source	Artsen Pro 500PR	Welding torch	500A water-cooling torch, 100% duty cycle
Control mode	Digital control	Welding torch angle	Gooseneck 45°
Rated input voltage/phase number	Three-phase 380V AC ±25% (285-475V)	Anti-collision	Return accuracy 0.1mm
Input power frequency	45-65HZ	Wire feeding tube length	1.8m
Rated input power	24KVA /22.3 KW	Positive Welding Cable	3m(70mm²)
Power factor	0.93	Negative Welding Cable	3m(70mm²)
Output chracteristics	CV	Wire Feeder Control Cable	5m
Rated output current	500A	Remote operation box	Including emergency stop, start, pause and enable buttons, 5m cable, standard configuration with 2pcs
Rated output voltage	39V		
Duty cycle	DC 60%@500A 500H: DC 100%@500A		
Rated output OCV	85V		
Output current range	30A-350A		
Output voltage range	12V-45V		
IP level	IP23S		
Ambient temperature	-10℃~40℃		
Insulation class	H		

Welding robot recommendation for medium and thick plates		
Technical indicators of robot body		
Mode	CRP-RH14-10-W	
Arm type	vertically articulated	
Degree of freedom	6 axis	
Maximum payload	10KG	
Maximum travel	1 axis	Floor type/ceiling type -167°-167° walling type -30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum speed	1 axis	169°/S
	2 axis	169°/S
	3 axis	169°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable torque	4 axis	10N.m
	5 axis	10N.m
	6 axis	3N.m
Allowable moment of inertia	4 axis	0.25kg.m²
	5 axis	0.25kg.m²
	6 axis	0.05kg.m²
Position Repeatability	±0.08mm	
Maximum reach	1440mm	
Robot body mass	170KG	
Installation mode	Ground, upside down mounting	
Installation environment	Ambient temperature	0~45℃
	Humidity	20~80%RH, no condensing
	Vibrations	Below 0.5G
	Other	The robot installation must be away from: flammable or corrosive liquids or gases, sources of electrical interference
IP level	Body IP54, wrist IP67	
Features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Welding, cutting, assembly, handling, marking, grinding	

CRP-RH14-10-W
INDUSTRIAL ROBOT
WELDING APPLICATION





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③



②



④

Welding robot recommendation for medium and thick plates •heavy load type

- ① Robot body CRP-RH14-10-W
- ② G4 Electric Cabinet CRP-E60-G4
- ③ Welding Power Source Artsen Pro 500H PR
- ④ WRC-1200



Option 1
Arc tracking



Option 1
HIGH-VOLTAGE SEARCHING BOX

Scope of application |

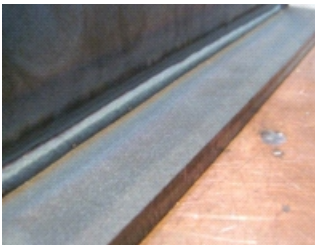
- More than 10 mm carbon steel & Stainless steel

System Configuration |

Name: welding robot Model: RH14-10-W		
Included	Robot body: CRP-RH14-10-W	Electric Cabinet: G4 RH14 (standard welding cabinet)
	Welding power source: Artsen Pro 500HPR	Hollow 600A water-cooling welding torch with anti-collision
	Teach Pendant	Remote operation box: 2 pcs
	Water tank, water pipe, water pipe coil wire accessories	
	Wire feeder, wire feed tube, wire reel, welding cable	
	The cable between electric cabinet and robot body 5m	

Features |

- The heavy-duty configuration meets the needs of high-current welding without shutting down 24 hours a day. Equipped with 500A, 100% duty cycle high-power welding machine; Equipped with 600A, 100% duty cycle high-power water-cooling gun; Equipped with 30L/min flow rate, eight rows of copper pipe water-cooled water tank.
- Optional high-pressure positioning box for automatic correction of welding starting point
- Optional arc tracking, automatic correction of the weld bead during the welding process
- The high stability of the CRP robot and the integrity of the arc welding software package are the basis for thickness plate welding. Various forms of swing welding. Multiple forms of point-finding. Arc tracking is the basic function of medium and thickness plate welding. Multi-layer and multi-channel software can quickly and flexibly realize multi-layer and multi-channel programming
- Single/double pulse welding power source, can achieve low spatter welding in the full current range. With short arc pulse technology, the welding speed is faster; the arc is concentrated and the direction is clear, which can realize high penetration welding. Wire feeding with encoder feedback is more stable, anti-interference is strong, and the wire feeding speed can reach 30m/min. Large cladding: the cladding efficiency is increased by about 25%, the walking speed is increased by about 30%, and the welding time is saved by about 30%



Material: 8mm Gas: 80%Ar+20%CO2
Walking speed: 50cm Cladding rate: 6.12kg/h



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical indicators of electric cabinet	
Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
User storage	200m
Controlled axis	6+4 axis (standard configuration is 6 axis, external 2 axis is optional)
Interface	Digital I/O interface, 22 input/22 output, expandable COM
	4-way 0~10V analog output, 12-bit precision, expandable COM
	Dual encoder signal interface (for position tracking)
	Ethernet interface
	Dual USB interface
Operation mode	Teach, replay, remote
Motion function	Point to point, straight line, circle
Command system	Motion, logic, process, calculation
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Abnormal emergency stop, abnormal servo, abnormal user coordinate, abnormal tool coordinate, safety maintenance, abnormal arc starting, etc.
Robot safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved dedicated interface	Specific arc welding interface, station interface, remote upper interface
Software package	Optional welding, handling, palletizing, spraying etc.
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The cable between electric cabinet and robot body	5m
Power supply	Three-phase 380V AC 50-60Hz
Dimension	550X785X410mm
Weight	65KG



Artsen Pro 500H PR
WELDING POWER SOURCE

Technical indicators of welding power source		Other Accessory Parameters	
Model of welding power source	Artsen Pro 500H PR	Technical indicators of Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
Control mode	Digital control	Wire Feeding Tube Length	1.8m
Rated input voltage/phase number	Three-phase 380V	Positive Welding Cable	3m(50/70mm²)
Input power frequency	45-65HZ	Negative Welding Cable	3m(50/70mm²)
Rated input power	24KVA /22.3 KW	Wire Feeder Control Cable	5m
Power factor	0.93	Remote operation box	Including emergency stop, start, pause and enable buttons, 5m cable, standard configuration with 2 pcs
Output characteristics	CV	Welding torch	600A water-cooling torch, 100% duty cycle
Rated output current	500A	Welding torch angle	Gooseneck 22°/45°
Rated output voltage	39V	Anti-collision	Return accuracy 0.1mm
Duty cycle	DC 60%@500A 500H: DC 100%@500A	The length of the optional Welding torch	Standard, optional extension 200mm Optional extension 350mm
Rated output OCV	85V	Output current range	30A-350A
Output current range	30A-350A	water discharge	30L/min
Output voltage range	12V-45V	Heat dissipation	7.4kW, eight rows of copper heat sink bars
IP level	IP23S	water discharge	26L
Ambient temperature	-10℃~40℃	weight	48KG
Insulation class	H		

Welding robot recommendation for medium and thick plates		
Technical indicators of robot body		
Mode	CRP-RH14-10-W	
Arm type	vertically articulated	
Degree of freedom	6 axis	
Maximum payload	10KG	
Maximum travel	1 axis	Floor type/ceiling type -167°-167° walling type -30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum speed	1 axis	169°/S
	2 axis	169°/S
	3 axis	169°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable torque	4 axis	10N.m
	5 axis	10N.m
	6 axis	3N.m
Allowable moment of inertia	4 axis	0.25kg.m²
	5 axis	0.25kg.m²
	6 axis	0.05kg.m²
Position Repeatability	±0.08mm	
Maximum reach	1440mm	
Robot body mass	170KG	
Installation mode	Ground, upside down mounting	
Installation environment	Ambient temperature	0~45℃
	Humidity	20~80%RH, no condensing
	Vibrations	Below 0.5G
	Other	The robot installation must be away from: flammable or corrosive liquids or gases, sources of electrical interference
IP level	Body IP54, wrist IP67	
Features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Welding, cutting, assembly, handling, marking, grinding	

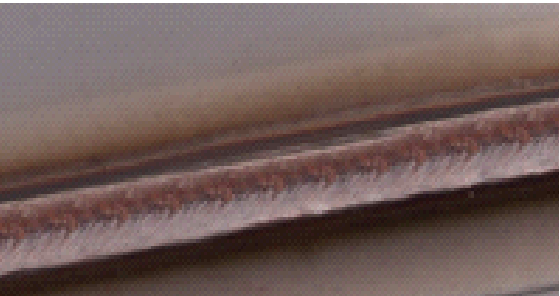
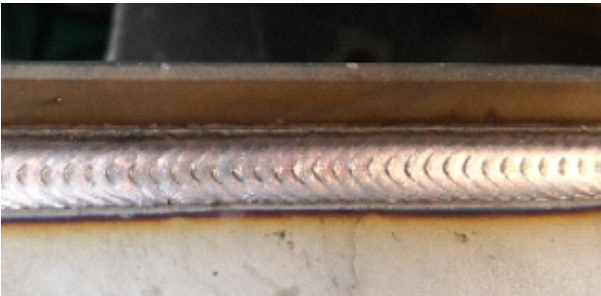
CRP-RH14-10-W
INDUSTRIAL ROBOT
WELDING APPLICATION





Welding robot recommendation for stainless steel •high-level type

- ① Robot body CRP-RH14-10-W
- ② G4 Electric Cabinet CRP-E60-G4
- ③ Welding Power Source Artsen Plus 400PR



Scope of application |

- 1.2mm-2.5mm(Air-cooling torch)
- 3mm-14mm(water-cooling torch)

System Configuration |

Name: welding robot Model: RH14-10-W	
Included	Robot body: CRP-RH14-10-W Electric Cabinet: G4 RH14 (standard welding cabinet)
Welding power source: Artsen Plus 400PR 350A Air-cooling welding torch/500A Water-cooling welding torch, anti-collision	
Teach Pendant Remote operation box: 2 pcs wire feeder, wire feed tube, wire reel, welding cable	
The cable between electric cabinet and robot body 1.0/1.2mm wire feed wheels: 1 set	
If select water-cooling torch, accessories such as water tank, water pipe, water pipe coil bracket, etc. will be equipped.	

Features |

- The robot moves smoothly, the end speed is consistent with the set welding speed and the welding is stable with good shape.
- The robot and welding machine adopt full digital communication control, so that the best welding efficiency and welding effect can be exerted;
- The robot and welding machine adopt full digital communication which is fast and stable.
- Single/double pulse welding machine which achieve the low spatter welding in the full current range.
- It has short arc pulse technology, which helps the welding speed be more fast.
- It has high frequency dynamic wave energy control, which achieves high welding penetration, low heat input and well recognizable fish scale pattern.
- It has smooth short-circuit transition technology, which can help weld bead more uniform and in good shape.
- The wire feed has encoder feedback which is more stable and has strong anti-interference.
- Upgradeable expert database
- Built-in positioning function
- The pulse welding torch generates a large amount of heat, and it is necessary to configure a water-cooling torch when it is welding with large current.
- Hollow 500A water-cooling welding torch which supports for long-term high-current welding.

Precautions |

- Stainless steel welding generates a lot of heat, so it needs to pay attention to the deformation of the workpiece.
- High sensitivity to materials.
- It is prone to thermal cracking, thus the appropriate parameters are very important.
- Very little spatter when using pulse welding.
- Gas ratio and flow have a direct impact on the arc.
- It is very important to control the arc shape and arc length.



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical indicators of electric cabinet	
Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
User storage	200m
Controlled axis	6+4 axis (standard configuration is 6 axis, external 2 axis is optional)
Interface	Digital I/O interface, 22 input/22 output, expandable COM
	4-way 0~10V analog output, 12-bit precision, expandable COM
	Dual encoder signal interface (for position tracking)
	Ethernet interface
	Dual USB interface
Operation mode	Teach, replay, remote
Motion function	Point to point, straight line, circle
Command system	Motion, logic, process, calculation
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Abnormal emergency stop, abnormal servo, abnormal user coordinate, abnormal tool coordinate, safety maintenance, abnormal arc starting, etc.
Robot safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved dedicated interface	Specific arc welding interface, station interface, remote upper interface
Software package	Optional welding, handling, palletizing, spraying etc.
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The cable between electric cabinet and robot body	5m
Power supply	Three-phase 380V AC 50-60Hz
Dimension	550X785X410mm
Weight	65KG



Artsen Plus 400PR
WELDING POWER SOURCE

Technical indicators of welding power source	
Model of welding power source	Artsen Plus 400PR
Control mode	Digital control
Rated input voltage/phase number	Three-phase 380V
Input power frequency	45-65HZ
Rated input power	16KVA /14 KW
Power factor	0.94
Output chracteristics	CV
Rated output current	400A
Rated output voltage	34V
Duty cycle	DC 100%@400A
Rated output OCV	85V
Output current range	30A-350A
Output voltage range	12V~45V
IP level	IP23S
Ambient temperature	-10℃~40℃
Insulation class	H

Other Accessory Parameters	
Welding torch	350A air-cooling torch, 60% duty cycle/500A water-cooling torch, 100% duty cycle
Welding torch angle	Gooseneck 35°/45°
Anti-collision	Return accuracy 0.1mm
Wire feeding tube length	1.8m
Positive Welding Cable	3m(70mm²)
Negative Welding Cable	3m(70mm²)
Wire Feeder Control Cable	5m
Remote operation box	Including emergency stop, start, pause and enable buttons, 5m cable, standard configuration with 2pcs
The cable between electric cabinet and robot body	5m

Welding robot recommendation for medium and thick plates		
Technical indicators of robot body		
Mode	CRP-RH14-10-W	
Arm type	vertically articulated	
Degree of freedom	6 axis	
Maximum payload	10KG	
Maximum travel	1 axis	Floor type/ceiling type -167°-167° walling type -30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum speed	1 axis	169°/S
	2 axis	169°/S
	3 axis	169°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable torque	4 axis	10N.m
	5 axis	10N.m
	6 axis	3N.m
Allowable moment of inertia	4 axis	0.25kg.m²
	5 axis	0.25kg.m²
	6 axis	0.05kg.m²
Position Repeatability	±0.08mm	
Maximum reach	1440mm	
Robot body mass	170KG	
Installation mode	Ground, upside down mounting	
Installation environment	Ambient temperature	0~45℃
	Humidity	20~80%RH, no condensing
	Vibrations	Below 0.5G
	Other	The robot installation must be away from: flammable or corrosive liquids or gases, sources of electrical interference
IP level	Body IP54, wrist IP67	
Features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Welding, cutting, assembly, handling, marking, grinding	

CRP-RH14-10-W
INDUSTRIAL ROBOT
WELDING APPLICATION





Welding robot recommendation for aluminum •option one •basic type

- ① Robot body CRP-RH14-10-W
- ② G4 Electric Cabinet CRP-E60-G4
- ③ Welding Power Source Artsen Plus 400QR



Scope of application |

- 3.5mm-14.0mm Aluminum/ Aluminum alloy welding

System Configuration |

Name: welding robot Model: RH14-10-W		
Included	Robot body: CRP-RH14-10-W Electric Cabinet: G4 RH14 (standard welding cabinet)	
	Welding power source: Artsen Plus 400QR(MEGMEET)	Welding torch: Apollo 500A Water-cooling welding torch
	Accessories such as water tank, water pipe, water pipe coil bracket, etc. are included.	Teach Pendant
	Remote operation box: 2 pcs	wire feeder, wire feed tube, wire reel, welding cable 5m cable between electric cabinet and robot body
	1.2A contact tip: 8 pcs	1.2/1.6mm U-type wire feed wheels: 1 set for each type

Features |

- The robot moves smoothly, the end speed is consistent with the set welding speed and the welding is stable with good shape.
- The robot and welding machine adopt full digital communication control, so that the best welding efficiency and welding effect can be exerted;
- The welding parameters can be set on the robot, or for the same workpiece with different thicknesses, which require different welding process conditions: such as duty cycle, frequency and other parameters, it can also be achieved by calling different JOB numbers through the robot.
- Hollow 500A water-cooling welding torch supports long-term double-pulse welding.
- Single/double pulse digital welding machine
- The penetration can remain the same and keep stable current output when the stick-out length of wire changes.
- It has smooth short-circuit transition technology, which can help weld bead more uniform and in good shape.
- It has short arc pulse technology, which helps the welding speed be more fast.
- It has high frequency dynamic wave energy control, which achieves high welding penetration, low heat input and well recognizable fish scale pattern.
- Low heat input and the wire feed has encoder feedback which is more stable and has strong anti-interference.
- Upgradeable expert database

Precautions |

- The wire feeding of aluminum welding is very important, Teflon or graphite tube is required to use from the welding wire reel to the torch tip in the whole process.
- The wire feed wheels and contact tips need to use special accessories for aluminum welding.
- Aluminum welding requires high welding process.



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical indicators of electric cabinet	
Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
User storage	200m
Controlled axis	6+4 axis (standard configuration is 6 axis, external 2 axis is optional)
Interface	Digital I/O interface, 22 input/22 output, expandable COM
	4-way 0~10V analog output, 12-bit precision, expandable COM
	Dual encoder signal interface (for position tracking)
	Ethernet interface
	Dual USB interface
Operation mode	Teach, replay, remote
Motion function	Point to point, straight line, circle
Command system	Motion, logic, process, calculation
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Abnormal emergency stop, abnormal servo, abnormal user coordinate, abnormal tool coordinate, safety maintenance, abnormal arc starting, etc.
Robot safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved dedicated interface	Specific arc welding interface, station interface, remote upper interface
Software package	Optional welding, handling, palletizing, spraying etc.
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The cable between electric cabinet and robot body	5m
Power supply	Three-phase 380V AC 50-60Hz
Dimension	550X785X410mm
Weight	65KG



Artsen Plus 400QR
WELDING POWER SOURCE

Technical indicators of welding power source		Other Accessory Parameters	
Model of welding power source	Artsen Plus 400QR	Welding torch	500A water-cooling torch, 100% duty cycle
Control mode	Digital control	Welding torch angle	Gooseneck 22°
Rated input voltage/phase number	Three-phase 380V	Anti-collision	Return accuracy 0.1mm
Input power frequency	45-65HZ	Wire feeding tube length	1.8m
Rated input power	16KVA /14 KW	Positive Welding Cable	3m(50mm²/70mm²)
Power factor	0.94	Negative Welding Cable	3m(50mm²/70mm²)
Output chracteristics	CV	Wire Feeder Control Cable	5m
Rated output current	400A	Remote operation box	Including emergency stop, start, pause and enable buttons, 5m cable, standard configuration with 2pcs
Rated output voltage	34V	The cable between electric cabinet and robot body	5m
Duty cycle	DC 100%@400A		
Rated output OCV	85V		
Output current range	30A-350A		
Output voltage range	12V~45V		
IP level	IP23S		
Ambient temperature	-10℃~40℃		
Insulation class	H		

Parameter of recommended aluminum welding configuration-Option one -basic type		
Technical indicators of robot body		
Mode	CRP-RH14-10-W	
Arm type	vertically articulated	
Degree of freedom	6 axis	
Maximum payload	10KG	
Maximum travel	1 axis	Floor type/ceiling type -167°-167° walling type -30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum speed	1 axis	169°/S
	2 axis	169°/S
	3 axis	169°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable torque	4 axis	10N.m
	5 axis	10N.m
	6 axis	3N.m
Allowable moment of inertia	4 axis	0.25kg.m²
	5 axis	0.25kg.m²
	6 axis	0.05kg.m²
Position Repeatability	±0.08mm	
Maximum reach	1440mm	
Robot body mass	170KG	
Installation mode	Ground, upside down mounting	
Installation environment	Ambient temperature	0~45℃
	Humidity	20~80%RH, no condensing
	Vibrations	Below 0.5G
	Other	The robot installation must be away from: flammable or corrosive liquids or gases, sources of electrical interference
IP level	Body IP54, wrist IP67	
Features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Welding, cutting, assembly, handling, marking, grinding	

CRP-RH14-10-W
INDUSTRIAL ROBOT
WELDING APPLICATION





Welding robot recommendation for aluminum •option two •common type

- ① Robot body CRP-RH14-10-W
- ② G4 Electric Cabinet CRP-E60-G4
- ③ Welding Power Source Artsen Plus 400QR



Scope of application |

■ 2.5mm-14.0mm Aluminum/ Aluminum alloy welding

System Configuration |

Name: welding robot Model: RH14-10-W		
Included	Robot body: CRP-RH14-10-W Electric Cabinet: G4 RH14 (standard welding cabinet)	
	Welding power source: Artsen Plus 400QR(MEGMEET)	Welding torch: TBI water-cooling push-pull welding torch (including TBI anti-collision)
	Accessories such as water tank, water pipe, water pipe coil bracket, etc. are included.	Teach Pendant
	Remote operation box: 2 pcs	wire feeder, wire feed tube, wire reel, welding cable 5m cable between electric cabinet and robot body
	1.2A contact tip: 8 pcs	1.2/1.6mm U-type wire feed wheels: 1 set for each type

Features |

- The robot moves smoothly, the end speed is consistent with the set welding speed and the welding is stable with good shape.
- The robot and welding machine adopt full digital communication control, so that the best welding efficiency and welding effect can be exerted;
- The welding parameters can be set on the robot, or for the same workpiece with different thicknesses, which require different welding process conditions: such as duty cycle, frequency and other parameters, it can also be achieved by calling different JOB numbers through the robot.
- Hollow 500A water-cooling welding torch supports long-term double-pulse welding.
- Single/double pulse digital welding machine
- The penetration can remain the same and keep stable current output when the stick-out length of wire changes.
- It has smooth short-circuit transition technology, which can help weld bead more uniform and in good shape.
- It has short arc pulse technology, which helps the welding speed be more fast.
- It has high frequency dynamic wave energy control, which achieves high welding penetration, low heat input and well recognizable fish scale pattern.
- Low heat input and the wire feed has encoder feedback which is more stable and has strong anti-interference.
- Upgradeable expert database
- The push-pull welding torch interface controls this torch, which makes the wire feeding more stable and the arc fluctuation is small.

Precautions |

- The wire feeding of aluminum welding is very important, Teflon or graphite tube is required to use from the welding wire reel to the torch tip in the whole process.
- The wire feed wheels and contact tips need to use special accessories for aluminum welding.
- Aluminum welding requires high welding process.



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical indicators of electric cabinet	
Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
User storage	200m
Controlled axis	6+2 axis (standard configuration is 6 axis, external 2 axis is optional)
Interface	Digital I/O interface, 22 input/22 output, expandable COM
	4-way 0~10V analog output, 12-bit precision, expandable COM
	Dual encoder signal interface (for position tracking)
	Ethernet interface
	Dual USB interface
Operation mode	Teach, replay, remote
Motion function	Point to point, straight line, circle
Command system	Motion, logic, process, calculation
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Abnormal emergency stop, abnormal servo, abnormal user coordinate, abnormal tool coordinate, safety maintenance, abnormal arc starting, etc.
Robot safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved dedicated interface	Specific arc welding interface, station interface, remote upper interface
Software package	Optional welding, handling, palletizing, spraying etc.
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The cable between electric cabinet and robot body	5m
Power supply	Three-phase 380V AC 50-60Hz
Dimension	550X785X410mm
Weight	65KG



Artsen Plus 400QR
WELDING POWER SOURCE

Technical indicators of welding power source		Other Accessory Parameters	
Model of welding power source	Artsen Plus 400QR	Welding torch	500A water-cooling torch, 100% duty cycle
Control mode	Digital control	Welding torch angle	Gooseneck 22°
Rated input voltage/phase number	Three-phase 380V	Anti-collision	Return accuracy 0.1mm
Input power frequency	45-65HZ	Wire feeding tube length	1.8m
Rated input power	16KVA /14 KW	Positive Welding Cable	3m(50mm²/70mm²)
Power factor	0.94	Negative Welding Cable	3m(50mm²/70mm²)
Output chracteristics	CV	Wire Feeder Control Cable	5m
Rated output current	400A	Remote operation box	Including emergency stop, start, pause and enable buttons, 5m cable, standard configuration with 2pcs
Rated output voltage	34V	The cable between electric cabinet and robot body	5m
Duty cycle	DC 100%@400A		
Rated output OCV	85V		
Output current range	30A-350A		
Output voltage range	12V~45V		
IP level	IP23S		
Ambient temperature	-10℃~40℃		
Insulation class	H		

Parameter of recommended aluminum welding configuration-Option two -common type		
Technical indicators of robot body		
Mode	CRP-RH14-10-W	
Arm type	vertically articulated	
Degree of freedom	6 axis	
Maximum payload	10KG	
Maximum travel	1 axis	Floor type/ceiling type -167°-167° walling type -30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum speed	1 axis	169°/S
	2 axis	169°/S
	3 axis	169°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable torque	4 axis	10N.m
	5 axis	10N.m
	6 axis	3N.m
Allowable moment of inertia	4 axis	0.25kg.m²
	5 axis	0.25kg.m²
	6 axis	0.05kg.m²
Position Repeatability	±0.08mm	
Maximum reach	1440mm	
Robot body mass	170KG	
Installation mode	Ground, upside down mounting	
Installation environment	Ambient temperature	0~45℃
	Humidity	20~80%RH, no condensing
	Vibrations	Below 0.5G
	Other	The robot installation must be away from: flammable or corrosive liquids or gases, sources of electrical interference
IP level	Body IP54, wrist IP67	
Features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Welding, cutting, assembly, handling, marking, grinding	

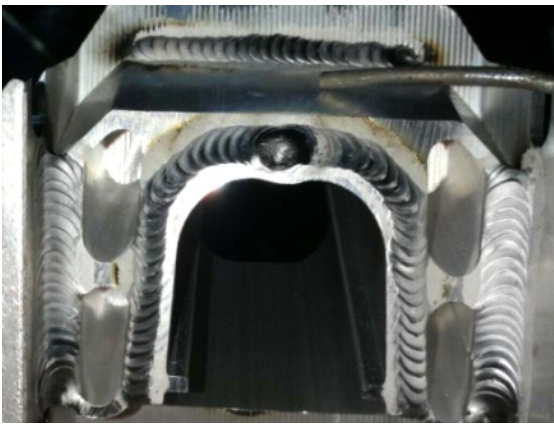
CRP-RH14-10-W
INDUSTRIAL ROBOT
WELDING APPLICATION





Welding robot recommendation for aluminum •option three •high-level type

- ① Robot body CRP-RH14-10-W
- ② G4 Electric Cabinet CRP-E60-G4
- ③ Welding Power Source Lorch S3 Pulse 320A (imported from Germany)



Scope of application |

- 1.2mm-8mm Aluminum/ Aluminum alloy welding

System Configuration |

Name: welding robot Model: RH14-10-W			
Included	Robot body: CRP-RH14-10-W Electric Cabinet: G4 RH14 (standard welding cabinet)		
	Welding power source: Lorch S3 Pulse 320A (Lorch welding machine imported from Germany)		
	Welding torch: DINSE water-cooling push-pull welding torch (including DINSE anti-collision) (Dinse imported from Germany)	Teach Pendant	
	Accessories such as water tank, water pipe, water pipe coil bracket, etc. will be equipped.	wire feeder, wire feed tube, wire reel, welding cable	
	5m cable between electric cabinet and robot body	1.2A contact tip: 8 pcs Remote operation box: 2 pcs	1.2/1.6mm U-type wire feed wheels: 1 set for each type

Features |

- The robot moves smoothly, the end speed is consistent with the set welding speed and the welding is stable with good shape.
- After specially optimizing the robot software, the robot can call JOB more conveniently and faster; it can achieve 100 sets of JOB parameter calls with the welding machine.
- Using digital inverter technology, single/double pulse and superpulse pulse can be selected, which can perfectly weld aluminum workpieces.
- It can achieve the forming effect of argon arc welding, the fish scales are uniform, bright and smooth, and the weld seam is high in smoothness.
- Low heat input and small deformation.
- Control the way of the droplet transitions size to the workpiece so as to achieve the best low splash effect.
- Ultra-fast arc adjustment technology in the welding process; even if the pulse function is not applicable, it can also have a good performance on short-circuit transfer, droplet transfer, and spray transfer welding.
- Good arc closing effect
- The three-step debugging method makes debugging easier and faster;
- Rugged housing, four-wheel wire feeding system, diagnostic matching of push-pull welding torch.

Precautions |

- The wire feeding of aluminum welding is very important, Teflon or graphite tube is required to use from the welding wire reel to the torch tip in the whole process.
- The wire feed wheels and contact tips need to use special accessories for aluminum welding.
- Aluminum welding requires high welding process.



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET



Lorch S3 Pulse 320A
WELDING POWER SOURCE
(Dinse imported
from Germany)

Technical indicators of electric cabinet	
Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
User storage	200m
Controlled axis	6+2 axis (standard configuration is 6 axis, external 2 axis is optional)
Interface	Digital I/O interface, 22 input/22 output, expandable COM
	4-way 0~10V analog output, 12-bit precision, expandable COM
	Dual encoder signal interface (for position tracking)
	Ethernet interface
	Dual USB interface
Operation mode	Teach, replay, remote
Motion function	Point to point, straight line, circle
Command system	Motion, logic, process, calculation
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Abnormal emergency stop, abnormal servo, abnormal user coordinate, abnormal tool coordinate, safety maintenance, abnormal arc starting, etc.
Robot safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved dedicated interface	Specific arc welding interface, station interface, remote upper interface
Software package	Optional welding, handling, palletizing, spraying etc.
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The cable between electric cabinet and robot body	5m
Power supply	Three-phase 380V AC 50-60Hz
Dimension	550X785X410mm
Weight	65KG

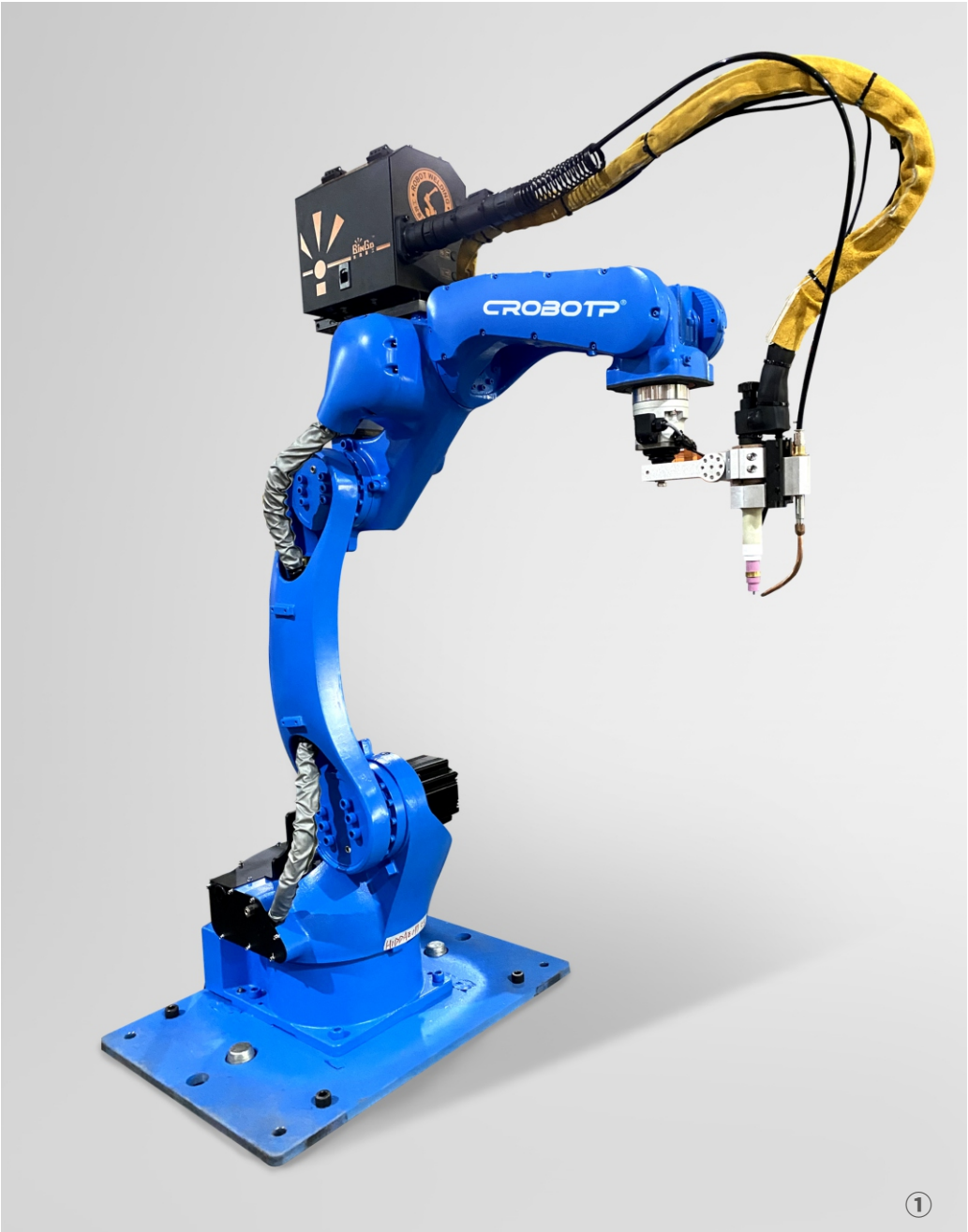
S3 Pulse 320A

Technical indicators of welding power source		Other Accessory Parameters	
Model of welding power source	Lorch S3 Pulse 320A	Welding torch	DINSE water-cooling push-pull welding torch (including DINSE anti-collision) (Dinse imported from Germany)
Power supply voltage +/-15% 50HZ three-phase four-wire	3x400V+/-15%	Welding torch angle	Gooseneck 22°
Fuse (value)	16A	Anti-collision	Return accuracy 0.1mm
Welding current range	25-320A	Wire feeding tube length	1.8m
25 100% duty cycle	280A	Positive Welding Cable	3m(70mm²)
25 60% duty cycle	320A	Negative Welding Cable	3m(70mm²)
40 100% duty cycle	250A	Wire Feeder Control Cable	5m
40 60% duty cycle	280A	Remote operation box	Including emergency stop, start, pause and enable buttons, 5m cable, standard configuration with 2pcs
Operating Voltage	15.2-34V	The cable between electric cabinet and robot body	5m
Protection level	IP 23S		
Cooling type	AF		
Insulation class	F		
Dimensions (length x width x height)	1116x463x812mm		
Weight	97.3 kg		
Certification mark	S、CE、CCC		

Parameter of recommended aluminum welding configuration·Option three ·High-level type		
Technical indicators of robot body		
Mode	CRP-RH14-10-W	
Arm type	vertically articulated	
Degree of freedom	6 axis	
Maximum payload	10KG	
Maximum travel	1 axis	Floor type/ceiling type -167° 167° walling type -30° 30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum speed	1 axis	169°/S
	2 axis	169°/S
	3 axis	169°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable torque	4 axis	10N.m
	5 axis	10N.m
	6 axis	3N.m
Allowable moment of inertia	4 axis	0.25kg.m²
	5 axis	0.25kg.m²
	6 axis	0.05kg.m²
Position Repeatability	±0.08mm	
Maximum reach	1440mm	
Robot body mass	170KG	
Installation mode	Ground, upside down mounting	
Installation environment	Ambient temperature	0~45℃
	Humidity	20~80%RH, no condensing
	Vibrations	Below 0.5G
	Other	The robot installation must be away from: flammable or corrosive liquids or gases, sources of electrical interference
IP level	Body IP54, wrist IP67	
Features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Welding, cutting, assembly, handling, marking, grinding	

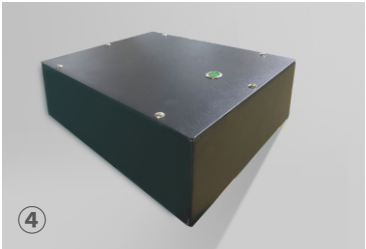
CRP-RH14-10-W
INDUSTRIAL ROBOT
WELDING APPLICATION





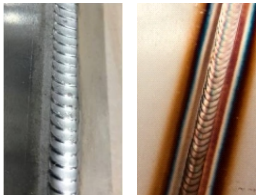
TIG self-fusion/filler wire welding configuration

- ① Robot body CRP-RH14-10-W
- ② G4 Electric Cabinet CRP-E60-G4
- ③ Welding Power Source WSME-400R (Bingo)
- ④ High frequency isolation box
- ⑤ Water tank (Optional)



Scope of application

- Self-fusion type: 0.8mm or above carbon steel and stainless steel
1.2 mm or above aluminum and non-ferrous metals
- Filler wire type: 1.0mm or above carbon steel and stainless steel
1.5mm or above aluminum and non-ferrous metals



Self-fusion configuration

Included	Robot body: CRP-RH14-10-W	Electric Cabinet: G4 RH14 (standard welding cabinet)
	Welding power source: WSM-400R (Bingo)	High-frequency isolation kit (high-frequency signal isolation box, robot insulation board, insulation rotating bracket)
	Water-cooling TIG welding torch + anti-collision sensor with adjustable angle bracket	Accessories such as water tank, water pipe, water pipe coil bracket, etc. will be included.
	Teach pendant	Remote operation box: 2 pcs
	5m cable between electric cabinet and robot body	Welding cable

Self-fusion features

- The robot moves smoothly, the end speed is consistent with the set welding speed and the welding is stable with good shape.
- The high-frequency isolation accessory kit is added to avoid high-frequency damage to the robot under normal installation
- The welding power source can choose DC and DC pulse mode.
- The current is given by the robot, so it is convenient to change the parameter.
- Easy arc ignition
- Stable arc and easy to control the welding pool
- Water-cooling welding torch with angle adjustment, water pipe and welding cable are separated, it is not easy to be damaged after long-term use.

Filler wire configuration

Included	Robot body: CRP-RH14-10-W	Electric Cabinet: G4 RH14 (standard welding cabinet)
	Welding power source: WSME-315R (Bingo)	High-frequency isolation kit (high-frequency signal isolation box, robot insulation board, insulation rotating bracket)
	Water-cooling TIG welding torch + anti-collision sensor with adjustable angle bracket	Wire feeder, wire feeding bracket, wire feeding tube, welding wire reel, welding cable
	Accessories such as water tank, water pipe, water pipe coil bracket, etc. will be included.	Teach pendant Remote operation box: 2 pcs
	5m cable between electric cabinet and robot body	1 set of filling device

Self-fusion features

- The robot moves smoothly, the end speed is consistent with the set welding speed and the welding is stable with good shape.
- The high-frequency isolation accessory kit is added to avoid high-frequency damage to the robot under normal installation.
- The welding power source can choose DC/DC pulse, AC/AC pulse mode.
- The current and wire feeding speed are given by the robot, which facilitates the change of parameters. Various parameters can be set to preheat and prevent wire sticking.
- Intermittent wire feeding that can be synchronized with pulses.
- Easy arc ignition.
- Water-cooling welding torch with angle adjustment, water pipe and welding cable are separated, it is not easy to be damaged after long-term use.
- Stable arc and easy to control the welding pool .
- The angle of the wire feeder is easily adjustable.

Precautions

- Carbon steel welding adopts DC/DC pulse mode, and aluminum welding adopts AC/AC pulse mode
- It should be noted that the wire feeder bracket of aluminum welding is different from the bracket of carbon steel welding.
- The wire feeding of aluminum welding is very important, Teflon or graphite tube is required to use from the wire reel to the wire feeding nozzle in the whole process.
- The angle and speed of the wire filling are very important.
- TIG welding is very sensitive to the gap, it is better if the gap between the workpieces is smaller.
- Gas and flow have a great impact on the arc
- TIG welding tungsten needles are easy to burn. It is recommended to use lanthanum tungsten for robot welding, and make small jigs to ensure that the tungsten needles are in same length each time.
- Use the positive electrode to connect to the workpiece, and the negative electrode to the welding torch.
- During TIG welding, high frequency will damage the robot greatly, so it needs to install the robot correctly according to the installation document issued by CRP.



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical indicators of electric cabinet	
Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
User storage	200m
Controlled axis	6+4 axis (standard configuration is 6 axis, external 2 axis is optional)
Interface	Digital I/O interface, 22 input/22 output, expandable COM
	4-way 0~10V analog output, 12-bit precision, expandable COM
	Dual encoder signal interface (for position tracking)
	Ethernet interface
	Dual USB interface
Operation mode	Teach, replay, remote
Motion function	Point to point, straight line, circle
Command system	Motion, logic, process, calculation
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Abnormal emergency stop, abnormal servo, abnormal user coordinate, abnormal tool coordinate, safety maintenance, abnormal arc starting, etc.
Robot safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved dedicated interface	Specific arc welding interface, station interface, remote upper interface
Software package	Optional welding, handling, palletizing, spraying etc.
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The cable between electric cabinet and robot body	5m
Power supply	Three-phase 380V AC 50-60Hz
Dimension	550X785X410mm
Weight	65KG

S3 Pulse 320A

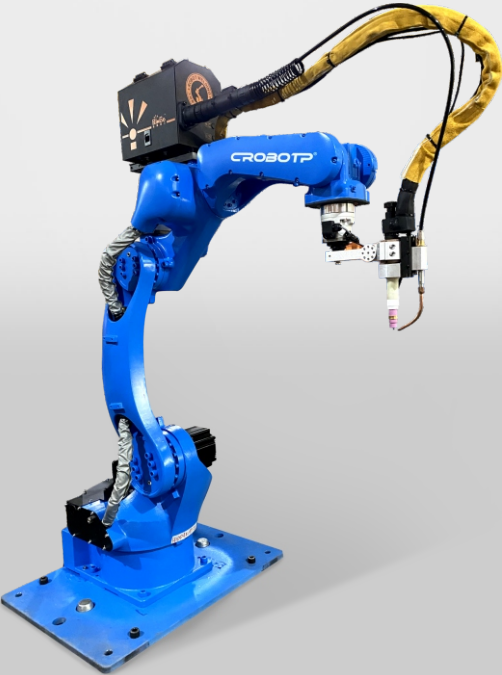


WSME-315R
WSME-400R
WELDING POWER SOURCE

Technical indicators of welding power source		Technical indicators of welding power source	
Model of welding power source	WSME-315R (filler wire)	Model of welding power source	WSM-400RM (self-fusion)
Control mode	Analog control	Control mode	Analog control
Rated input voltage/phase number	Three-phase 380V AC±10%,50HZ	Rated input voltage/phase number	Three-phase 380V AC±10%,50HZ
Rated input power	9.3KVA	Rated input power	17.1KVA
Duty cycle	60	Duty cycle	60
Output OCV	79±4V	Input current	26A
Output current range	5-315A	Output current range	5-400A
Peak value, base value, constant current, ending arc, ending arc current range	5-315A	Peak value, base value, constant current, ending arc, ending arc current range	5-400A
Duty ratio (%)	15-85	Duty ratio (%)	1-100
Pulse frequency (HZ)	0.2-999	Pulse frequency (HZ)	0.2-20
AC frequency (HZ)	40-250	Main transformer insulation class	H
Cleanup ratio (%)	-50~40	Insulation grade of output reactor	B
Power factor	0.95	IP level	IP21S
IP level	IP21S	Ambient temperature	-10 ~40
Ambient temperature	-10 ~40		

Parameter of recommended aluminum TIG self-fusion/ filler wire welding configuration		
Technical indicators of robot body		
Mode	CRP-RH14-10-W	
Arm type	vertically articulated	
Degree of freedom	6 axis	
Maximum payload	10KG	
Maximum travel	1 axis	Floor type/ceiling type -167° 167° walling type -30° 30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum speed	1 axis	169°/S
	2 axis	169°/S
	3 axis	169°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable torque	4 axis	10N.m
	5 axis	10N.m
	6 axis	3N.m
Allowable moment of inertia	4 axis	0.25kg.m²
	5 axis	0.25kg.m²
	6 axis	0.05kg.m²
Position Repeatability	±0.08mm	
Maximum reach	1440mm	
Robot body mass	170KG	
Installation mode	Ground, upside down mounting	
Installation environment	Ambient temperature	0~45℃
	Humidity	20~80%RH, no condensing
	Vibrations	Below 0.5G
	Other	The robot installation must be away from: flammable or corrosive liquids or gases, sources of electrical interference
IP level	Body IP54, wrist IP67	
Features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Welding, cutting, assembly, handling, marking, grinding	

CRP-RH14-10-W
INDUSTRIAL ROBOT
WELDING APPLICATION





The Recommendation of Laser Welding Configuration

- ① Robot Body: CRP-RH18-20 (Harmonic)
- ② Industrial Robot Electrical Cabinet: CRP-E60-G4(Harmonic)
- ③ Laser Welder



The Operation Interface of Laser Welder



The Sample of Laser Welding

Scope of Application

0.4~4mmLow carbon steel/Stainless steel/Nonferrous metal

System Configuration

Name: Laser Welding Robot		Model: CRP-HJ-JG		Laser: RFL-C1500	
Included	Robot Body: CRP-RH18-20 (Harmonic)			Interconnecting Cable: 5 m	
Electrical Cabinet: G4Rh14 (standard welding cabinet)			Remote operation box: 2 pcs (wire length: 5m)		
Laser Cabinet: SF1500HWM Oscillating laser welder, including water tank, water pipe, water pipe coil wire, welding torch rack and other accessories					
Teach Pendant: 6 m		Welding Joint: Kylin double swing customized welding head			

Features | The High Quality of Laser Welding Power Source

- Laser welding joint has multiple self-adaptive swing forms according to different materials, which can effectively increase the gap tolerance and improve the welding width
- With ergonomic design, water-cooling welding torch is more flexible and convenient, which can realize longer welding distance and different type of welding forms, such as spot welding, butt-joint welding, stitch welding, seal welding, etc
- The quality of fiber laser beam is good. It has the features of small focusing spot, high positioning accuracy, fast welding speed and beautiful welding appearance. CRP aims to provide customers with efficient and perfect solutions
- The impact of laser welding heat is slight, so the workpiece is not only easy to deformation, but also can effectively avoid the problem of blackening, traces on the back. And the welding,depth of laser welding is deep, so the materials can be melting fully and reliably
- With a built-in camera and display screen, it is easy to observe programming and welding real-time program and position
- Equipped with precision wire feeding device, the wire can be controlled centrally during the welding process.

Features | Laser Welding Robot

- CRP laser welding robot has a fine control on the welding process, such as the change of power and parameter, the treatment of wire feeder anti stick wire and so on
- CRP laser welding robot adopts specially designed welding instructions to reduce programming time
- CRP laser welding robot can realize offline programming with offline software.
- Optimize the control parameters to reduce the bad effects of jitter



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical Indicators of Electric Cabinet	
Input Power Supply	Three-phase 380V, ±10%, 50-60HZ, Power, 5KVA
Control System and Servo System	Integration of Drive and Control Movement
Controlled Sxis	6+4(standard configuration is 6 axis, external axis is optional)
Interface	Digital I/O interface, 22 input/output (expandable COM)
	4-way 0-10V analog output, 12-bit accuracy (expandable COM)
	Double encoder signal interface, RS485, RS232
	Ethernet
	2 USB interface
Robot Safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved Dedicated Interface	Specific arc welding interface, station interface, remote upper interface
Reserved Software Package	Arc welding software package
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The Cable Between Electric Cabinet and Robot Body	Standard cable: X1, X2, 5m
Operation Box	Standard installation of two operation box, wire length 5m
Environment	Temperature 0-45° (Humanity), 20%-80% (No condensation), Vibration: under 0.5G
Dimension	550 × 785 × 410
Weight	65KG
IP level	IP51

Laser Welder

Model	SF1500HWM Oscillating laser welder
Input Power Supply	3~380V±15%, 50/60HZ
Input Power	9KW
Laser	RFL-C1500
Laser Wave Length	1080nm
Fiber length	10m
Diameter of Fiber Core	50µm
Welder Speed Range	0-120mm/s
Temperature	-10-40
Recommended Welding Thickness	0.5-4mm
Cooling Mode	Water cooling
Dimension	954X715X1080mm
Weight	220KG
Consumables	Cycle: protective lens for 1 week and welding nozzle for more than 1 month
Total Power	9KW
Wire filling material	Standard Material: 1mm gas protection welding wire and 1mm stainless steel wire are standard. Optional Material: specification of welding wire

The Parameters of Accessories

Teach Pendant	8-inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button
Remote Operation Box	Remote operation box includes the functions of emergency stop, start, pause and enable. Wire length: 5m. Remote operation box: 2pcs (standard)
Interconnecting Cable	5m
Others	Robot isolation installation kit

The Recommendation of Laser Welding Configuration

Model	CRP-RH18-20	
Degree of Freedom	6 Axis	
Maximum Payload	20KG	
Maximum Reaching Distance	1720mm	
Maximum Travel	1 axis	Ground/Upside down mounting -167°-167° wall mounting -30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum Speed	1 axis	159°/S
	2 axis	159°/S
	3 axis	159°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable Torque	4 axis	48N.m
	5 axis	48N.m
	6 axis	28N.m
Allowable Moment of Inertia	4 axis	1.8kg.m²
	5 axis	1.8kg.m²
	6 axis	0.8kg.m²
Repeated Positioning Accuracy	±0.08mm	
Robot Body Weight	285KG	
Installation Mode	Ground/upside down mounting/wall mounting	
Installation Environment	Environment Temperature	0-45°C
	Relative Humidity	20-80% (No condensation)
IP Level	Wrist IP67, Body IP54	

Process Package Reference Parameters

Number	1500W Laser control				The head of laser welder		
	Material and Thickness	Power	Frequency	Duty Cycle	Mode	Frequency	Width
1	Stainless Steel 1.0	30%	3000HZ	100%	○	10hz	1.6mm
	Stainless Steel 2.0	60%	3000HZ	100%	△	10hz	2.6mm
	Stainless Steel 3.0	90%	3000HZ	100%	⊠	10hz	3mm
2	Carbon Steel 1.0	30%	3000HZ	100%	○	10hz	1.6mm
	Carbon Steel 2.0	60%	3000HZ	100%	△	10hz	2.6mm
	Carbon Steel 3.0	85%	3000HZ	100%	⊠	10hz	3mm
3	Galvanized Sheet 1.0	35%	3000HZ	100%	○	16hz	1.6mm
	Galvanized Sheet 2.0	65%	3000HZ	100%	△	16hz	2.6mm
	Galvanized Sheet 3.0	85%	3000HZ	100%	⊠	16hz	3mm
4	Aluminium Sheet 1.0	40%	3000HZ	100%	○	10hz	1.6mm
	Aluminium Sheet 2.0	70%	3000HZ	100%	△	8hz	2.6mm
	Aluminium Sheet 3.0	85%	3000HZ	100%	⊠	8hz	3mm
The above parameters are for reference only							

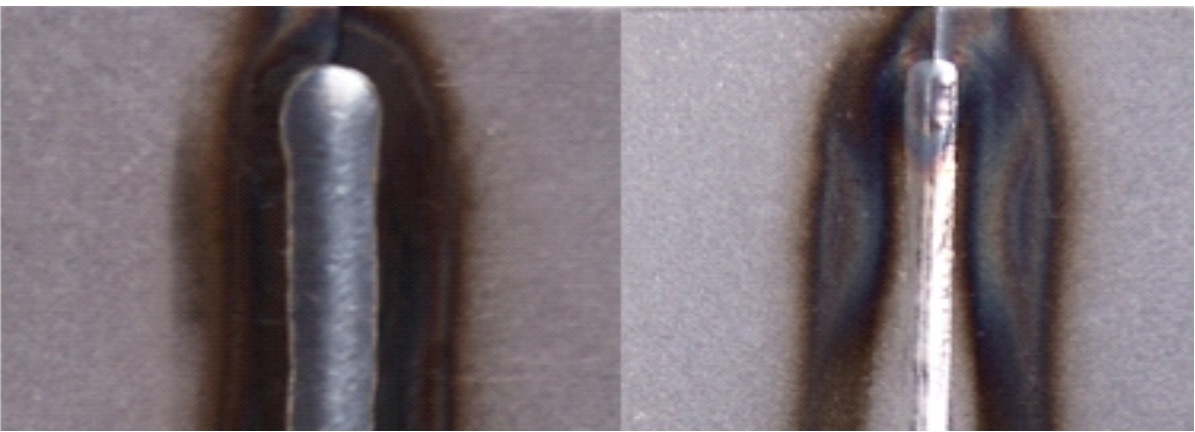
Note: For different lasers, it can be set according to this formula to modify the power while other process parameters remain same.





Common welding configuration is recommended

- ① Robot body CRP-RH14-10-W
- ② G4 Electric Cabinet CRP-E60-G4
- ③ Welding power source: Ehave CM350AR (MEGMEET)



Scope of application |

- 1.2mm-8mm or above carbon steel

System Configuration |

Name: welding robot Model: RH20-10-W/RH14-10-W		
Included	Robot body: CRP-RH20-10-W/CRPRH14-10-W	Electric Cabinet: G4 RH14 (standard welding cabinet)
	Welding power source: Ehave CM350AR (MEGMEET)	Teach pendant: 6m cable
	350A Air-cooling welding torch wire feeder, wire feed tube, wire reel, welding cable	
	5m cable between electric cabinet and robot body	Remote operation box: 2 pcs (5m cable)
	1.0/1.2mm contact tip: 5 pcs for each type	0.8/1.0mm wire feed wheels: 1 set

Features |

- The robot moves fast and the transition is natural.
- The thin plate process function and the medium plate process function in the arc welding software package can be used, and the laser can also be loaded, which has a wide range of applications.
- The welding power source is a digital inverter welding machine.
- The arc of the welding power source is concentrated, with strong penetrating power and small thermal deformation.
- Strong gap overlap ability, insensitive to dry elongation.
- Good arc starting performance.
- Stable arc, small spatter.
- Convenient and adjustable arc characteristics, controllable penetration.
- The welding power source has good stability, strong and durable.
- After the arc is closed, there is a fast cutting droplet control, and the ball cutting effect is good.
- Adapt to harsh factory environment.



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical indicators of electric cabinet	
Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
User storage	200m
Controlled axis	6+4 axis (standard configuration is 6 axis, external 2 axis is optional)
Interface	Digital I/O interface, 22 input/22 output, expandable COM
	4-way 0~10V analog output, 12-bit precision, expandable COM
	Dual encoder signal interface (for position tracking)
	Ethernet interface
	Dual USB interface
Operation mode	Teach, replay, remote
Motion function	Point to point, straight line, circle
Command system	Motion, logic, process, calculation
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Abnormal emergency stop, abnormal servo, abnormal user coordinate, abnormal tool coordinate, safety maintenance, abnormal arc starting, etc.
Robot safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved dedicated interface	Specific arc welding interface, station interface, remote upper interface
Software package	Optional welding, handling, palletizing, spraying etc.
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The cable between electric cabinet and robot body	5m
Power supply	Three-phase 380V AC 50-60Hz
Dimension	550X785X410mm
Weight	65KG

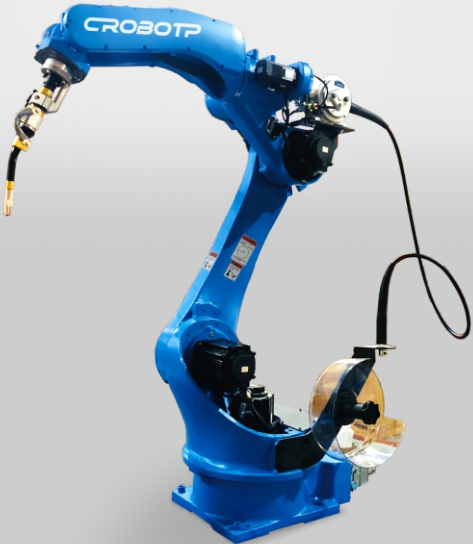


Ehave CM350AR
WELDING POWER SOURCE

Technical indicators of welding power source		Other Accessory Parameters	
Model of welding power source	Ehave-CM350AR	Welding torch	350A air-cooling torch, 60% duty cycle
Control mode	Analog control	Welding torch angle	Gooseneck 35°
Rated input voltage/phase number	Three-phase 380V AC ±25% (50-80Hz)	Anti-collision	Return accuracy 0.1mm
Rated input power	21.7KVA	Wire feeding tube length	1.8m
Duty cycle	100% .350A.25°	Positive Welding Cable	3m(50mm²)
Power factor	0.94	Negative Welding Cable	3m(50mm²)
Efficiency	86%	Wire Feeder Control Cable	5m
Rated current range	30-400A	Remote operation box	Including emergency stop, start, pause and enable buttons, 5m cable, standard configuration with 2pcs
Rated voltage range	12-38V		
Arc characteristics	-9~9		
Output voltage range	12V-45V		
Electromagnetic compatibility	IEC60971:10 EMS		
Protection against lightning	Class D(6000V/3000A)		
Ambient Temperature	14-24m/min		
Insulation class	H		
IP level	IP23S		
The host environment	Industrial heavy load -39℃ ~ 50℃		

Parameter of recommended Common welding configuration is recommended		
Technical indicators of robot body		
Mode	CRP-RH14-10-W	
Arm type	vertically articulated	
Degree of freedom	6 axis	
Maximum payload	10KG	
Maximum travel	1 axis	Floor type/ceiling type -167°-167° walling type -30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum speed	1 axis	169°/S
	2 axis	169°/S
	3 axis	169°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable torque	4 axis	10N.m
	5 axis	10N.m
	6 axis	3N.m
Allowable moment of inertia	4 axis	0.25kg.m²
	5 axis	0.25kg.m²
	6 axis	0.05kg.m²
Position Repeatability	±0.08mm	
Maximum reach	1440mm	
Robot body mass	170KG	
Installation mode	Ground, upside down mounting	
Installation environment	Ambient temperature	0~45℃
	Humidity	20~80%RH, no condensing
	Vibrations	Below 0.5G
	Other	The robot installation must be away from: flammable or corrosive liquids or gases, sources of electrical interference
IP level	Body IP54, wrist IP67	
Features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Welding, cutting, assembly, handling, marking, grinding	

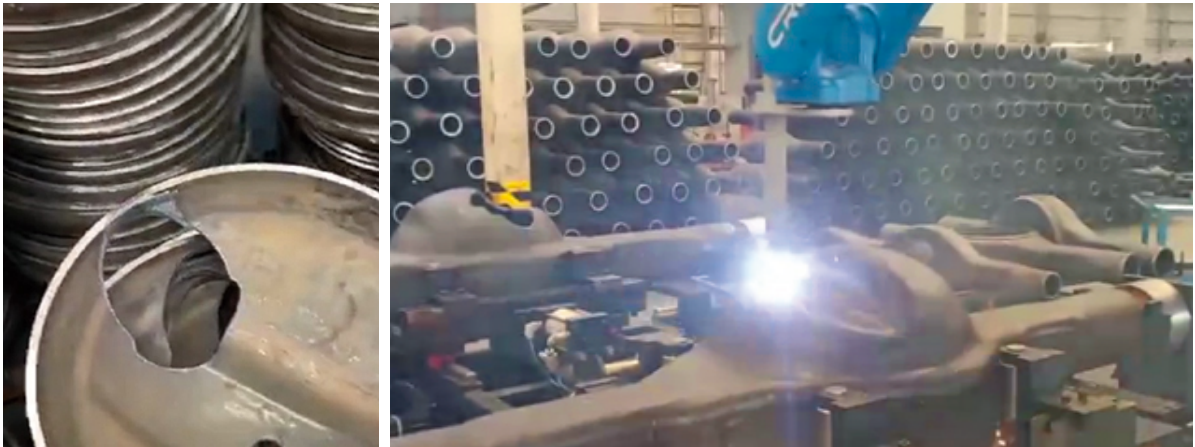
CRP-RH14-10-W
INDUSTRIAL ROBOT
WELDING APPLICATION





Air plasma cutting configuration

- ① Robot body CRP-RH14-10-W
- ② G4 Electric Cabinet CRP-E60-G4
- ③ Welding power source: LG-125HA (HuaYuan)



Scope of application |

- Quality cutting of low carbon steel below 25mm

System Configuration |

Name: welding robot Model: RH14-10-W		
Included	Robot body: CRP-RH14-10-W Electric Cabinet: G4 RH14 (standard welding cabinet)	
	Welding power source: LG-125HA (Huayuan)	P80 Machine Straight Cutting Torch
	Anti-collision sensor with adjustable angle	Plasma isolation accessory kit
	High frequency arc starting box for machine	Teach pendant: 6m cable Remote operation box: 2 pcs (5m cable)
	5m cable between electric cabinet and robot body	2pcs nozzles 2pcs electrodes

Features |

- The robot moves smoothly and the end speed is consistent with the set welding speed to ensure fast cutting during the cutting process.
- Optional accessories for positioning, using the positioning function of arc welding software package to achieve high positioning.
- Plasma high frequency arc starting box is built-in, making arc starting easier.
- IGBT is the main switch and digital high-frequency control is available, which makes the cutting quality stable and reliable.
- The cutting current is very stable, 100% load rate
- The robot body, arc starting box and hanging bracket have been insulated.
- For thicker steel plate cutting or fine plasma, please consult the manufacturer.

Precautions |

- When programming, due to the certain height difference between the arc and the nozzle, the customer can add a cutting-edge fixture, it is convenient for programming.
- The air source needs to be fully filtered to filter out water and oil, so that the welding torch can be used normally, otherwise the consumable parts will be lost.
- The cutting current is adjusted by the welding machine panel. If the customer wants to set the current through the teach pendant, it needs to be remarked separately, and the delivery time will be longer.
- The G4 electric cabinet is grounded to the user distribution box, and the plasma power supply and the robot body need to be grounded separately.



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical indicators of electric cabinet	
Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
User storage	200m
Controlled axis	6+4 axis (standard configuration is 6 axis, external 2 axis is optional)
Interface	Digital I/O interface, 22 input/22 output, expandable COM
	4-way 0-10V analog output, 12-bit precision, expandable COM
	Dual encoder signal interface (for position tracking)
	Ethernet interface
	Dual USB interface
Operation mode	Teach, replay, remote
Motion function	Point to point, straight line, circle
Command system	Motion, logic, process, calculation
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Abnormal emergency stop, abnormal servo, abnormal user coordinate, abnormal tool coordinate, safety maintenance, abnormal arc starting, etc.
Robot safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved dedicated interface	Specific arc welding interface, station interface, remote upper interface
Software package	Optional welding, handling, palletizing, spraying etc.
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The cable between electric cabinet and robot body	5m
Power supply	Three-phase 380V AC 50-60Hz
Dimension	550X785X410mm
Weight	65KG

S3 Pulse 320A



LG-125HA (HuaYuan)
WELDING POWER SOURCE

Technical indicators of welding power source		Other Accessory Parameters	
Model of welding power source	LG-125HA	P80 cutting torch	130A air-cooling torch, 60% duty cycle
Control mode	Switch control	Anti-collision	Return accuracy 0.1mm
Rated input voltage/phase number	Three-phase 380V AC±10%,50HZ	Wire feeding tube length	1.8m
Rated input power	21.7KVA	Positive Welding Cable	3m(50mm²)
Duty cycle	100%,40°	Negative Welding Cable	3m(50mm²)
Efficiency	89.50%	Wire Feeder Control Cable	5m
Rated cutting current and voltage	125A/130V	Remote operation box	Including emergency stop, start, pause and enable buttons, 5m cable, standard configuration with 2pcs
Current adjustment range	30-125A		
Arc ignition method	Non-contact	The cable between electric cabinet and robot body	5m
Cutting gas	Air		
Quality cutting parameters (mild steel)	25 (580mm/ min)		
Maximum cutting thickness (mild steel)	32 (400mm/min)		
Maximum cutting capacity (mild steel)	38 (300mm/min)		
Insulation class	F		
IP level	IP23S		
Ambient temperature	-10℃—40℃		

Parameter of recommended air plasma cutting configuration		
Technical indicators of robot body		
Mode	CRP-RH14-10-W	
Arm type	vertically articulated	
Degree of freedom	6 axis	
Maximum payload	10KG	
Maximum travel	1 axis	Floor type/ceiling type -167°-167° walling type -30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum speed	1 axis	169°/S
	2 axis	169°/S
	3 axis	169°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable torque	4 axis	10N.m
	5 axis	10N.m
	6 axis	3N.m
Allowable moment of inertia	4 axis	0.25kg.m²
	5 axis	0.25kg.m²
	6 axis	0.05kg.m²
Position Repeatability	±0.08mm	
Maximum reach	1440mm	
Robot body mass	170KG	
Installation mode	Ground, upside down mounting	
Installation environment	Ambient temperature	0~45℃
	Humidity	20~80%RH, no condensing
	Vibrations	Below 0.5G
	Other	The robot installation must be away from: flammable or corrosive liquids or gases, sources of electrical interference
IP level	Body IP54, wrist IP67	
Features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Welding, cutting, assembly, handling, marking, grinding	

CRP-RH14-10-W
INDUSTRIAL ROBOT
WELDING APPLICATION





The Recommendation of Fine Plasma Cutting Configuration

- ① Robot Body: CRP-RH14-10-W
- ② Industrial Robot Electrical Cabinet: CRP-E60-G4
- ③ LG-200HA PRO
- ④ HYC-300B1



Scope of application |

No more than 32mm low carbon steel, stainless steel and non-ferrous metal, Bevel cutting/3D cutting / Plane cutting ; Angle Maximum Mass Cutting Thickness: 32mm; Production Perforation Thickness: 25mm

System Configuration |

Name: Cutting Robot		Model:CRP-HQ-DLZ	
Included	Robot Body: CRP-RH14-10 (Harmonic)		Electrical Cabinet: G4Rh14 (standard welding cabinet)
Cutting Machine: LG-200HAPRO (Huayuan)		Cutting Torch: HYC-300B1, with the function of anti-collision	
It contains water tank, water pipe, water pipe coil wire, welding torch rack and other accessories			
Interconnecting Cable: 5 m		TCP verification and programming with the torch point	
Teach Pendant: 6 m		Remote operation box: 2 pcs (wire length: 5m)	

Features | High quality of Plasma Cutting Power Supply

- CRP cutting robot equips with air/nitrogen/oxygen as plasma. Air/Nitrogen as protection gas can achieve less hanging slag, fast speed, high verticality and better forming seam
- CRP has the technology of up slopeof current, which reduce accessories consumption
- With the technology of high frequency arc , CRP robot has high arc rate
- With water tank, with cutting torch cooling system, it can reduce the consumption of accessories

Features | Plasma cutting robot

- When the bevel is programmed, the Angle of the bevel can be directly viewed
- Specially designed cutting instructions can be used to reduce programming time
- Equipped with TCP calibration and programming device, so it can realize visual TCP calibration and programming
- The arc will automatically raise the distance perforation, which can reduce the loss of consumables
- CRP cutting robot can realize offline programming with offline software
- Optimize the control parameters to reduce the bad effects of jitter



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical Indicators of Electric Cabinet	
Input Power Supply	Three-phraise 380V,±10%,50-60HZ,Power,5KVA
Control System and Servo System	Integration of Drive and Control Movement
Controlled Sxis	6+4(standard configuration is 6 axis, external axis is optional)
Interface	Digital I/O interface,22 input/output(expandable COM)
	4-way 0-10V analog output, 12-bit accuracy(expandable COM)
	Double encoder signal interface,RS485,RS232
	Ethernet
	2 USB interface
Robot Safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved Dedicated Interface	Specific arc welding interface, station interface, remote upper interface
Reserved Software Package	Arc welding software package
Others	Built-in PLC, regenerative braking, encoder interface (supportting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The Cable Between Electric Cabinet and Robot Body	Standard cable:X1,X2,5m
Operation Box	Standard installation of two operation box,wire length 5m
Environment	Temperature0-45°(Humanity),20%-80%(No condensation), Vibratio: under 0.5G
Dimension	550×785×410
Weight	65KG
IP level	Ip51

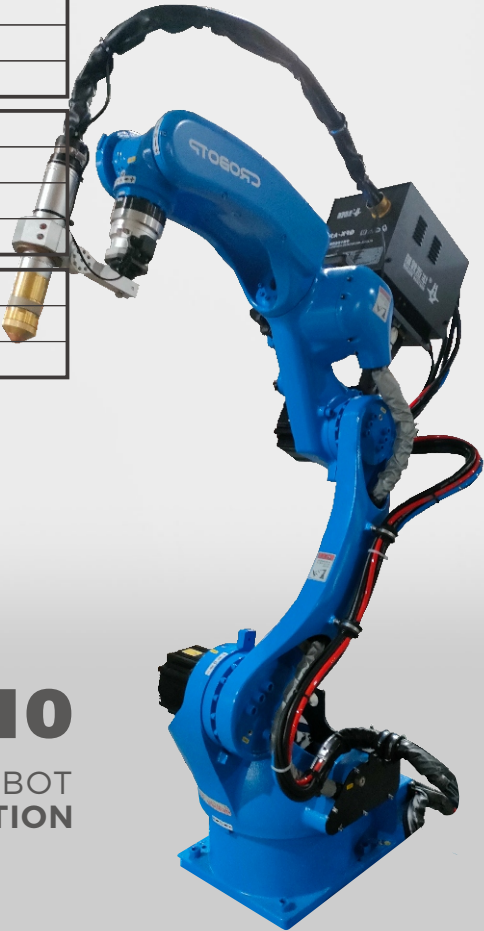


LG-200HA PRO
等离子切割机

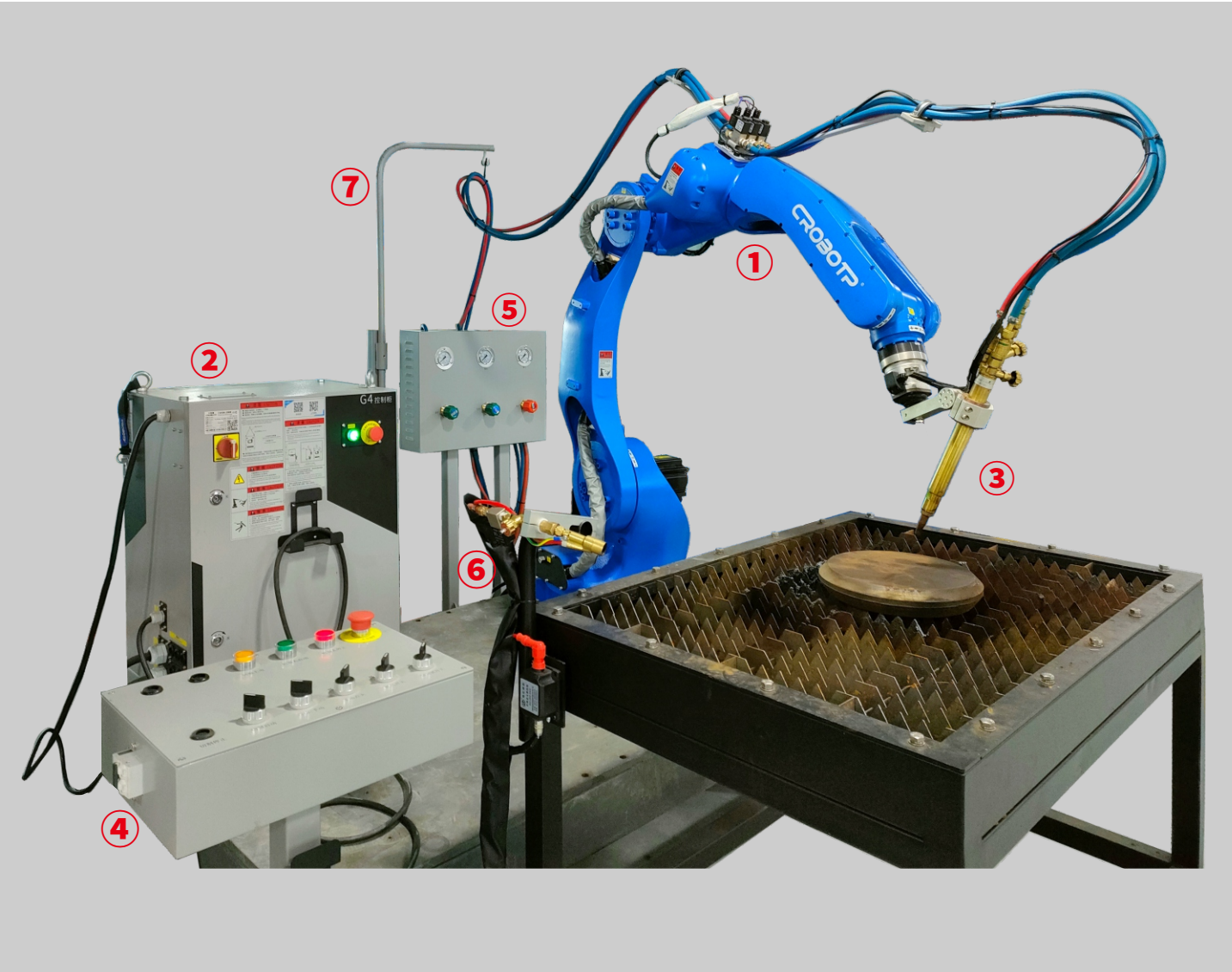
Welding Technical Index	
Model	LG-200HA PRO
Input Power Supply	3~380V±15%,50/60HZ
Rated Input Current	78A
Input Power/ Capacity	43.4KW/52.3KVA
No Load Voltage	360V
The Power Factor	0.83/92%
Rated load duration	100%
Rated Cutting Current and Voltage	200A/200V
Current Regulating Range	40~200A
Striking the Arc	Non-contact arc onset
Plasma Gas	Air/nitrogen/oxygen
Shielding Gas	Air/nitrogen
Gas Pressure	0.4~0.6MPA
Cutting Thickness (low steel carbon)	32mm (Cutting speed: 500mm/m)
Production Perforation Thickness	25mm
Insulation Level Protection Level	F/IP21S
Environment	Temperature:-10°~+40° Humanity:20°<=90% 40°<=50%
Dimension	850*410*880mm
Weight	106KG
Water tank	Water tank with cutting machine
Length of Negative Welded Cable	3m(50mm²)
Relay Pipeline Packet Length	8m

The Parameters of Accessories	
Teach Pendant parameters	
Teach Pendant	8-inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button
Remote Operation Box	Remote operation box includes the functions of emergency stop, start, pause, enable, line length of 5 meters, standard with 2
Interconnecting Cable	5m
Others	Robot isolation installation kit
Cutting gun parameters	
Cutting torch	200A water cooling torch, 100% temporary load rate
The length of Cutting torch	Straight handle, OD 50
collision	Recovery accuracy ±0.1mm The angle of bracket is adjustable

The Recommendation of Fine Plasma Cutting Configuration		
Technical indicators of robot body		
Mode	CRP-RH14-10	
Arm type	vertically articulated	
Degree of freedom	6 axis	
Maximum payload	10KG	
Maximum travel	1 axis	Ground/Upside down mounting -167°-167° walling type -30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum speed	1 axis	169°/S
	2 axis	169°/S
	3 axis	169°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable torque	4 axis	10N.m
	5 axis	10N.m
	6 axis	3N.m
Allowable moment of inertia	4 axis	0.25kg.m²
	5 axis	0.25kg.m²
	6 axis	0.05kg.m²
Position Repeatability	±0.08mm	
Maximum reach	1440mm	
Robot body mass	170KG	
Installation mode	Ground, upside down mounting, wall mounting	
Installation environment	Environment temperature	0~45℃
	Relative humidity	20~80%(No condensation)
IP level	Body IP54,wrist IP67	

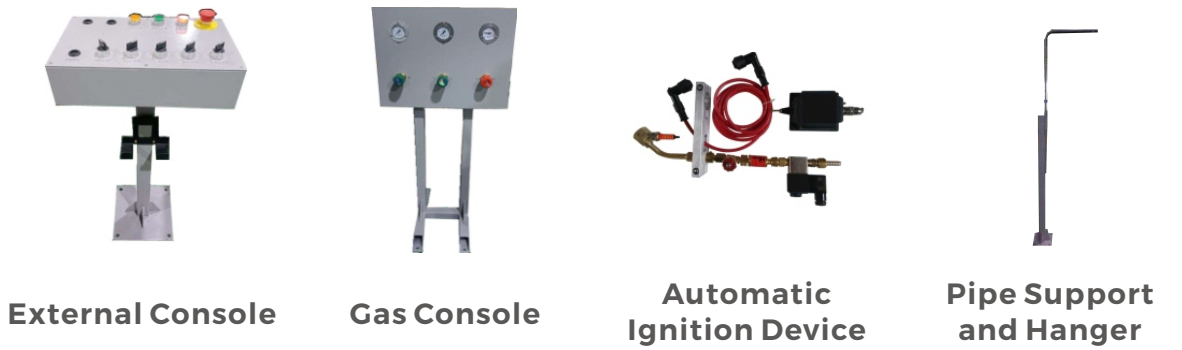


CRP-RH14-10
INDUSTRIAL ROBOT
WELDING APPLICATION



The Recommendation of Flame Cutting Configuration

- ① Robot Body: CRP-RH18-20
- ② Industrial Robot Electrical Cabinet: CRP-E60-G4
- ③ Flame Cutting Torch
- ④ External Console
- ⑤ Gas Console
- ⑥ Automatic Ignition Device
- ⑦ Pipe Support and Hanger



Scope of application

- Low carbon steel: below 300mm
- Bevel cutting/3D cutting / Plane cutting/Intersecting line cutting

System Configuration

Name: Flame Cutting Robot		Model:CRP-HQ-HY
Included	Robot Body:CRP-RH18-20 (Harmonic)	Electrical Cabinet: G4Rh14 (standard welding cabinet)
Flame Cutting Torch: MCT325 (GENTEC Isobaric Cutter Torch)		TCP verification and programming with the torch point
It contains external console, automatic ignition device, gas console, pipe support and hanger and other accessories		
Interconnecting Cable: 5 m		Remote operation box: 2 pcs (wire length: 5m) Teach Pendant: 6 m

Features

- CRP flame cutting robot is flexible to achieve thick-plate cutting with small production cost and long consumable life
- Equipped complete configuration, it can be used directly after installation
- Gas console: it can quickly adjust three kinds of gas
- External console: it can perform manual cutting and automatic cutting
- Monomeric automatic ignition device: with monomeric automatic ignition device, it can effectively extend the service life. Besides, it has the feature of quickly installation at any position to improve the reachability of welding torch
- Cutting Torch anti-collision: it can protect the cutting torch from damage when there has a collision
- TCP verification and programming with the torch point: it is convenient to program and verify TCP
- When the bevel is programmed, the Angle of the bevel can be directly viewed
- CRP flame cutting robot can realize offline programming with offline software
- Optimize the control parameters to reduce the bad effects of jitter
- It can greatly reduce programming time with dedicated flame cutting software
- CRP flame cutting robot can automatically lift the torch when the hole is pierced to effectively reduce consumables consumption



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Technical Indicators of Electric Cabinet	
Input Power Supply	Three-phase 380V, ±10%, 50-60HZ, Power, 5KVA
Control System and Servo System	Integration of Drive and Control Movement
Controlled Sxis	6+4(standard configuration is 6 axis, external axis is optional)
Interface	Digital I/O interface, 22 input/output (expandable COM)
	4-way 0-10V analog output, 12-bit accuracy (expandable COM)
	Double encoder signal interface, RS485, RS232
	Ethernet
	2 USB interface
Robot Safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved Dedicated Interface	Specific arc welding interface, station interface, remote upper interface
Reserved Software Package	Arc welding software package
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
The Cable Between Electric Cabinet and Robot Body	Standard cable: X1, X2, 5m
Operation Box	Standard installation of two operation box, wire length 5m
Environment	Temperature 0-45° (Humanity), 20%-80% (No condensation), Vibration: under 0.5G
Dimension	550 × 785 × 410
Weight	65KG
IP level	Ip51



The Parameters of Accessories	
Teach Pendant parameters	
Teach Pendant	8-inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button
Remote Operation Box	Remote operation box includes the functions of emergency stop, start, pause, enable. Wire length: 5m. Remote operation box: 2 pcs (standard)
Interconnecting Cable	5m
Others	Robot isolation installation kit
Cutting Torch Parameters	
Cutting torch	JLR MCT325, balanced pressure torch
The length of Cutting torch	250mm, outer diameter 32mm
Anti-collision	Recovery accuracy ±0.1mm The angle of bracket is adjustable

The Recommendation of Laser Welding Configuration		
Technical indicators of robot body		
Model	CRP-RH18-20	
Degree of Freedom	6 Axis	
Maximum Payload	20KG	
Maximum Reaching Distance	1720mm	
Maximum Travel	1 axis	Ground/Upside down mounting-167°-167° wall mounting-30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°
Maximum Speed	1 axis	159°/S
	2 axis	159°/S
	3 axis	159°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S
Allowable Torque	4 axis	48N.m
	5 axis	48N.m
	6 axis	28N.m
Allowable Moment of Inertia	4 axis	1.8kg.m²
	5 axis	1.8kg.m²
	6 axis	0.8kg.m²
Repeated Positioning Accuracy	±0.08mm	
Robot Body Weight	285KG	
Installation Mode	Ground/upside down mounting/wall mounting	
Installation Environment	Environment Temperature	0-45°C
	Relative Humidity	20-80% (No condensation)
IP Level	Wrist IP67, Body Ip54	

CRP-RH18-20
INDUSTRIAL ROBOT
WELDING APPLICATION





The Recommendation of Laser Cutting Configuration

- ① Robot Body: CRP-RH18-20 (Harmonic)
- ② Industrial Robot Electrical Cabinet: CRP-E60-G4(Harmonic)
- ③ Laser Welder

System Configuration

Name: Laser cutting robot Model:CRP-RH18-20-J		
Standard Configuration	Robot Body:CRP-RH18-20(Harmonic) Electrical Cabinet: G4Rh14 (standard welding cabinet) Laser: RFL-C1500 Teach Pendant: 6m Interconnecting Cable: 5m Remote operation box: 2pcs (wire length: 5m) Capacity Regulator: ETSC300 It contains chiller, water pipe, welding torch rack and other accessories	
Option 1	3D Cutting Set ECT 3D cutting head EC-112 adjustment controller Electromagnetic anti-collision Lifting module	
Option 2	BT210S cutting head ETSC300 Adjustment controller Lifting module	

Scope of application

■ Cutting Thickness:1-8mm It is used for 3D/ special-shaped/plane cutting, especially for carbon steel, stainless steel, aluminum alloy, copper and other metal materials

Features | The High Quality of Laser Cutting Power Source

- High electro-optic conversion efficiency
- CRP laser cutting robot has high cutting efficiency and the advantage of thin kerf and bright section
- Maintenance free

Features | Laser Cutting Robot

- Specially designed cutting instructions can be used to reduce programming time
- With automatic control system, CRP laser cutting robot can be applied to various control requirements
- CRP cutting robot can realize offline programming with offline software
- Optimize the control parameters to reduce the bad effects of jitter

Features | The Device of Capacitance Regulation

- It has the function of EtherCAT
- Automatic Drift Correction
- The performance level can be adjusted manually to make the best performance
- When the nozzle and the workpiece contact, it will adopt the corresponding safety mechanism to alarm
- It can achieve real-time detection of the actual height and target height in the working process. When the difference exceeds the set value, it will adopt the corresponding safety mechanism to alarm
- The firmware can be upgraded by USB flash drive

激光切割推荐配置 |

The Recommendation of Laser Cutting Configuration

Model	CRP-RH18-20	
Degree of Freedom	6 Axis	
Maximum Payload	20KG	
Maximum Reaching Distance	1720mm	

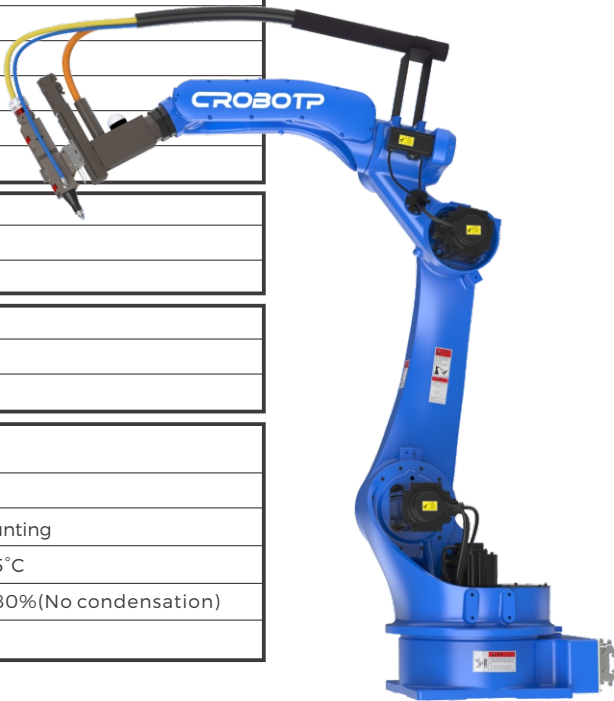
Maximum Travel	1 axis	Ground/Upside down mounting-167°-167° wall mounting-30°-30°
	2 axis	0°-175°
	3 axis	-80°-150°
	4 axis	-190°-190°
	5 axis	-105°-130°
	6 axis	-210°-210°

Maximum Speed	1 axis	159°/S
	2 axis	159°/S
	3 axis	159°/S
	4 axis	280°/S
	5 axis	240°/S
	6 axis	520°/S

Allowable Torque	4 axis	48N.m
	5 axis	48N.m
	6 axis	28N.m

Allowable Moment of Inertia	4 axis	1.8kg.m²
	5 axis	1.8kg.m²
	6 axis	0.8kg.m²

Repeated Positioning Accuracy	±0.08mm	
Robot Body Weight	285KG	
Installation Mode	Ground/upside down mounting/wall mounting	
Installation Environment	Environment Temperature	0-45°C
	Relative Humidity	20-80%(No condensation)
IPLevel	Wrist IP67, Body Ip54	



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET

Laser Parameters |

Mode	RFL-C1500
Input Power Supply	220±10% V AC 50/60Hz
Input Powe	5.5KW
Control Mode	RS-232/AD/Ethernet
Rated Output(W)	1500W
Working Mode	Continuous/Modulated
Polarization Direction	Random
Center Wavelength(nm)	1080±5
The Instability of Output Power	±1.5(%)
Modulation Frequency(Hz)	1-20,000
Red light indicates output power	0.1-1(mW)
Beam Quality(M²)	5-6
Product of Beam Parameters	/
Divergence Half-angle(rad)	/
Optical Fiber Core Diameter(μm)	50(14,20,100,200 optional)
Output Optical Fiber Length(m)	10
Temperature Range of Working Environment	10-40(°C)
Humidity Range of Working Environment	<70(%)
Cooling Mode	Water Cooling

Technical Indicators of Electric Cabinet |

Input Power Supply	Three-phrase 380V, ±10%.50-60HZ,Power,5KVA
Control System and Servo System	Integration of Drive and Control Movement
Controlled Sxis	6+4(standard configuration is 6 axis, external axis is optional)

Interface	Digital I/O interface.22 input/output(expandable COM)
	4-way 0-10V analog output, 12-bit accuracy(expandable COM)
	Double encoder signal interface,RS485,RS232
	Ethernet
	2 USB interface

Robot Safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved Dedicated Interface	Specific arc welding interface, station interface, remote upper interface
Reserved Software Package	Arc welding software package
Others	Built-in PLC, regenerative braking, encoder interface (supportting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.

The Cable Between Electric Cabinet and Robot Body	Standard cable:X1, X2,5m
Operation Box	Standard installation of two operation box,wire length 5m
Environment	Temperature0-45°(Humanity),20%-80%(No condensation), Vibratio: under 0.5G
Dimension	550 X 785 X 410
Weight	65KG
IP level	Ip5l

Option 1 | ECT 3D Cutting Head

Cutting Torch	3D special air circuit +Unique cooling system
The Angle of Cutting Torch	Straight Shank
Power Level	1500W
Focal Length of the Collimating Mirror	75mm
Focal Length of the Focusing Mirror	150mm
Optical Fiber Interface	QBH
Nozzle Aperture	1.2-3.0mm
Clear Aperture	25mm
Gas Pressure	≤20bar
Cold Pressing	3-5bar
Weight	~1.45kg

Option 1 | EC-112 Adjustment Parameters

Rated Voltage	24VDC±10%
Sampling Rate	1000 per second
Dynamic Response Accuracy	0.05mm
The Maximum Acceleration of Capacitance Regulation	20000mm/s2(2G)

Option 1 | Lifting Module and Electromagnetic Anti-collision Parameters

Effective Stroke	60mm
Acceleration	0.8G
Upper and Lower Precision	0.02mm
Anti-collision Precision	Offset 1mm alarm

Option 2 | BT210S Cutting Head

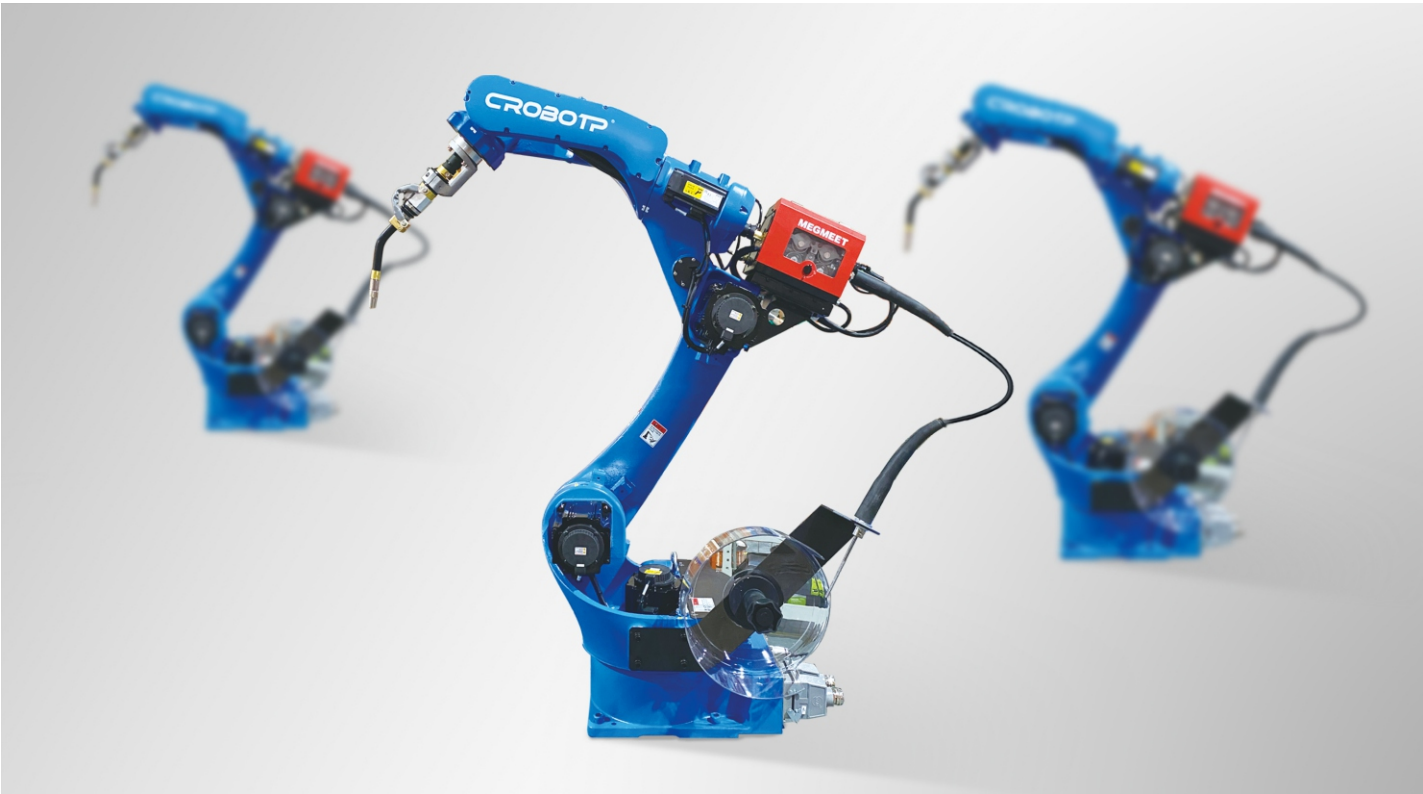
Cutting Torch	Switzerland RAYTOOLSAG Suitable for medium and small power
The Angle of Cutting Torch	Straight Shank
Power Level	1500W
Focal Length of the Collimating Mirror	100mm
Focal Length of the Focusing Mirror	150mm
Optical Fiber Interface	QBH,QCS
Nozzle Aperture	0.8mm,1.0mm,1.2mm 1.5mm,2.0mm,2.5mm
Clear Aperture	21mm
The Specification of Focusing protective lens	D27.9x4.1mm
Auxiliary Gas Pressure	≤20bar
Weight	~2.5kg

Option 2 | Adjust the ETSC300 parameters

Rated Voltage	24VDC±10%
Rated Current	200mA
DA resolution ratio	16 bit
High precision of capacitance adjustment	0.01mm
Increase the maximum acceleration by capacitance	20000mm/s2(2G)

Option 2 | Lift Module Parameters

Rated Torque	0.32N·M
Repeated Positioning Accuracy	0.02mm
Max Speed	120mm/s
Acceleration	0.4G
Effective Stroke	35mm



FEATURES OF ARC WELDING ROBOT BODY

● 4/6 axis hollow structure, aperture 45mm

- It can install all common hollow air-cooled/water-cooled welding guns in the market.
- Round welding, narrow space, large rotation angle welding equipped with an external welding torch can not achieve the effect .
- Small interference, good accessibility, and beautiful appearance

● Built-in dual trachea

- Be used as shielding gas and gas circuit for wire welding torch during welding.
- Be used as an air path for air intake and exhaust during transportation

● Built-in multiple user cables

- The user line of the welding version adopts a 14-core twisted-pair cable, and the power cord of the wirefeeder is thick, which meets the built-in requirements of the wire feeder cable, which is beautiful and reliable.
- The user line of the transport version uses a 10-core cable, and two power cords are thick, which meets most of the transport connection requirements

● Reliable connection

- The robot's motor outlet will no longer have a plug, and the motor will directly outlet cables.
- The connector adopts imported JST plug-in, which is more reliable.
- All cables use customized Japanese Dyden special robot cables, which will not be damaged after long-term use.
- There are more separate PE wires inside for grounding protection.

● Servo softening of J4/J5/J6 axis

- After the anti-collision function is triggered, the automatic servo of the J4/J5/J6 axis is softened to protect the forearm and avoid damage.
- The forearm can be moved with very little force, and it can be easily pulled out of the impact area.
- There is a special switch on the interface to soften it, and the handling robot can pull out the forearm in the event of an alarm after impact.

● Structural advantage

- The little arm has a compact structure, which is more advantageous in a small space.
- The curved structure of the big arm is not only beautiful, but also has less space interference when tilting forward.
- The structure of the base and J1 axis allows the robot to be flexibly flipped/wall mounted.
- The whole machine has good rigidity, small stress release, and no deformation after long-term use.
- Reasonable oil filling/draining methods and components make later maintenance more applicable and quicker
- Small interference, good accessibility and beautiful appearance

Technical indicators of robot body					
Mode	CRP-RH14-10-W		CRP-R118-20	CRP-RH20-20	
Arm type	vertically articulated		vertically articulated	vertically articulated	
Degree of freedom	6 axis		6 axis	6 axis	
Maximum payload	10KG		20KG	10KG	
Maximum travel	1 axis	Floor type/ceiling type -167°	167°	walling type -30°	30°
	2 axis	0°-175°	0°-175°	0°-175°	
	3 axis	-80°-150°	-80°-150°	-80°-150°	
	4 axis	-190°-190°	-190°-190°	-190°-190°	
	5 axis	-105°-130°	-105°-130°	-105°-130°	
	6 axis	-210°-210°	-210°-210°	-210°-210°	
Maximum speed	1 axis	169°/S	159°/S	159°/S	
	2 axis	169°/S	159°/S	159°/S	
	3 axis	169°/S	169°/S	169°/S	
	4 axis	280°/S	280°/S	280°/S	
	5 axis	240°/S	240°/S	240°/S	
	6 axis	520°/S	483°/S	483°/S	
Allowable torque	4 axis	10N.m	48N.m	24N.m	
	5 axis	10N.m	48N.m	24N.m	
	6 axis	3N.m	28N.m	14N.m	
Allowable moment of inertia	4 axis	0.25kg.m²	1.8kg.m²	1.4kg.m²	
	5 axis	0.25kg.m²	1.8kg.m²	1.4kg.m²	
	6 axis	0.05kg.m²	0.8kg.m²	0.5kg.m²	
Position Repeatability	±0.08mm		±0.08mm	±0.08mm	
Maximum reach	1440mm		1720mm	1920mm	
Robot body mass	170KG		285KG	288KG	
Installation mode	Ground, upside down mounting				
Installation environment	Ambient temperature	0~45℃			
	Humidity	20~80%RH, no condensing			
	Vibrations	Below 0.5G			
	Other	The robot installation must be away from:flammable or corrosive liquids or gases, sources of electrical interference			
IP level	Body IP54,wrist IP67				
Features	Compact structure, high speed, high precision, high expansibility and easy operation				
Application	Welding, cutting, assembly, handling, marking, grinding				

FEATURES OF ARC WELDING ROBOT ELECTRIC CABINET

● Built-in stable and complete arc welding software package

- Complete arc welding process control;
- Swing welding,spot-finding, arc tracking, multi-layer and multi-pass welding function of medium thickness plate;
- Thin plate technology such as fish scale welding and flying arc starting;
- Optional digital or analog communication with welding power source;
- Professional TCP correction method;
- Tens of thousands of robots equipped with the control system of the CRP arc welding software package are running in the market, which is a guarantee of stability and quality.

● High security

- Adopt a safety hardware unit independent of the system, consisting of a separate safety emergency stop board and hardware unit;
- Compliance with national standards: Industrial Robot Safety Code of Practice GB/T 20867-2007;
- In the event of an unexpected stop, it can ensure the stable and rapid emergency stop of the robot;
- Reserve multiple dual-circuit emergency stop access points for external emergency stop. Wrong connection, short circuit, open circuit, cross, and ground short circuit can not restore the emergency stop, and can judge the fault point.

● Special optimization for robot body control

- After optimization, the impact force on the main body is reduced during emergency stop or power failure, which protects the deceleration unit and structural unit, and makes the service life of the robot longer;
- Realize the servo software control;
- Reasonable motion control makes the robot move faster;

● Built-in power supply unit

- The access power is 380V, without additional transformer;
- Built-in three-phase transformer, three-phase circuit breaker, three-phase filter, contactor, double switching power supply;
- The main power supply of the servo can be effectively cut off after a fault, which is more secure;
- The transformer can be pre-installed up to 8KVA.

● Integrated drive control movement

- Adopt the latest developed cutting-edge technology and products
- The wiring inside the cabinet is more concise;
- Stability has increased significantly;
- The anti-interference becomes stronger, the response is fast, and the failure rate is low

● Separate cold and hot, dustproof design

- The front half of the electric cabinet adopts a sealed internal circulation to effectively prevent dust and ensure the stability and life of the components;
- The second half of the electric cabinet is made of heat-generating and dust-resistant components, with strong heat dissipation, and the reasonable design of the air duct allows the heat of the electric cabinet to be controlled;
- The IP rating is IP54, which can accept diagonal spraying.

● User installation area

- Reserve the position for adding a single-axis or dual-axis external axis movement;
- Reserve two user component installation areas, and reserve wiring harness fixing seats;
- Reserve a 9-hole lead-out area to facilitate the lead-out of user control lines.

● Energy saving mode

- If the robot does not move for over time, the servo drive will automatically enter the standby state, which improves safety and saves energy consumption.

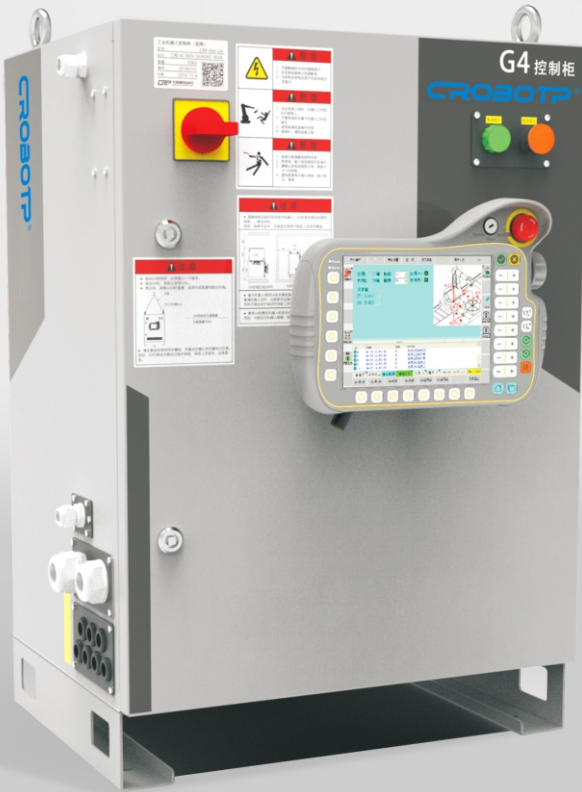
Technical indicators of electric cabinet

Teach pendant	8 inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button, 6M cable
User storage	200m
Controlled axis	6+2 axis (standard configuration is 6 axis, external 2 axis is optional)

Interface	Digital I/O interface, 22 input/22 output, expandable COM
	4-way 0-10V analog output, 12-bit precision, expandable COM
	Dual encoder signal interface (for position tracking)
	Ethernet interface
	Dual USB interface

Operation mode	Teach, replay, remote
Motion function	Point to point, straight line, circle
Command system	Motion, logic, process, calculation
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Abnormal emergency stop, abnormal servo, abnormal user coordinate, abnormal tool coordinate, safety maintenance, abnormal arc starting, etc.
Robot safety	External emergency stop, anti-collision and safety bolt interfaces; MC safety circuit, servo soften, etc.
Reserved dedicated interface	Specific arc welding interface, station interface, remote upper interface
Software package	Optional welding, handling, palletizing, spraying etc.
Others	Built-in PLC, regenerative braking, encoder interface (supporting synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.

The cable between electric cabinet and robot body	5m
Power supply	Three-phase 380V AC 50-60Hz
Dimension	550X785X410mm
Weight	65KG



CRP-E60-G4
INDUSTRIAL ROBOT
ELECTRICAL CABINET