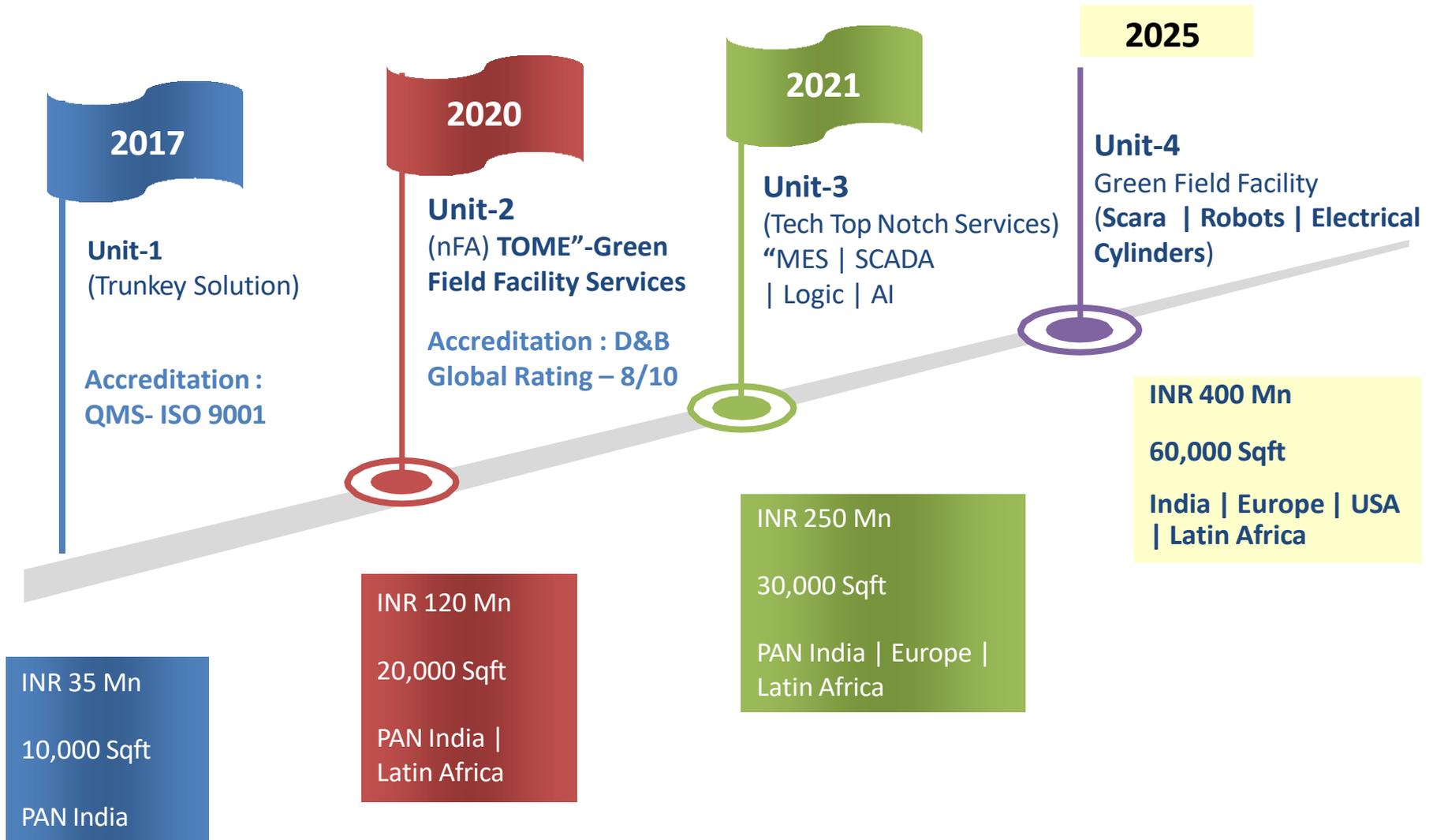




Transformation of Industry with Sustainable Automation

(www.njitsufactory.in)

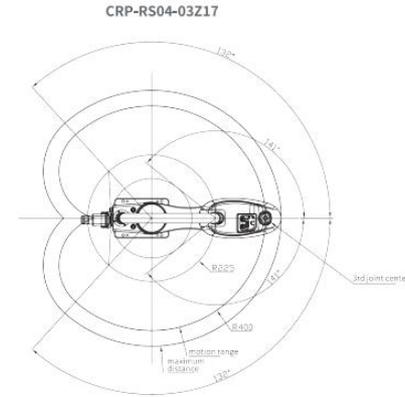




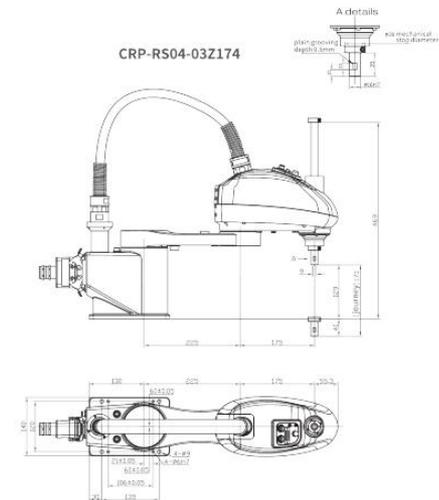
nFA-RA04-03Z17



MOTION RANGE DIAGRAM



INSTALLATION INTERFACE DIAGRAM

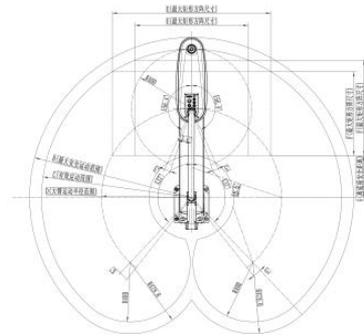


FUNCTIONAL FEATURES

- Compact and flexible structure, fast running speed, high transmission accuracy and low noise^①
- Highly rigid arm design realizes high load and high speed in one package^②
- Available in 600 and 400 mm arm span; 3kg or 6kg payload^③
- Suitable for handling, palletizing, assembly, 3C and other application fields.

Function		Material handling, 3C
Total axes		4
Maximum reach		400mm
Payload	Rated load	1kg
	Maximum load	3kg
Permissible inertial torque of rotating axis	Rated load	0.005kg.m ²
	Maximum load	0.05kg.m ²
Repeated positioning accuracy	1st axis + 2nd axis	±0.01mm
	3rd axis (elevating axis)	±0.01mm
	4th axis (rotation axis)	±0.01 °
Max speed	1st axis	7791mm/s
	2nd axis	7791mm/s
	3rd axis (elevating axis)	1000mm/s
	4th axis (rotation axis)	2500 °/s
Max operating area	1st axis	±132 °
	2nd axis	±141 °
	3rd axis (elevating axis)	170mm
	4th axis (rotation axis)	±360 °
Installation method		Floor mounted
Robot body weight		13Kg
Power consumption		0.7kw
Installation environment	Temperature	0-40 °C
	Humidity	20-80% RH(no condensation)
	Vibration	Under 4.9M/S ²
Electric Cabinet Configuration		G12B

MOTION RANGE DIAGRAM



nFA-RS08-20Z40 nFA-RS10-20Z40

NAME / Model	CRP-RS08-20Z40	CRP-RS10-20Z40
B Maximum safe range of motion	879mm	1080mm
C Effective range of motion	800mm	1000mm
D Radius of upper arm movement	400mm	600mm
E The maximum square matrix size	692~730mm	754~1058mm
F Large rectangular square size	548~557mm	643~565mm
G Base safety distance	164mm	285mm

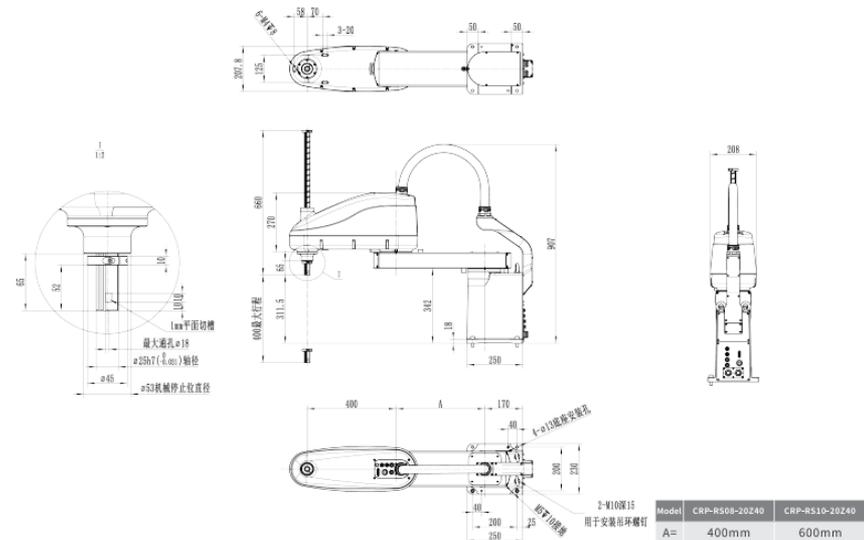
Arm form		Quadriaxial horizontal joint	
Installation mode		Countertop/side wall installation	
Robot body weight		53.5KG	56KG
Maximum reaching distance		800mm	1000mm
标准循环时间节拍		0.49s	0.49s
Payload	Rated load	10kg	10kg
	Maximum load	20kg	20kg
Repeated positioning accuracy	Axis 1~2	±0.02mm	±0.02mm
	Axis 3	±0.01mm	±0.01mm
	Axis 4	±0.01°	±0.01°
Maximum travel	Axis 1	±137°	±137°
	Axis 2	±156°	±156°
	Axis 3	400mm	400mm
	Axis 4	±360°	±360°
Maximum speed	Axis 1	9400mm/s	10700mm/s
	Axis 2	9400mm/s	10700mm/s
	Axis 3	1300mm/s	1300mm/s
	Axis 4	1400°/s	1400°/s
3rd axis downforce		200N	200N
4th axis allowable moment of inertia	Rated load	0.05kg·m ²	0.05kg·m ²
	Maximum load	1kg·m ²	1kg·m ²
Motor power	Axis 1	750W	750W
	Axis 2	500W	500W
	Axis 3	400W	400W
	Axis 4	200W	200W
User interface	circuitry	15Pin (DB interface) / kilomega Ethernet port	
	electricity	2-φ6mm、2-φ8withstand voltage: 0.59MPa	
Installation environment	ambient temperature	0~40°C	
	Others	Robot installation must be away from: flammable or corrosive liquids or gases, electrical sources of interference	
Home point resetting		No need home point resetting	
Electric Cabinet Configuration		G12B	
Advantage features		Compact structure, fast running speed, high repeated positioning accuracy, strong versatility and easy to operate	
Application		Handling, sorting, loading and unloading, palletizing, soldering, dispensing, pad printing and other application scenarios	

FUNCTIONAL FEATURES

- Unique high rigidity arm design, fast running speed, high transmission accuracy, low noise.
- Available in 800 and 1000 mm arm lengths with a maximum payload of 20kg and a rated payload of 10kg.
- A safety emergency stop board independent of the control system is configured, and a safety relay is used to provide double-circuit emergency stop to ensure the reliability of emergency stop.
- Equipped with G3 control cabinet, providing 23-way custom IO; Supports serial port, network port, USB and other interfaces.
- The body cable adopts the special cable for flexible robot. Built-in three-phase filter, effectively improve EMC and EMI performance, with gravity compensation, load adaptive, and S-T function, higher accuracy, less impact, typical working conditions faster beat.
- The body cable adopts the special cable for flexible robot. Built-in three-phase filter, effectively improve EMC and EMI performance, with gravity compensation, load adaptive, and S-T function, higher accuracy, less impact, typical working conditions faster beat.



EXTERNAL DIMENSION



nFA-RS12-60Z40C

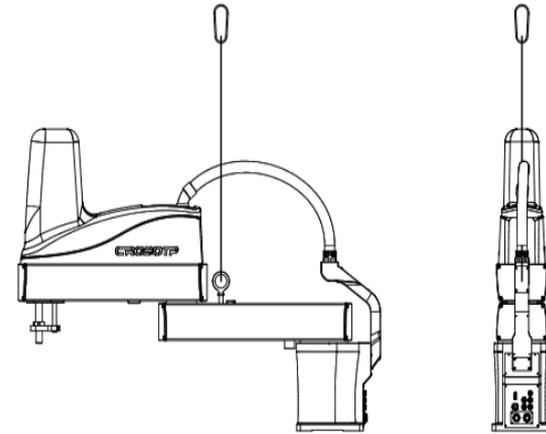


FUNCTIONAL FEATURES

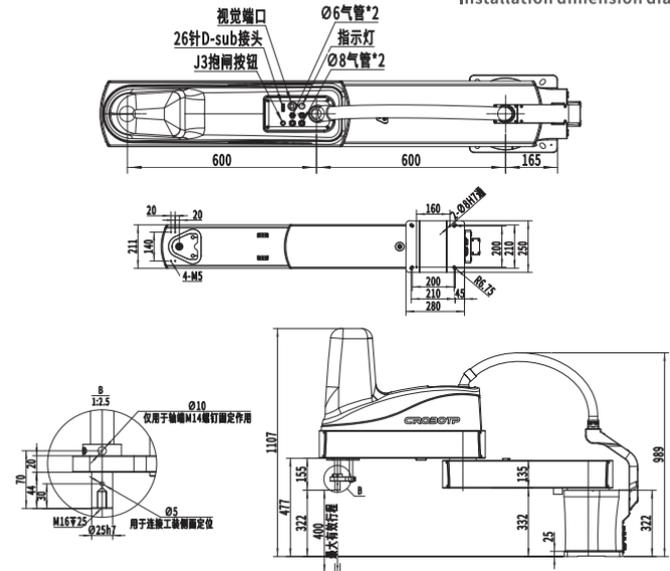
- The maximum load of the robot can reach 60kg, the arm span can reach 1200mm, and the effective travel of the Z-axis can meet 400mm;
- Standard door type beat up to 0.79s, faster speed, fast handling;
- Robot built-in 1 gigabit network cable, can meet the need for network cable communication, reduce cable interference;
- The product structure is compact, the weight is only 120kg, combined with software algorithm processing, to achieve stable and efficient operation of the robot in practical applications.

Installation method		Countertop installation
Robot body weight		120KG
Maximum reaching distance		1200mm
Standard cycle time beat		0.79S
Maximum load		60KG
Repeated positioning accuracy	J1~J2	±0.03mm
	J3	±0.02mm
	J4	±0.005°
Maximum travel	J1	±130°
	J2	±150°
	J3	400mm
	J4	±360°
Maximum speed	J1~J2	8062mm/S
	J3	760 mm/S
	J4	669°/S
J4allow ablement of inertia	Rated load	1 kg.m ²
	Maximum load	2.4 kg.m ²
User interface	26 Pin aviation plug / Gigabit Ethernet	
	electricity	φ6mm*2、/φ8mm*2 withstand voltage: 0.59MPa
Installation environment	Relative humidity	20%~80%
	Vibration	Under 0.5G
	Ambient temperature	0~40°C
Others		Robot installation must be away from: flammable or corrosive liquids or gases, electrical sources of interference
Application	Handling, sorting, loading and unloading, palletizing, soldering, dispensing, pad printing	

Hoisting diagram



Installation dimension diagram



nFA-RC09-05 nFA-RC13-10

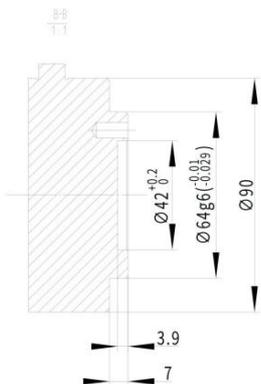
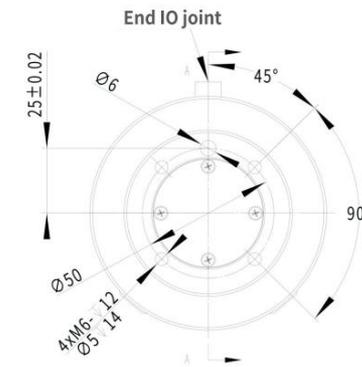
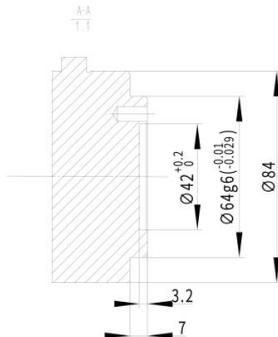
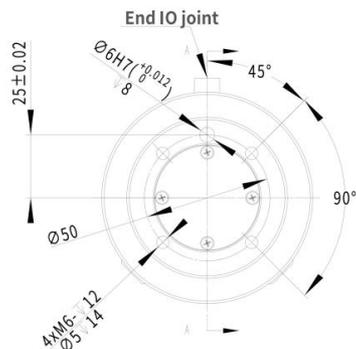


FUNCTIONAL FEATURES

1. tool type convenient operation:
 - Support drag, can quickly drag a large distance around the welding point;
 - Uniquely designed end manipulator for fast programming without instruction;
 - Welding gun can be quickly disassembled, only one screw can be quickly installed and disassembled, easy to move to a small space;
 - Optional magnetic base, can be installed on the workpiece;
2. complete welding functions:
 - Welding package
 - Swing function
 - Multi-layer and multi-channel functions*
 - Location finding function
 - Arc tracking function
3. Main functions of collaborative robots:
 - With UPS, support power failure regeneration;
 - Support gravity compensation, tool load identification;
 - Support collision detection, stop immediately when hit, man-machine collaboration;
 - Double encoder design, more secure;
 - Interactive information, man-machine collaborative work;

Number of axes	6	6	
Maximum load	5kg	10kg	
Maximum reaching distance	906mm	1320mm	
Repeated positioning accuracy	±0.02mm	±0.03mm	
Robot body weight	22.5kg	37.8kg	
Maximum travel	J1	±360°	±360°
	J2	±360°	±360°
	J3	-78°~256°	-75°~250°
	J4	±360°	±360°
	J5	±360°	±360°
	J6	±360°	±360°
Maximum speed	J1	225°/S	107°/S
	J2	225°/S	107°/S
	J3	225°/S	200°/S
	J4	250°/S	250°/S
	J5	250°/S	250°/S
	J6	250°/S	250°/S
IP level	IP 54	IP 54	

Installation interface diagram



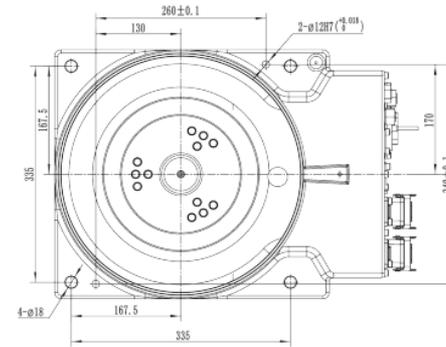
nFA-RH18-20-W

FUNCTIONAL FEATURES

- The arm span is nearly 1.8 meters. The design is highly compact and can be flexibly installed on the ground or upside down.
- With large working space, fast running speed and high repeated positioning accuracy, it is suitable for wide range of welding applications.
- The safety emergency stop board independent of the control system is equipped with, and the safety relay circuit is adopted to provide double-circuit emergency stop to ensure the reliability of emergency stop.
- The robot body adopts highly flexible special cable.
- Built-in three-phase transformer makes 380V and 220V isolated to help the power supply more stable. Built-in three-phase filter can effectively improve the performance of EMC and EMI.
- The robot body is with dual-circuit gas pipe to meet the welding demand.
- The inner diameter of 6-axis middle hole is 44mm, it can meet the installation requirements of water-cooling torch and bellows torch.
- Highly flexible welding cable is built-in.

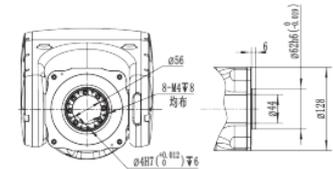


Arm form	Vertical multiple joints	
Degree of freedom	6 axis	
Maximum payload	20kg	
Repeated positioning accuracy	±0.08mm	
Maximum reaching distance	1730mm	
Robot body weight	285kg	
Installation mode	Ground, upside down mounting, wall mounting	
Maximum travel	axis 1	Ground/upside down mounting: 165°-165°, wall mounting: -30°-30°
	axis 2	-155°-105°
	axis 3	-170°-240°
	axis 4	-190°-190°
	axis 5	-90°-110°
	axis 6	-210°-210°
Maximum speed	axis 1	160°/S
	axis 2	160°/S
	axis 3	169°/S
	axis 4	301°/S
	axis 5	342°/S
	axis 6	708°/S
Allowable torque	axis 4	55N.m
	axis 5	55N.m
	axis 6	24N.m
Allowable moment of inertia	axis 4	2.1kg.m ²
	axis 5	2.1kg.m ²
	axis 6	0.9kg.m ²
Installation environment	ambient temperature	0-45°C
	relative humidity	20-80% (No condensation)
	vibration	Under 0.5 G
	Others	Robot installation must be away from: Flammable or corrosive liquids or gases, electrical sources of interference
IP level	Body IP54, wrist IP67	
Advantage features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Welding	
Electric Cabinet Configuration	C9	



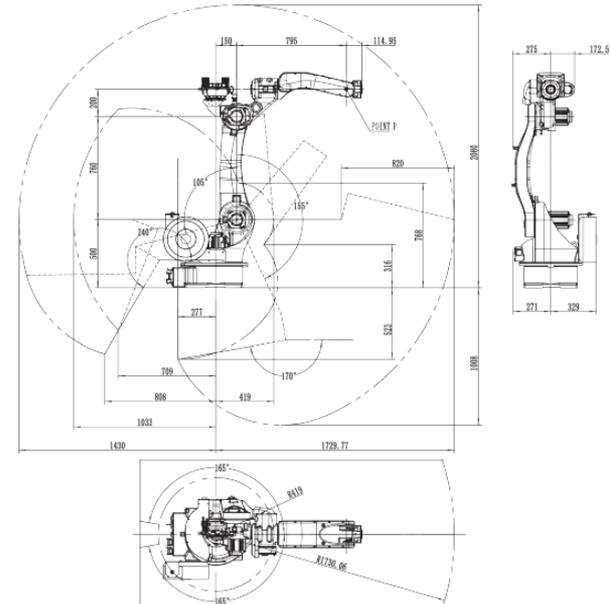
Installation Dimension of Base

INSTALLATION INTERFACE DIAGRAM



Flange Dimensions

MOTION RANGE DIAGRAM



nFA-G7-CDH80A



SYSTEM CONFIGURATION

Name: Arc welding robot

Model :CRP-RH14/18/21-06-W

Includes:

Body :CRP-RH14/18/21-06-W

Electrical cabinet :G9

Welding power supply :CRP-DS350-L

Welding torch: Fully enclosed 350A air cooled, with anti-collision

Teaching device :E type vertical teaching device, line length 6 meters

Operating box :2 (line length 5 meters)

Electrical cabinet and body interconnection line 5 meters

Wire tray and support, wire feeder and support, wire tube, etc

INDUSTRIAL ROBOT WELDING USE

- High speed, 20% faster than the previous generation;
- Lighter weight, better accessibility;
- High protection :1,2 axes are equipped with dustproof cover to fully surround the welding gun;

E TYPE VERTICAL DEMONSTRATOR

- Programming is fast, 30% faster than the previous generation;
- Lighter, 325g lighter than the previous generation;
- Independent system, cable up to 25 meters;



G9 INDUSTRIAL ROBOT CONTROL CABINET

- Smaller, 20% smaller than the previous generation;
- Standard UPS, support power failure regeneration;
- New system platform, support servo collision avoidance and gravity compensation;



DS350-L WELDING MACHINE

- Ultra-low splash, MAG/CO2 can be achieved, beyond the low splash range, the splash amount is lower than the previous year;
- Constant penetration function, more stable arc;
- The success rate of arc-starting is higher with pull-back type.
- Fish scale welding, welding thinner plates and appearance parts;
- Teaching device set all parameters, convenient and fast;



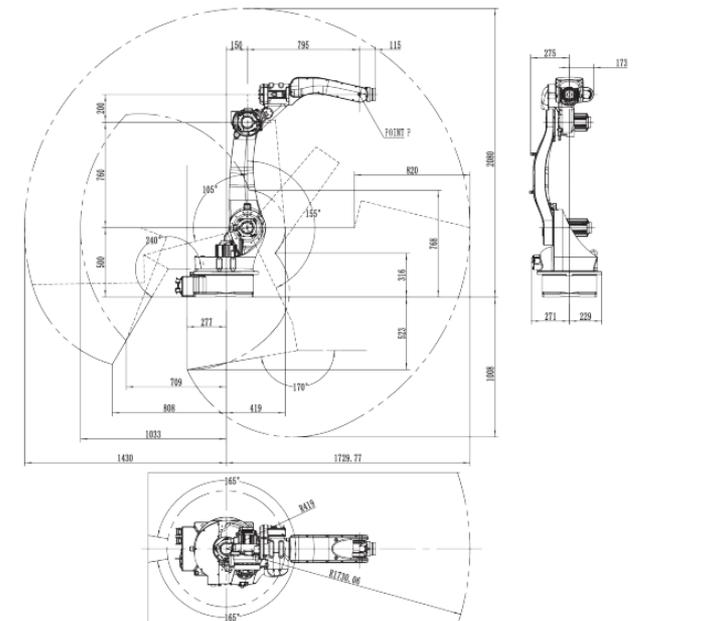
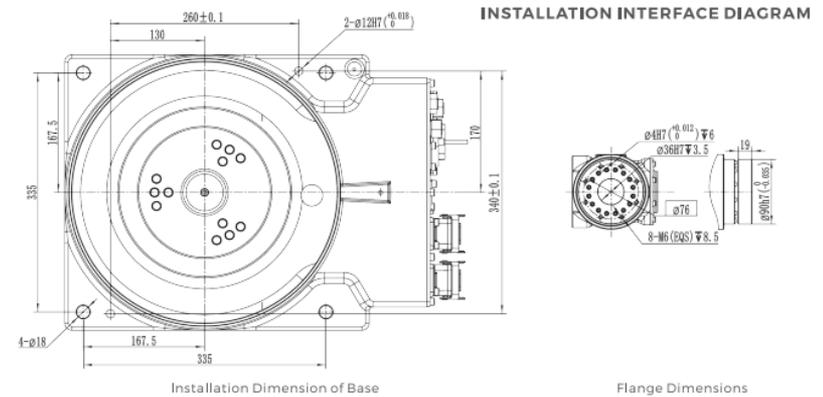
nFA-RH18-20

FUNCTIONAL FEATURES

- With compact design 20kg payload and about 1.8 meters arm span, it can be installed on the ground or upside down flexibly.
- With large working space and fast running speed, it is suitable for welding, spraying, loading and unloading, handling, sorting, assembling and other applications.
- The safety emergency stop board is independent of the controller, and the safety relay circuit is adopted to provide double circuit emergency stop to ensure the reliability of emergency stop.
- The robot body cables are made of special cables for highly flexible robots.
- Built-in three-phase transformer, 380V and 200V isolation, more stable power supply.
- Power supply requirements can be customized for different countries. Built-in three-phase filter can effectively improve the performance of EMC and EMI.
- The robot body is with dual-circuit gas pipe and meets welding and handling requirements.



Arm form		Vertical multiple joints
Degree of freedom		6 axis
Maximum payload		20kg
Repeated positioning accuracy		±0.08mm
Maximum reaching distance		1730mm
Robot body weight		285kg
Installation mode Ground, upside down mounting, wall mounting		
Maximum travel	axis 1	Ground/upside down mounting: -167°-167° wall mounting: -30°-30°
	axis 2	-45°-175°
	axis 3	-80°-155°
	axis 4	-190°-190°
	axis 5	-125°-125°
	axis 6	-360°-360°
Maximum speed	axis 1	160°/S
	axis 2	160°/S
	axis 3	169°/S
	axis 4	301°/S
	axis 5	342°/S
	axis 6	520°/S
Allowable torque	axis 4	55N.m
	axis 5	55N.m
	axis 6	30N.m
Allowable moment of inertia	axis 4	2.2kg.m ²
	axis 5	2.2kg.m ²
	axis 6	1.2kg.m ²
Installation environment	ambient temperature	0-45°C
	relative humidity	20-80% (No condensation)
	vibration	Under 0.5 G
	Others	Robot installation must be away from: Flammable or corrosive liquids or gases, electrical sources of interference
IP level		Body IP54, wrist IP67
Advantage features		Compact structure, high speed, high precision, high expansibility and easy operation
Application		cutting, assembly, handling, marking, grinding
Electric Cabinet Configuration		C9A



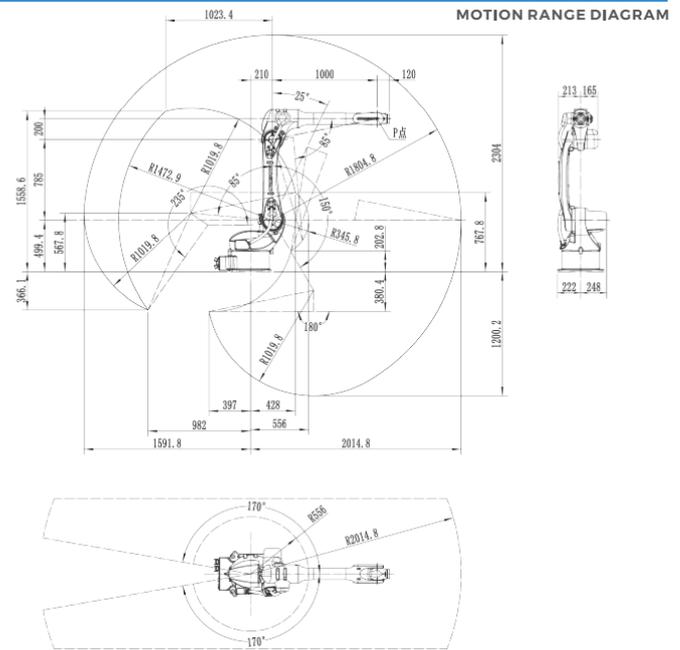
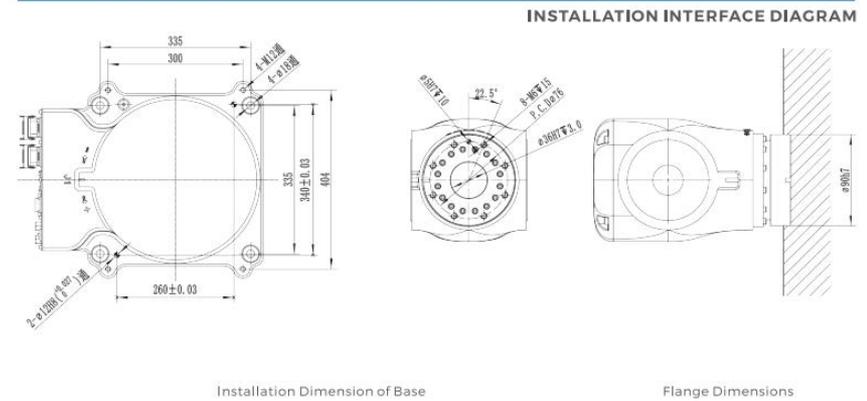
nFA-RH20-12

FUNCTIONAL FEATURES

- The design of the robot is highly compact, which is more lightweight, especially the wrist is slender, so it can be applied in more scenarios.
- Adopt high speed motor, the robot has high rigidity and faster beat.
- Adopt leak-proof structure, the protection class of robot is up to IP 67 to adapt harsher working environment.
- The robot in the axes of J2 J3 J4 is reserved installation holes to install fixed solenoid valve and other accessories. There are IO port and dual-circuit gas pipe at J3 axis to meet the handling application.
- Driving adopts new advanced PID control technology to achieve faster response. With the functions of observer dynamic compensation and weak magnetism, the electric machine can be better controllable and more stable with higher speed.
- The new control algorithm combines Kinematics with Dynamics. The new design integrates driven algorithm and control algorithm to realize automatic programming and guarantee the service life of mechanical under the maximum working capacity based on the characteristics of mechanical components load and condition of loading. Meanwhile, the robot can realize high speed response, faster running speed and work beats with longer life span.
- With collision detection function, it can better protect the robot body and peripheral equipment; With the function of gravity compensation, the robot has higher precision, so it can be applied in more scenarios.
- Equipped with safety emergency stop board which is independent of the control system, and the safety relay circuit is adopted to provide double-circuit emergency stop to ensure the reliability of emergency stop.
- Built-in three-phase transformer makes 380V and 220V isolated to help the power supply more stable.
- Built-in three-phase filter can effectively improve the performance of internal and external distractions.



Arm form		Vertical multiple joints
Degree of freedom	6 axis	
Maximum payload	12kg	
Repeated positioning accuracy	±0.08mm	
Maximum reaching distance	2015mm	
Robot body weight	262kg	
Installation mode	Ground, upside down mounting, wall mounting	
Maximum travel	axis 1	Ground/upside down mounting: -170°-170°, wall mounting: -30°-30°
	axis 2	-50°-170°
	axis 3	-80°-145°
	axis 4	-190°-190°
	axis 5	-135°-135°
	axis 6	-360°-360°
Maximum speed	axis 1	170°/S
	axis 2	170°/S
	axis 3	200°/S
	axis 4	350°/S
	axis 5	350°/S
	axis 6	540°/S
Allowable torque	axis 4	52N.m
	axis 5	52N.m
	axis 6	32N.m
Allowable moment of inertia	axis 4	2.3kg.m ²
	axis 5	2.3kg.m ²
	axis 6	1.2kg.m ²
Noise level	<70dB(A)*	
Installation environment	ambient temperature	0-45°C
	relative humidity	20-80%(No condensation)
	vibration	Under 0.5 G
	Others	Robot installation must be away from flammable or corrosive liquids or gases, electrical sources of interference
IP level	Wrist IP67, others IP54	
Advantage features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Cutting, assembly, handling, marking, polishing	
Electric Cabinet Configuration	C9A	



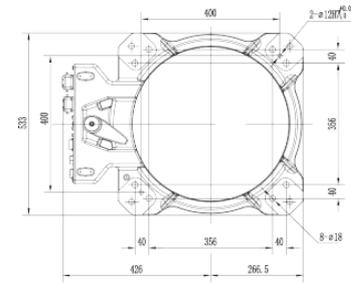
nFA-RA22-80

FUNCTIONAL FEATURES

- The arm span is 2.2 meters. It has strong payload capacity, large working space and high flexibility.
- With fast running speed and high repeated positioning accuracy, it has a wide range of applications, such as loading and unloading, handling, sorting, assembly, etc.
- Equipped with safety emergency stop board which is independent of the control system, and the safety relay circuit is adopted to provide double-circuit emergency stop to ensure the reliability of emergency stop.
- The robot body adopts highly flexible special cable.
- Built-in three-phase filter can effectively improve the performance of EMC and EMI.
- The robot body is with IDIO dual-circuit gas pipe to meet the handling demand.
- The single cantilever structure is adopted to reduce the terminal weight and improve its flexibility. The selectivity range of manipulators, tools and workpiece shapes is expanded.
- Built-in cables and gas pipe. The hollow part is set at the center of the forearm and wrist. The cables and gas pipe are built in from the base of the robot to the end of the wrist, which is more convenient for users and improves work efficiency.
- High expansibility, multiple user bracket installation platforms are set on the robot body, which is convenient for users to fix cables and related auxiliary tools.

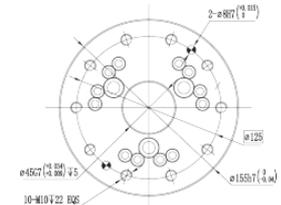


Arm form	Vertical multiple joints	
Degree of freedom	6 axis	
Maximum payload	80kg	
Repeated positioning accuracy	±0.08mm	
Maximum reaching distance	2200mm	
Robot body weight	713kg	
Installation mode	Ground	
Noise level	<80dB(A)*	
Maximum travel	axis 1	-180°~180°
	axis 2	-75°~160°
	axis 3	-80°~165°
	axis 4	-170°~170° (with mechanical limits) -360°~360° (without mechanical limits)
	axis 5	-125°~125°
	axis 6	-360°~360°
Maximum speed	axis 1	130°/S
	axis 2	125°/S
	axis 3	124°/S
	axis 4	224°/S
	axis 5	190°/S
	axis 6	285°/S
Allowable torque	axis 4	328N.m
	axis 5	328N.m
	axis 6	198N.m
Allowable moment of inertia	axis 4	35.06kg.m ²
	axis 5	35.06kg.m ²
	axis 6	15.38kg.m ²
Installation environment	ambient temperature	0~45°C
	relative humidity	20~85% (No condensation)
	vibration	Under 0.5 G
	Others	Robot installation must be away from: flammable or corrosive liquids or gases, electrical sources of interference
IP level	Body IP54, wrist IP67	
Advantage features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	Cutting, assembly, handling, marking, grinding	
Electric Cabinet Configuration	G15A	



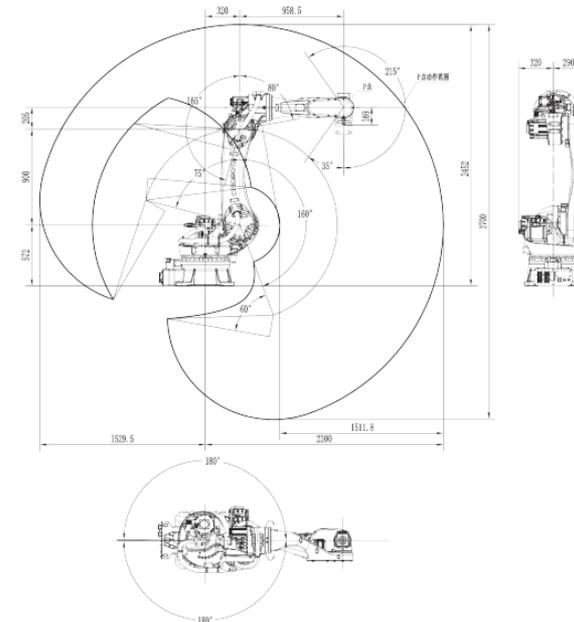
Installation Dimension of Base

INSTALLATION INTERFACE DIAGRAM



Flange Dimensions

MOTION RANGE DIAGRAM



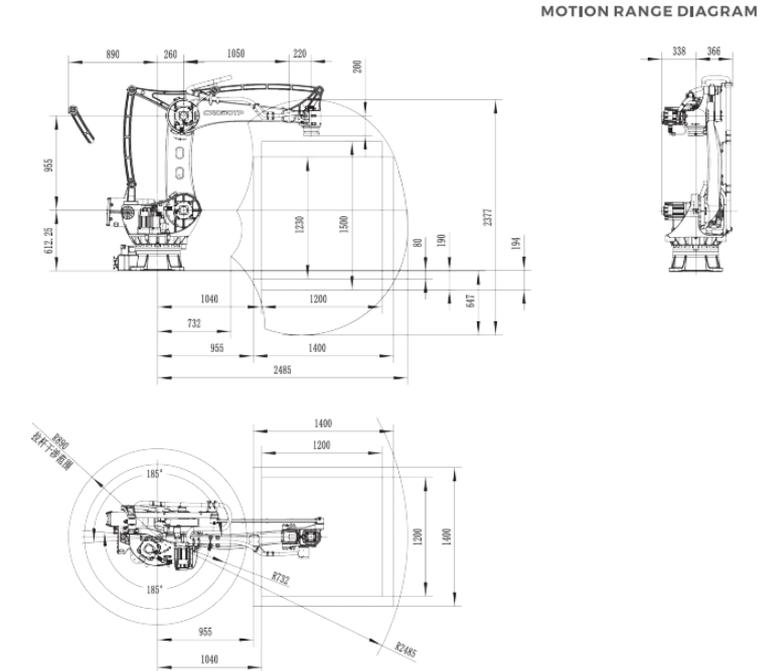
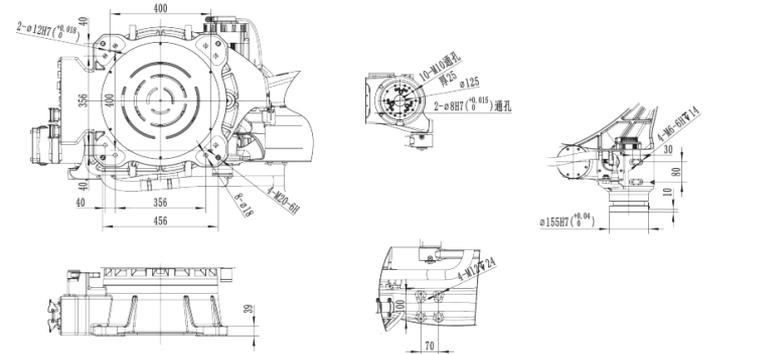
nFA-RP24-130

FUNCTIONAL FEATURES

- With gravity compensation, load adaptive, and S-T functions, the robot has higher precision, smaller impact, shorter cycle time under typical working condition ;
- With parallel spring cylinder, smaller floor area, lower power consumption, smoother control;
- Two-way large-aperture air pipe to meet the requirements of large-load vacuum suction cups.
- Armspan (Maximum reaching distance) :2400 mm
- Load:130 Kg



Arm form	Multi-joint + connecting rod	
Degree of freedom	4 axis	
Maximum payload	130kg	
Repeated positioning accuracy	±0.2mm	
Maximum reaching distance	2485mm	
Robot body weight	820kg	
Installation mode	Ground, bracket	
Maximum travel	axis 1	-175°~175°
	axis 2	3°~129°
	axis 3	85°~210°
	axis 4	-360°~360°
Maximum speed	axis 1	154°/S
	axis 2	166°/S
	axis 3	104°/S
	axis 4	271°/S
Allowable torque	axis 4	125N.m
Allowable moment of inertia	axis 4	13kg.m ²
Installation environment	ambient temperature	0~45°C
	relative humidity	20~80%(No condensation)
	vibration	Under 0.5 G
	Others	Robot installation must be away from: flammable or corrosive liquids or gases, electrical sources of interference
IP level	IP54	
Features	Compact structure and high joint speed	
Application	Handling, palletizing, depalletizing, cutting, grinding	
Electric Cabinet Configuration	G15A	



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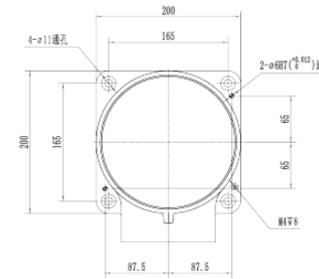
FUNCTIONAL FEATURES

- Adopt modular design to effectively reduce the failure rate of the whole machine.
- Well-knit design makes the robot more convenient in small space.
- The arm span is 712/916mm. It has strong payload capacity, and rated payload 7 Kg/6 kg. It is easily applied in multi application.
- Lighter structure design than other same level product, so it is easy to install inside a system or to mount upside - down
- High rigidity arm and top level servo control technology guarantee the smoothness and stability while the movement.
- Built-in cable and external cable fixing base to meet customization requirements.
- Adopt leak-proof structure
- High expansibility, multiple user bracket installation platforms are set on the robot body, which is convenient for users to fix cables and related auxiliary tools.

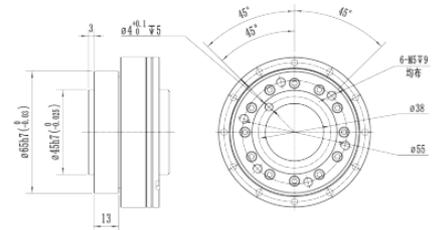


Arm form	Vertical multiple joints	
Degree of freedom	6 axis	
Maximum payload	8kg	7kg
Repeated positioning accuracy	±0.02mm	±0.03mm
Maximum reaching distance	712mm	916mm
Robot body weight	44KG	46KG
Installation mode	Ground, upside down mounting	
Maximum travel	axis 1	-170°~170°
	axis 2	-44°~188° -42°~120°
	axis 3	-62°~180°
	axis 4	-185°~185°
	axis 5	-120°~125°
	axis 6	-360°~360°
Maximum speed	axis 1	400°/S 255°/S
	axis 2	340°/S 290°/S
	axis 3	370°/S 330°/S
	axis 4	535°/S 490°/S
	axis 5	411°/S 410°/S
	axis 6	698°/S 680°/S
Allowable torque	axis 4	16.2N.m
	axis 5	16.2N.m
	axis 6	9.5N.m
Allowable moment of inertia	axis 4	0.38kg.m ²
	axis 5	0.38kg.m ²
	axis 6	0.16kg.m ²
Noise level	ambient temperature	<75dB(A)*
	relative humidity	0~45°C
	vibration	20~85%(No condensation)
	Others	Under 0.5 G
Installation environment	Robot installation must be away from: Flammable or corrosive liquids or gases, electrical sources of interference	
IP level	Body IP54 ,wrist IP65	
Advantage features	Compact structure, high speed, high precision, high expansibility and easy operation	
Application	welding cutting, assembly, handling, marking, grinding	
Electric Cabinet Configuration	G11B	

INSTALLATION INTERFACE DIAGRAM

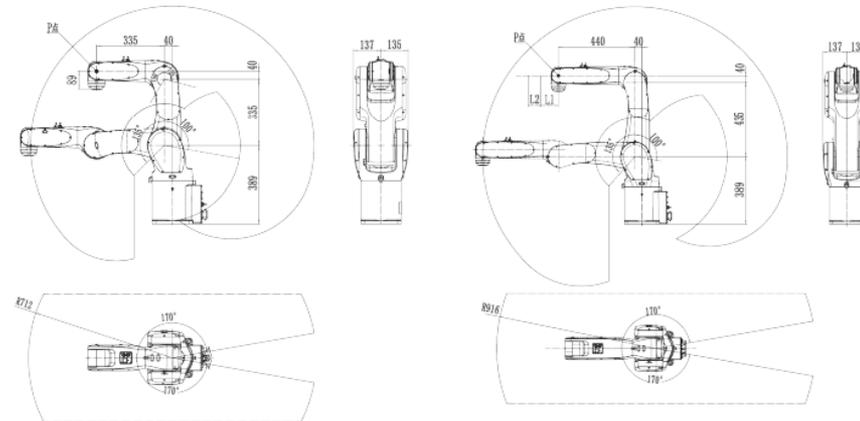


Installation Dimension of Base



Flange Dimensions

MOTION RANGE DIAGRAM



CRP-RA07A-08

CRP-RA09A-07

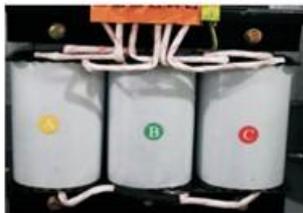
nFA-G4-E60



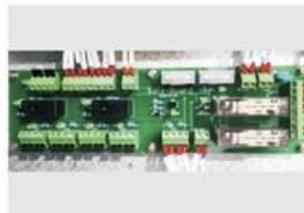
Three-phase three-wire power filter



Double switching power supply



Three-phase dry-type servo isolation transformer

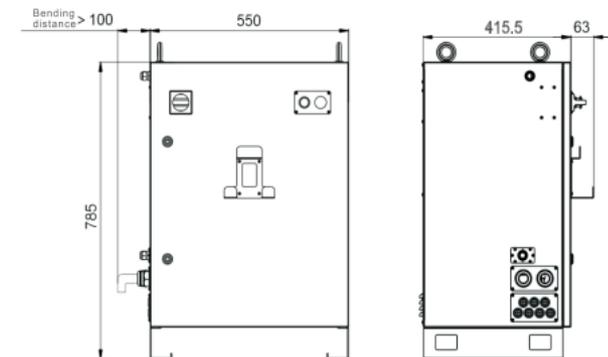


Built-in safety circuit

CABINET TECHNICAL INDEX

Teaching pendant	8-inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button
User memory	200MB
Controlled Axes	6+2(The standard configuration is 6 axes, and the external 2 axes needs to be selected)
Interface	Digital I/O interface, 24 input/output(expandable COM) (welding robot have 1 more remote box, will occupy 2 couples of I/O signals)
	1 encoder signal interface(position tracking)
	Rj45 network port(modbus TCP/IP)
	2 USB interface
Operation mode	Teach play remote
Coordinate system	Joint coordinate, rectangular coordinate, user coordinate, tool coordinate, base coordinate
Abnormal detection function	Emergency stop abnormal, servo abnormal, user coordinate abnormal, tool coordinates abnormal, safety maintenance, arcing abnormal, etc
Robot safety	External emergency stop, anti-collision, safety latch and other interfaces; MC safety circuit, servo softening, etc
Reserved specific interface	arc welding interface, workstation interface
Software package	welding, handling, palletizing and painting available
Others	Built-in PLC, regenerative braking(optional), encoder interface (supporting synchronous belt), arc tracking and accessories(optional), vision software(optional), laser tracking software(optional) etc
Connecting cable	3m
Power supply	Three phase 380V 50-60HZ
Dimension	550mm×785mm×410mm
Weight	90KG

CABINET DIMENSIONAL DRAWING



nFA-G5-CD60



THE INTRODUCTION AND FEATURES OF ELECTRICAL CABINET

As an iterative product of G3 electrical cabinet, the new generation G5 electrical cabinet not only inherits excellent performance, but also has better performance in safety, stability and operability. CRP G5 electrical cabinet has compact structure and reasonable design of heat dissipation and dust prevention. With compact design, G5 electrical cabinet is more flexible in on-site layout. Besides, external IO and data interface provide a great convenience in field application and operation. As the slogan "High quality and Good service" goes, CRP new G5 electrical cabinet upgrade to provide you with better experience.

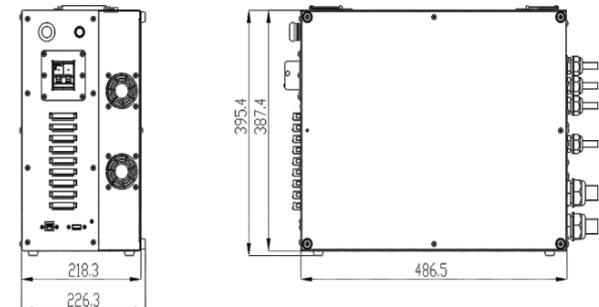
FUNCTIONAL FEATURES

- G5 electric cabinet is more compact and occupies less space;
- With multiple installation methods, G5 electric cabinet has more flexible layout;
- Adopt quick plug to achieve wiring more convenient;
- Adopt independent air duct to prevent dust from entering and ensure long-term stability;
- With multiple interfaces, G5 electrical cabinet supports multiple communication protocols

CABINET TECHNICAL INDEX

Teaching pendant	8-inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button
User memory	200MB
Controlled Axes	6+2
Interface	Digital I/O interface, 22 input/output (expandable COM)
	4-way 0-10V analog output, 12-bit accuracy (expandable COM)
	Encoder signal interface (position tracking)
	Ethernet communication interface, 2 USB interface
Operation mode	Communication interface: RS484, RS232, CAN, Expandable: Profinet, c.clink Teach, Reconstruct, Remote
	Point-to-point, straight line, circle
Coordinate system	Motion, Logic, Process, Operation
IP Level	IP20
Input Power (including cable length)	Single-phase AC220V±15% 50/60Hz, PE ground cable
Interconnecting Cable	5M
Dimension	486.5×218.3×395.4mm
Weight	37.5KG
Installation environment	Indoor (avoid direct sunlight), no corrosive gas, ambient temperature: 0-55°, Storage temperature (-20-65°), 0-99% (no condensation);
Safety	External emergency stop, anti-collision, safety bolt interface, etc.
Abnormal detection function	Abnormal stop, abnormal servo, abnormal user coordinates, abnormal tool coordinates, safety maintenance, etc.
Others	Built-in PLC, power off regeneration, encoder interface (support synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.

CABINET DIMENSIONAL DRAWING



nFA-G6-CD40B



THE INTRODUCTION AND FEATURES OF ELECTRICAL CABINET

- The electric cabinet is specially customized for 4-axis robot, which has the characteristics of compact structure, smaller volume, easy installation, lightweight and multiple functions.
- Built-in control system software independently developed by CRP can meet the requirements of high speed, exact performance of motion control and high reliability of robots. Besides, it can achieve more accurate trajectory control and faster beat in applications with smaller size and multiple functions

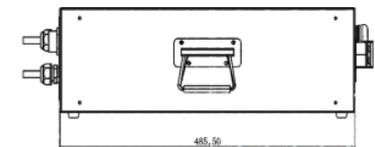
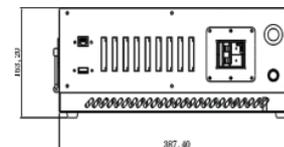
FUNCTIONAL FEATURES

- Adopt split design to effectively keep dust out and improve stability
- Adopt quick plug to achieve wiring more convenient;
- Well-knit design makes the robot more convenient in small space.
- With multiple installations, G6 electric cabinet has more flexible layout;
- With multiple interfaces, G6 electrical cabinet supports diversiform communication protocols
- High power density and efficient heat dissipation
- High integration and small size

CABINET TECHNICAL INDEX

Teaching pendant	8-inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button
Controlled Axes	4
Interface	Digital I/O interface.24 input/output(expandable COM)
	2-way 0-10V analog output, 12-bit accuracy(expandable COM)
	Encoder signal interface(position tracking)
	Ethernet communication interface.2 USB interface
Operation mode	Communication interface: RS484, RS232, CAN, Expandable: Profinet, cclink
	Teach, Reproduction, Remote
Coordinate system	Point-to-point, straight line, circle
IP level	Motion, Logic, Process, Operation
Input Power (including length)	IP20
Interconnecting Cable	Single-phase AC220V±15% 50/60Hz, PE ground cable
Dimension	5M
Weight	485.8X387.4X155.5mm
Installation environment	20KG
	Indoor (avoid direct sunlight), no corrosive gas, ambient temperature: 0-55°; Storage temperature (-20-65°), 0-99% (no condensation);
	External emergency stop, anti-collision, safety bolt interface, etc.
Ground Resistance	<0.1Ω
Insulation Resistance	>100MΩ
Vibration Resistance	10<f<58.1HZ Amplitude:0.15mm
Impact-Resistance Strength	Max strength:15g Duration:1ms
EMC Testing Standard	IEC 61000-6-2
Abnormal detection	Abnormal stop, abnormal servo, abnormal user coordinates, abnormal tool coordinates, safety maintenance, etc.
Others	Built-in PLC, power off regeneration, encoder interface (support synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
Reserved Interfaces	Arc Welding Interface, Vision Interface, Remote interface, Station Interface
Software Package	Welding/Handling/Vision/Tracking/Palletizing /Bending/Stamping/ Communication/Spraying

CABINET DIMENSIONAL DRAWING



nFA-G7-CDH80A



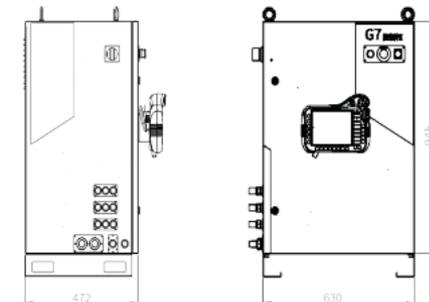
FUNCTIONAL FEATURES

- Adopt split design
G7 electrical cabinet is divided into power supply part and control part. The power supply part mainly focuses on heating devices so it adopts multi-group fan and air channel design to ensure good heat dissipation. The control part is isolated from the power supply part to prevent dust and oil pollution from entering and ensure the cleanliness of the control part. Besides, it can also avoid abnormal operation of the control part devices affected by dust and oil pollution.
- Equipped with safety emergency stop board independent of the control system. G7 electrical cabinet adopts imported forced disconnect relay to provide double circuit emergency stop to ensure the reliability of emergency stop.
- Automatic external power-on function
It can greatly ensure the safety of the operator through the methods of automatic external power-on function
- Energy-saving mode
It can effectively reduce standby energy consumption and avoid personal injury who is strayed in robots standby state.
- Adopt three-phase 380V power supply to direct power supply, which saves transformer and cost
- Adopt built-in three-phase filter to effectively isolate external interference and prevent internal interference output
- Double switching power supply design can avoid internal power interference
- It is convenient and simple to maintenance with split module design
- It can drive 50-220kg load with large output power.

CABINET TECHNICAL INDEX

Main power source	Phase/voltage	Main circuit power supply: three-phase 380VAC (-20%~+10%), 50/60Hz Control loop power supply: single-phase AC220VAC (-10%~+10%), 50/60Hz
	Input Power	Maximum Power:16KW
Cooling Mode	Insulation and Withstand Voltage	Air Cooling Grounding AC2600VAC@50Hz, voltage withstand 1Min (except control part of power supply)
	Institutions algorithm	Vertical multi-joint series, vertical multi-joint parallelogram, vertical multi-joint L-shaped wrist robot, etc.
System Mode	Teach, Reproduction, Remote	
Stopping Resistor	Internal	
Regenerative Resistor	External	
Instruction System	Motion, Logic, Process, Operation	
Soft PLC	Ladder diagram editing, 5000 steps, 10MS cycle	
Application	Handling, welding, spraying, palletizing, cutting, etc	
Teaching pendant	8-inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button	
User memory	400M	
Communication Mode	TCP/IP, ModbusTcp, ModbusRtu, CAN	
Controlled Axes	5~2 (The standard configuration is 5 axes, and the external axes need to be selected)	
	Controller: 22Di, 22DO; Drive Units: 3Di, 3DO	
Interference	4-way 0-10V analog output, 12-bit accuracy(expandable COM)	
	Double encoder signal interface(position tracking)	
	Robot terminal: maintenance switch, external emergency stop	
	Ethernet, CAN, RS485, RS232	
Protective Function	Overcurrent, overvoltage, undervoltage, overheat, overload, overspeed, excessive position deviation, abnormal communication, etc	
Safety Mode	Associated emergency stop can rapidly stop the robot when an abnormal signal occurs	
Environmental Specification	Installation Instruction	Indoor (avoid direct sunlight), no corrosive fog (avoid lampblack, flammable gas and dust)
	Altitude	Altitude: under 2000m
	Ambient Temperature	-20°C~55°C (If the ambient temperature exceeds 45°C, please keep the surrounding air to circulate)
	Storage Temperature	-20°C~55°C (Maximum temperature: 80°C for 72 hours without condensation)
	Humidity	Under 20~80%RH (No condensation)
	Vibration	Random Vibration: Frequency: 20~500Hz, X Direction 2.04m/s2, Y Direction 7.4m/s2, Z Direction 10.4m/s2 Sine Sweep: Frequency: 10~58.1Hz Acceleration: under 10m/s2
Connecting Cable	Under 20~93%RH (No condensation)	
Dimension (MM)	630*939*472	
Weight (KG)	112KG	

CABINET DIMENSIONAL DRAWING



nFA-G9-CD60-CR-X9



INDUSTRIAL ROBOT ELECTRICAL CABINET

- Compared with the previous generation electric cabinet (G4), the overall size is smaller and the internal structure is more compact; The front and rear compartments have independent door panels that can be opened for easy maintenance.
- With two cabins before and after, the front cabin IP54 sealed, waterproof and dustproof, protective devices; The rear cabin is ventilated for heat dissipation.
- The feet of the cabinet are detachable, so that the electric cabinet can be stacked on other electric cabinets, and the top can also be stacked with expansion cabinets, and the layout is more flexible.
- Equipped with three-phase transformer, 380V and 220V are isolated, and the power supply is more stable. Built-in three-phase filter to effectively isolate external and prevent internal interference output
- Configure the safety emergency stop board independent of the control system, and adopt the imported forced disconnect relay to provide double-circuit emergency stop to ensure the reliability of emergency stop
- Using high-performance platform, better processing performance, high-speed and stable motion control, while reserving external module expansion space, can quickly configure external shaft.
- Using the new CRX9 platform software, the function is more flexible and the interface is more open, which can meet the application needs of 3C, lithium battery, general industry and other industries.

CABINET TECHNICAL INDEX

Teaching pendant	8 inch TFT-LCD touch screen, emergency stop button, mode selection switch, safety switch, shortcut keyboard
Dimension, Weight	550x725x425mm, 90KG
Protective construction	Control front bin IP54, heat dissipation rear bin IP20, front and rear bin isolation, cabinet door is not locked off the main power
Main power source	Three-phase four-wire AC380V±10%, 50/60HZ
Ground connection	Must have protective grounding (PE)
Cooling Mode	forced cooling
Environmental specification	storage temperature : -10-60°C
	operating temperature : 0-45°C
	Relative humidity: 95% (no condensation)
	Altitude: ≤2000M
Corrosion: no corrosive gas, liquid	Use place: indoor, ventilated, non-airtight
cable jumper	Power cable standard 3 meters, interconnect standard 5 meters
Interface	Digital I/O interface 24 NPN input /24 output, output voltage 24V, output current 8 relays 3A, 16 transistors 500mA
	4 channels 0-10V analog output, 12 bit accuracy
	2 encoder signal interface, 5V encoder power supply
	2 channels of 100 Mbit/s network (teaching device occupies 1 channel), 2 channels of 100 Mbit/s network can be expanded according to customer needs
	Two RS485 channels, two CAN2.0 channels
	Cabinet door panel 1 USB2.0
	3 station box interfaces
Robot safety	Cabinet door emergency stop, external emergency stop, anti-collision, servo STO
Controlled Axes	6+2 axes (standard configuration 6 axes, external axes need to be selected), EtherCAT bus extension
system configuration	Main frequency: 1.6GHz, memory: DDR4L 1333MHz 2GByte, hard disk: 8G EMMC, UPS: 3S
EMC test standard	IEC 61000-6-2:2016
Communication protocol	ModbusRTU, ModbusTCP
Mode of operation	Teaching, reproduction, remote
	Point-to-point, linear interpolation, circular interpolation, gate motion
Instruction System	Movement, logic, craft, arithmetic
Coordinated system	Joint coordinates, Cartesian coordinates, user coordinates, tool coordinates, world coordinates
Software package	Welding/spot welding/handling/palletizing/etc. Optional
Other	Built-in PLC, power off regeneration, encoder interface (support sync belt), vision software (optional)

nFA-G11-CD40C-CRA9



THE INTRODUCTION AND FEATURES OF ELECTRICAL CABINET

As a CRP robot 4-axis series control cabinet, G11 series electric cabinet adopts a new generation of integrated control system. To achieve high-speed and stable motion control, the friendliness, controllability and functional expansibility of the software have been greatly improved. It has the advantages of light structure, easy installation, easy maintenance, small footprint, rich functions and high reliability. It can be used in 3C, lithium, photovoltaic, general handling and other industries.

CABINET TECHNICAL INDEX

Teaching pendant	8-inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button
Axis number	6轴
Interface	Digital I/O interface, 24 input/output (expandable COM)
	2-way 0-10V analog output, 12-bit accuracy (expandable COM)
	Encoder signal interface (position tracking)
	Ethernet communication interface, USB interface
Operation mode	Communication interface: RS485*2, CAN*2, Expandable: Profinet, CC-link
	Teach, Reproduction, Remote
Coordinate system	Point-to-point, straight line, circle
	Motion, Logic, Process, Operation
IP level	IP20
Input Power (including length)	AC220V ± 10% 50/60Hz, PE ground cable, 3 meters
Dimension	370*561*168
Weight	30kg
Installation environment	Indoor (avoid direct sunlight), no corrosive gas, ambient temperature: 0-55°; Storage temperature (-20-65°), 0-95% (no condensation);
Safety	External emergency stop, anti-collision, safety bolt interface, etc.
Ground Resistance	<0.1Ω
Insulation Resistance	>1MΩ
Vibration Resistance	10-158.1HZ Amplitude: 0.15mm 58.1-1120HZ Acceleration 1g
Impact-Resistance Strength	Max strength: 15g Duration: 11ms
EMC Testing Standard	IEC 61000-6-2 AC power port 4KW Signal port 2KW
Abnormal detection function	Abnormal stop, abnormal servo, abnormal user coordinates, abnormal tool coordinates, safety maintenance, etc.
Others	Built-in PLC, power off regeneration, encoder interface (support synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
Reserved Interfaces	Arc Welding Interface, Vision Interface, Remote interface, Station Interface
Software Package	Welding/Handling/Vision/Tracking/Palletizing/Bending/Stamping/Communication/Spraying

nFA-G12-CD40C-CRA9



The Introduction and Features of Electrical Cabinet

As a CRP robot 4-axis series control cabinet, G12 series electric cabinet adopts a new generation of integrated control system.

To achieve high-speed and stable motion control, the friendliness, controllability and functional expansibility of the software have been greatly improved.

It has the advantages of light structure, easy installation, easy maintenance, small footprint, rich functions and high reliability.

It can be used in 3C, lithium, photovoltaic, general handling and other industries.

CABINET TECHNICAL INDEX

Teaching pendant	8-inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button
Axis number	4
Interface	Digital I/O interface, 24 input/output (expandable COM)
	2-way 0-10V analog output, 12-bit accuracy (expandable COM)
	Encoder signal interface (position tracking)
Operation mode	Ethernet communication interface, USB interface
	Communication interface: RS485*2, CAN*2, Expandable: Profinet, CC-link
Coordinate system	Teach, Reproduction, Remote
IP level	Point-to-point, straight line, circle
Input Power (including length)	Motion, Logic, Process, Operation
Dimension	IP20
Weight	Three-phase AC220V ± 10% 50/60Hz, PE ground cable, 3 meters
Installation environment	370*480*168
Safety	20kg
Ground Resistance	Indoor (avoid direct sunlight), no corrosive gas, ambient temperature: 0-55°; Storage temperature (-20-65°), 0-95% (no condensation);
Insulation Resistance	External emergency stop, anti-collision, safety bolt interface, etc.
Vibration Resistance	<0.1Ω
Impact-Resistance Strength	>100MΩ
EMC Testing Standard	10-158.1HZ Amplitude: 0.15mm 58.1-1120HZ Acceleration: 0.15mm
Abnormal detection function	Max strength: 15g Duration: 11ms
Others	IEC 61000-6-2
Reserved Interfaces	Abnormal stop, abnormal servo, abnormal user coordinates, abnormal tool coordinates, safety maintenance, etc.
Software Package	Built-in PLC, power off regeneration, encoder interface (support synchronous belt), arc tracking and accessories (optional), visual software (optional), laser tracking software (optional), etc.
	Arc Welding Interface, Vision Interface, Remote interface, Station Interface
	Welding/Handling/Vision/Tracking/Palletizing/Bending/Stamping/Communication/Spraying

nFA-G7-CDH80A



The Introduction and Features of Electrical Cabinet

- With energy-saving mode, static state automatic switching, saving energy.
- The safety emergency stop board independent of the control system is configured, and the imported forced disconnect relay is adopted to provide double-circuit emergency stop to ensure the reliability of emergency stop.
- Use 3-phase AC 380V power supply directly, cancel the transformer, reduce the cost.
- Built-in three-phase filter to effectively isolate external interference and prevent internal interference output.
- Cabinet door USB interface, do not open the door can also import and export programs.
- With the cabinet door detection function, do not close the door can not be powered on, to avoid the influence of dust into the control system.
- Built-in reactor to avoid power surge impact on the control system.
- Built-in UPS power supply to avoid the impact of emergency stop and power failure on the robot body reducer.
- Large output power, can drive 50-220KG load.

CABINET TECHNICAL INDEX

Main power source	Phase/voltage	Main circuit power supply: three-phase 380V(-10%~+10%),50/60HZ Control loop power supply:single-phase AC220VAC(-10%~+10%),50/60HZ
	Input Power	Different robots, different power, please see the electrical cabinet nameplate for details
Cooling Mode		Air Cooling
Insulation and Withstand Voltage		Grounding AC2600VAC@50HZ,voltage withstand 1 Min(except control part of power supply)
Institutions algorithm		Vertical multi-joint series,vertical multi-joint parallelogram,Vertical multi-joint L-shaped wrist robot,etc
System Mode		Teach,Reproduction,Remote
Stopping Resistor		Internal
Regenerative Resistor		External
Instruction System		Motion, Logic, Process, Operation
Soft PLC		Ladder diagram editing, 5000steps, 10MS cycle
Application		Handing, welding, spraying, palletizing, cutting, etc
Teaching pendant		8-inch TFT-LCD, keyboard + touch screen, mode selection switch, safety switch, emergency stop button
User memory		400M用户存储空间
Communication Mode		Tcp/IP,ModbusTcp, ModbusRtu, CAN
Controlled Axes		6+2(The standard configuration is 6 axes,And the external axes need to be selected) Controller: 23DI,23DO,Drive Units:3DI,3DO 4-way 0-10V analog output, 12-bit accuracy(expandable COM) Double encoder signal interface(position tracking)
Interface		Robot terminal: maintenance switch, external emergency stop
		Ethernet, CAN, RS485, RS232 2 USB interface
Protective Function		Overcurrent,overvoltage,undervoltage,overheat,overload,overspeed, Excessive position deviation,abnormal communication,etc
Safety Mode		Associated emergency stop can rapidly stop the robot when abnormal signal occurs
Installation Instruction		Indoor (avoid direct sunlight), no corrosive gas, (avoid lampblack,flammable gas and dust)
Altitude		Altitude:undere 2000
Ambient Temperature		-20°C~55°C (If the ambient temperature exceeds 45°C, please keep the surrounding air to circulate)
Storage Temperature		-20°C~55°C(Maximum temperature:80°C for 72 hours without condensation)
Humidity		Under 20-80%RH(No condensation)
Vibration		Randon Vibration Frequency:20-500HZ,X Direction 2.04m/s2,Y Direction 7.4m/s2,Z Direction 10.4m/s2 Sine Sweep frequency:10-58.1HZ,Acceleration: under 10m/s2
Connecting Cable		Under 20-93%RH (No condensation)
Dimension		630×939×472mm
Weight		107KG

Pulse MIG/MAG 350/500II

Inverted double pulse MIG/MAG gas shielded welding machine



Functions:

Pulse MIG/MAG, general MIG/MAG, manual metal-arc welding, lifting arc striking TIG and gouging.

Application industry:

High speed train, pressure vessel, automobile repacking, yacht, high-voltage switch and space division.

Features:

- CPU+DSP full digital high-precision control system precisely controls the waveform and realizes the perfect transition of one droplet per pulse, with the stable arc of welding, the lower spatter, good appearance of weld and high welding quality;
- The built-in welding expert database includes the pre-set parameters of welding waveform control, the parameters in the welding process and the arc striking and suppression parameters. It's convenient to adjust parameters and automatically match with the optimal parameters;
- The full digital CPU control high-precision control system of wire feeding and the two-drive and two-driven full digital control device of the wire feeding with the encoder ensure the stable wire feeding when the load of wire feeding changes or the net voltage fluctuates in the process of welding;
- The unified/separate adjustment is convenient to meet different using habits;
- It has four operation modes of two-step, four-step, special four-step and spot welding. In the welding of large specification long welding seams, the four-step or special four-step function reduces the labor strength of welders and improves the quality of welding joint;
- It rapidly meets the users' needs for special welding process. The full digital control technique can flexibly meet the special needs via modifying and upgrading of the software, without modifying the hardware;
- Users can store the self-defined parameters of welding process and manage the welding process and provide convenience for the varied welding of the same station through memorizing and using the parameters of the welding process;
- Protection functions: It includes short-circuit protection, overheating protection, protection of power grid, wire plugging protection and starting protection. The reasons of warning is recognized through the fault code, in order to guarantee the reliability of the welder and the safety of operator.

- ☑ Carbon steel
- ☑ Stainless steel
- ☑ Aluminum alloy
- ☑ Copper alloy
- ☑ Flux-cored Solder Wires

NJITSU



Technical parameters

Model	Pulse MIG-350II	Pulse MIG-500II
Rated input voltage / frequency	Three-phase380V(+/-)10% 50Hz	
Rated input capacity (KVA)	17.1	27.5
Rated input current (A)	26	42
Rated output voltage (V)	31.5	39
Rated load sustainability (%)	MIG100 / MMA60	MIG100 / MMA60
Output no-load voltage (V)	85	85
Output current range (A)	20-350	20-500
Output voltage range (V)	14-40	14-50
Welding wire diameter (mm)	0.8, 1.0, 1.2	0.8, 1.0, 1.2, 1.6, (2.0)
Welding wire type	Pulse characteristics Soft carbon steel/carbon steel flux-core, stainless steel solid/stainless steel flux-core, Al-Mg alloy, pure aluminum and Al-Si alloy, copper and copper alloy	
	Constant voltage characteristic Co, carbon steel, carbon steel, carbon steel flux-core	
Wire feeding type	Push / Push-pull	
Gas flow (L/min)	15-20	
Hand arc welding	Welding current (A)	60-350
Welding torch cooling mode	Water cooling / Air cooling	
Shield protection grade	IP23S	
Insulation grade	HB	

nFA-3D-P1



ADVANTAGES OF 3D Welding Vision System

- Greatly reduce the impact of workpiece in raw materials and team errors on welding quality
- For complex workpiece, it can greatly reduce the robot teaching programming workload
- Part of the scene can be drawings without teaching
- With high-speed real-time scanning, it can output 2 to 10 frames of point cloud data in 1 second.
- It has industrial accuracy and 3d point cloud repetition accuracy can be up to 0.1mm.
- Adopt anti-splash protection device to avoid welding slag splash damage lens.
- High temperature resistance and reliable operation in work.

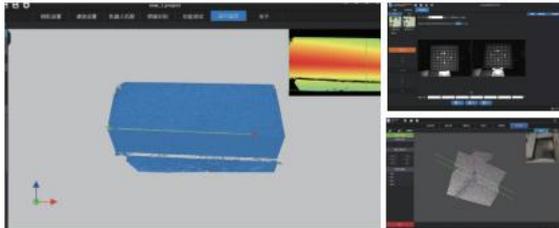
TECHNICAL CHARACTERISTICS

- 3D vision adopts micro-structured light technology to realize three-dimensional surface scanning of welding parts so it can output the welding track. In cooperation with robots, it can realize the functions of features extraction of complex welds, track locating, workpiece alignment and others.

APPLICABLE SCENE

- Scene: Steel structure and carriage board
- Material: carbon steel fillet weld (three-side splicing), workpiece without polishing treatment
- Trajectory type: straight trajectory(arc is not applicable)

PROCESS AND INTERFACE

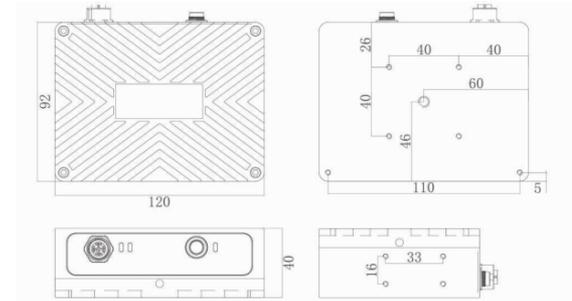


TECHNICAL PARAMETERS

3D Welding Vision System			
Model	Tracer P1	Weight	750g
Theory	Binocular structured light	Data Interface	TCP/IP, support POE
Light source	Infrared laser	Overall Power Consumption	5W
Working distance	250-500mm	Operating environment	Indoor
FOV	H55°xV35°	Working Temperature	-10~70° C
Repeated Accuracy	±0.5mm	Working Humidity	20%-65%(No condensation)
Depth map resolution	960x600@max 5fps	IP	IP65
Dimension	120x92x40mm	Materials	Aluminum Alloy

Notes: The repeated accuracy means that the standard laboratory environment is obtained by the standard test method, and the specific user environment may affect the accuracy.

INSTALLATION INTERFACE DIAGRAM



APPLICATION OF THE SCENE



nFA-VLS240GB-V01
 nFA-VLS330GB-V01
 nFA-VLS160GA-V01
 nFA-VLS160HB-V01

ADVANTAGES OF LASER SEAM TRACKER

- Support a variety of weld types, fast switching
- Improve productivity and yield
- Greatly reduce the impact of poor workpiece consistency on welding quality
- The welding torch can be in the ideal position
- Compensation for production, equipment and operation tolerances
- For complex weldments, it can greatly reduce the workload of robot teaching and programming
- Some scenes can realize the robot exemption from teaching
- Non-contact welding seam tracking, saving fixture production costs for customer
- Seamless connection with CRP robots
- The sales and after-sales support of laser seam tracker and the robot are in the same team, reducing the time and cost of communication with customers

TECHNICAL CHARACTERISTICS

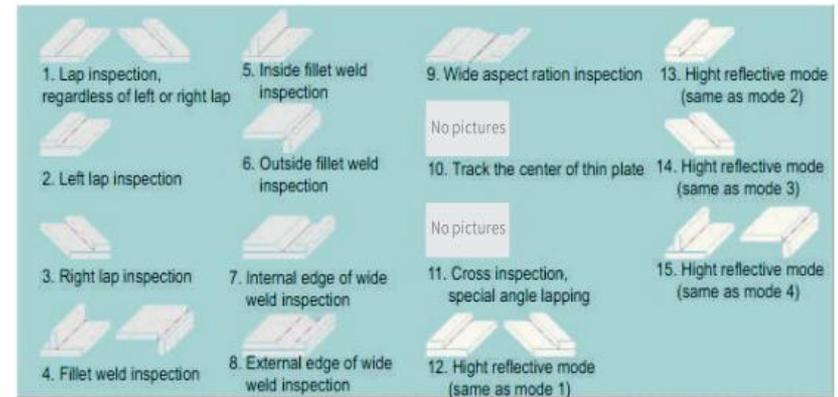
- Gap range: 1.0-15.0mm
- Horizontal error: 0.1mm
- Height error: 0.1mm
- Standard installation height: 160mm
- Average field of view width: 50mm
- The nearest height: 130mm
- The farthest height: 200mm
- Can be used for all kinds of gas shielded welding
- A variety of weld shape options, suitable for different weld types: expert fuzzy control, intelligent identification of different weld characteristics
- According to the welding seam type, real-time display of current welding seam deviation, welding seam width, misalignment amount and other information to facilitate welding process optimization
- Real-time tracking of weld level, high and low directions
- Strong anti-interference. It can still accurately identify the weld under strong arc interference

APPLICABLE SCENE

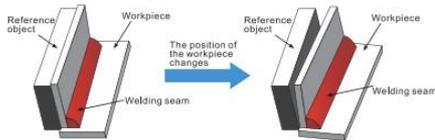
- Real-time tracking scenes that require forward-looking distance, and the minimum forward-viewing distance is 35mm
- Welding current <=200A
- Larger curvature of the weld



PROCESS AND INTERFACE



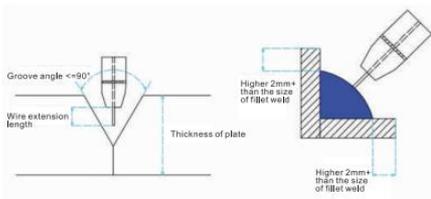
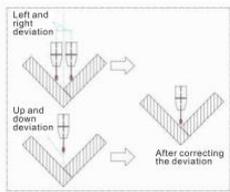
nFA-CAW-V2



PROCESS AND INTERFACE

Left/right offset parameter

Left/right offset function	25
Left/right offset sensitivity	2
Left/right offset quantity	0
Left/right minimum offset	0
Left/right total maximum offset quantity	500
Left/right maximum offset quantity each time	1
Left/right offset start count	5



Process No.	0	Annotation	
Up/down offset parameter			
Up/down offset function	00	Up/down offset start count	5%
Up/down reference current	0	Up/down reference sampling start count	7%
Offset coordinate system	0	Up/down reference sampling count	1%
Sampling time	1%	Up/down reference current constant	0
Up/down offset sensitivity	25		
Up/down offset quantity	0		
Up/down minimum offset	0		
Up/down total maximum offset quantity	500		
Up/down maximum offset quantity each time	1		

TECHNICAL CHARACTERISTICS

CRP-CAW-V2 is a universal arc tracking sensor researched and developed independently by CRP Automatic, not affected by arc light and dust during the working process, so it has high reliability. It can be used for welding seam tracking under different welding conditions by fuzzy control.

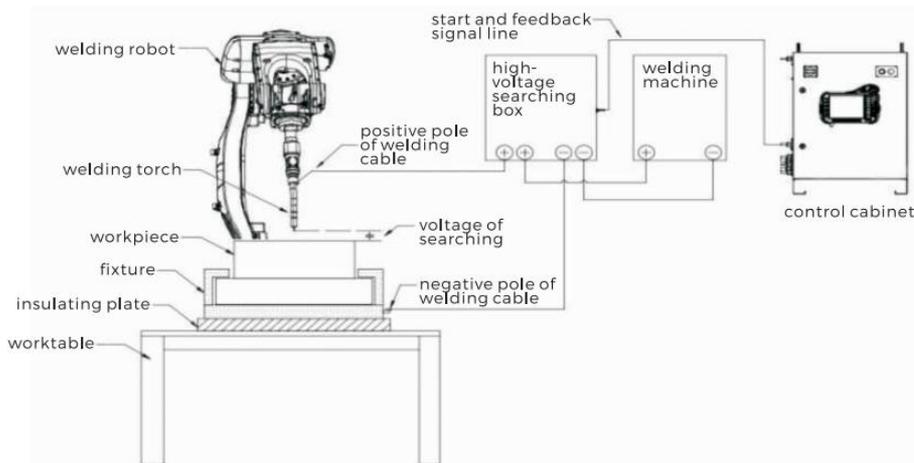
This sensor can work with CROBOTP robot control system to track fillet weld, butt weld, lap weld and other weld types. Under the situation of no changing the mechanical structure, it can achieve the seam tracking function only through simple installation and commissioning, thus it is convenient and easy to use, and improves the welding production efficiency of medium and thick plates with low precise incoming materials and assembly.

- This sensor is used when the welding seam of medium and thick plate workpiece is deformed or deviated in CO₂/MAG welding process;
- The arc seam tracker samples the current of swing welding in the welding seam in real time;
- The system judges the difference between the current weld and the preset current according to the current amplitude, and confirms its up, down, left, and right deviation values;
- The system automatically corrects the trajectory of the current robot;

APPLICATION CONDITIONS

- Gas: CO₂,MAG
- Welding wire diameter: 1.0mm-1.6mm
- Wire extension length: 15mm-25mm
- Type of welded joints: T-type fillet weld (1-2mm gap is allowed), V-type groove (30, 45°)
- Welding conditions: current >180A, welding speed <15mm/s, welding length >100mm
- Swing conditions: width: 1.5mm-5mm, swing frequency: 1.5HZ-4Hz
- Swing type: Z shape
- Welding form: DC / pulse

nFA-HVS-V2



THE PURPOSE

- At present, when welding robots are welding medium-thick plates, due to the workpiece blanking or inaccurate assembly, the welding points (arc starting point, intermediate point, and end point) are inaccurate, causing the deviation of the welding bead.
- This equipment cooperates with the welding robot's welding wire locating function, feedbacks the signal that the welding wire hits the workpiece, the robot automatically calculates the position deviation, corrects the position point, and enables the robot to find the actual welding point.

THE CHARACTERISTICS

- The output voltage is about $425V \pm 5\%$, which can effectively penetrate oil stains, rust stains, and water stains; Fast searching speed;
- The current limit design has been made internally, which can effectively control the current that is lower than the safety current of the national standard;
- During searching, since the welding cable is disconnected from the welding machine, the voltage will not enter the welding machine, so it will not damage the welding machine.

TECHNICAL INDEX

Name	High-voltage searching box
Model	GYXW-V2
Input power	AC220V $\pm 10\%$, 50HZ, with reliable grounding
Output power	DC425V $\pm 5\%$, current $\leq 5\text{ma}$
Welding current carrying current	500A, 85% duty cycle
The resistance of the positive and negative poles of the output terminal of the welding cable	$\geq 10K \Omega$
Temperature and humidity	Temperature: -20°C to $+45^{\circ}\text{C}$; Relative humidity: no more than 75%RH at 40°C ; no more than 95%RH at 20°C
Dimensions	530mmX255mmX290mm
Weight	16KG

The system provides 4-way analog interface for painting. Built-in standard trace template. Quickly generate the painting trace Support user-defined painting trace. For details see CRP-S80 Painting Instructions.

Analog Interface

Four-way analog output, easy to control fan-shaped, atomization, flow, air pressure or other painting equipments



Painting

Trace Template

The bending process is mainly applied to the loading and unloading of the bending industry, and the bending follows of the workpiece. Strong consistency with 24-hours work without interruption. Substitute manual work to realize unmanned and automation. It can realize constant speed tracking (old bending equipment), sensor (grating, encoder), real-time tracking (CNC bending machine).

The system commands can realize bending follow and automatically back to flat function. For details see CRP Bending Process Instructions.



Bending

The palletizing process refers to the simple confirmation of the placement position of the crucible by setting the basic parameters of the outer dimensions, the number of pallets, and the number of layers. Palletizing and unpacking can be achieved with a simple palletizing command.

For details see CRP-S40, S80 Palletizing Process Instructions



Palletizing



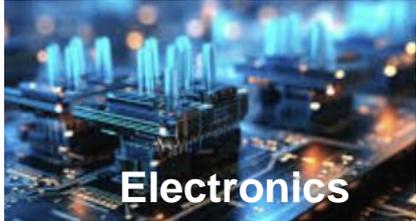
Automotive Sector



Aerospace



Heavy Engg



Electronics



Pharma



Energy



EV Charging Hub



Key Challenges

Capex | ROI

Resources &
Skill Shortage

Flexibility to
Customer
Preferences

Automation &
Latest tech

Inhouse
Capability &
Capacity

Innovation and
R&D

Digitalization &
Data
Management

Project
Management
Tools

Opex
Optimization

Regulatory
Compliances



- **High Precision:** Our Products offers unparalleled accuracy, ensuring precise control and repeatability for your most demanding tasks.
- **Robust Design:** **Robust Design**, built with durable materials, products are designed to withstand harsh operating conditions, providing long-lasting performance.
- **Energy Efficiency:** The Motors is optimized for low power consumption, making it an eco-friendly choice that reduces operational costs.
- **Easy Integration:** With a user-friendly interface and compatibility with various control systems, seamlessly integrated into your existing setup.
- **Increased Productivity:** Enhanced speed and accuracy lead to higher throughput and improved quality.
- **Low Maintenance:** Designed for minimal upkeep, reduces downtime and maintenance costs.
- **Reliability:** Consistent performance ensures reliable operation, minimizing the risk of costly downtime.
- **Driving Towards a Sustainable Future: A Greener, Zero-CO₂ Emission Goal.**
- **Shortest Delivery time:** Inhouse Manufacturing Capacity & Capability (Made in India | CKD).
- **Economic Capex Cost:** Optimized Capex in segment with world best in class product.
- **Cost Saving:** Reduced Human dependency and effort. Negligible Opex cost required

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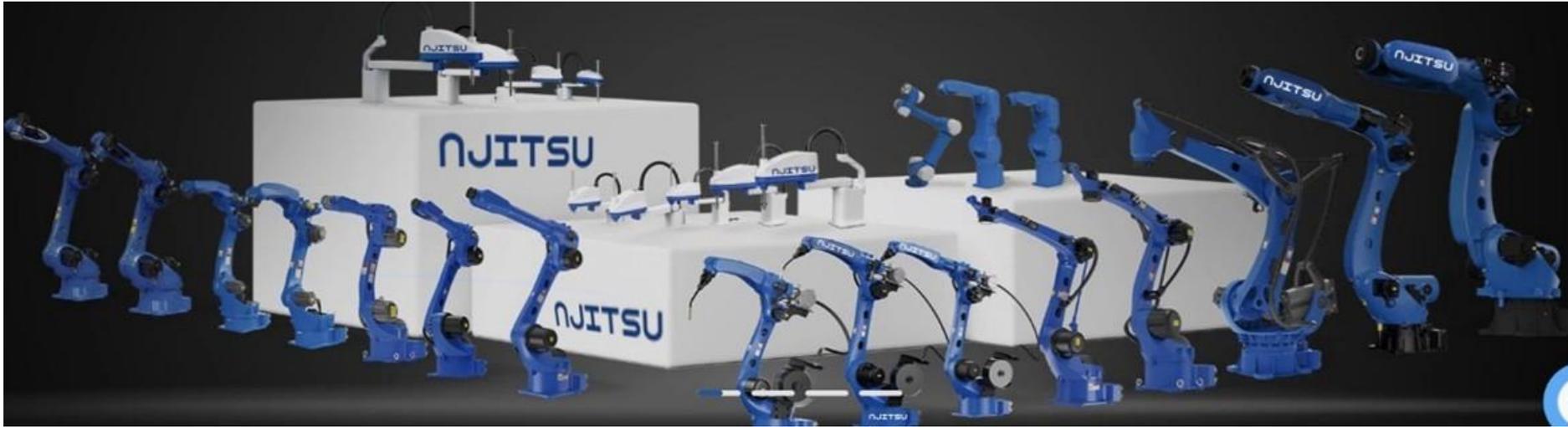
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