Automation Solutions

HIWIN®
Motion Control and System Technology

R-SERIES

MULTI-AXIS INDUSTRIAL ROBOTS

COMPACT MULTI-AXIS INDUSTRIAL ROBOTS FOR COMPLEX PROCESSING TASKS

Reduce Manufacturing Costs

Improve Production Time

Increase Throughput

Engineering Support Available

Automation Solutions

HIGH-SPEED ARTICULATED ROBOT

- Multiple installation configurations (floor, ceiling, and walls) - base stand available
- Multiple electric and pneumatic ports w/solenoids
- Motors w/ Brakes and Absolute Encoders on all 6 axes
- IP32 – IP65 and Clean Room Class 2 – ISO14644 Available

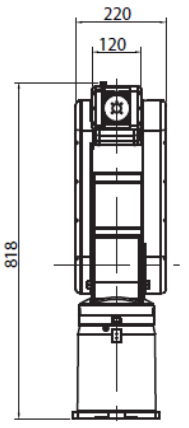
RA-605

PICK AND PLACE | ASSEMBLY | LIGHT MACHINING | INSPECTION | SCANNING

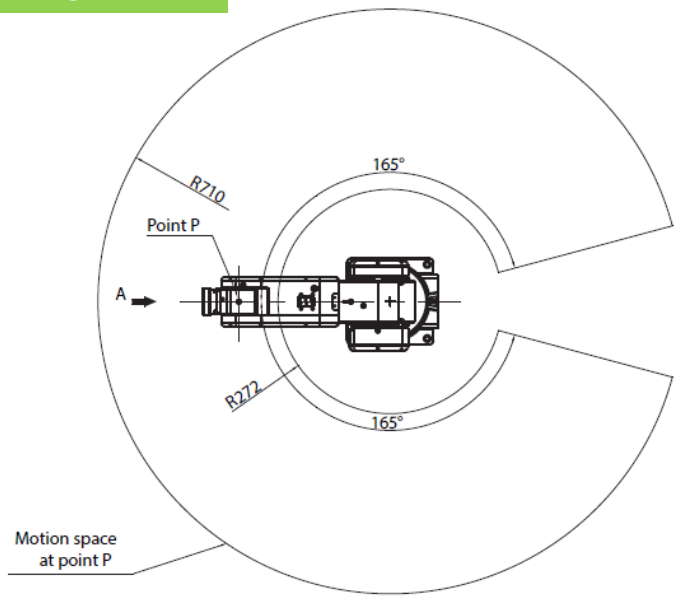
RA-605 SPECIFICATIONS

Model		Units	RA605-710
Degrees of Freedom			6
Nominal Load Capacity		kg	5
Maximum Reach Radius		mm	710
Operating Range	J1	deg	-165 ~ +165
	J2		-125 ~ +85
	J3		-55 ~ +185
	J4		-190 ~ +190
	J5		-115 ~ +115
	J6		-360 ~ +360
Maximum Speed	J1	deg/ sec	375
	J2		300
	J3		375
	J4		370
	J5		375
	J6		600
Standard Cycle Time*		sec	0.50
Position Repeatability		mm	±0.02
Allowable Load Moment at Wrist	J4	N-m	8.46
	J5		8.46
	J6		5.60
Allowable Load Inertia at Wrist	J4	kg-m^2	0.35
	J5		0.35
	J6		0.14
Electric Wrist Line			6 Inputs & 4 Outputs
Pneumatic Wrist Line			3 Inputs & 3 Outputs
Controller			RCA605
Weight		kg	40

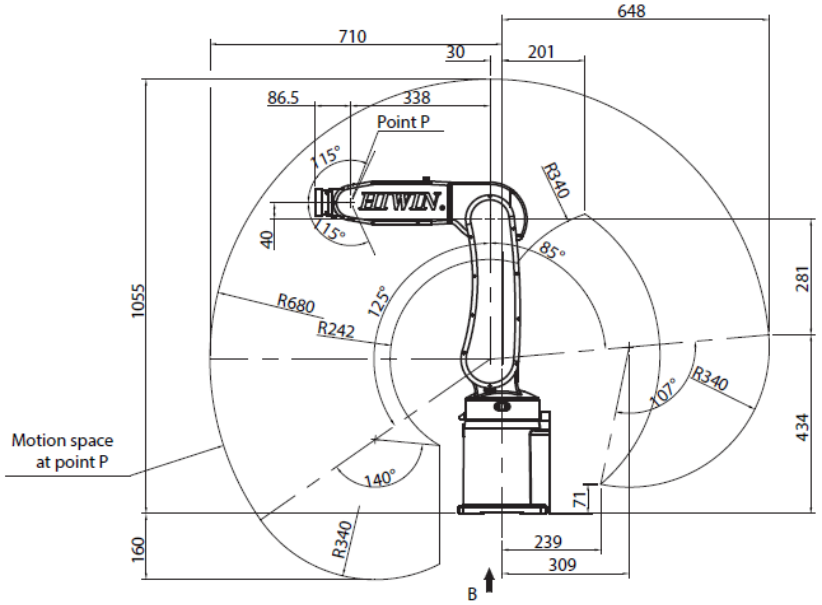
*Movement Profile is 25-300-25 with 1kg load



Front View



Top View



Side View

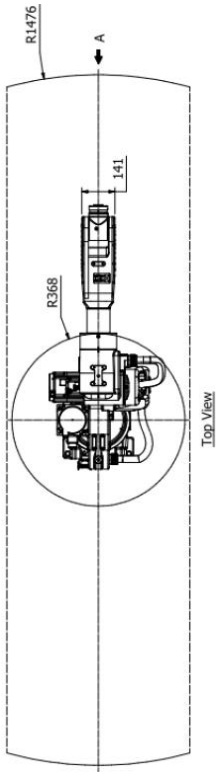
HIWIN®
Motion Control and System Technology

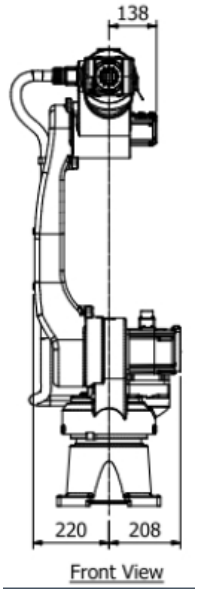
MEDIUM PAYLOAD ARTICULATED ROBOT

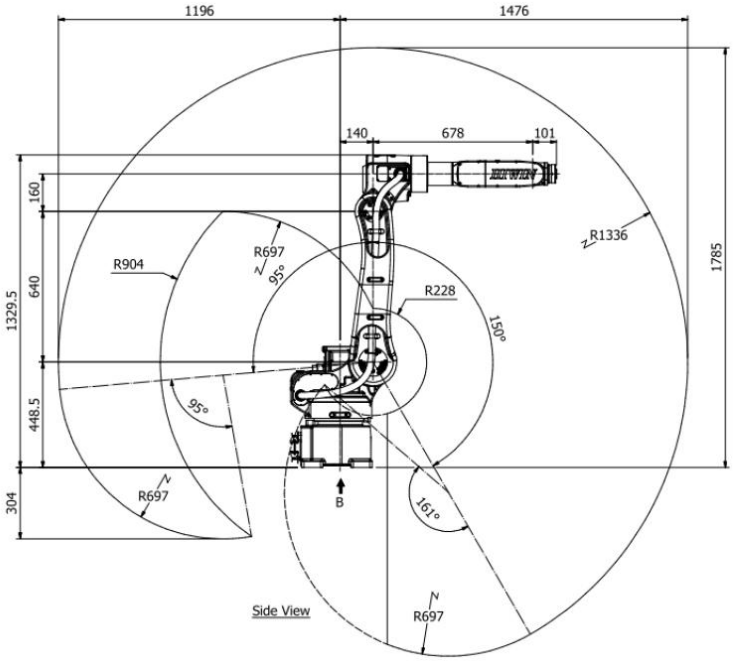
- Multiple installation configurations (floor, ceiling, and walls)
- Multiple electric and pneumatic ports w/solenoids
- Motors w/ Brakes and Absolute Encoders on all axes
- Wrist (J5-J6): IP65 -- Arm (J1-J4): IP54

RA-610

PALLETIZING | PICK AND PLACE | LARGE ASSEMBLY | MODERATE MACHINING |SCANNING







RA-610 SPECIFICATIONS

Model		Units	RA610-1476
Degrees of Freedom			6
Nominal Load Capacity		kg	10
Maximum Reach Radius		mm	1476
Operating Range	J1	deg	-170 ~ +170
	J2		-150 ~ +95
	J3		-85 ~ +185
	J4		-190 ~ +190
	J5		-135 ~ +135
	J6		-360 ~ +360
Maximum Speed	J1	deg/ sec	192
	J2		206
	J3		219
	J4		450
	J5		450
	J6		720
Standard Cycle Time*		sec	1.00
Position Repeatability		mm	±0.05
Allowable Load Moment at Wrist	J4	N-m	16.9
	J5		16.9
	J6		11.0
Allowable Load Inertia at Wrist	J4	kg-m^2	1.07
	J5		1.07
	J6		0.49
Electric Wrist Line			6 Inputs & 4 Outputs
Pneumatic Wrist Line			3 Inputs & 3 Outputs
Controller			RCA610-GB
Weight		kg	147

* Movement Profile is 25-300-25 with 10kg load

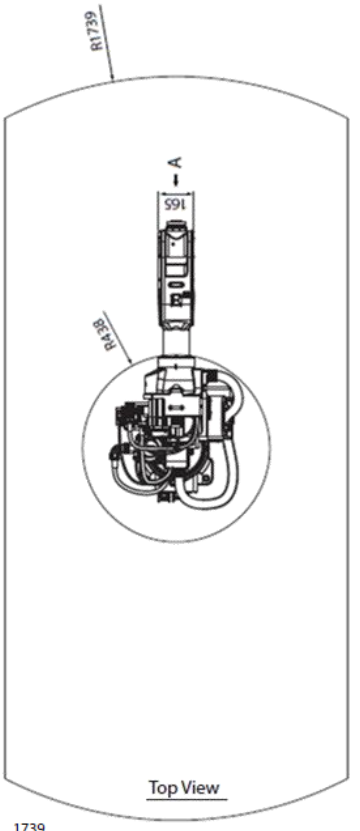
Automation Solutions

MEDIUM PAYLOAD ARTICULATED ROBOT

- Multiple installation configurations (floor, ceiling, and walls)
- Multiple electric and pneumatic ports w/solenoids
- Motors w/ Brakes and Absolute Encoders on all axes
- Wrist (J5-J6): IP65 -- Arm (J1-J4): IP54

RA-620

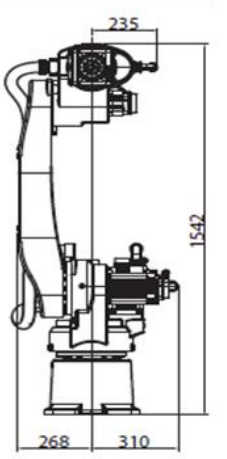
PALLETIZING | PICK AND PLACE | LARGE ASSEMBLY | MODERATE MACHINING |SCANNING

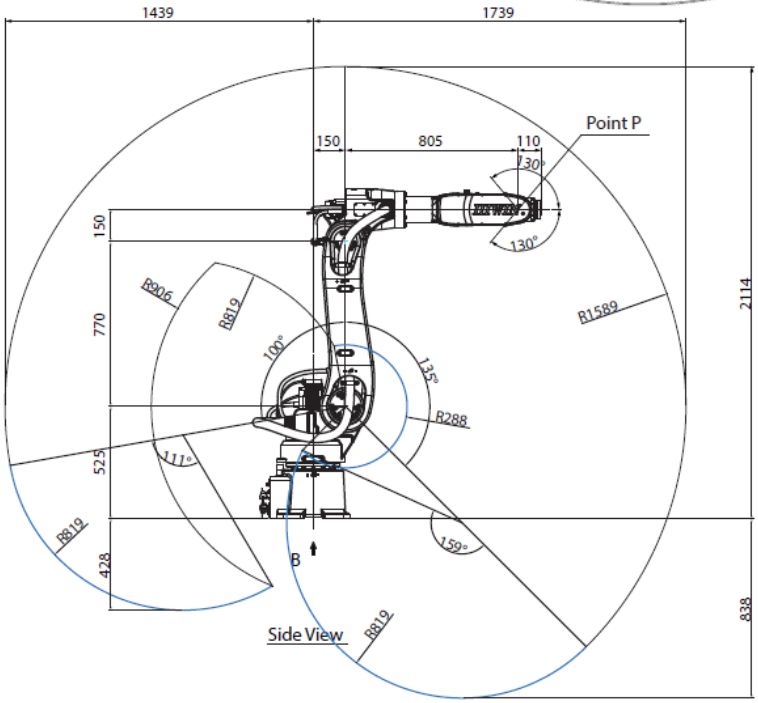


RA-620 SPECIFICATIONS

Model		Units	RA620-1740
Degrees of Freedom			6
Nominal Load Capacity		kg	20
Maximum Reach Radius		mm	1739
Operating Range	J1	deg	-180 ~ +180
	J2		-135 ~ +100
	J3		-80 ~ +190
	J4		-200 ~ +200
	J5		-130 ~ +130
	J6		-360 ~ +360
Maximum Speed	J1	deg/ sec	204
	J2		186
	J3		182
	J4		360
	J5		420
	J6		720
Standard Cycle Time*		sec	0.80
Position Repeatability		mm	±0.06
Allowable Load Moment at Wrist	J4	N-m	34.2
	J5		34.2
	J6		22.3
Allowable Load Inertia at Wrist	J4	kg-m^2	1.35
	J5		1.35
	J6		0.60
Electric Wrist Line			6 Inputs & 4 Outputs
Pneumatic Wrist Line			3 Inputs & 3 Outputs
Controller			RCA620-GB
Weight		kg	240

* Movement Profile is 25-300-25 with 20kg load



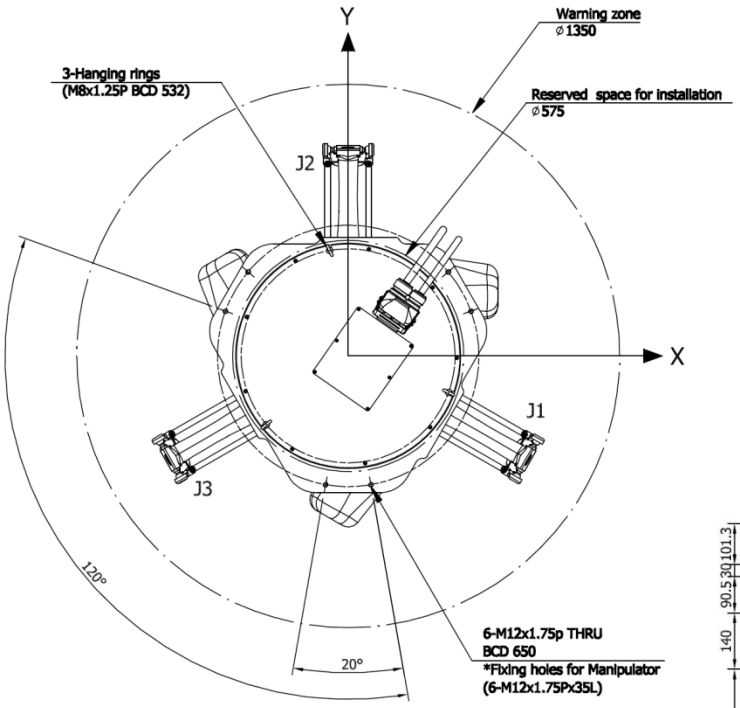


ULTRA HIGH-SPEED/ACCURACY DELTA ROBOT

- **Top mounted installation**
- **Multiple electric and pneumatic ports w/ solenoids**
- **Motors w/ Brakes and Absolute Encoders on all axes**
- **IP Protection: IP40**

RD403

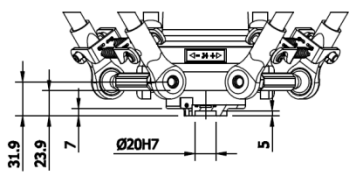
PICK AND PLACE | PACKAGING | ASSEMBLY

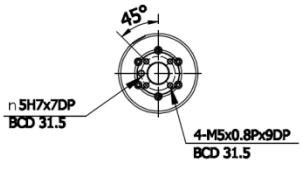


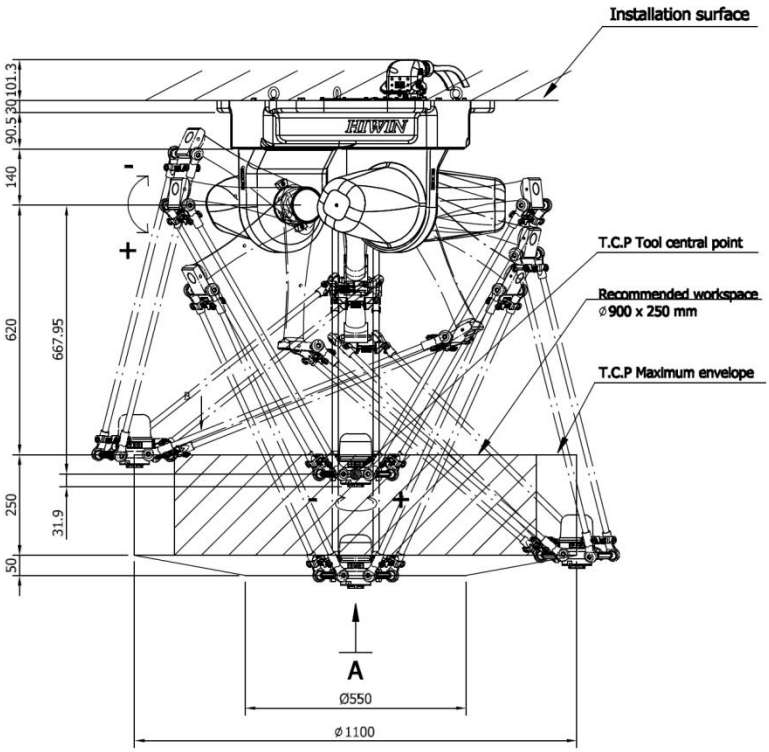
RD403 SPECIFICATIONS

Model		Units	RD403-1100-GB
Degrees of Freedom			4
Nominal Load Capacity		kg	3
Motion Range	Horizontal Stroke	mm	1100
	Vertical Stroke		300
Standard Cycle Time*		sec	0.3 - 0.4 (w/3kg)
Position Repeatability		mm	±0.1
IP Rating			40
Controller			RCD403-GB
Weight		kg	95

* Movement Profile is 25-300-25 with 0.1kg load







Automation Solutions

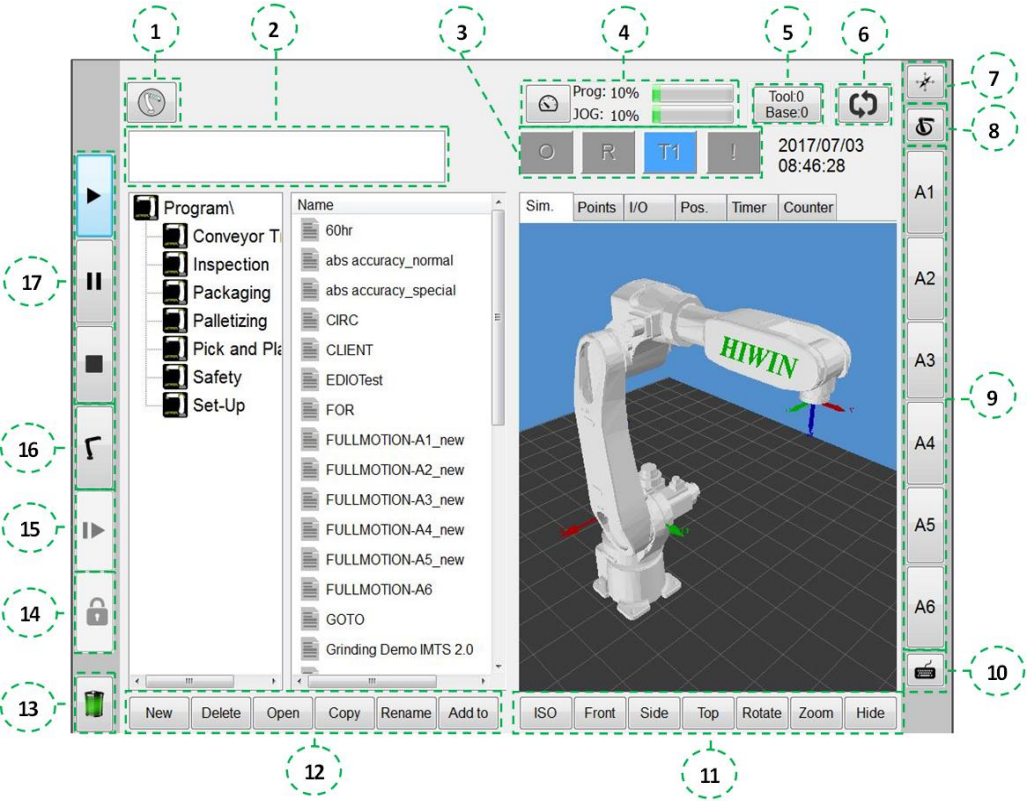
ERGONOMIC LARGE SCREEN TEACHING PENDANT

- **Jog directions (forward, backward, left right) based on operator position relative to robot**
- **Integrated emergency stop to immediately cut power**
- **3 position Dead-Man switch protects users and equipment while teaching**

TEACH PENDANT

ERGONOMIC | INTEGRATED SAFETY FEATURES

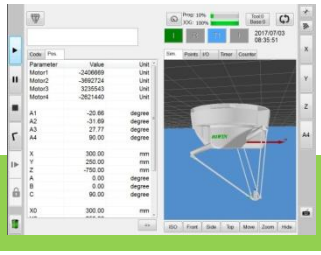
1. Key with three positions: Lock, Auto, and Manual
2. Emergency Stop
3. Axis Jog Buttons
4. Velocity Adjustment
5. Perspective Jog Buttons
6. 3 Position Dead-Man Switch



1. Main Menu
2. Error Information Window
3. Status Bar
4. Program and Jogging Speed
5. Current Tool and Base
6. Step Motion
7. Teach Pendant Configuration
8. Coordinate Select
9. Axis Run Buttons
10. On Screen Keyboard
11. Simulation View Adjustment
12. Status Buttons
13. Battery
14. Lock Button
15. Next Step Motion Button
16. Home Button
17. Run Control Buttons

SIMPLE, INTUITIVE PROGRAMING LANGUAGE

- **Joint, Cartesian or Tool Jogging**
- **Linear, Circular or PTP movements with integrated path blending**
- **Offline version available for program verification and simulation**
- **Built-in conveyor tracking**

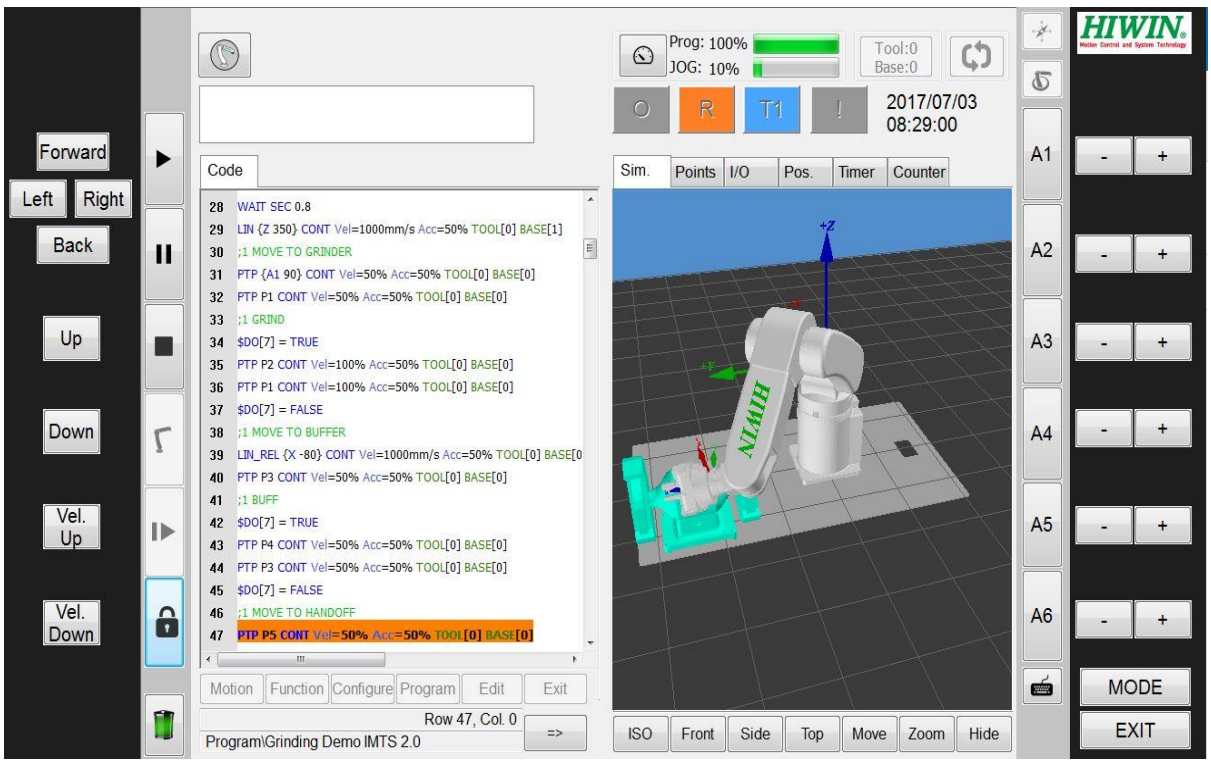


HRSS SOFTWARE

HIWIN ROBOT SYSTEM SOFTWARE

SOFTWARE FEATURES

- Jogging with joint, Cartesian coordinates, or tool coordinates
- Input or measure multiple tool and base coordinate systems
- Linear, circular or point-to-point (PTP) motion
- Motion planning and blending options for faster cycle times
- Accurately predict speed and movement by inputting payload, 3D models of tools and surrounding parts
- Safety features can be programmed into software through digital inputs
- Simultaneously view I/O's, points, positions, program, and/or simulation
- Easily program logic functions (If, While, Wait, For, GOTO, etc.) with the press of a button
- Offline PC programming available



Automation Solutions

HIWIN MULTI-AXIS CONTROLLER

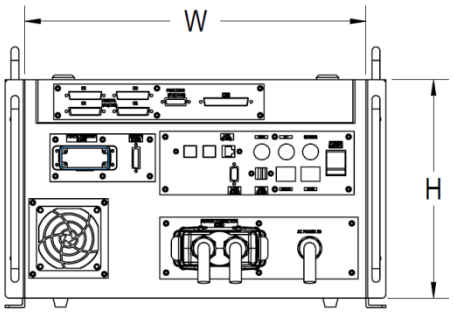
- Digital, Function, Safety and Robot integrated I/O's
- USB, Serial/RS232, and Ethernet communication
- Easily integrates with light curtains and other safety devices

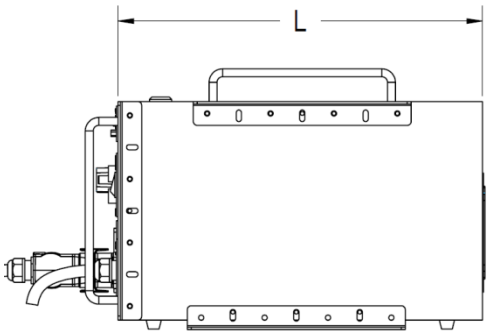
CONTROLLER

4 AND 6 AXIS ROBOT CONTROLLER

CONTROLLER SPECIFICATIONS

Model		Units	RCA605	RCA610-GB	RCA620-GB	RCD403-GB
Control Axis			6			4
Control Mode			PTP (Point-to-Point) CP (Continuous Path)			
Control System			AC Servo Control			
Language			HRSS			
Memory Capacity	Fixed Point		1,000	5,000		
	Step No		1,000	10,000		
Instruction			Remote, MDI			
Comm Interface	RS232		1			
	Ethernet		1	2	1	
	USB		2		1	2
External I/O	Digital I/O		Input: 24 (48 Max) Output: 24 (48 Max)		Input: 16 (32 Max) Output: 16 (32 Max)	
	Robot I/O (Body)		Input: 6 (8 Max) Output: 4 (8 Max)			
	Safety I/O		Input: 1 Output: 1			
	Function I/O		Input: 8 Output: 8			
Power	Input Power	VAC	Single-phase 200-240	Three-phase 200-240		Single-phase 200-240
	Power Cap	KVA	3.3	3.1	3.5	4.4
	Power Freq	Hz	50/60			
	Voltage Drop	msec	≤10			
	Current Out	A	15	10	20	20
Dimensions		mm^3	430W X 460L X 275H	530W X 555L X 2290H	550W X 530L X 872H	430W X 460L X 275H
Weight		kg	30	48	80	34
IP Grade			20	20	54	20
Workplace Temp Range		°C	0-40			
Relative Humidity		%RH	45-85			
Grounding		Ω	<100			



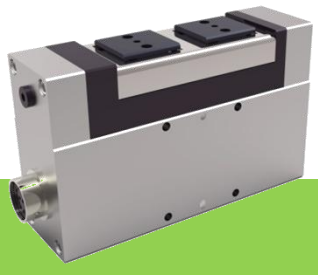


ACCESSORIES

HIWIN®
Motion Control and System Technology

2 FINGER, PARALLEL ELECTRONIC GRIPPER

- Adjustable gripping force, position, velocity
- Easily grip deformable parts, rubber, glass, etc. w/o damage
- Compact size with high speed, accuracy and stiffness



XEG SERIES GRIPPERS

ELECTRONIC GRIPPER w/ EXTERNAL CONTROLLER

GRIPPER SPECIFICATIONS

Model		Units	XEG-16	XEG-32	XEG-64
Full Stroke		mm	16	32	64
Gripping Force		N	25~50	60~150	180~450
Max Gripping Weight		kg	0.5	1.5	4.5
Repeatability		mm	±0.01		
Speed	Motion	mm/s	1~60	1~80	1~100
	Gripping		1~20	1~20	1~20
Weight		kg	0.4	0.7	1.9

XEG-16

XEG-32

XEG-64

DRIVER SPECIFICATIONS

Model		Units	XEG-C1
Number of Points			30 points + original
External I/O	Input		5 points: command point setting 1 point: command input
	Output		6 points: control output
Serial Communication			USB
Power Supply		V	DC24V±10%
Total Current		A	3A MAX
Weight		kg	0.15

Driver XEG-C1

HIWIN CAN PROVIDE COMPLETE INDUSTRIAL ROBOT SOLUTIONS WITH ROBOT, CONTROLLER, GRIPPERS, TRANSFER UNIT, ADAPTER PLATE AND/OR BASE.

- CONTACT US FOR DETAILS -

Automation Solutions

2 AND 3 FINGER ELECTRONIC GRIPPERS

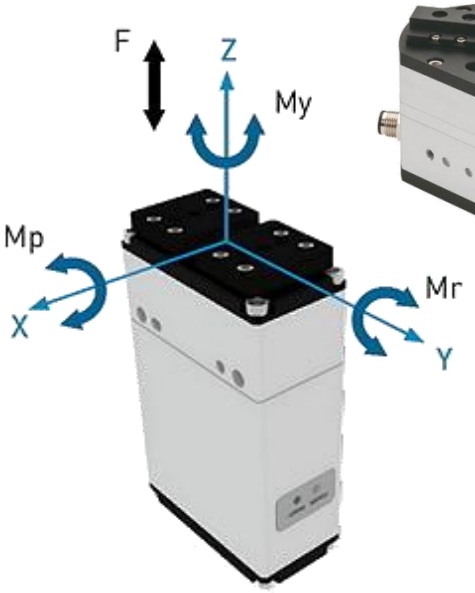
- Integrated controller – Plug and Play
- Programming software not required
- Grip deformable parts, rubber, glass, etc. w/o damage
- Compact size with high speed, accuracy and stiffness
- High efficiency clamping

SEG SERIES GRIPPERS

ELECTRONIC GRIPPER w/ INTEGRATED CONTROLLER

GRIPPER SPECIFICATIONS

Model		Unit	SEG-04	SEG-24	STG-16
Fingers			2	2	3
Performance Specifications	Stroke Per Finger	mm	2	12	8
	Gripping Force	N	8	35	30
	Gripping Speed	mm/s	45	15 (60)	30
	Repeatability	mm	±0.1		
Power Specifications	Input Voltage	V	24±10%		
	Current	A	Max 1		
Load Specifications	Mr	N-m	2.6	11.76	1
	Mp	N-m	2.3	7.35	4.5
	My	N-m	2.3	7.35	4.5
	F	N	108.9	254.8	196
Hardware Specifications	Weight	kg	0.2	0.7	
	Length	mm	81	105.5	72.3
	Width	mm	49	88	100
	Height	mm	25	38	100



SEG-04

STG-16

SEG-24

RJ-30 ROTARY JOINTS

SPECIFICATIONS

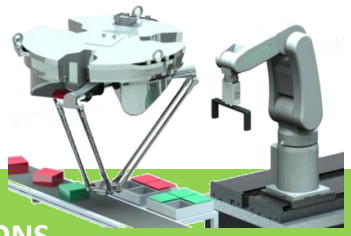
Model	Units	ERJ30	PRJ30
Max Fz	N	50	
Max Mxy	N-m	6	
Max Velocity	RPM	150	120
Initial Torque	N-m	0.5	
Constant Torque	N-m	0.4	

- Eliminates wire interference and damage at end effector
- Reduces application time
- Compact design minimizes load requirement and increases reach
- Electric (24v/2A) and Pneumatic (145psi) options

HIWIN®
Motion Control and System Technology

COMPLETE AUTOMATION SYSTEMS

- **Multi-system integration through programmable I/O Ports**
- **Plug-and-play with robot friendly machines**
- **Built-in conveyor tracking**
- **Standard Adapter plates for connecting HIWIN products**



INTEGRATED SOLUTIONS

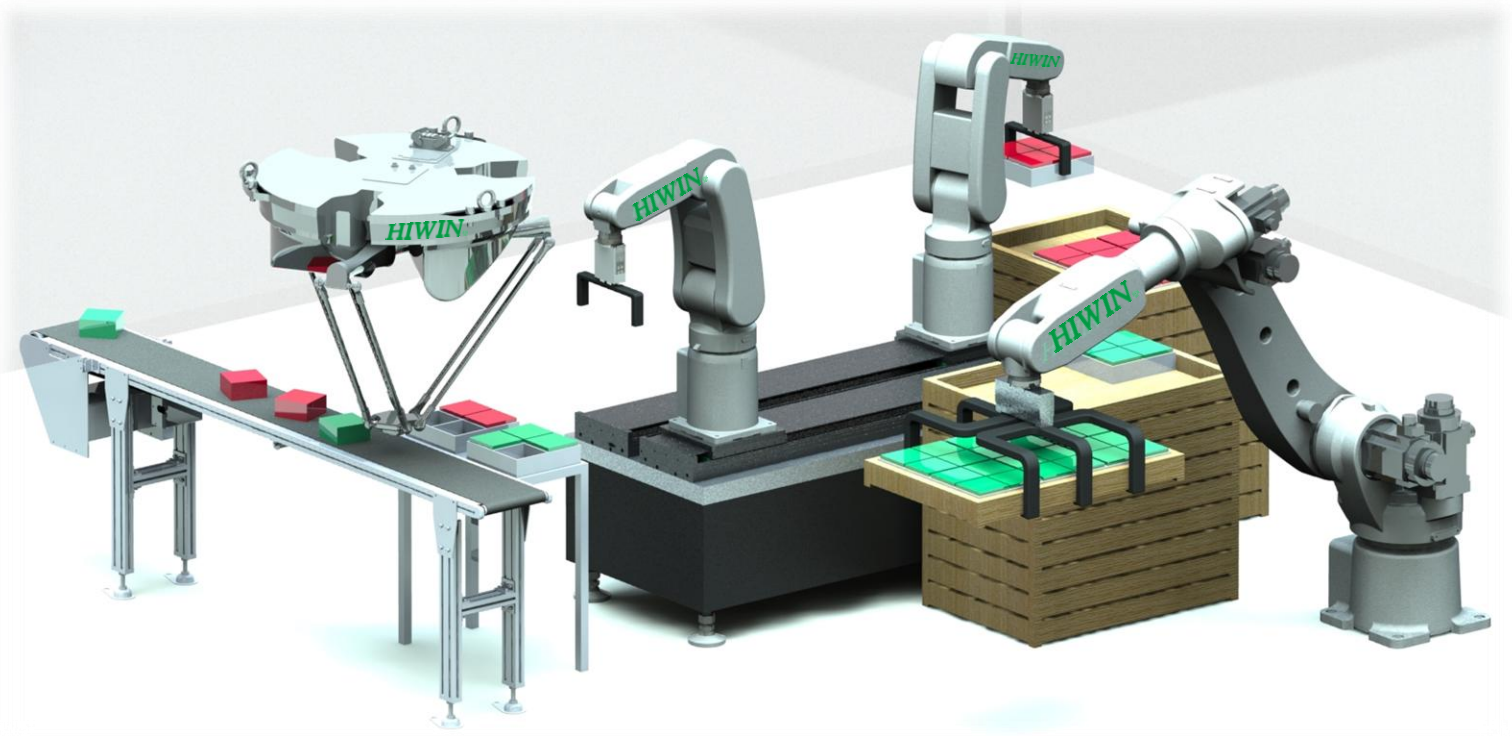
ROBOT TRANSFER UNITS | INSPECTION CELLS | AUTOMATED PACKAGING AND ASSEMBLY STATIONS

HIWIN COOPERATIVE TECHNOLOGY

HIWIN offers the widest range of motion products in the industry and can provide all the major component systems of an integrated automation solution. Simple I/O port communication between systems allows systems to work interactively for cost effective, “lights-out” operation.

HIWIN Motion Systems Include:

- Linear Motors
- Torque Motors / Rotary Tables
- Single Axis Mechanical Stages
- Linear Motors
- Electric Grippers



HIWIN CAN PROVIDE COMPLETE INDUSTRIAL ROBOT SOLUTIONS WITH ROBOT, CONTROLLER, GRIPPERS, TRANSFER UNIT, ADAPTER PLATE AND/OR BASE.

- CONTACT US FOR DETAILS -

Automation Solutions

HIWIN
Motion Control and System Technology

COMING SOON FROM HIWIN

EXTENDED REACH/PAYLOAD OPTIONS

OPTIONS FOR ANY APPLICATION

- Increased arm lengths for larger work area
- Increase payload with reduced arm lengths
- Optimize performance for specific applications

Model		Units	RA605-910	RA610-1355	RA610-1672	RA610-1869	RA620-1621	RA620-1936	RA620-2134
Degrees of Freedom			6						
Nominal Load Capacity		kg	5	12	10	7	30	20	14
Maximum Reach Radius		mm	910	1355	1672	1869	1621	1936	2134
Operating Range	J1	deg	-165 ~ +165 (330)	-170 ~ +170 (340)			-180 ~ +180 (360)		
	J2		-125 ~ +85 (210)	-150 ~ +95 (245)			-135 ~ +100 (235)		
	J3		-55 ~ +185	-85 ~ +185 (270)			-80 ~ +190 (270)		
	J4		-190 ~ +190 (380)	-190 ~ +190 (380)			-200 ~ +200 (400)		
	J5		-115 ~ +115 (230)	-135 ~ +135 (270)			-130 ~ +130 (260)		
	J6		-360 ~ +360 (720)	-360 ~ +360 (720)			-360 ~ +360 (720)		
Maximum Speed	J1	deg/ sec	375	192			204		
	J2		300	206			186		
	J3		375	219			182		
	J4		370	450			360		
	J5		375	450			420		
	J6		600	720			720		
Standard Cycle Time		sec	0.5	0.60	0.60	0.60	0.80		
Position Repeatability		mm	±0.02	±0.05	±0.06		±0.06	±0.07	
Allowable Load Moment at Wrist	J4	N-m	8.46	16.9			34.2		
	J5		8.46	16.9			34.2		
	J6		5.6	11.0			22.3		
Allowable Load Inertia at Wrist	J4	kg-m^2	0.35	1.07			1.35		
	J5		0.35	1.07			1.35		
	J6		0.14	0.49			0.60		

OTHER AUTOMATION SOLUTIONS

HIWIN offers a wide selection of automation solutions and positioning systems.

- Ballscrew Driven Stages
- Belt Driven Stages
- Linear Motor Stages
- Direct Drive Rotary Motors
- Positioning Tables

Downloadable info for all HIWIN solutions

For Engineering questions and support call **847.827.2270**

For more information or to request a quote, please visit our website at **www.hiwin.com** or call **847.827.2270**

Note: All information supplied for HIWIN products is to be considered approximate average values. The stated specifications, descriptions and illustrations of the products were valid at the time of printing. Specifications are subject to change without notice. Only quotations submitted by HIWIN may be regarded as definitive.

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