

Global Leader

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HYUNDAI ROBOT SERIES



 **HYUNDAI** | ROBOTICS DIVISION
HEAVY INDUSTRIES

Hyundai Robot Series

Model					
			HA006A	HA006L	HH010L
Payload			6 kg	6 kg	10 kg
Max. Reach			1,425 mm	1,994 mm	1,964 mm
Degree of freedom			6 Axes	6 Axes	6 Axes
Installation			Floor / Wall / Ceiling	Floor / Wall / Ceiling	Floor / Wall / Ceiling
Max. Motion Range	S	Swivel	$\pm 172^\circ$	$\pm 185^\circ$	$\pm 185^\circ$
	H	For/Backward	$+180^\circ \sim -78^\circ$	$+195^\circ \sim -70^\circ$	$+195^\circ \sim -70^\circ$
	V	Up/Downward	$+180^\circ \sim -82^\circ$	$+180^\circ \sim -80^\circ$	$+180^\circ \sim -80^\circ$
	R2	Rotation 2	$\pm 180^\circ$	$\pm 195^\circ$	$\pm 195^\circ$
	B	Bending	$\pm 135^\circ$	$\pm 135^\circ$	$\pm 135^\circ$
	R1	Rotation 1	$\pm 360^\circ$	$\pm 360^\circ$	$\pm 360^\circ$
Max. Speed	S	Swivel	230 °/s	190 °/s	190 °/s
	H	For/Backward	230 °/s	180 °/s	180 °/s
	V	Up/Downward	230 °/s	190 °/s	190 °/s
	R2	Rotation 2	430 °/s	380 °/s	380 °/s
	B	Bending	430 °/s	430 °/s	380 °/s
	R1	Rotation 1	640 °/s	640 °/s	600 °/s
Allowable Moment	R2	Rotation 2	1.2 kgf.m	4.0 kgf.m	2.5 kgf.m
	B	Bending	1.0 kgf.m	1.0 kgf.m	2.5 kgf.m
	R1	Rotation 1	0.6 kgf.m	0.6 kgf.m	1.1 kgf.m
Repeatability			± 0.04 mm	± 0.06 mm	± 0.06 mm
Ambient Temperature			0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)
Approximate Weight			150 kg	224 kg	230 kg
Max. Rated Power			4.4 kVA	4.4 kVA	4.4 kVA
Controller Model			Hi5a	Hi5a	Hi5a
Option				Wrist IP54	Wrist IP67
Application	Arc Welding		●	●	●
	Spot Welding				
	Handling		●	●	●
	Sealing		●	●	●
	Others				

High Speed

						
HH020	HH020L	HH030L	HH050	YS080	YS100A	HH100SL
20 kg	20 kg	30 kg	50 kg	80 kg	100 kg	100 kg
1,742 mm	3,281 mm	2,535 mm	2,239 mm	2,239 mm	2,239 mm	3,507 mm
6 Axes	6 Axes	6 Axes	6 Axes	6 Axes	6 Axes	6 Axes
Floor / Wall / Ceiling	Floor / Wall / Ceiling	Floor / Wall / Ceiling	Floor / Wall / Ceiling	Floor / Wall / Ceiling	Floor / Wall / Ceiling	Shelf
±185 °	±180 °	±180 °	±180 °	±180 °	±180 °	±180 °
+195 ° ~ -70 °	+180 ° ~ -65 °	+180 ° ~ -65 °	+180 ° ~ -65 °	+180 ° ~ -65 °	+180 ° ~ -65 °	+125 ° ~ -70 °
+180 ° ~ -80 °	+180 ° ~ -80 °	+180 ° ~ -80 °	+180 ° ~ -80 °	+180 ° ~ -80 °	+180 ° ~ -80 °	+190 ° ~ -80 °
±195 °	±195 °	±360 °	±360 °	±360 °	±360 °	±360 °
±135 °	±135 °	±125 °	±125 °	±125 °	±125 °	±125 °
±360 °	±360 °	±360 °	±360 °	±360 °	±360 °	±360 °
190 °/s	175 °/s	150 °/s	175 °/s	170 °/s	150 °/s	105 °/s
180 °/s	175 °/s	140 °/s	175 °/s	140 °/s	130 °/s	85 °/s
190 °/s	180 °/s	150 °/s	175 °/s	160 °/s	140 °/s	95 °/s
380 °/s	360 °/s	250 °/s	250 °/s	230 °/s	200 °/s	170 °/s
380 °/s	380 °/s	250 °/s	250 °/s	230 °/s	200 °/s	155 °/s
600 °/s	600 °/s	350 °/s	350 °/s	350 °/s	300 °/s	270 °/s
4 kgf.m	4 kgf.m	20.4 kgf.m	22 kgf.m	40.8 kgf.m	50 kgf.m	105 kgf.m
4 kgf.m	4 kgf.m	20.4 kgf.m	22 kgf.m	40.8 kgf.m	50 kgf.m	105 kgf.m
2 kgf.m	2 kgf.m	10.2 kgf.m	15 kgf.m	20.4 kgf.m	25 kgf.m	50 kgf.m
±0.06 mm	±0.08 mm	±0.08 mm	±0.06 mm	±0.06 mm	±0.06 mm	±0.15 mm
0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)
225 kg	535 kg	650 kg	645 kg	645 kg	645 kg	1,450 kg
4.4 kVA	4.4 kVA	8 kVA	8 kVA	8 kVA	8 kVA	8 kVA
Hi5a	Hi5a	Hi5a	Hi5a	Hi5a	Hi5a	Hi5a
Wrist IP67	Wrist IP67	Wrist IP67	Wrist IP67	Wrist IP67	Wrist IP67	
●						
				●	●	●
●	●	●	●	●	●	●
●	●	●				
Press Handling		Press Handling	Press Handling			Press Handling

High Reliability

							
HH130L	YS140	HS160L	HP160	HS165S	HS165D	HS180 / HS220	
130 kg	140 kg	160 kg	160 kg	165 kg	165 kg	180 kg	220 kg
3,082 mm	2,339 mm	3,036 mm	3,128 mm	3,090 mm	1,350 mm	2,666 mm	
6 Axes	6 Axes	6 Axes	4 Axes	6 Axes	6 Axes	6 Axes	
Floor	Floor	Floor	Floor	Shelf	Floor	Floor	
±180 °	±180 °	±180 °	±180 °	±180 °	±170 °	±180 °	
+155 ° ~ +10 °	+180 ° ~ -60 °	+180 ° ~ -65 °	+135 ° ~ -10 °	+125 ° ~ -70 °	+160 ° ~ -30 °	+155 ° ~ +10 °	
+190 ° ~ -80 °	+230 ° ~ -150 °	+230 ° ~ -135 °	+75 ° ~ -65 °	+190 ° ~ -80 °	+90 ° ~ -60 °	+190 ° ~ -80 °	
±360 °	±360 °	±360 °	-	±360 °	±360 °	±360 °	
±125 °	±125 °	±130 °	-	±130 °	±130 °	±128 °	
±360 °	±360 °	±360 °	±360 °	±360 °	±360 °	±360 °	
105 °/s	140 °/s	95 °/s	130 °/s	105 °/s	100 °/s	120 °/s	
85 °/s	110 °/s	95 °/s	120 °/s	105 °/s	90 °/s	115 °/s	105 °/s
95 °/s	120 °/s	95 °/s	120 °/s	105 °/s	90 °/s	125 °/s	115 °/s
170 °/s	165 °/s	150 °/s	-	150 °/s	150 °/s	185 °/s	145 °/s
155 °/s	165 °/s	145 °/s	-	145 °/s	145 °/s	175 °/s	145 °/s
270 °/s	250 °/s	220 °/s	300 °/s	220 °/s	220 °/s	265 °/s	220 °/s
105 kgf.m	70 kgf.m	105 kgf.m	-	105 kgf.m	100 kgf.m	110 kgf.m	145 kgf.m
105 kgf.m	70 kgf.m	105 kgf.m	-	105 kgf.m	100 kgf.m	110 kgf.m	145 kgf.m
50 kgf.m	35 kgf.m	50 kgf.m	50 kgf.m	50 kgf.m	50 kgf.m	58 kgf.m	79 kgf.m
±0.15 mm	±0.06 mm	±0.15 mm	±0.2 mm	±0.06 mm	±0.06 mm	±0.06 mm	
0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)	
1,400 kg	670 kg	985 kg	1,495 kg	1,540 kg	810 kg	955 kg	
8 kVA	8 kVA	8 kVA	8 kVA	8 kVA	8 kVA	8 kVA	
Hi5a	Hi5a	Hi5a	Hi5a	Hi5a	Hi5a	Hi5a	
●	●	●		●	●	●	
●	●	●	●	●	●	●	
Press Handling			Palletizing				

Wide Working Envelope

					
HS200S	HS200L	HH300	HX300L	HX400	HX400S
200 kg	200 kg	300 kg	300 kg	400 kg	400 kg
3,090 mm	3,070 mm	2,666 mm	3,056 mm	2,573 mm	3,106 mm
6 Axes	6 Axes	6 Axes	6 Axes	6 Axes	6 Axes
Shelf	Floor	Floor	Floor	Floor	Shelf
±180°	±180°	±180°	±180°	±180°	±180°
+125° ~ -70°	±75°	±75°	+165° ~ +15°	+165° ~ +15°	+95° ~ -50°
+190° ~ -80°	+30° ~ -125°	+30° ~ -125°	+60° ~ -70°	+60° ~ -70°	+60° ~ -70°
±360°	±360°	±360°	±360°	±360°	±360°
±125°	±120°	±120°	±120°	±120°	±120°
±360°	±360°	±360°	±360°	±360°	±360°
95°/s	95°/s	95°/s	95°/s	95°/s	85°/s
95°/s	95°/s	95°/s	95°/s	95°/s	85°/s
95°/s	95°/s	95°/s	95°/s	95°/s	85°/s
135°/s	120°/s	110°/s	100°/s	100°/s	100°/s
120°/s	120°/s	110°/s	100°/s	100°/s	100°/s
190°/s	180°/s	180°/s	160°/s	160°/s	160°/s
136 kgf.m	131.5 kgf.m	170 kgf.m	170 kgf.m	200 kgf.m	200 kgf.m
136 kgf.m	131.5 kgf.m	170 kgf.m	170 kgf.m	200 kgf.m	200 kgf.m
72 kgf.m	61.6 kgf.m	70 kgf.m	70 kgf.m	84 kgf.m	84 kgf.m
±0.06 mm	±0.2 mm	±0.15 mm	±0.2 mm	±0.15 mm	±0.2 mm
0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)	0~45°C(273~318K)
1,595 kg	1,223 kg	1,250 kg	2,685 kg	2,620 kg	2,910 kg
8 kVA	10.5 kVA	10.5 kVA	10.5 kVA	10.5 kVA	10.5 kVA
Hi5a	Hi5a	Hi5a	Hi5a	Hi5a	Hi5a
●	●	●	●	●	●
●	●	●	●	●	●

Robot Application



Car body line in China



Car body line in Czech



Arc welding robot



Inspection robot system



Handling robot for press line



Spot welding robot for train

■ Controller Specifications

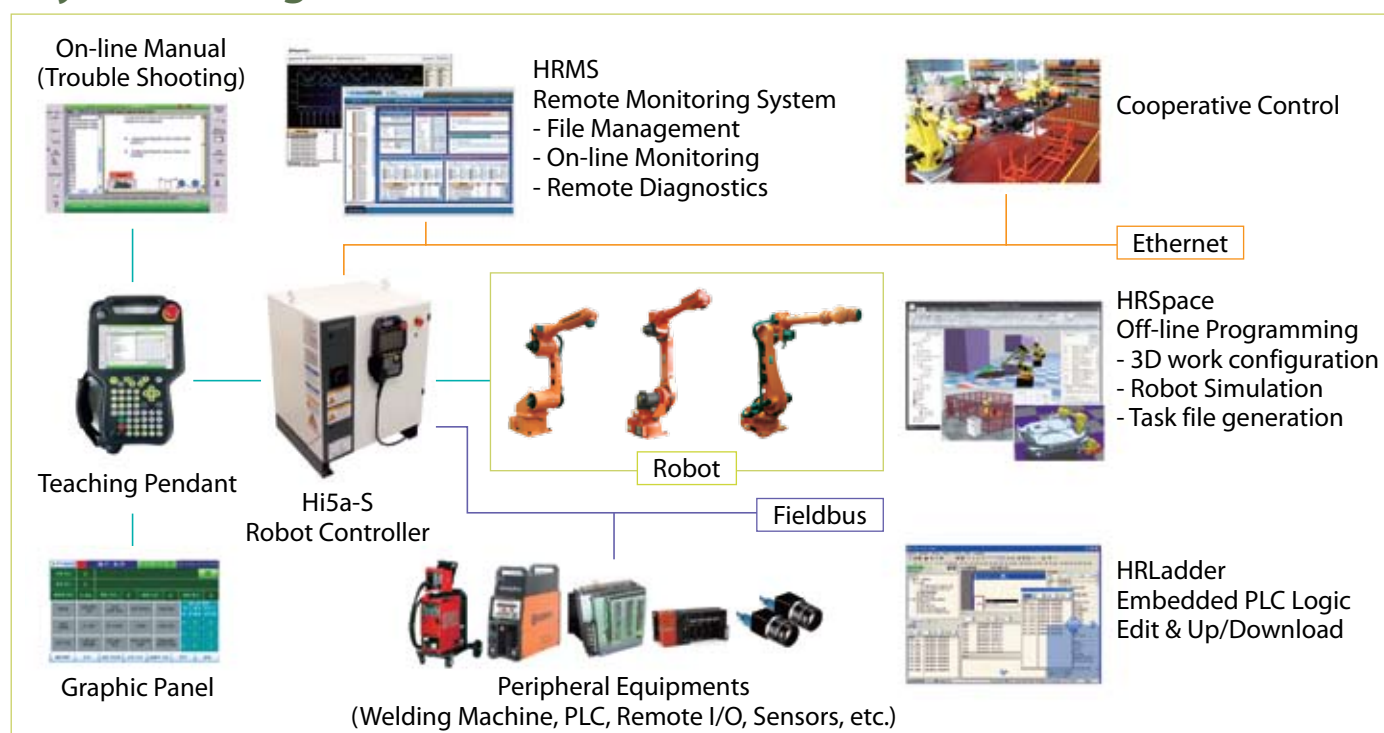
Items	Specifications
Model Name	Hi5a-S
Operating Mode	Teaching & Playback
Interpolation	Point-to-Point, Linear, Circular
Max. Axes	Max. 16 axes simultaneously
Number of Steps	4MB (max. 21,000 steps)
External Program Selection	Binary 255 / Discrete 8
Position Detector	Serial Absolute Encoder
Program Back-up	USB Memory
Servo Drive System	Full Digital Servo
Digital Input / Output	Max. 256 / 256
Analog Input / Output	8 / 8
Conveyor Pulse Counter	Differential & Open Collector Type
User / Machine Interface	2 x Ethernet (100 Base-T) 2 x RS232C/RS422 1 x USB (for backup, version-up) 2 x CAN (1 option) 1 x SD Card
Fieldbus(option)	PROFINET IO-Controller / IO-Device EtherNet/IP Scanner / Adapter DeviceNet Master / Slave PROFIBUS-DP Master / Slave CC-Link Slave (V1.10, V2.0) MODBUS (Serial)
Rated Supply Voltage	3Φ AC220V±10%, 50/60Hz
Max. Rated Power	8kVA (Instant Max. 30kVA)
Size	700mm x 900mm x 630mm
Environment	IP Class: IP54 Ambient Temperature: 0°C~45°C Relative Humidity: 20~95%, Non-condensing

■ Teaching Pendant Specifications

Items	Specifications
Model Name	TP520
Operating System	Windows CE
Display	7" Color TFT-LCD / Touch Panel
Operating Mode	Menu Driven and Code Input

- Robot tasks are programmed in easy language similar to BASIC.
- Advanced control technologies are applied, such as path-invariant motion planning, dynamic model based control and vibration suppression control.
- Provides reliable maintenance methods for maximizing availability by on-line manual and remote monitoring system.
- Reduces installation time and increases productivity with powerful S/W tools on PC like HRSpace, HRLadder, etc.
- Supports various fieldbus and communication solutions to adapt any manufacturing environment.
- Complies with ISO 10218-1:2011, ANSI/RIA15.6:2012 safety standards.

■ System Configuration

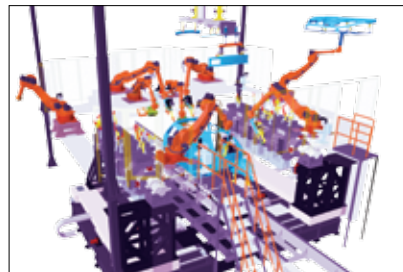
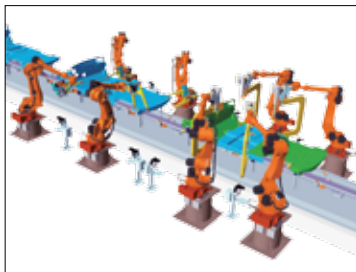




■ Off-Line Programming

Simulate and create robot applications in your office

- ROBCAD Interface
- Teaching Pendant Interface
- File Up / Down Load
- RCS (Robot Control Simulation)
- ROBCAD/DM - Works/PS/
PowerMill Interface



■ Certificate (ISO 9001, ISO 14001, QS-9000TE, CE, NRTL)



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