

Heartful Technology

**Yushin**

**NETLINER**

**YA**

SERVO TRAVERSE ROBOT

**SERIES**

**YA/YA II**



**Yushin Precision Equipment Co., Ltd.**

## High-class controller with excellent operability

It offers a high level of visibility with a 65000-color 7.5 inch LCD touch panel. Quick response of picture conversion enables fast operation.



# NETLINER YA E-touch

### ● Cross-shaped key



This is applicable for teaching in the mold because operators can control the robot without looking at the touch-panel.

### ● Edge-protector

The edge-protector cushions the controller case if dropped.



### ● SD memory card applicable



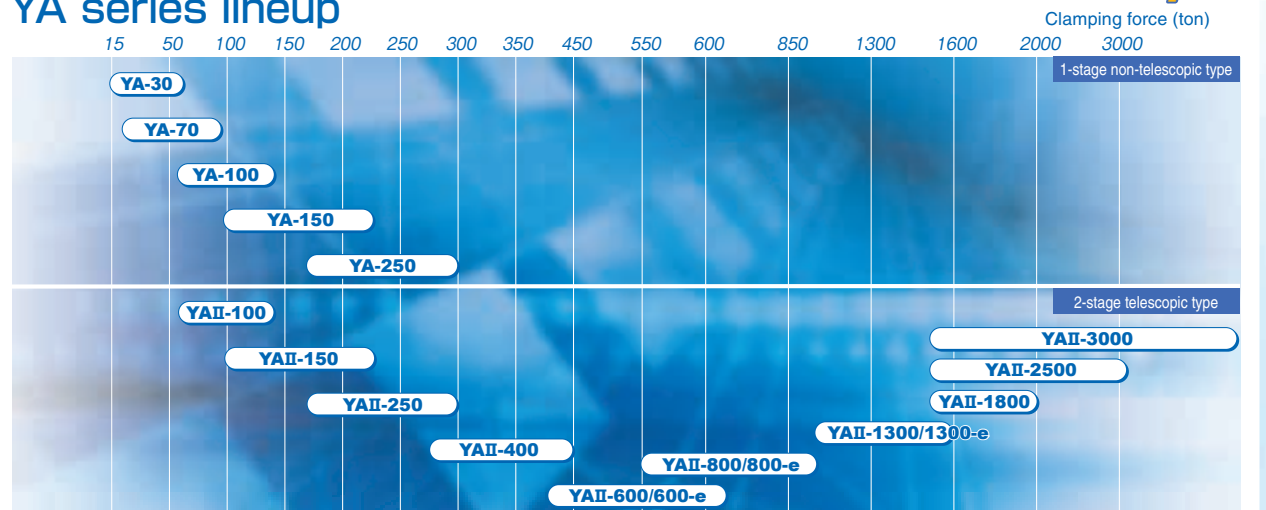
SD memory card is adopted as a memory medium. Teaching data can be backed up in the SD memory card and data copy to another robot is also possible.



**YA series supports the automation of molding plants with a high level of operability and sophisticated functions.**

## YA series lineup

### Wide range lineups



# series controller compact

PAT  
PAT.P



## ● Lead Through Teaching

The state-of-the-art software allows operators to easily make various kinds of changes to programs through teaching such as addition of positions, output signals and timers.



## ● Easy pass mode (Stroke setting for positioning completion)

Describing an arc, take-out robot performs extraction by the most direct way. Operators can easily set the mode just by inputting values of stroke for positioning completion (stroke of moving forward and backward) on the E-touch compact controller screen.



## ● Vacuum suction circuit with monitor (Option)

Vacuum pressure is indicated on the controller screen in real time and vacuum sensor pressure can be set on the controller screen.



## ● Timer auto tuning (Option)

This is a useful accompanying function of Vacuum suction circuit with monitor. With this function, waiting time for kick motion and timing of ejector order output are automatically adjusted to be optimal. Reducing wasted waiting time, decreases the total setup time.



## Features of the robot body

### ■ Inclusion of steel frame

YA series robot achieves high-precision and high-speed operation supported by the steel frame on its traverse frame. (YA-30 adopts lightweight and highly-rigid aluminum traverse frame.)



### ■ Joining of robot body and control box

The control box is installed on the robot body, saving floor space. (Except YA-30 and YA-70)



## Option List (YA/ YAI series)







Option	Explanation	Target model	
Vacuum suction circuit	In addition to a standard product vacuum suction circuit, expansion is possible up to 4 vacuum circuits.	All types	
Product chuck circuit	In addition to a standard product chuck circuit, 1 or 3 more circuits can be added, for a total of 2 or 4 circuits.		
Sprue chuck circuit	The timing of releasing a sprue can be selected by setting the mode.		
Pitch revise circuit	The product pitch can be changed inside an end-of-arm tool.		
Sprue cut circuit	It is a circuit to cut a sprue with a nipper inside an end-of-arm tool. Combined use with "Gate cut inside end-of-arm tool circuit" is not applicable.		
Gate cut inside end-of-arm tool circuit	It is a circuit to approach a nipper blade to a gate then cut it with a nipper inside an end-of-arm tool. Combined use with "Sprue cut circuit" is not applicable.		
Vertical wrist rotation unit (detection function included)	By attaching this unit at the wrist flip unit of an end-of-arm tool, direction of the released product can be changed.	All types (except e-type and YA-30)	
Horizontal wrist rotation unit	By attaching this unit on the main arm, direction of the released product can be changed.	YA series, YAI-100~1300 (except e-type)	
End-of-arm tool quick attachment/removal fitting	An end-of-arm tool can be attached or detached quickly mechanically with this device.	All types	
Chuck half-grip circuit	A pressure-reducing valve is added to the product chuck circuit in order to prevent deformation of molded products.		
Stationary-side/ movable-side selection	It is a motion mode to switch the side of product extraction between stationary-side and movable-side.		
Signal light/ Signal tower	It indicates the status of the robot.		
External detection at ascent limit	After product extraction, product presence is checked with a limit switch at the ascent limit of the take-out robot.	YA series, YAI-100~1300	
Traverse end stanchion	It is equipped when traverse frame is extended or high accuracy positioning for product release is required.	All types	
External nipper unit on traverse frame	After taking out products whose gate should be cut, a nipper unit at the traverse limit performs gate cut.	YA-70~250, YAI-100-600	
Increased maximum payload mode	The vertical thrust is reinforced. It is applicable for heavy product extraction.	YA series, YAI-100-600, 2500	
Increased wrist flip torque mode	The reinforced wrist flip unit can be attached to increase flip torque up to 1.4 times. This mode is applicable when the end-of-arm tool is heavy or offset from the flip center is large.	YA series, YAI-100-600, 2500	
Maintenance step	A ladder and stage for maintenance work can be installed on the robot.	YAI-600-3000	
Special color	The main body of the take-out robot, frame covers, control box and operation box can be painted with the color specified by customers.	All types	
Eight-pin metal connector linkage with stocker	It is a metal connector for linkage with a Yushin-made stocker.		
Reject circuit	When a molding machine gives reject signal to the take-out robot, the defective product is released at a different position from that for good products.		
Initial shots discharge motion	Just after auto operation is started, several shots of products are compulsorily released at a different position from that for ordinary products.		
Wait on traverse	If the take-out robot cannot stay at a normal waiting position for some reason such as an obstacle is above the mold, a waiting position can be set at any position on traverse axis at will.		
High-cycle motion	Traverse and wrist flip movements are simultaneously performed to shorten the overall cycle time.		
Under-cut motion	Teaching point can be added up to three positions to extract products out of an under-cut mold.		
Sampling motion	During auto operation, products are released to a sample release position after each specified number of shots.		
Dropped product detection	After product extraction, the take-out robot continues detecting the products until it releases them completely.		
Take-out failure stop at ascent limit	When the take-out robot fails to extract products during auto operation, it stops immediately at the ascent limit and indicates an error. (Standard specified robot stops its operation after completing one cycle operation.)		
Waiting for descent order ON	When a downstream machine is not ready, the take-out robot waits for the descent order signal to turn ON for period set up with a timer. When input signal is not received, operators can select operation mode either to release products or to stop the operation with indicating an error.		
Low air pressure detection	An error is displayed when the air pressure drops below the specified value.		
Flying cycle start	The timing to output the cycle start signal to a molding machine is adjustable.		
Protective sheet for touch screen	It is a cover sheet to protect the touch screen.		
Standard program software	It is motion software of standard specifications.		
Communication with molding machine	Communication exchange is possible between take-out robot and molding machine about molding information like mold number etc, which contributes to shortening the setup time.		
Manual centralized lubrication system	It is a method to supply grease manually to a required part. There are two different types: traverse-axis centralized greasing type and all-axis centralized greasing type. (All-axis centralized greasing is a standard function for 1800, 2500 and 3000 type)		YAI-800-3000
Automatic centralized lubrication system	It is a method to supply grease automatically to a required part with an electric pump.		
Flexible Teaching	It is a software kit allowing operators to make a robot motion program with PC.		
Vacuum suction circuit with monitor	Vacuum pressure is indicated on the controller screen in real time and vacuum sensor pressure can be set on the controller screen.		All types
Multilingual display	Displayed language on the controller can be selected from a list of multilingual choices. (Japanese, English, German, Chinese, Spanish, Polish, Dutch, and Korean)		
Take-out Robot Simulator	It is software allowing operators to check the program on PC.		

## Vertical stroke extension option (mm)

Model	Vertical stroke		Extension (Standard st. + Extended st.)		Overall robot height after extension	
	Main arm	Sub arm	Main arm	Sub arm	S type	D type
YA-70	700	750	600+100	650+100	1325 (+100)	1375 (+100)
YA-100	800	850	650+150	700+150	1682 (+140)	1732 (+140)
YA-150	900	950	800+100	850+100	1794 (+112)	1844 (+112)
YA-250	1050	1100	900+150	950+150	1962 (+168)	2012 (+168)
YAI-100		850		700+150		1262 ( +75)
YAI-150		950		850+100		1312 ( +50)
YAI-250		1100		950+150		1387 ( +75)
YAI-400		1300		1100+200		1622 (+100)
YAI-600		1550		1300+250		1922 (+128)
YAI-800		1800		1550+250		2393 (+175)
YAI-1300		2100		1800+300		2575 (+165)
YAI-1800		2500		2100+400		3000 (+210)
YAI-2500		3000		2500+500		3190 (+240)
YAI-3000		3500		3000+500		3665 (+245)

Figures in ( ) are the length to be extended.

# YAII-600S/D, YAII-800S/D-e, YAII-800S/D, YAII-1300S/D-e

-  3/5-axis
-  Dual support type
-  2-stage telescopic type
-  Yushin linear rail
-  On robot body
-  E-touch compact Controller

## ■ Features

**Servo traverse take-out robot for middle to large molding machine with excellent price-performance**

Steel frame is adopted on the traverse axis to guarantee sufficient rigidity for handling of heavy products and stable high-speed operation. The e-type offers higher price-performance by limiting the target molded product weight.



photo/YAII-800

## ■ Standard specification

Power source	Driving method	Control method	Air pressure	Maximum air pressure	Wrist flip angle
AC200V (50/60Hz)	Digital servo motor (3/5-axis)	Micro computer control	0.49MPa	0.79MPa	90°

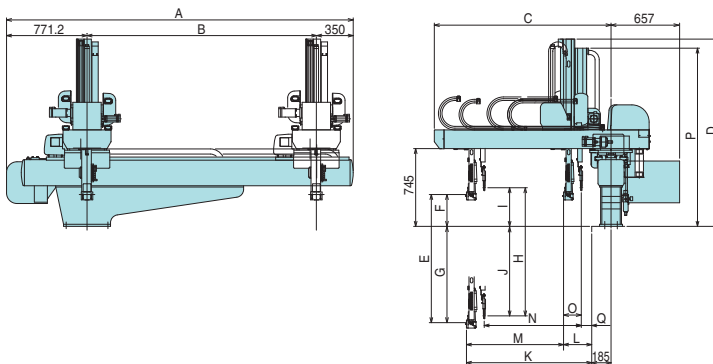
Model	Maximum power consumption	Traverse stroke (mm)	Kick stroke (mm)		Vertical stroke (mm)		Air consumption (ℓ (normal)/cycle)	Maximum payload (Including end-of-arm tool)	Clamping force (ton)
			Main arm	Sub arm	Main arm	Sub arm			
YAII-600S	S type Single phase AC200V 11A	2200 (2500)	1060	—	1300	—	22	Less than 15kg*	400~650
YAII-600D			930	930		1300			
YAII-800S-e	D type Single phase AC200V 14A		1160	—	1550	—	29		550~1000
YAII-800D-e			1030	1030		1550			
YAII-800S	S type 3 phase AC200V9.1A	2000 (2500) <3000>	1140	—	1550	—	33	Less than 25kg*	550~1000
YAII-800D			960	960		1550			
YAII-1300S-e	D type 3 phase AC200V12.1A	2500 (3000)	1540	—	1800	—	36		1000~1600
YAII-1300D-e			1360	1360		1800			

( ) Type L < > Type LL

\* The payload varies depending on the take-out robot speed setting.

## ■ Dimensions (mm)

YAII-600S/D, YAII-800S/D-e

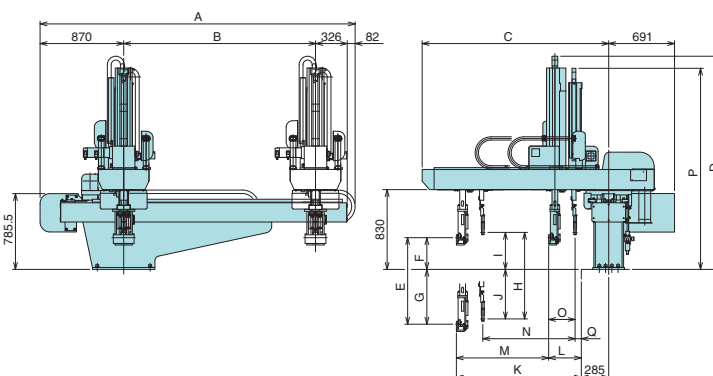


Model	A	B	C	D	E	F	G	H	I
YAII-600S	3321.2 (3621.2)	2200 (2500)	1693	1794	1300	305	995	—	—
YAII-600D			1300	370					
YAII-800S-e			1793	1922	1550	245	1305	—	—
YAII-800D-e	—	—	—	—	—	—	—	1550	310

Model	J	K	L	M	N	O	P	Q
YAII-600S	—	1200	140	1060	—	—	—	—
YAII-600D	930		270	930	930	170	1707	100
YAII-800S-e	—	1300	140	1160	—	—	—	—
YAII-800D-e	1240		270	1030	1030	170	1832	100

( ) Type L

YAII-800S/D, YAII-1300S/D-e



Model	A	B	C	D	E	F	G	H	I
YAII-800S	3278 (3778)	2000 (2500)	1941	2218	1550	330	1220	—	—
YAII-800D	<4278>	<3000>						1550	385
YAII-1300S-e	3778 (4278)	2500 (3000)	2341	2392.5	1800	130	1670	—	—
YAII-1300D-e	—	—	—	—	—	—	—	1800	185

Model	J	K	L	M	N	O	P	Q
YAII-800S	—	1300	160	1140	—	—	—	—
YAII-800D	1165		340	960	960	275	2092.5	65
YAII-1300S-e	—	1700	160	1540	—	—	—	—
YAII-1300D-e	1615		340	1360	1360	275	2211	65







( ) Type L < > Type LL

# YAII-1300S/D, YAII-1800S/D

## ■ Features

**Servo traverse take-out robot for large-size molding machine with excellent price-performance**

These models were developed in order to extract large and heavy molded products. YAII-1300S/D is applicable for a large-size molding machine with a clamping force 1000~1600 ton, and YAII-1800S/D applicable for 1500~2000 ton. Equipped with user-friendly E-touch compact controller as standard, they contribute to automation in a molding plant of large-size products.

	3/5-axis
	Dual support type
	2-stage telescopic type
	Yushin linear rail
	On robot body
	E-touch compact Controller



photo/YAII-1800

## ■ Standard specification

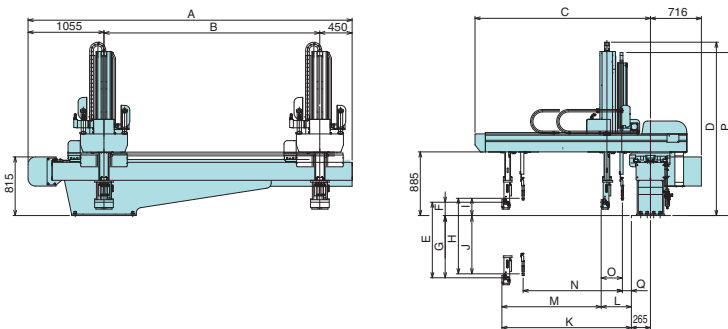
Power source	Driving method	Control method	Air pressure	Maximum air pressure	Wrist flip angle				
AC200V (50/60Hz)	Digital servo motor (3/5-axis)	Micro computer control	0.49MPa	0.79MPa	90°				
Model	Maximum power consumption	Traverse stroke (mm)	Kick stroke (mm)		Vertical stroke (mm)		Air consumption (ℓ (normal)/cycle)	Maximum payload (Including end-of-arm tool)	Clamping force (ton)
			Main arm	Sub arm	Main arm	Sub arm			
YAII-1300S	3 phase AC200V9.1A	3000 (3500)	1570	—	1800	—	51	Less than 35kg*	1000~1600
YAII-1300D	3 phase AC200V12.1A		1380	1380		1800			
YAII-1800S	3 phase AC200V 10.1A	3500 (4500)	1800	—	2100	—	135	Less than 50kg*	1500~2000
YAII-1800D	3 phase AC200V 14.8A		1565	1565		2100			

( ) Type L

\* The payload varies depending on the take-out robot speed setting.

## ■ Dimensions (mm)

### YAII-1300S/D

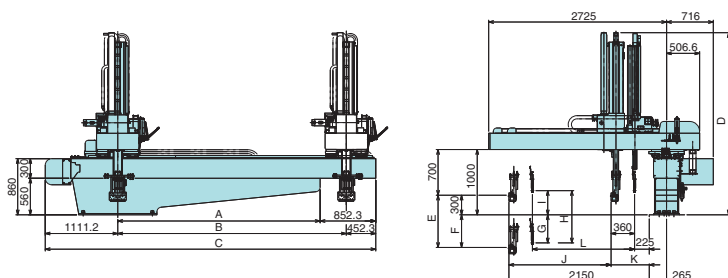


Model	A	B	C	D	E	F	G	H	I
YAII-1300S	4505	3000	2439	2410	1800	185	1615	—	—
YAII-1300D	(5005)	(3500)						1800	240

Model	J	K	L	M	N	O	P	Q
YAII-1300S	—	1800	230	1570	—	—	—	—
YAII-1300D	1560		420	1380	1380	295	2266	125

( ) Type L

### YAII-1800S/D









Model	A	B	C	D	E	F
YAII-1800S	3100	3500	5063.5	2790	2100	1800
YAII-1800D	(4100)	(4500)	(6063.5)			

Model	G	H	I	J	K	L
YAII-1800S	—	—	—	1800	350	—
YAII-1800D	1730	2100	370	1565	585	1565

( ) Type L

# YAII-2500S, YAII-3000S

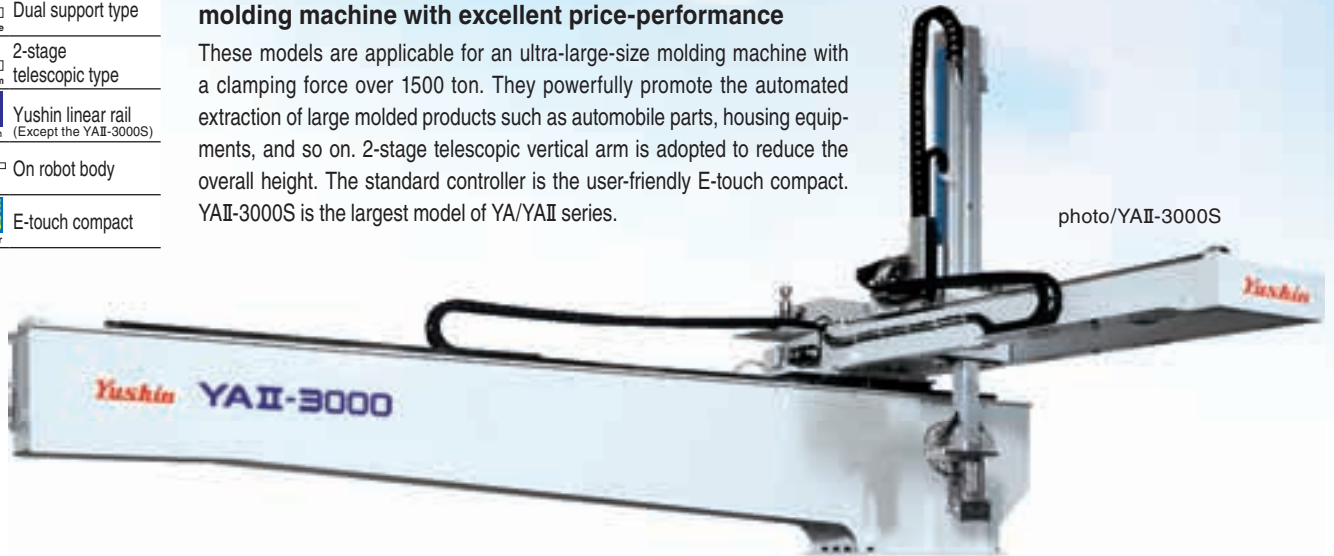
-  3-axis
-  Dual support type
-  2-stage telescopic type
-  Yushin linear rail (Except the YAII-3000S)
-  On robot body
-  E-touch compact Controller

## ■ Features

### Servo traverse take-out robot for ultra-large-size molding machine with excellent price-performance

These models are applicable for an ultra-large-size molding machine with a clamping force over 1500 ton. They powerfully promote the automated extraction of large molded products such as automobile parts, housing equipments, and so on. 2-stage telescopic vertical arm is adopted to reduce the overall height. The standard controller is the user-friendly E-touch compact. YAII-3000S is the largest model of YA/YAII series.

photo/YAII-3000S



## ■ Standard specification

Power source	Driving method	Control method	Air pressure	Maximum air pressure	Wrist flip angle				
AC200V (50/60Hz)	Digital servo motor (3-axis)	Micro computer control	0.49MPa	0.79MPa	90°				
Model	Maximum power consumption	Traverse stroke (mm)	Kick stroke (mm)		Vertical stroke (mm)		Air consumption (ℓ (normal)/cycle)	Maximum payload (Including end-of-arm tool)	Clamping force (ton)
			Main arm	Sub arm	Main arm	Sub arm			
YAII-2500S	3 phase AC200V12.4A	3500 (4500) <5000>	2050	—	2500	—	132	Less than 50kg* [80kg]	More than 1500
YAII-3000S	3 phase AC200V16.7A	4000 (4500)	2100	—	3000	—	230	Less than 100kg*	

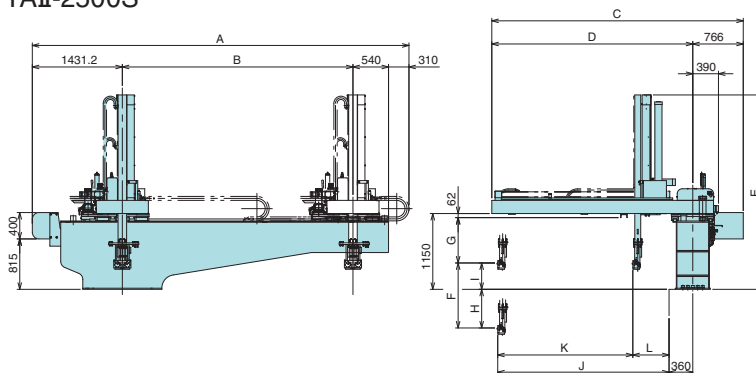
( ) Type L < > Type LL

[ ] Increased payload specification

\* The payload varies depending on the take-out robot speed setting.

## ■ Dimensions (mm)

### YAII-2500S

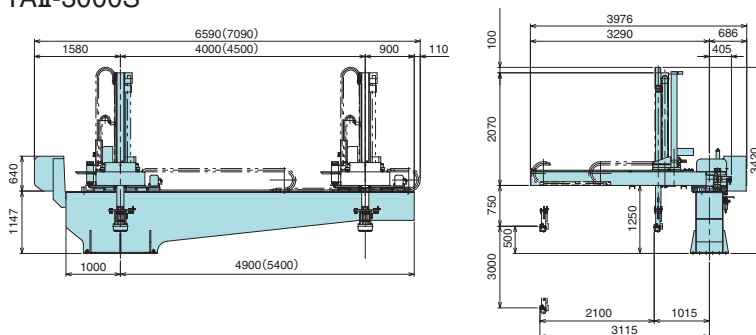


Model	A	B	C	D	E	F
YAII-2500S	5781.2	3500	3816	3050	2950	2500
YAII-2500S Increased payload specification	(6781.2) <7281.2>	(4500) <5000>				

Model	G	H	I	J	K	L
YAII-2500S	688	2100	400	2600	2050	550
YAII-2500S Increased payload specification	718	2130	370	2610		560

( ) Type L < > Type LL

### YAII-3000S

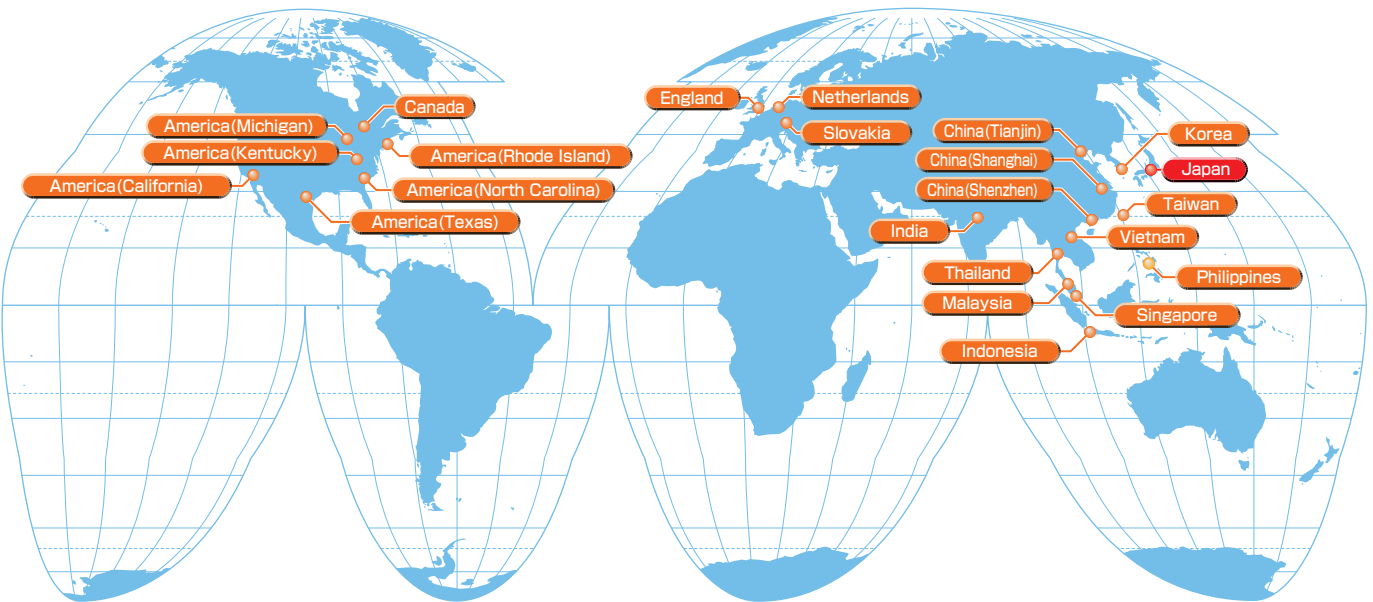


( ) Type L

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	<b>Safety information</b>	<ul style="list-style-type: none"> <li>● These products are industrial robots as defined in the labor safety rules. Always take great care when operating any robots.</li> <li>● To improve visual clarity, these robots may be shown without the safety guards that are identified in the safety rules. Never operate the robots without all safety guards in place.</li> <li>● Before using any product introduced in this literature, all operators must read and understand the instruction manual and other related documents for proper and safe equipment operation.</li> </ul>
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