

CLEAN Type

Product Lineup

CLEAN ROBOTS

Suitable for electronics component, food, and medical unit related work in clean room.

High sealing structure, dust generation prevention, and improvement of suction efficiency are achieved.

Both the high cleanliness degree and high performance are established.

Clean robots contribute to automation and labor saving of production systems in clean rooms.



Both high cleanliness degree and high performance were achieved. Clean single-axis, Cartesian, and SCARA robots were added to the product lineup.

Clean SCARA robots

YK-XGC/XC type

The Z-axis spline is covered with bellows made of materials with low dust generation and other sliding parts are sealed completely. Harnesses are also incorporated completely and the inside of the robot is sucked from the rear of the base to prevent dust generation.

- Arm length: 180 mm to 1000 mm
- Suction amount: 30 to 60 Nℓ/min.
- Cleanliness degree: ISO CLASS 3 *ISO14644-1
- Maximum payload: 20 kg



POINT 1

Vertical bellows structure improves the reliability of the clean performance.

As a beltless structure is used, no dust generation caused by the belt occurs. Furthermore, as the YK-XGC type was renewed to a structure, in which the bellows are installed on the Z-axis vertically, the reliability of the clean performance was further improved.

Note. Except for YK500XC to YK1000XC



POINT 2

High durability

As a beltless structure is used, the robot can be operated without worry about belt elongation and secular change^{Note}. Additionally, the bellows installed on the Z-axis use material with high durability to ensure the durability performance.

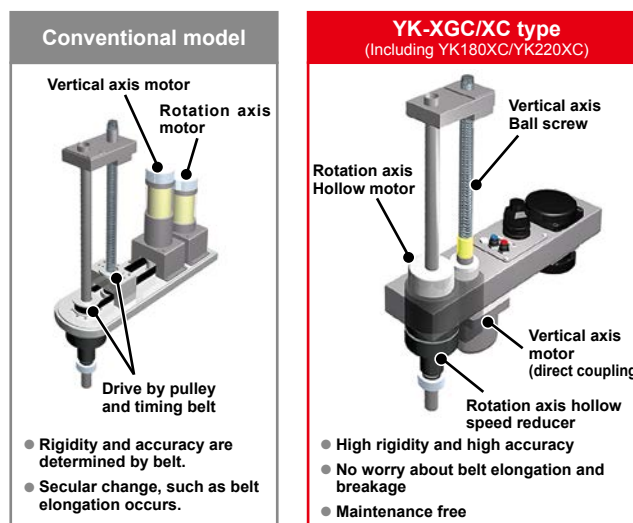
Note. Except for YK500XC to YK1000XC

POINT 3

Completely beltless structure improves the rigidity.

A completely beltless structure was achieved using a ZR-axis direct coupling structure. As a speed reducer is coupled to the tip rotation axis, the R-axis tolerable moment of inertia is very high and the high-speed movement is possible even with a heavy workpiece or largely offset workpiece.

Note. Except for YK500XC to YK1000XC



Type	Model	Arm length (mm)	Maximum payload (kg)	Standard cycle time (sec.)	Beltless structure
Extra small type	YK180XC	180	1.0	0.42	○
	YK220XC	220		0.45	○
Small type	YK250XGC	250	4.0	0.50	○
	YK350XGC	350		0.52	○
	YK400XGC	400		0.50	○
Medium type	YK500XC	500	10.0	0.53	-
	YK500XGLC	500	4.0	0.66	○
	YK600XC	600	10.0	0.56	-
	YK600XGLC	600	4.0	0.71	○
Large type	YK700XC	700	20.0	0.57	-
	YK800XC	800			-
	YK1000XC	1000			-

Clean single-axis robot / Clean motor-less single-axis actuator

Robonity series (Advanced model)

Clean room specifications of the single-axis robot/motor-less single-axis actuator "Robonity series". The slider type advanced models have clean room specifications as standard. Our wide lineup of products can be used for various applications such as production processes for food, medical products, and cosmetics.

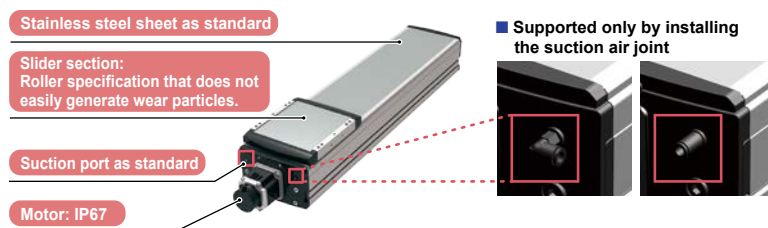
- Stroke: 50 to 1450 mm
- Suction amount: 30 to 115 Nℓ/min
- Cleanliness degree: ISO CLASS 3 *ISO14644-1
- Maximum payload: 160kg (when installed horizontally)



POINT

Careful design

1. Dust-proof stainless steel sheet: Prevents grease scattering and entry of foreign objects from outside.
2. Roller specifications of slider section: Prevents dust generation due to friction.
3. Suction port: Prevents dust generation by suction and entry of foreign objects by purging.



Model <small>Model A: Single-axis robot Model L: Motor-less single-axis actuator</small>	Size (mm) ^{Note 1}	Lead (mm)	Maximum payload (kg)		Maximum speed (mm/sec.)	Stroke (mm)
			Horizontal	Vertical		
AGXS05/LGXS05	W48×H65	20	5	2	1333	50 to 800
		10	8	4	666	
		5	13	8	333	
AGXS05L/LGXS05L	W48×H65	20	12	3	1333	50 to 800
		10	24	6	666	
		5	32	12	333	
AGXS07/LGXS07	W70×H76.5	30	10	2	1800	50 to 1100
		20	25	4	1200	
		10	45	8	600	
		5	85	16	300	
AGXS10/LGXS10	W100×H99.5	30	25	4	1800	100 to 1250
		20	40	8	1200	
		10	80	20	600	
		5	100	30	300	
AGXS12/LGXS12	W125×H101	30	35	8	1800	100 to 1250
		20	50	15	1200	
		10	95	25	600	
		5	115	45	300	
AGXS12/LGXS12	W125×H101	30	35	8	1800	100 to 1250
		20	50	15	1200	
		10	95	25	600	
		5	115	45	300	
AGXS16/LGXS16	W160×H130	40	45	12	2400	100 to 1450
		20	95	28	1200	
		10	130	55	600	
AGXS20/LGXS20	W200×H140	40	65	15	2400	100 to 1450
		20	130	35	1200	
		10	160	65	600	

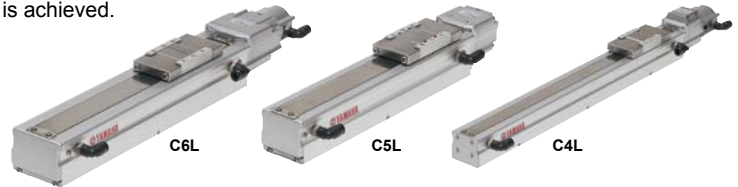
Note 1. The size shows approximate maximum cross sectional size.

Clean single-axis robots

FLIP-XC type

The FLIP-XC type robots are single-axis robots “FLIP-X series” with clean room specifications. According to the applications, an optimal robot can be selected from 14 models from a lightweight and compact model to a large model with a maximum payload of 120 kg. As an air joint for suction is provided as standard equipment, grease with low dust generative characteristics is used, and stainless sheets with an excellent durability are used for the slide table surface, high cleanliness degree is achieved.

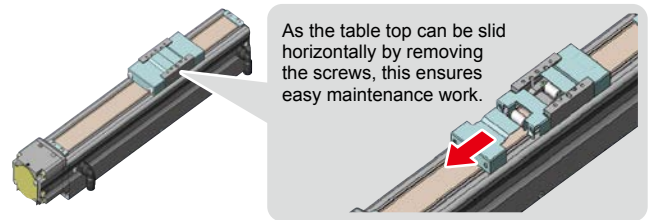
- Stroke: 50 to 2050 mm
- Suction amount: 15 to 90 Nℓ/min.
- Cleanliness degree: ISO CLASS 3 *ISO14644-1
- Maximum payload: 120 kg (When installed horizontally)



POINT

Excellent maintenance ability

For C4L to C6L models, removing the screws from the side panel of the slider will allow replacement of the inner roller without detaching the tool. For C8 to C20 models, even when the direct coupling structure is used, the motor or ball screw can be replaced individually.



Model	Size (mm) ^{Note 1}	Lead (mm)	Maximum payload (kg)		Maximum speed (mm/sec.)	Stroke (mm)
			Horizontal	Vertical		
C4L C4LH	W45 × H55	12	4.5	1.2	720	50 to 400
		6	6	2.4	360	
		2	6	7.2	120	
C5L C5LH	W55 × H65	20	3	-	1000	50 to 800
		12	5	1.2	800	
		6	9	2.4	400	
C6L	W65 × H65	20	10	-	1000	50 to 800
		12	12	4	800	
		6	30	8	400	
C8	W80 × H75	20	12	-	1000	150 to 800
		12	20	4	720	
		6	40	8	360	
C8L	W80 × H75	20	20	4	1000	150 to 1050
		10	40	8	600	
		5	50	16	300	
C8LH	W80 × H75	20	30	-	1000	150 to 1050
		10	60	-	600	
		5	80	-	300	
C10	W104 × H85	20	20	4	1000	150 to 1050
		10	40	10	500	
		5	60	20	250	
C14	W136 × H96	20	30	4	1000	150 to 1050
		10	55	10	500	
		5	80	20	250	
C14H	W136 × H96	20	40	8	1000	150 to 1050
		10	80	20	500	
		5	100	30	250	
C17	W168 × H114	20	80	15	1000	250 to 1250
		10	120	35	600	
C17L	W168 × H114	50	50	10	1000	1150 to 2050
C20	W202 × H117	20	120	25	1000	250 to 1250
		10	-	45	500	

Note 1. The size shows approximate maximum cross sectional size.

Clean single-axis robots

SSC type (TRANSERVO)

The SSC type robots are stepping motor single-axis robots “TRANSERVO series” with clean room specifications. Use of a newly developed vector control method achieves the function and performance equivalent to the servomotor at a low cost even using the stepping motor. As an air joint for suction is provided as standard equipment, grease with low dust generative characteristics is used and stainless sheets with an excellent durability are used for the slide table surface, the high cleanliness degree is achieved.

- Stroke: 50 to 800 mm
- Suction amount: 15 to 80 Nℓ/min.
- Cleanliness degree: ISO CLASS 3 *ISO14644-1
- Maximum payload: 12 kg (When installed horizontally)



Model	Size (mm) ^{Note 1}	Lead (mm)	Maximum payload (kg)		Maximum speed (mm/sec.)	Stroke (mm)
			Horizontal	Vertical		
SSC04	W49 × H59	12	2	1	600	50 to 400
		6	4	2	300	
		2	6	4	100	
SSC05	W55 × H56	20	4	-	1000	50 to 800
		12	6	1	600	
		6	10	2	300	
SSC05H	W55 × H56	20	6	-	1000	50 to 800
		12	8	2	600 (horizontal) / 500 (vertical)	
		6	12	4	300 (horizontal) / 250 (vertical)	

Note 1. The size shows approximate maximum cross sectional size.

Clean Cartesian robots

XY-XC type

This Cartesian robot XY-XC type is applicable to clean rooms. As stainless sheets with excellent durability are used, the opening can be designed to be its minimum level and the robots area applicable to CLASS10 with less suction amount. Furthermore, as the ZR-axis of the SXYxC uses a super high speed unit of the SCARA robot, this achieves great reduction of the cycle time.

- Suction amount: 60 to 90 Nℓ/min.
- Cleanliness degree: ISO CLASS 3 *ISO14644-1
- Maximum payload: 20 kg
- Maximum speed: 1000 mm/sec.



Note. User wiring: D-Sub 25-pin connector (Numbers 1 to 24 are already wired and number 25 is frame ground.)
 Note. User tubing: φ 6-air tube, 3 pcs.

Type	Model	Axis	Movement range	Maximum speed (mm/sec.)	Maximum payload (kg)
2 axes	SXYxC	X	150 to 1050mm	1000	20
		Y	150 to 650mm	1000	
3 axes	SXYxC (ZSC12)	X	150 to 1050mm	1000	3
		Y	150 to 650mm	1000	
		Z	150mm	1000	
	SXYxC (ZSC6)	X	150 to 1050mm	1000	5
Y		150 to 650mm	1000		
Z		150mm	500		
4 axes	SXYxC (ZRSC12)	X	150 to 1050mm	1000	3
		Y	150 to 650mm	1000	
		Z	150mm	1000	
		R	360°	1020°/sec	
	SXYxC (ZRSC6)	X	150 to 1050mm	1000	5
		Y	150 to 650mm	1000	
		Z	150mm	500	
		R	360°	1020°/sec	