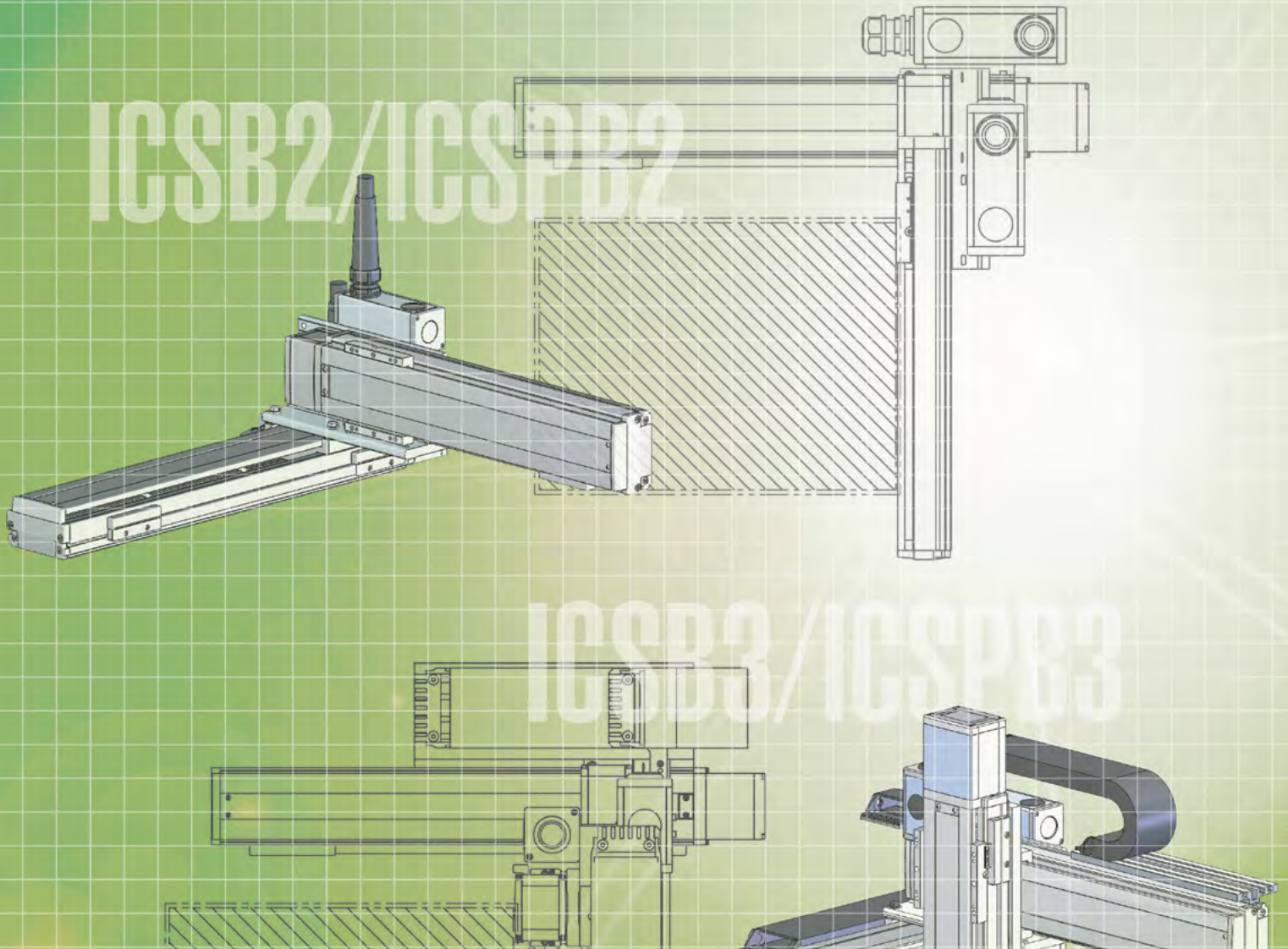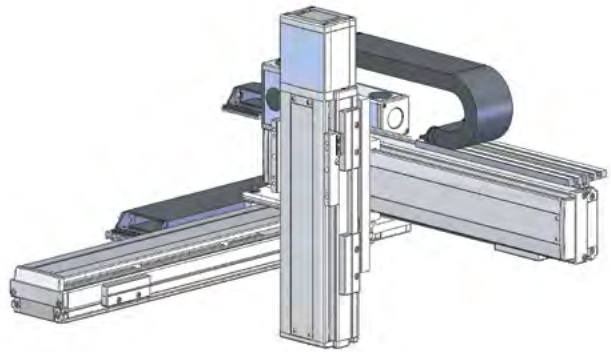**IAI** — Quality and Innovation

Cartesian Robot **ICSB/ICSPB**

The ICSA Series Cartesian Robots Have Been Totally Upgraded!

The ICSB/ICSPB Cartesian robots are pre-configured units based on the seven 2-axis configurations and seven 3-axis configurations that are frequently used. These robots are ready to be assembled and include the cabling and brackets so that they can be installed in your equipment and used immediately after delivery.

ICSB Series [Standard Specifications] / ICSPB Series [High-Precision Specifications]

Features

1 Great Improvements in Performance

Great improvements in precision, payload, acceleration and deceleration compared to the conventional ICSA series models.

Positioning repeatability

Standard Specifications

±0.02mm→±0.01mm

High-Precision Specifications

±0.01mm→±0.005mm

Payload

Cantilevered 3-axis Configuration
Maximum payload

19kg
→36.4kg

Acceleration and deceleration

Rated acceleration/deceleration

0.3G→0.4G

Maximum acceleration/deceleration

1.0G→1.2G

Note: Positioning repeatability conforms to the specification of each configured axis.

2 Many variations available

Seven types of configurations are provided for 2-axis and 3-axis units; a total of 834 types of variations including axis size and configuration direction can be selected.

2-axis configuration types
226

3-axis configuration types
608

3 Cable track option made available

A cable track for wiring of a customer provided device is an option that is available with the XYB/XYBG types.

Device provided and mounted by the customer.

Cable track (optional)
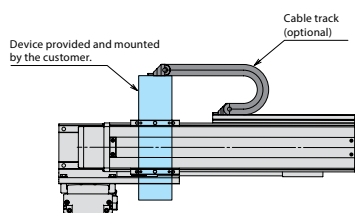
4 No cable track overhang

No overhang from the main body caused by changes in the cable track mounting position; no need to worry about interference from peripheral devices.

(Overhang)

With overhang

No overhang

Variations

2-axis Configurations

Y-axis base mount

XYB type
(→ P. 17)
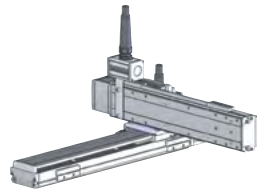
Y-axis slider mount

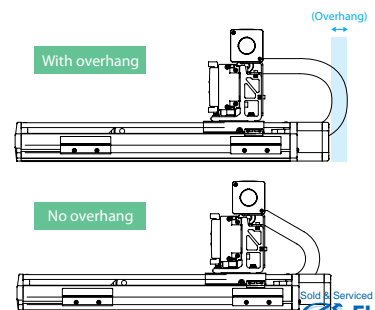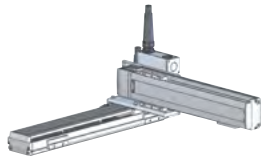**XYS type**
(→ P. 57)
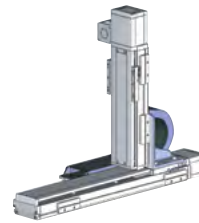
Z-axis upright mount

XZ type
(→ P. 71)
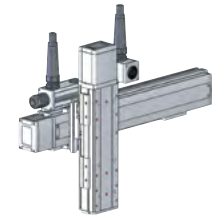
Z-axis slider mount

YZS type
(→ P. 87)
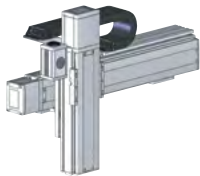
Z-axis base mount

YZB type
(→ P. 97)

Y-axis flat-mounted gantry

XYG type
(→ P. 109)

Y-axis side-mounted gantry

XYBG type
(→ P. 113)

3-axis Configurations
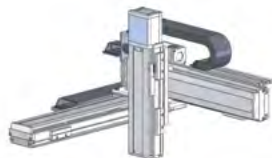
Y-axis base mount
Z-axis base mount

XYB + Z base mount type
(→ P. 135)

Y-axis base mount
Z-axis slider mount

XYB + Z slider mount type
(→ P. 189)
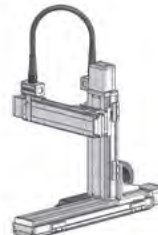
Z-axis upright mount
Y-axis slider mount

XZ + Y slider mount type
(→ P. 225)

Y-axis flat-mounted gantry
Z-axis base mount

XYG + Z base mount type
(→ P. 229)

Y-axis flat-mounted gantry
Z-axis slider mount

XYG + Z slider mount type
(→ P. 241)

Y-axis side-mounted gantry
Z-axis base mount

XYBG + Z base mount type
(→ P. 253)

Y-axis side-mounted gantry
Z-axis slider mount

XYBG + Z slider mount type
(→ P. 285)

2-axis Configuration Explanation of Types of Robots

A selection of configurations for seven frequently used types which include the cabling and brackets ready to be assembled.
The line up ranges from lightweight to heavyweight, short stroke to long stroke; the optimal type can be selected according to use for each configuration.

1 XYB (Y-axis Base Mount) Type → P. 17

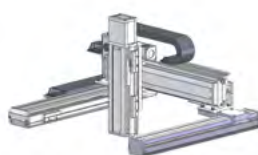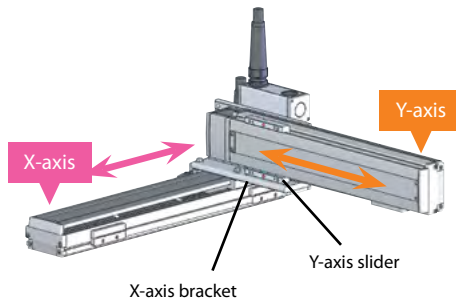A basic configuration type where the Y-axis base is mounted to the X-axis bracket. This actuator operates with a device or Z-axis attached to the Y-axis slider.

● **Point 1**

The Y-axis configuration direction can be selected from one of four patterns (see the diagram at right).

● **Point 2**

Select the Y-axis wiring specification from the two options of self-standing cable and cable track.

● **Configuration direction**

Configuration direction:1
(range of operation)

Configuration direction:2
(opposite of 1)
(range of operation)

Configuration direction:3
(Y-axis installed on opposite side)
(range of operation)

Configuration direction:4
(opposite of 3)
(range of operation)
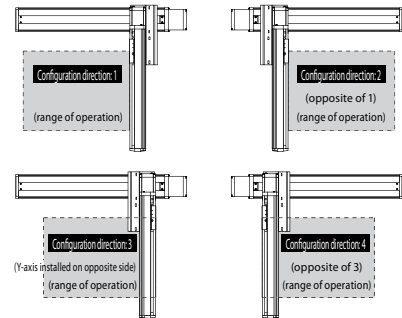
2 XYS (Y-axis Slider Mount) Type → P. 57
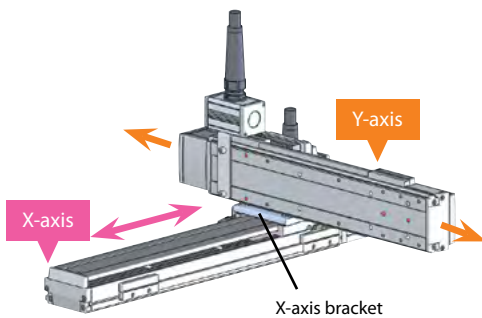
The Y-axis slider is mounted to the X-axis bracket in a manner allowing the Y-axis to move. Use this type when the Y-axis itself must be moved back and forth to avoid an obstacle, etc.

● **Point 1**

Y-axis configuration direction can be selected from one of four patterns (see the diagram at right).

● **Point 2**

Only the self-standing cable option is available for the Y-axis wiring specification.

● **Configuration direction**

Configuration direction:1
(range of operation)

Configuration direction:2
(opposite of 1)
(range of operation)

Configuration direction:3
(Y-axis installed on opposite side)
(range of operation)

Configuration direction:4
(opposite of 3)
(range of operation)
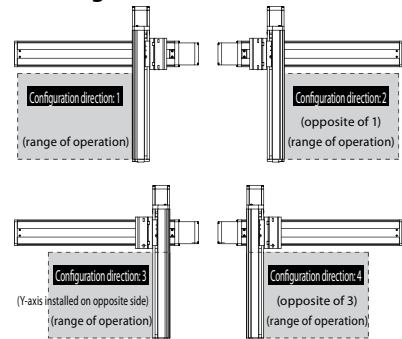
3 XZ (Z-axis Upright Mount) Type → P. 71
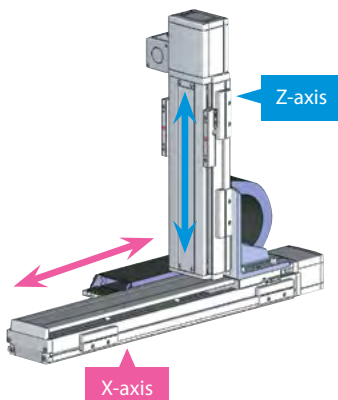
The Z-axis (vertical axis) is positioned vertically on the X-axis. Use this type in such applications as inserting loads into a stacker or moving a pallet up and down.

● **Point 1**

The Z-axis configuration direction can be selected from one of six patterns (see the diagram at right).

● **Point 2**

Since the Z-axis comes standard with a brake, the slider will not drop even when the power is turned off.

● **Point 3**

The maximum stroke is 2500mm for the X-axis and 500mm for the Z-axis. (Consult IAI if you need a longer stroke.)

● **Configuration direction**

Configuration direction:1
(range of operation)

Configuration direction:2
(opposite of 1)
(range of operation)

Configuration direction:3
(Z-axis installed on opposite side)
(range of operation)

Configuration direction:4
(opposite of 3)
(range of operation)

Configuration direction:5
(range of operation)

Configuration direction:6
(opposite of 5)
(range of operation)

003
Explanation of Types of Robots

4   YZS (Z-axis Slider Mount) Type   → P. 87

The Y-axis is oriented horizontally on its side and its slider is connected to the slider of the Z-axis (vertical axis). Since the body of the Z-axis moves vertically, this type can be fitted with tooling or other devices on the Z-axis to transfer loads or perform other operations.

Y-axis

Z-axis

● Point 1
Since the Z-axis comes standard with a brake, the slider will not drop even when the power is turned off.

● Configuration direction

Configuration direction: 1
(range of operation)

Configuration direction: 2
(opposite of 1)
(range of operation)
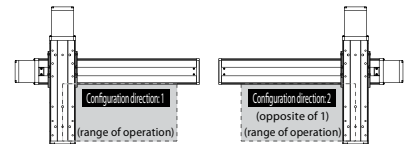
● Point 2
A self-standing cable comes as standard for the Y-axis wiring specification, however, a cable track can also be accommodated (as a custom order).

---

5   YZB (Z-axis Base Mount) Type   → P. 97
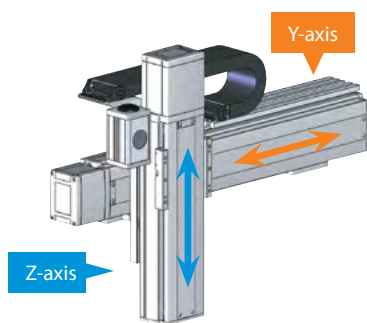
The Y-axis is horizontally oriented on its side and its slider is mounted to the slider of the Z-axis (vertical axis). Since the Z-axis moves vertically, this type can be fitted with tooling or other devices on the Z-axis to transfer loads or perform other operations.

Y-axis

Z-axis

● Point 1
This type has a greater payload capacity than the YZS (Z-axis slider mount) type.

● Point 2
Since the Z-axis comes standard with a brake, the slider will not drop even when the power is turned off.

● Configuration direction

Configuration direction: 1
(range of operation)

Configuration direction: 2
(opposite of 1)
(range of operation)
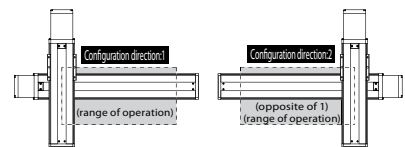
● Point 3
Select the Z-axis wiring specification from the two options of self-standing cable and cable track.

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6   XYG (Y-axis Flat-mounted Gantry) Type   → P. 109
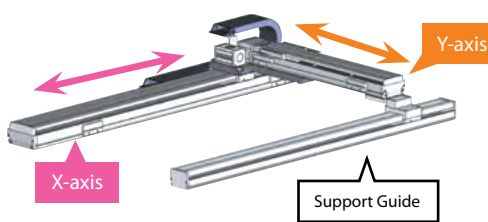
The Y-axis of the XYB type is placed flat and a support guide is attached at the end of the Y-axis. Use this type for transferring heavy objects or when the Y-axis stroke is long and the end might sag.
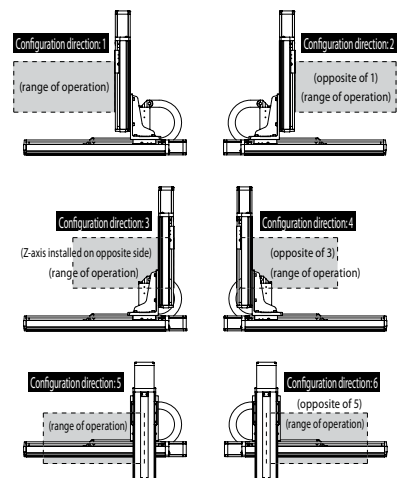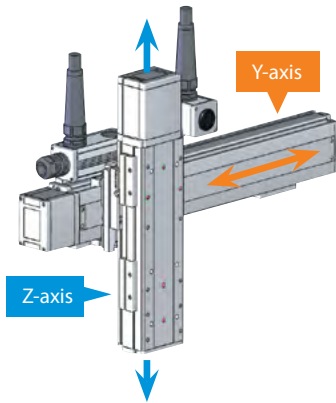
Y-axis

X-axis

Support Guide

● Point 1
A maximum of 45 kg can be transferred.

● Configuration direction

Configuration direction: 1
(range of operation)

Configuration direction: 2
(opposite of 1)
(range of operation)
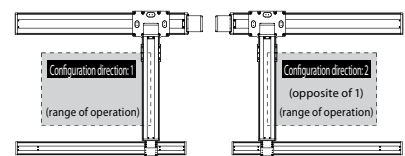
● Point 2
The maximum stroke is 2500mm for the X-axis and 1200mm for the Y-axis. (Consult IAI if you need a longer stroke.)

---

7   XYBG (Y-axis Side-mounted Gantry) Type   → P. 113
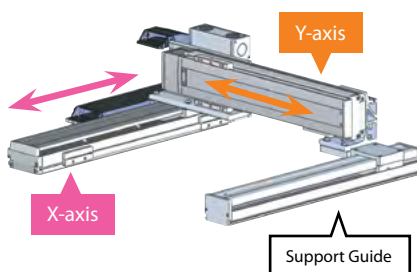
The Y-axis of the XYB type is placed side-mounted and a support guide is attached at the end of the Y-axis. Use this type for transferring heavy objects or when sagging at the end of the Y-axis would become a problem.

Y-axis

X-axis

Support Guide

● Point 1
A maximum of 60 kg can be transferred.

● Point 2
A shorter stroke than the XYG type can be set for both the X-axis and Y-axis.

● Configuration direction

Configuration direction: 1
(range of operation)

Configuration direction: 2
(opposite of 1)
(range of operation)

Configuration direction: 3
(Y-axis installed on opposite side)
(range of operation)

Configuration direction: 4
(opposite of 3)
(range of operation)
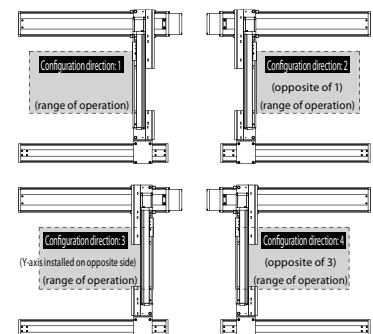
3-axis Configuration Explanation of Types of Robots

Based on the 2-axis configuration XYB (XY base fixed) type and XYG/XYBG (XY gantry) type, this is a 3-axis configuration with an additional vertical Z-axis. An XZY type with an added Y-axis based on the XZ (Z-axis upright mount) type is also included in the line-up.

1   XYB (Y-axis Base Mount) + Z-axis Base Mount Type   → P. 135
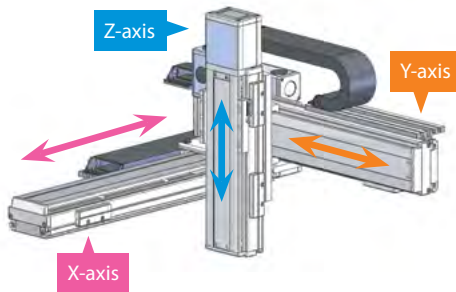
With this type, the base of the Z-axis is mounted to the Y-axis slider of the XYB type (The Y-axis base is mounted to the X-axis bracket).

● **Point**

The main body of the Z-axis is mounted and the slider moves up and down. It has a greater load capacity vertically than the Z-axis slider mounted type.

● **Configuration direction**

Configuration direction: 1
(range of operation)

Configuration direction: 2
(opposite of 1)
(range of operation)

Configuration direction: 3
(Y-axis installed on opposite side)
(range of operation)

Configuration direction: 4
(opposite of 3)
(range of operation)
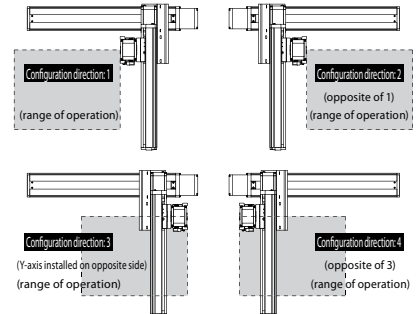
2   XYB (Y-axis Base Mount) + Z-axis Slider Mount Type   → P. 189

With this type, the slider of the Z-axis is mounted to the Y-axis slider of the XYB type (The Y-axis base is mounted to the X-axis bracket).

● **Point**

The main body of the Z-axis moves up and down, making it suitable when there are obstacles to the movement.

● **Configuration direction**

Configuration direction: 1
(range of operation)

Configuration direction: 2
(opposite of 1)
(range of operation)

Configuration direction: 3
(Y-axis installed on opposite side)
(range of operation)

Configuration direction: 4
(opposite of 3)
(range of operation)
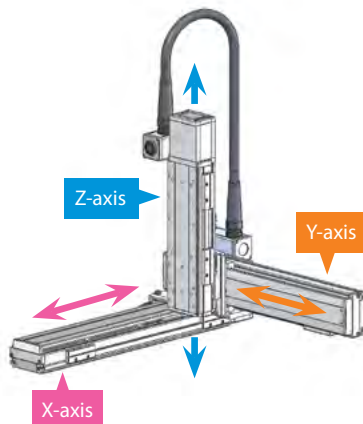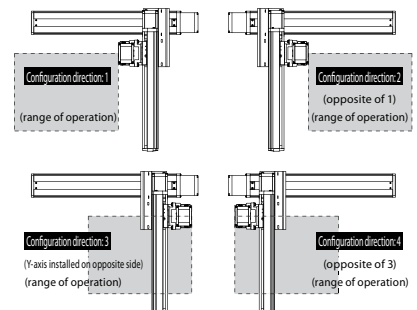
3   XZ (Z-axis Upright Mount) + Y-axis Slider Mount Type   → P. 225

This is a type where the slider of the Y-axis is mounted to the slider of the Z-axis of the XZ type (Z-axis is upright mounted on the X-axis).

● **Point**

Suitable for insertion, movement of work parts to a stacker and moving of objects placed on the surface of a wall.

● **Configuration direction**
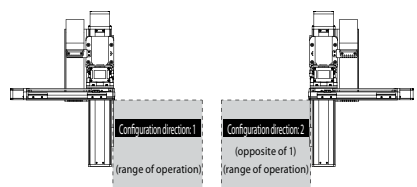
Configuration direction: 1
(range of operation)

Configuration direction: 2
(opposite of 1)
(range of operation)

4 XYG (Y-axis Flat-Mounted Gantry) + Z-axis Base Mount Type → P. 229

Z-axis
Y-axis
X-axis
Support Guide
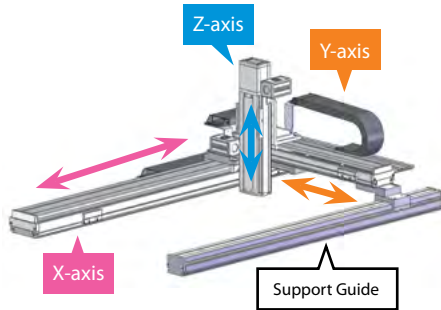
With this type, the base of the Z-axis is mounted on the Y-axis slider of the XYG type (a guide is placed parallel to the X-axis and the Y-axis is supported by the X-axis and the guide).

●Point
The main body of the Z-axis is mounted and the slider moves up and down. It has a greater load capacity vertically than the Z-axis slider mounted type.

●Configuration direction

Configuration direction: 1
(range of operation)

Configuration direction: 2
(opposite of 1)
(range of operation)

5 XYG (Y-axis Flat-mounted Gantry) + Z-axis Slider Mount Type → P. 241
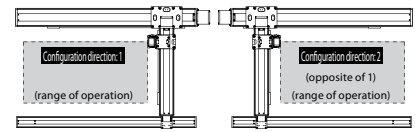
Z-axis
Y-axis
X-axis
Support Guide
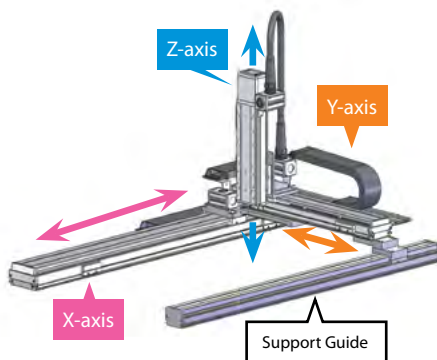
With this type, the slider of the Z-axis is mounted on the slider of the Y-axis of the XYG type (a guide is placed parallel to the X-axis and the Y-axis is supported by the X-axis and the guide).

●Point
The main body of the Z-axis moves up and down, making it suitable when there are obstacles to the movement.

●Configuration direction

Configuration direction: 1
(range of operation)

Configuration direction: 2
(opposite of 1)
(range of operation)

6 XYBG (Y-axis Side-mounted Gantry) + Z-axis Base Mount Type → P. 253
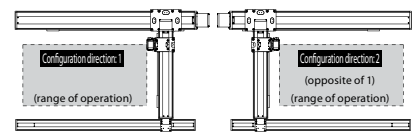
Z-axis
Y-axis
X-axis
Support Guide

With this type, the base of the Z-axis is mounted on the slider of the Y-axis of the XYBG type (a support guide is attached at the end of the Y-axis of the XYB type).

●Point
The main body of the Z-axis is mounted and the slider moves up and down. It has a greater load capacity vertically than Z-axis slider mounted type.
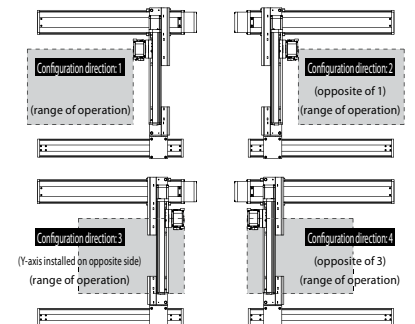
●Configuration direction

Configuration direction: 1
(range of operation)

Configuration direction: 2
(opposite of 1)
(range of operation)

Configuration direction: 3
(Y-axis installed on opposite side)
(range of operation)

Configuration direction: 4
(opposite of 3)
(range of operation)

7 XYBG (Y-axis Side-mounted Gantry) + Z-axis Slider Mount Type → P. 285

Z-axis
Y-axis
X-axis
Support Guide

With this type, the slider of the Z-axis is mounted on the slider of the Y-axis of the XYBG type (a support guide is attached at the end of the Y-axis of the XYB type).

●Point
The main body of the Z-axis moves up and down, making it suitable when there are obstacles to the movement.

●Configuration direction

Configuration direction: 1
(range of operation)

Configuration direction: 2
(opposite of 1)
(range of operation)

Configuration direction: 3
(Y-axis installed on opposite side)
(range of operation)
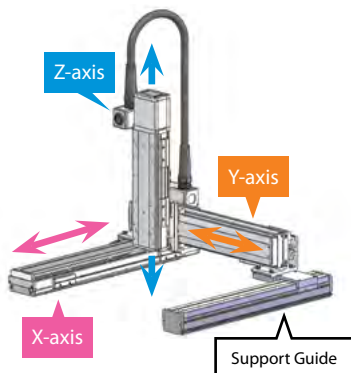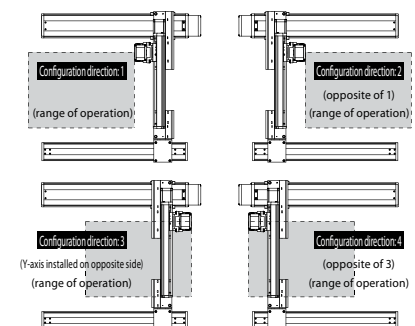
Configuration direction: 4
(opposite of 3)
(range of operation)

Model Selection Tables by Type

In the following Model Specification Tables by Type, please select the best suitable model by comparing the stroke, speed and payload.

Cartesian Robot XYB (Y-axis Base Mount) Type

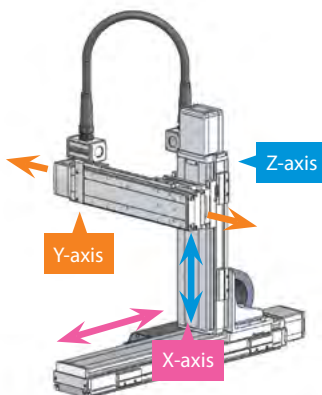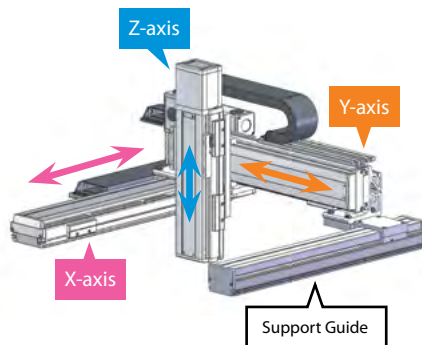| Classification	X-axis stroke (mm)	Payload by Y-axis stroke (kg)													Max. speed (mm/s)		Model	Page
		100 (mm)	150 (mm)	200 (mm)	250 (mm)	300 (mm)	350 (mm)	400 (mm)	450 (mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	X-axis	Y-axis		
B□□□ [XY 2-axis configuration / Y-axis base mount]	100~900	6.1	5.8	5.5	5.3	5.0	4.7	4.5			–				960	960	BA□H	→ P. 17
		19.4	19.0	16.4	13.9	12.0	10.3	9.0			–				480	480	BA□M	→ P. 19
	100~1100	12.0	12.0	12.0	11.8	11.5	11.3	11.0			–				1200	960	BB□H	→ P. 21
		20.0	20.0	20.0	20.0	20.0	20.0	20.0	18.6	16.6	–				1200	1200	BC□H	→ P. 25
		25.0	25.0	25.0	25.0	25.0	23.0	22.0			–				600	480	BB□M	→ P. 23
		30.0	30.0	29.5	29.2	26.7	23.5	20.9	18.6	16.6	–				600	600	BC□M	→ P. 27
	100~1300	20.9	20.1	19.3	18.5	17.7	16.9	16.2	15.4	14.6	13.8	13.1	12.2	11.5	2400	2400	BG□S	→ P. 41
		23.1	22.3	21.5	20.7	20.0	19.2	18.5	17.6	16.8	16.0	15.3	14.5	13.8	2400	2400	BK□H	→ P. 45
		25.7	25.1	24.6	23.9	23.4	22.9	22.3	21.7	21.2	20.5	20.0	19.4	18.9	2400	1800	BE□S	→ P. 31
		45.0	45.0	45.0	45.0	43.4	38.8	34.9	31.5	28.6	26.0	23.7	21.6	19.7	1200	1200	BE□H	→ P. 33
		60.0	60.0	55.6	48.8	43.4	38.8	34.9	31.5	28.6	26.0	23.7	21.6	19.7	600	600	BE□M	→ P. 35
		64.5	63.7	62.9	62.1	59.9	54.1	49.8	44.8	40.9	37.4	34.3	31.5	28.9	1200	1200	BK□M	→ P. 47
	100~1500	36.4	35.6	34.8	34.0	33.3	32.4	31.7	30.9	30.1	27.4	24.6	22.0	19.6	2500	2400	BM□H	→ P. 53
		78.6	70.9	61.8	54.2	48.0	42.7	38.2	34.1	30.6	27.4	24.6	22.0	19.6	1250	1200	BM□M	→ P. 55
	800~2000	20.0	20.0	20.0	20.0	20.0	20.0	20.0	18.6	18.6	–				1200	1200	BD□H	→ P. 29
	1000~2500	20.9	20.1	19.3	18.5	17.7	16.9	16.2	15.4	14.6	13.8	13.1	12.2	11.5	2400	2400	BH□S	→ P. 43
		25.7	25.1	24.6	23.9	23.4	22.9	22.3	21.7	21.2	20.5	20.0	19.4	18.9	2400	1800	BF□S	→ P. 37
		45.0	45.0	45.0	45.0	43.4	38.8	34.9	31.5	28.6	26.0	23.7	21.6	19.7	1200	1200	BF□H	→ P. 39
	900~2500	36.6	35.8	35.0	34.2	33.5	32.7	32.0	31.1	30.3	29.5	28.8	28.0	27.3	2400	2400	BL□H	→ P. 49
		65.0	65.0	65.0	65.0	62.3	55.9	50.7	46.1	42.0	38.4	35.2	32.2	29.6	1200	1200	BL□M	→ P. 51

Cartesian Robot XYS (Y-axis Slider Mount) Type

Classification	X-axis stroke (mm)	Payload by Y-axis stroke (kg)													Max. speed (mm/s)		Model	Page
		100 (mm)	150 (mm)	200 (mm)	250 (mm)	300 (mm)	350 (mm)	400 (mm)	450 (mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	X-axis	Y-axis		
S□□□ [XY 2-axis configuration / Y-axis slider mount]	100~600	6.6	6.3	6.1	5.8	5.5	4.9	3.9			–				960	960	SA□H	→ P. 57
		19.9	15.1	10.8	8.1	6.3	4.9	3.9			–				480	480	SA□M	→ P. 59
	100~800	10.0	9.4	8.7	8.2	7.7	7.2	6.7	6.2	5.6	–				1200	1200	S1C□H	→ P. 61
		22.6	21.8	21.0	20.2	19.5	18.7	16.9	13.8	11.3	9.2	7.4	–		2400	2400	SG□S	→ P. 67
		27.5	26.7	26.0	25.2	24.4	20.8	17.1	14.0	11.6	9.4	7.6	–		1200	1200	SG□H	→ P. 69
		30.0	29.0	27.4	21.0	16.6	13.4	10.9	8.9	7.3	–				600	600	S1C□M	→ P. 63
		31.7	31.1	27.1	20.7	16.4	13.2	10.7	8.7	7.0	–				1200	1200	S2C□H	→ P. 65

Cartesian Robot XZ (Z-axis Upright Mount) Type

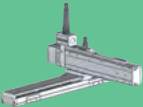| Classification	X-axis stroke (mm)	Payload by Z-axis stroke (kg)													Max. speed (mm/s)		Model	Page
		100 (mm)	150 (mm)	200 (mm)	250 (mm)	300 (mm)	350 (mm)	400 (mm)	450 (mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	X-axis	Z-axis		
Z□□□ [XZ 2-axis configuration / Z-axis upright mount]	100~900	7.0	7.0	6.6	5.6	4.8				–					960	480	ZA□H	→ P. 71
		9.2	7.8	6.7	5.7	4.8				–					480	240	ZA□M	→ P. 73
	100~1100	10.0	10.0	10.0	10.0	10.0	9.7	8.4			–				1200	600	Z1C□H	→ P. 75
		18.3	16.0	14.1	12.3	10.7	9.3	8.0			–				1200	600	Z2C□H	→ P. 79
		18.9	16.7	14.8	12.9	11.4	9.8	9.0			–				600	300	Z1C□M	→ P. 77
	100~1300	20.0	19.7	17.4	15.2	13.3	11.4	9.8	8.2	6.7	–				2400	1200	ZG□S	→ P. 83
	800~2000	18.3	16.0	14.1	12.3	10.7	9.3	8.0			–				1200	600	ZD□H	→ P. 81
	1000~2500	20.0	19.7	17.4	15.2	13.3	11.4	9.8	8.2	6.7	–				2400	1200	ZH□S	→ P. 85

Cartesian Robot YZS (Z-axis Slider Mount) Type

Classification	Y-axis stroke (mm)	100 (mm)	150 (mm)	200 (mm)	250 (mm)	300 (mm)	350 (mm)	400 (mm)	450 (mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	Max. speed Y-axis	Max. speed Z-axis	Model	Page
YS□□□ YZ 2-axis configuration Z-axis slider mount	100~500	3.9	3.5	3.2	2.8	2.5	2.2	1.9	–						960	480	YSA□H	→ P. 87
	100~500	11.0	10.6	10.3	9.9	9.6	8.9	8.6	–						480	240	YSA□M	→ P. 89
	100~700	13.3	12.8	12.2	11.6	11.1	10.4	9.9	9.4	8.8	–				600	300	YSC□M	→ P. 93
	100~700	13.6	12.9	12.4	11.7	11.1	10.5	10.0	9.3	8.7	–				1200	600	YSC□H	→ P. 91
	100~700	28.8	28.0	27.2	26.4	25.7	24.8	24.1	23.3	22.5	–				1200	600	YSG□H	→ P. 95

Cartesian Robot YZB (Z-axis Base Mount) Type

Classification	Y-axis stroke (mm)	100 (mm)	150 (mm)	200 (mm)	250 (mm)	300 (mm)	350 (mm)	400 (mm)	450 (mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	Max. speed Y-axis	Max. speed Z-axis	Model	Page
YB□□□ YZ 2-axis configuration Z-axis base mount	100~900	7.0	7.0	6.7	6.3	6.1	5.7	5.4	–						960	480	YBA□H	→ P. 97
	100~900	14.0	14.0	14.0	14.0	14.0	14.0	14.0	–						480	240	YBA□M	→ P. 99
	100~1100	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	–				1200	600	YBC□H	→ P. 101
	100~1100	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	–				600	300	YBC□M	→ P. 103
	100~1300	20.0	20.0	20.0	20.0	20.0	20.0	19.7	18.9	18.0	–				2400	1200	YBG□S	→ P. 105
	100~1300	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	–				1200	600	YBG□H	→ P. 107

Cartesian Robot XYG (Y-axis Flat-mounted Gantry) Type

Classification	X-axis stroke (mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	800 (mm)	900 (mm)	1000 (mm)	1100 (mm)	1200 (mm)	Max. speed X-axis	Max. speed Y-axis	Model	Page
G□□□□ XY 2-axis gantry configuration Y-axis flat-mounted gantry	1000~2500	45.0					–					1200	1200	G1J□H	→ P. 109
	1000~2500	–					45.0	43.6	38.3	33.7	29.6	1200	1200	G2J□H	→ P. 111

Cartesian Robot XYBG (Y-axis Side-mounted Gantry) Type

Classification	X-axis stroke (mm)	300 (mm)	350 (mm)	400 (mm)	450 (mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)	850 (mm)	900 (mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)	Max. speed X-axis	Max. speed Y-axis	Model	Page
G□□□□ XY 2-axis configuration Y-axis side-mounted gantry	100~1100	12.9	12.5	12.3	11.9	11.6	11.2	10.9	–											1200	960	GB□H	→ P. 113
	100~1100	27.0						26.8	–											600	480	GB□M	→ P. 115
	100~1100	23.0					21.8	19.5	17.5	15.7	–									1200	1200	GC□H	→ P. 117
	100~1100	26.6	26.0	25.4	24.9	24.3	21.8	19.5	17.5	15.7	–									600	600	GC□M	→ P. 119
	100~1300	45.0				41.5	37.8	34.6	31.7	29.1	26.7	24.5	22.5	20.7	–					1200	1200	GE□H	→ P. 123
	100~1300	60.0	55.8	50.3	45.6	41.5	37.8	34.6	31.7	29.1	26.7	24.5	22.5	20.7	–					600	600	GE□M	→ P. 125
	100~1300	–				34.5	31.1	28.1	25.3	22.8	20.4	18.3	16.3	14.5	12.7	11.1	9.5	8.1		1200	1200	GG□H	→ P. 129
	100~1300	–				34.5	31.1	28.1	25.3	22.8	20.4	18.3	16.3	14.5	12.7	11.1	9.5	8.1		600	600	GG□M	→ P. 131
	800~2000	23.0					21.8	19.5	17.5	15.7	–									1200	1200	GD□H	→ P. 121
	1000~2500	45.0				41.5	37.8	34.6	31.7	29.1	26.7	24.5	22.5	20.7	–					1200	1200	GF□H	→ P. 127
	1000~2500	–				34.5	31.1	28.1	25.3	22.8	20.4	18.3	16.3	14.5	12.7	11.1	9.5	8.1		1200	1200	GH□H	→ P. 133

In the following Model Specification Tables by Type, please select the best suitable model by comparing the stroke, speed and payload.

Cartesian Robot XYB + Z-axis Base Mount Type

Classification	X-axis stroke (mm)	Y-axis stroke (mm)	Z-axis stroke (mm)	Payload (kg)	Maximum speed (mm/s) X-axis	Y-axis	Z-axis	Model	Page
B□□□B□□ [XYB + Z-axis 3-axis configuration Z-axis base mount]	100~900	100~400	100~300	3.5	480	480	960	BA□MB1H	→ P. 135
				7~3.6			480	BA□MB1M	
				8.9~3.6			240	BA□MB1L	
				3.5	1200	960	960	BB□HB1H	→ P. 137
				7~6.2			480	BB□HB1M	
				7.7~6.2			240	BB□HB1L	
				3.5	600	480	960	BB□MB1H	→ P. 139
				7.0			480	BB□MB1M	
				14.0			240	BB□MB1L	
		100~500	100~400	3.5	1200	1200	960	BC□HB1H	→ P. 141
				7.0			480	BC□HB1M	
				14~11			240	BC□HB1L	
				5.0	1200	1200	1200	BC□HB2H	→ P. 143
	100~1100			10~5.4			600	BC□HB2M	
				13.1~5.4			300	BC□HB2L	
				10~4.9	1200	1200	1200	BC□HB3H	→ P. 145
				12.6~4.9			600	BC□HB3M	
				5.0	600	600	1200	BC□MB2H	→ P. 147
				10~5.4			600	BC□MB2M	
				19~5.4			300	BC□MB2L	
				10~4.9	600	600	1200	BC□MB3H	→ P. 149
				18.5~4.9			600	BC□MB3M	
	800~2000			3.5	1200	1200	960	BD□HB1H	→ P. 151
				7.0			480	BD□HB1M	
				14~11			240	BD□HB1L	
				5.0	1200	1200	1200	BD□HB2H	→ P. 153
				10~5.4			600	BD□HB2M	
				13.1~5.4			300	BD□HB2L	
				10~4.9	1200	1200	1200	BD□HB3H	→ P. 155
				12.6~4.9			600	BD□HB3M	
	100~1300	100~700	100~500	3.5	1200	1200	960	BE□HB1H	→ P. 157
				7.0			480	BE□HB1M	
				14.0			240	BE□HB1L	
				5.0	1200	1200	960	BE□HB2H	→ P. 159
				10~7.2			480	BE□HB2M	
				20~7.2			240	BE□HB2L	
				10~6.6	1200	1200	1200	BE□HB3H	→ P. 161
				20~6.6			600	BE□HB3M	
	1000~2500			3.5	1200	1200	960	BF□HB1H	→ P. 163
				7.0			480	BF□HB1M	
				14.0			240	BF□HB1L	
				5	1200	1200	1200	BF□HB2H	→ P. 165
				10~7.2			600	BF□HB2M	
				20~7.2			300	BF□HB2L	
				10~6.6	1200	1200	1200	BF□HB3H	→ P. 167
				20~6.6			600	BF□HB3M	
	100~1300			10.0	2400	2400	1200	BK□HB3H	→ P. 169
				20~13.6			600	BK□HB3M	
				20~8.6	2400	2400	1200	BK□HB4H	→ P. 171
				20~17.5	1200	1200	600	BK□MB3M	→ P. 173
				36.4~11.6	1200	1200	600	BK□MB4M	→ P. 175
	900~2500			10.0	2400	2400	1200	BL□HB3H	→ P. 177
				20.~13.6			600	BL□HB3M	
				20~8.6	2400	2400	1200	BL□HB4H	→ P. 179
				20~17.5	1200	1200	600	BL□MB3M	→ P. 181
				36.4~11.6	1200	1200	600	BL□MB4M	→ P. 183
	100~1500			20~6.0	2500	2400	1200	BM□HB4H	→ P. 185
				33.1~6.0	1250	1200	600	BM□MB4M	→ P. 187

Cartesian Robot XYB + Z-axis Slider Mount Type

Classification	X-axis stroke (mm)	Y-axis stroke (mm)	Z-axis stroke (mm)	Payload (kg)	Maximum speed (mm/s)			Model	Page
					X-axis	Y-axis	Z-axis		
B□□□S□□ [XYB + Z-axis 3-axis configuration Z-axis slider mount]	100~900	100~400	100~300	4.3~2.8	480	480	480	BA□MS1M	→ P. 189
				11.3~4.0			240	BA□MS1L	→ P. 189
	100~1000			4.3~2.8	1200	960	480	BB□HS1M	→ P. 191
				8.1~6.6			240	BB□HS1L	→ P. 191
				4.3~2.8	600	480	480	BB□MS1M	→ P. 193
				11.3~9.8			240	BB□MS1L	→ P. 193
		100~500	100~400	4.3~2.1	1200	1200	480	BC□HS1M	→ P. 195
				11.3~9.1			240	BC□HS1L	→ P. 195
				13.2~5.5	1200	1200	600	BC□HS3M	→ P. 197
				14.3~5.5	600	600	600	BC□MS3M	→ P. 199
	800~2000			4.3~2.1	1200	1200	480	BD□HS1M	→ P. 201
				11.3~9.1			240	BD□HS1L	→ P. 201
				13.2~5.5	1200	1200	600	BD□HS3M	→ P. 203
	100~1000	100~1000		4.3~2.1	1200	1200	480	BE□HS1M	→ P. 205
				11.3~9.1			240	BE□HS1L	→ P. 205
				14.3~8.5	1200	1200	600	BE□HS3M	→ P. 207
	1000~2500			4.3~2.1	1200	1200	480	BF□HS1M	→ P. 209
				11.3~9.1			240	BF□HS1L	→ P. 209
				14.3~8.5	1200	1200	600	BF□HS3M	→ P. 211
	100~1000	100~700	100~500	12~5.0	2400	2400	1200	BK□HS4H	→ P. 213
				25.1~9.0			600	BK□HS4M	→ P. 213
				12~5.0	1200	1200	1200	BK□MS4H	→ P. 215
				32~12.1			600	BK□MS4M	→ P. 215
	900~2500			12~5.0	2400	2400	1200	BL□HS4H	→ P. 217
				25.1~9.0			600	BL□HS4M	→ P. 217
				12~5.0	1200	1200	1200	BL□MS4H	→ P. 219
				32~12.1			600	BL□MS4M	→ P. 219
	100~1000			12~5.0	2500	2400	1200	BM□HS4H	→ P. 221
				32~6.5	1250	1200	600	BM□MS4M	→ P. 223

Cartesian Robot XZ + Y-axis Slider Mount Type

Classification	X-axis stroke (mm)	Y-axis stroke (mm)	Z-axis stroke (mm)	Payload (kg)	Maximum speed (mm/s)			Model	Page
					X-axis	Y-axis	Z-axis		
Z3□□HS□□ [XZ + Y-axis 3-axis configuration Y-axis slider mount]	120~1070	100~400	100~400	13~8.7	1200	600	960	Z3C□HS1H	→ P. 225
	120~1270	100~500	100~500	21.2~7.0	1200	600	1200	Z3G□HS2H	→ P. 227

Cartesian Robot XYG + Z-axis Base Mount Type

Classification	X-axis stroke (mm)	Y-axis stroke (mm)	Z-axis stroke (mm)	Payload (kg)	Maximum speed (mm/s)			Model	Page
					X-axis	Y-axis	Z-axis		
G☐☐HB☐☐ [XYG + Z-axis 3-axis configuration Z-axis base mount]	1000~2500	500~700	100~600	3.5	1200	1200	960	G1J☐HB1H	→ P. 229
				7.0			480	G1J☐HB1M	
				14.0			240	G1J☐HB1L	
				5.0	1200	1200	1200	G1J☐HB2H	→ P. 231
				10.0			600	G1J☐HB2M	
				20~18.0			300	G1J☐HB2L	
				10.0	1200	1200	1200	G1J☐HB3H	→ P. 233
				20~18.0			600	G1J☐HB3M	
		800~1200	100~600	3.5	1200	1200	960	G2J☐HB1H	→ P. 235
				7.0			480	G2J☐HB1M	
				14.0			240	G2J☐HB1L	
				5.0	1200	1200	1200	G2J☐HB2H	→ P. 237
				10.0			600	G2J☐HB2M	
				20~15.1			300	G2J☐HB2L	
				10.0	1200	1200	1200	G2J☐HB3H	→ P. 239
				20~14.5			600	G2J☐HB3M	

Cartesian Robot XYG + Z-axis Slider Mount Type

Classification	X-axis stroke (mm)	Y-axis stroke (mm)	Z-axis stroke (mm)	Payload (kg)	Maximum speed (mm/s)			Model	Page
					X-axis	Y-axis	Z-axis		
G☐☐HS☐☐ [XYG + Z-axis 3-axis configuration Z-axis slider mount]	1000~2500	500~700	100~400	4.3~2.1	1200	1200	480	G1J☐HS1M	→ P. 241
				11.3~9.1			240	G1J☐HS1L	
			100~500	14.8~9.8	1200	1200	300	G1J☐HS2L	→ P. 243
				14.3~9.2	1200	1200	600	G1J☐HS3M	→ P. 245
		800~1200	100~400	4.3~2.1	1200	1200	480	G2J☐HS1M	→ P. 247
				11.3~9.1			240	G2J☐HS1L	
			100~500	14.8~9.8	1200	1200	300	G2J☐HS2L	→ P. 249
				14.3~9.2	1200	1200	600	G2J☐HS3M	→ P. 251

Cartesian Robot XYBG + Z-axis Base Mount Type

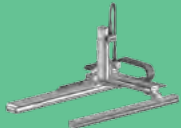| Classification	X-axis stroke (mm)	Y-axis stroke (mm)	Z-axis stroke (mm)	Payload (kg)	Maximum speed (mm/s)			Model	Page
					X-axis	Y-axis	Z-axis		
G☐☐☐B☐☐ XYBG + Z-axis 3-axis configuration Z-axis base mount	100~1100	300~600	100~300	7~3.6	1200	960	480	GB☐HB1M	→ P. 253
				7.6~4.5			240	GB☐HB1L	→ P. 253
				7.0	600	480	480	GB☐MB1M	→ P. 255
				14.0			240	GB☐MB1L	→ P. 255
		300~700	100~400	7.0	1200	1200	480	GC☐HB1M	→ P. 257
				14~13.6			240	GC☐HB1L	→ P. 257
				10~8.0	1200	1200	600	GC☐HB2M	→ P. 259
				13~8.0			300	GC☐HB2L	→ P. 259
				10~7.5	1200	1200	1200	GC☐HB3H	→ P. 261
				17.6~8	600	600	300	GC☐MB2L	→ P. 263
				17.1~7.5	600	600	600	GC☐MB3M	→ P. 265
	800~2000	300~700	100~400	7.0	1200	1200	480	GD☐HB1M	→ P. 267
				14~13.6			240	GD☐HB1L	→ P. 267
				10~8.0	1200	1200	600	GD☐HB2M	→ P. 269
				13~8.0			300	GD☐HB2L	→ P. 269
				10~7.5	1200	1200	1200	GD☐HB3H	→ P. 271
	100~1300	300~900	100~500	14.0	1200	1200	240	GE☐HB1L	→ P. 273
				10.0	1200	1200	600	GE☐HB2M	→ P. 275
				20~11.8			300	GE☐HB2L	→ P. 275
				10.0	1200	1200	1200	GE☐HB3H	→ P. 277
				20~11.2			600	GE☐HB3M	→ P. 277
				31.8~11.2			300	GE☐HB3L	→ P. 277
	1000~2500	300~900	100~500	14.0	1200	1200	240	GF☐HB1L	→ P. 279
				10	1200	1200	600	GF☐HB2M	→ P. 281
				20~11.8			300	GF☐HB2L	→ P. 281
				10.0	1200	1200	1200	GF☐HB3H	→ P. 283
				20~11.2			600	GF☐HB3M	→ P. 283
				31.8~11.2			300	GF☐HB3L	→ P. 283

Cartesian Robot XYBG + Z-axis Slider Mount Type

Classification	X-axis stroke (mm)	Y-axis stroke (mm)	Z-axis stroke (mm)	Payload (kg)	Maximum speed (mm/s)			Model	Page
					X-axis	Y-axis	Z-axis		
G☐☐☐S☐☐ XYBG + Z-axis 3-axis configuration Z-axis slider mount	100~1000	300~600	100~300	4.3~2.8	1200	960	480	GB☐HS1M	→ P. 285
				8~4.8			240	GB☐HS1L	→ P. 285
				4.3~2.8	600	480	480	GB☐MS1M	→ P. 287
				11.3~9.8			240	GB☐MS1L	→ P. 287
		300~700	100~400	4.3~2.1	1200	1200	480	GC☐HS1M	→ P. 289
				11.3~9.1			240	GC☐HS1L	→ P. 289
				13.1.~8.1	1200	1200	600	GC☐HS3M	→ P. 291
				4.3~2.1	600	600	480	GC☐MS1M	→ P. 293
				11.3~9.1			240	GC☐MS1L	→ P. 293
				14.3~8.1	600	600	600	GC☐MS3M	→ P. 295
	800~2000	300~700	100~400	4.3~2.1	1200	1200	480	GD☐HS1M	→ P. 297
				11.3~9.1			240	GD☐HS1L	→ P. 297
				13.1~8.1	1200	1200	600	GD☐HS3M	→ P. 299
	100~1000	300~900		4.3~2.1	1200	1200	480	GE☐HS1M	→ P. 301
				11.3~9.1			240	GE☐HS1L	→ P. 301
				14.3~10.5	1200	1200	600	GE☐HS3M	→ P. 303
				32.9~13.1			300	GE☐HS3L	→ P. 303
				4.3~2.1	600	600	480	GE☐MS1M	→ P. 305
				11.3~9.1			240	GE☐MS1L	→ P. 305
				34.3~13.1	600	600	300	GE☐MS3L	→ P. 307
	1000~2500	300~900		4.3~2.1	1200	1200	480	GF☐HS1M	→ P. 309
				11.3~9.1			240	GF☐HS1L	→ P. 309
				14.3~10.5	1200	1200	600	GF☐HS3M	→ P. 311
				32.9~13.1			300	GF☐HS3L	→ P. 311

Cartesian Robot Cable Wiring

Methods of Wiring and Characteristics

The following two methods can be selected for the wiring cable for the motor/encoder for the second and third axes of Cartesian robots. Please select the type which is suitable for the particular use.
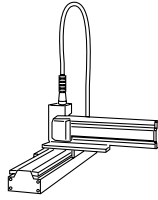
Self-standing cable model: SC
- The radius of flexure is large so that it does not readily disconnect.
- Space is required in the height direction.
- Provides user wiring and tubing inside the composite cable.
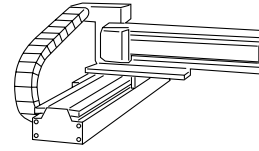
Cable track model: CT□
- Height is kept low and does not require space.
- Wiring for devices mounted on the Y-axis and Z-axis can be contained inside the cable track.

■Diagram of the Self-standing Cable Wiring

Red air tube (Ø6 outer diameter, Ø4 inside diameter)
Black air tube (Ø6 outer diameter, Ø4 inside diameter)
User wiring (0.2mm² x 7 pairs) * Protected by red insulating tube

Red air tube (Ø6 outer diameter, Ø4 inside diameter)
Black air tube (Ø6 outer diameter, Ø4 inside diameter)
User wiring (0.2mm² x 7pairs) * Protected by red insulating tube

Wiring Details by Type of Configuration

Cartesian robot configured axis cable exit direction and installation direction of sensor differs depending on the type of configuration and the configuration direction. See the following tables for details.
Cable exit direction of the first axis can be changed as an option. (YZS/YZB are excluded)

Explanation of Symbols in the Tables

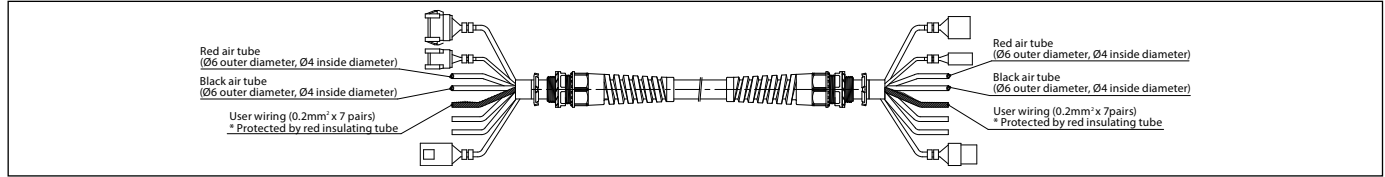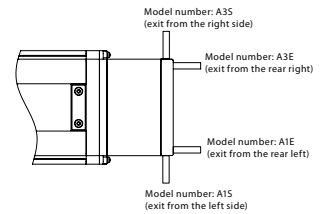|			
A1E	Actuator cable exit direction from the rear left	C/L	Creep sensor/limit switch mounting direction on the right side of the main body (standard)
A3E	Actuator cable exit direction from the rear right	CL/LL	Creep sensor/limit switch mounting direction on the left side of the main body (symmetrically opposite)
A1S	Actuator cable exit direction from the left side	NC	No motor/encoder cable wiring
A3S	Actuator cable exit direction from the right side	SC	Self-standing cable
		CT	Cable track

■Cable exit direction

Model number: A3S (exit from the right side)
Model number: A3E (exit from the rear right)
Model number: A1E (exit from the rear left)
Model number: A1S (exit from the left side)

■2-axis Configuration

Type	Configuration direction	First axis		Second axis		Wiring on second axis
		Cable exit direction	Limit switch	Cable exit direction	Limit switch	
XYB XYBG	1	A3S	CL/LL	A1S	C/L	NC SC CT
	2	A1S	C/L	A3S	CL/LL	
	3	A3S	CL/LL	A3S	CL/LL	
	4	A1S	C/L	A1S	C/L	
XYS	1	A3S	CL/LL	A3S	C/L	NC/SC
	2	A1S	C/L	A1S	CL/LL	
	3	A3S	CL/LL	A1S	CL/LL	
	4	A1S	C/L	A3S	C/L	
XZ	1	A3S	CL/LL	A3S	CL/LL	NC/CT
	2	A1S	C/L	A1S	C/L	
	3	A3S	CL/LL	A1S	C/L	
	4	A1S	C/L	A3S	CL/LL	
	5	A3S	CL/LL	A1S	C/L	
	6	A1S	C/L	A3S	CL/LL	
YZS	1	A1E	C/L	A3E	CL/LL	NC/SC
	2	A3E	CL/LL	A1E	C/L	
YZB	1	A1E	C/L	A3S	CL/LL	NC/CT
				A1E	C/L	SC
	2	A3E	CL/LL	A1S	C/L	NC/CT
				A3E	CL/LL	SC
XYG	1	A3S	CL/LL	A3E	C/L	NC/CT
	2	A1S	C/L	A1E	CL/LL	

■Limit Switch Position
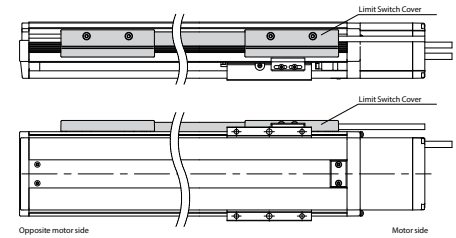
Limit Switch Cover
Limit Switch Cover
Opposite motor side
Motor side
Actuator types other than the SSPA Series
SSPA Series
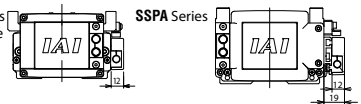
■3-axis Configuration

Type	Configuration direction	First axis		Second axis		Third axis		Wiring for second axis
		Cable exit direction	Limit switch	Cable exit direction	Limit switch	Cable exit direction	Limit switch	
XYB + Z-axis base mount	1	A3S	CL/LL	A1S	C/L	A3S	CL/LL	NC/CT
						A3E		SC
	2	A1S	C/L	A3S	CL/LL	A1S	C/L	NC/CT
						A1E		SC
	3	A3S	CL/LL	A3S	CL/LL	A1S	C/L	NC/CT
						A1E		SC
	4	A1S	C/L	A1S	C/L	A3S	CL/LL	NC/CT
						A3E		SC
XYB + Z-axis slider mount	1	A3S	CL/LL	A1S	C/L	A1E	C/L	NC/SC
	2	A1S	C/L	A3S	CL/LL	A3E	CL/LL	
	3	A3S	CL/LL	A3S	CL/LL	A3E	CL/LL	
	4	A1S	C/L	A1S	C/L	A1E	C/L	
XZ + Y-axis slider mount	1	A3S	CL/LL	A3E	CL/LL	A3S	C/L	NC/SC
	2	A1S	C/L	A1E	C/L	A1S	CL/LL	
XYG + Z-axis base mount	1	A3S	CL/LL	A3E	C/L	A1S	C/L	NC/CT
	2	A1S	C/L	A1E	CL/LL	A3S	CL/LL	
XYG + Z-axis slider mount	1	A3S	CL/LL	A3E	C/L	A3E	CL/LL	NC/SC
	2	A1S	C/L	A1E	CL/LL	A1E	C/L	
XYBG + Z-axis base mount	1	A3S	CL/LL	A1S	C/L	A3S	CL/LL	NC/CT
						A3E		SC
	2	A1S	C/L	A3S	CL/LL	A1S	C/L	NC/CT
						A1E		SC
	3	A3S	CL/LL	A3S	CL/LL	A1S	C/L	NC/CT
						A1E		SC
	4	A1S	C/L	A1S	C/L	A3S	CL/LL	NC/CT
						A3E		SC
XYBG + Z-axis slider mount	1	A3S	CL/LL	A1S	C/L	A1E	C/L	NC/SC
	2	A1S	C/L	A3S	CL/LL	A3E	CL/LL	
	3	A3S	CL/LL	A3S	CL/LL	A3E	CL/LL	
	4	A1S	C/L	A1S	C/L	A1E	C/L	

Cartesian Robot Cable Wiring

Cables between the Cartesian Robot and the Controller

Connect each axis of the Cartesian robot using motor and encoder single axis robot cables to the controller.

The Y-axis and Z-axis motor cable and encoder cable are connected in an X-axis junction box.

Controller

Motor cable
[model CB-X-MA□□□]
Encoder cable
[model CB-X1-PA□□□] (standard)
[model CB-X1-PLA□□□] (with LS)

Motor cable
[model CB-X-MA□□□]
Encoder cable
[model CB-X1-PA□□□] (standard)
[model CB-X1-PLA□□□] (with LS)

(300)

<Self-standing Cable Specification>

Controller

Motor cable
[model CB-X-MA□□□]
Encoder cable
[model CB-X1-PA□□□] (standard)
[model CB-X1-PLA□□□] (with LS)

Motor cable
[model CB-X-MA□□□]
Encoder cable
[model CB-X1-PA□□□] (standard)
[model CB-X1-PLA□□□] (with LS)

(300)

* The length of the motor cable/encoder cable is common to the X-axis and Y/Z-axis; use a joint cable if one axis is shorter than the other.

Motor joint cable
[model CB-X-MA□□□-JY1]
Encoder joint cable
[modelCB-X1-PA□□□-JY1]
Encoder joint cable with LS
[model CB-X1-PLA□□□JY1]
available lengths 0.5m/1m/1.5m/2m

<Cable track specification>

Details of Wiring by Type of Configuration

Cable track option for wiring of the customer provided device is available for the Y-axis slider of the XYB, XYBG, and XYG types.

■Y-axis base side mounted

(144.5)
(116.5)

X-axis

Bracket location on the moving end
X-axis

A
B
(81.5)

Y-axis

R48

[Detailed Diagram of Bracket on Moving End and Sectional View of cable track]

54

Countersink for 2-M6

(5.5)
(22)

Ø11.8

(Ø6.4)
(19.5)

(81.5)
(68)

User space

18 (21) (28)

Configuration type	A dimensions	B dimensions
BA□□/BB□□	73	54
BC□□/BD□□/BE□□/BF□□	83	65
BG□□/BH□□/BK□□/BL□□/BM□□	83	80
GB□□	73	54
GC□□/GD□□/GE□□/GF□□	83	65
GG□□/GH□□	83	80

■Y-axis flat base mounted

X-axis (drive axis)

(144.5)
(116.5)

X-axis (drive axis)

Bracket on moving end

Y-axis

(93.5)

ST/2+125

129.5

X-axis (support guide)

X-axis (support guide)

[Detailed Diagram of Bracket on Moving End and Sectional View of cable track]

66

Countersink for 2-M6

(5.5)
(22)

(11.8)

(Ø6.4)
(19.5)

(93.5)
(80)

User space

18 (21) (28)

Model Specification Items

The ICSB2, ICSPB2, ICSB3 and ICSPB3 models are made up of the following items.
The selected range for each item (stroke, cable wiring and the like) differs depending on each model.
For details, please refer to each model specification page starts from page 017.

[ICSB2/ICSPB2 Series]

① Series — ② Type — ③ Encoder type — ④ First axis details — ⑤ Second axis details — ⑧ Applicable controller — ⑨ Cable length — ⑩ Cable wiring between first and second axes — ⑪ Cable wiring between second and third axes

① Series	
ICSB2	Standard Type
ICSPB2	High-Precision Type

③ Encoder type	
A	Absolute
I	Incremental

④ First axis details

Stroke	
10	100mm
~	~
250	2500mm
Set for every 50mm	

Option	
A□□	Cable exit direction change for the first axis
AQ	AQ seal
B	Brake
C	Creep sensor
L	Limit switch
NM	Non-motor end specification
RT	Guide with ball retention mechanism

⑤ Second axis details

Stroke	
10	100mm
~	~
120	1200mm
Set for every 50mm	

Option	
AQ	AQ seal
B	Brake
C	Creep sensor
L	Limit switch
NM	Non-motor end specification
RT	Guide with ball retention mechanism

⑧ Applicable controller	
T1	XSEL-J/K
	SCON
T2	SSEL
	XSEL-P/Q/R/S

*When operating with SCON controllers, as the same number of single axis controllers is required. Also, a control device such as PLC is required on the top position.

⑨ Cable length	
3L	3m
5L	5m
□L	Specified length

⑩ Cable wiring between first and second axes	
SC	Self-standing cable
CT	Cable track

⑪ Cable wiring between second and third axes	
(no entry)	No cable track
CT	Cable track

*Option code dedicated for the B□□□, G□□□ types. This option is available when CT is selected for ⑩

<B□□>

BA□H	XYB (S + S) high-speed	BE□S	XYB (L + M) super-high-speed	BK□H	XYB (SL + L) high-speed
BA□M	XYB (L + M) medium-speed	BE□H	XYB (L + M) high-speed	BK□M	XYB (SL + L) medium-speed
BB□H	XYB (M + S) high-speed	BE□M	XYB (L + M) medium-speed	BL□H	XYB (SL + L) high-speed long
BB□M	XYB (M + S) medium-speed	BF□S	XYB (L + M) high-speed-long	BL□M	XYB (SL + L) medium-speed long
BC□H	XYB (M + M) high-speed	BF□H	XYB (L + M) high-speed-long	BM□H	XYB (HRL + L) high-speed
BC□M	XYB (M + M) medium-speed	BG□S	XYB (L + L) super-high-speed	BM□M	XYB (HRL + L) medium-speed
BD□H	XYB (M + M) high-speed long	BH□S	XYB (L + L) super-high-speed long		

S = small model
M = medium model
L = large model
SL = super-large model
HRL = high-rigidity large model

<S□□>

SA□H	XYS (S + S) high-speed
SA□M	XYS (S + S) medium-speed
S1C□H	XYS (M + M) high-speed
S1C□M	XYS (M + M) medium-speed
S2C□H	XYS (M + M) high-speed
SG□S	XYS (L + L) super-high-speed
SG□H	XYS (L + L) high-speed

<Z□□>

ZA□H	XZ (S + S) high-speed
ZA□M	XZ (S + S) medium-speed
Z1C□H	XZ (M + M) high-speed
Z1C□M	XZ (M + M) medium-speed
Z2C□H	XZ (M + M) high-speed
ZD□H	XZ (M + M) high-speed long
ZG□S	XZ (L + L) super-high-speed
ZH□S	XZ (L + L) super-high-speed long

<Y□□□>

YSA□H	YZS (S + S) high-speed
YSA□M	YZS (S + S) medium-speed
YSC□H	YZS (M + M) high-speed
YSC□M	YZS (M + M) medium-speed
YSG□H	YZS (L + L) high-speed
YBA□H	YZB (S + S) high-speed
YBA□M	YZB (S + S) medium-speed
YBC□H	YZB (M + M) high-speed
YBC□M	YZB (M + M) medium-speed
YBG□S	YZB (L + L) super-high-speed
YBG□H	YZB (L + L) high-speed

<G□□>

G1J□H	XYG (L + M) high-speed Y-axis flat-mounted	GE□H	XYBG (L + M) high-speed Y-axis side-mounted
G2J□H	XYG (L + M) high-speed long Y-axis flat-mounted	GE□M	XYBG (L + M) medium-speed Y-axis side-mounted
GB□H	XYBG (M + S) high-speed Y-axis side-mounted	GF□H	XYBG (L + M) high-speed long Y-axis side-mounted
GB□M	XYBG (M + S) medium-speed Y-axis side-mounted	GG□H	XYBG (L + L) high-speed Y-axis side-mounted
GC□H	XYBG (M + M) high-speed Y-axis side-mounted	GG□M	XYBG (L + L) medium-speed Y-axis side-mounted
GC□M	XYBG (M + M) medium-speed Y-axis side-mounted	GH□H	XYBG (L + L) high-speed long Y-axis side-mounted
GD□H	XYBG (M + M) high-speed long Y-axis side-mounted		

[ICSB3/ICSPB3 Series]

① Series — ② Type — ③ Encoder type — ④ Details of first axis — ⑤ Details of second axis — ⑥ Details of third axis — ⑧ Applicable controller — ⑨ Cable length — ⑩ Cable wiring between first and second axes — ⑪ Cable wiring between second and third axes

① Series	
ICSB3	Standard Type
ICSPB3	High-Precision Type

③ Encoder type	
A	Absolute
I	Incremental

④ Details of first axis

Stroke	
10	100mm
~	~
250	2500mm
Set for every 50mm	

Option	
A□□	Cable exit direction change for the first axis
AQ	AQ seal
B	Brake
C	Creep sensor
L	Limit switch
NM	Non-motor end specification
RT	Guide with ball retention mechanism

⑤ Details of second axis

Stroke	
10	100mm
~	~
120	1200mm
Set for every 50mm	

Option	
AQ	AQ seal
B	Brake
C	Creep sensor
L	Limit switch
NM	Non-motor end specification
RT	Guide with ball retention mechanism

⑧ Applicable controller	
T1	XSEL-J/K
	SCON
T2	XSEL-P/Q/R/S

*When operating with SCON controllers, as the same number of axis controllers is required. Also, a control device such as PLC is required on the top position.

⑥ Details of third axis

Stroke	
10	100mm
~	~
60	600mm
Set for every 50mm	

Option	
AQ	AQ seal
B	Brake
C	Creep sensor
L	Limit switch
NM	Non-motor end specification
RT	Guide with ball retention mechanism

⑨ Cable length	
3L	3m
5L	5m
□L	Specified length

⑩ Cable wiring between first and second axes	
SC	Self-standing cable
CT	Cable track
CTSC	Cable track + self-standing cable

*CTSC is a dedicated model for:
G1J□HS□□
G2J□HS□□

⑪ Cable wiring between second and third axes	
SC	Self-standing cable
CT	Cable track

<B□□□B□□>

BA□MB1□	XYB (small model + small model) medium-speed type + Z-axis (small model) base mount
BB□HB1□	XYB (medium model + small model) high-speed type + Z-axis (small model) base mount
BB□MB1□	XYB (medium model + small model) medium-speed type + Z-axis (small model) base mount
BC□HB1□	XYB (medium model + medium model) high-speed type + Z-axis (small model) base mount
BC□HB2□	XYB (medium model + medium model) high-speed type + Z-axis (medium model 100W) base mount
BC□HB3□	XYB (medium model + medium model) high-speed type + Z-axis (medium model 200W) base mount
BC□MB2□	XYB (medium model + medium model) medium-speed type + Z-axis (medium model 100W) base mount
BC□MB3□	XYB (medium model + medium model) medium-speed type + Z-axis (medium model 200W) base mount
BD□HB1□	XYB (medium model + medium model) high-speed long type + Z-axis (small model) base mount
BD□HB2□	XYB (medium model + medium model) high-speed long type + Z-axis (medium model 100W) base mount
BD□HB3□	XYB (medium model + medium model) high-speed long type + Z-axis (medium model 200W) base mount
BE□HB1□	XYB (large model + medium model) high-speed type + Z-axis (small model) base mount
BE□HB2□	XYB (large model + medium model) high-speed type + Z-axis (medium model 100W) base mount
BE□HB3□	XYB (large model + medium model) high-speed type + Z-axis (medium model 200W) base mount

BF□HB1□	XYB (large model + medium model) high-speed long type + Z-axis (small model) base mount
BF□HB2□	XYB (large model + medium model) high-speed long type + Z-axis (medium model 100W) base mount
BF□HB3□	XYB (large model + medium model) high-speed long type + Z-axis (medium model 200W) base mount
BK□HB3□	XYB (super-large model + large model) high-speed type + Z-axis (medium model 200W) base mount
BK□HB4□	XYB (super-large model + large model) high-speed type + Z-axis (large model 400W) base mount
BK□MB3□	XYB (super-large model + large model) medium-speed type + Z-axis (medium model 200W) base mount
BK□MB4□	XYB (super-large model + large model) medium-speed type + Z-axis (large model 400W) base mount
BL□HB3□	XYB (super-large model + large model) high-speed long type + Z-axis (medium model 200W) base mount
BL□HB4□	XYB (super-large model + large model) high-speed long type + Z-axis (large model 400W) base mount
BL□MB3□	XYB (super-large model + large model) medium-speed long type + Z-axis (medium model 200W) base mount
BL□MB4□	XYB (super-large model + large model) medium-speed long type + Z-axis (large model 400W) base mount
BM□HB4H	XYB (high-rigidity large model + large model) high-speed type + Z-axis (large model 400W) base mount
BM□MB4M	XYB (high-rigidity large model + large model) medium-speed type + Z-axis (large model 400W) base mount

<B□□□S□□>

BA□MS1□	XYB (small model + small model) medium-speed type + Z-axis (small model) slider mount
BB□HS1□	XYB (medium model + small model) high-speed type + Z-axis (small model) slider mount
BB□MS1□	XYB (medium model + small model) medium-speed type + Z-axis (small model) slider mount
BC□HS1□	XYB (medium model + medium model) high-speed type + Z-axis (small model) slider mount
BC□HS3□	XYB (medium model + medium model) high-speed type + Z-axis (medium model 200W) slider mount
BC□MS3□	XYB (medium model + medium model) medium-speed type + Z-axis (medium model 200W) slider mount
BD□HS1□	XYB (medium model + medium model) high-speed long type + Z-axis (small model) slider mount
BD□HS3□	XYB (medium model + medium model) high-speed long type + Z-axis (medium model 200W) slider mount
BE□HS1□	XYB (large model + medium model) high-speed type + Z-axis (small model) slider mount
BE□HS3□	XYB (large model + medium model) high-speed type + Z-axis (medium model 200W) slider mount
BF□HS1□	XYB (large model + medium model) high-speed long type + Z-axis (small model) slider mount
BF□HS3□	XYB (large model + medium model) high-speed long type + Z-axis (medium model 200W) slider mount
BK□HS4□	XYB (super-large model + large model) high-speed type + Z-axis (large model 400W) slider mount
BK□MS4□	XYB (super-large model + large model) medium-speed type + Z-axis (large model 400W) slider mount
BL□HS4□	XYB (super-large model + large model) high-speed long type + Z-axis (large model 400W) slider mount
BL□MS4□	XYB (super-large model + large model) medium-speed long type + Z-axis (large model 400W) slider mount
BM□HS4H	XYB (high-rigidity large model + large model) high-speed type + Z-axis (large model 400W) slider mount
BM□MS4M	XYB (high-rigidity large model + large model) medium-speed type + Z-axis (large model 400W) slider mount

① Series

Series names are as follows.
ICSB2 : ISB 2-axis configuration
ICSPB2 : ISPB 2-axis configuration
ICSB3 : ISB 3-axis configuration
ICSPB3 : ISPB 3-axis configuration

② Type

Indicates the configuration patterns, configuration directions, types of model configurations and types of speeds.

2-axis configuration	B (1)	B (2)	1 (3)	H (4)	3-axis configuration	B (1)	B (2)	1 (3)	H (4)	B (5)	1 (6)	M (7)

(1) 1 - 2-axis configuration type (*1) B: XYB type / S: XYS type / Z: XZ type / YS: YZS type / YB: YZB type / G: XYG type
(2) 1 - 2-axis configuration type A / B / C / 1C / 2C / D / E / F / G / H / K / L / M / 1J / 2J
(3) 1 - 2-axis configuration direction 1 / 2 / 3 / 4
(4) 1 - 2-axis speed type S: super-high speed type / H: high-speed type / M: medium speed type
(5) Z-axis mount type B: base mount / S: slider mount
(6) Z-axis motor output 1: 60W / 2: 100W / 3: 200W / 4: 400W
(7) Z-axis speed type H: high-speed type / M: medium-speed type / L: low-speed type

(*1) For 3 axes, B (XYB type) and G (XYG type) and Z (XZ type) only

③ Encoder type

Indicates whether the encoder installed in the actuator is an "absolute type" or "incremental type."

A : Absolute type   Since the current slider position will be retained after the power is turned off, homing is not required when the actuator is powered up.
I : Incremental type   Since the slider position data are cleared when the power is turned off, homing must be performed every time the actuator is powered up.

④ First axis details

Indicate the stroke and options of the first axis in the 2-axis and 3-axis configurations. The stroke should be entered in cm units (example: 500 mm stroke → 50). When multiple options are set, entry should be made in alphabetical order with no hyphens in between.
(Example : AQ seal + creep sensor + limit switch + non-motor end specification → AQCLNM)

⑤ Second axis details

Indicate the stroke and options of the second axis in the 2-axis and 3-axis configurations.
The same holds for others.

⑥ Third axis details

Indicate the stroke and options of the third axis in the 3-axis configuration.
The same holds for others.

⑧ Applicable controller

Indicates the type of controller which is connected.

T1: XSEL-J/K
T2: XSEL-P/Q/R/S, SSEL, SCON

⑨ Cable length

Indicates the length of the motor/encoder cable connecting the actuator and the controller.
As standard lengths, 3L (3m) or 5L (5m) can be selected.
Or custom length can be specified up to 20m.

⑩ Cable wiring between axes 1-2

Indicates the method of cable wiring from the first axis to the second axis.

SC: Self-standing cable specification
CT: Cable track specification

* Depending on the model, sometimes only either SC or CT can be specified. Please refer to each model specification page for details.

⑪ Cable wiring between axes 2-3

Indicates the method of cable wiring from the second axis to the third axis.

SC: Self-standing cable specification
CT: Cable track specification
CTSC: Cable track + self-standing cable

* As a general rule, the cable wiring between axes 2-3 is carried out using the same method as for wiring between axes 1-2.
* CTSC is restricted to G1J □ HS □□, G2J □ HS □□.
* Depending on the model, sometimes only either SC or CT can be specified. Please refer to each model specification page for details.

<Z3□□HS□H/G□□□B□□/G□□□S□□>

Model	Description	Model	Description	Model	Description
Z3C□HS1H	XZ (medium model + medium model) high-speed type + Y-axis (small model) slider mount	GB□HB1□	XYBG (medium model + small model) high-speed type + Z-axis (small model) base mount	GB□HS1□	XYBG (medium model + small model) high-speed type + Z-axis (small model) slider mount
Z3G□HS2H	XZ (large model + large model) high-speed type + Y-axis (medium model) slider mount	GB□MB1□	XYBG (medium model + small model) medium-speed type + Z-axis (small model) base mount	GB□MS1□	XYBG (medium model + small model) medium-speed type + Z-axis(small model) slider mount
G1J□HB1□	XYG (large model + medium model) high-speed long type + Z-axis (small model) base mount	GC□HB1□	XYBG (medium model + medium model) high-speed type + Z-axis (small model) base mount	GC□HS1□	XYBG (medium model + medium model) high-speed type + Z-axis (small model) slider mount
G1J□HB2□	XYG (large model + medium model) high-speed long type + Z-axis (medium model 100W) base mount	GC□HB2□	XYBG (medium model + medium model) high-speed type + Z-axis (medium model 100W) base mount	GC□HS3□	XYBG (medium model + medium model) high-speed type + Z-axis (medium model 200W) slider mount
G1J□HB3□	XYG (large model + medium model) high-speed long type + Z-axis (medium model 200W) base mount	GC□HB3□	XYBG (medium model + medium model) high-speed type + Z-axis (medium model 200W) base mount	GC□MS1□	XYBG (medium model + medium model) medium-speed type + Z-axis (small model) slider mount
G2J□HB1□	XYG (large model + medium model) high-speed long type + Z-axis (small model) base mount	GC□MB2□	XYBG (medium model + medium model) medium-speed type + Z-axis (medium model 100W) base mount	GC□MS3□	XYBG (medium model + medium model) medium–speed type + Z-axis (medium model 200W) slider mount
G2J□HB2□	XYG (large model + medium model) high-speed long type + Z-axis (medium model 100W) base mount	GC□MB3□	XYBG (medium model + medium model) medium-speed type + Z axis (medium model 200W) base mount	GD□HS1□	XYBG (medium model + medium model) high-speed long type + Z-axis (small model) slider mount
G2J□HB3□	XYG (large model + medium model) high-speed long type + Z-axis (medium model 200W) base mount	GD□HB1□	XYBG (medium model + medium model) high-speed long type + Z-axis (small model) base mount	GD□HS3□	XYBG (medium model + medium model) high-speed long type + Z-axis (medium model 200W) slider mount
G1J□HS1□	XYG (large model + medium model) high-speed long type + Z-axis (small model) slider mount	GD□HB2□	XYBG (medium model + medium model) high-speed long type + Z-axis (medium model 100W) base mount	GE□HS1□	XYBG (large model + medium model) high-speed type + Z-axis (small model) slider mount
G1J□HS2□	XYG (large model + medium model) high-speed long type + Z-axis (medium model 100W) slider mount	GD□HB3□	XYBG (medium model + medium model) high-speed long type + Z-axis (medium model 200W) base mount	GE□HS3□	XYBG (large model + medium model) high-speed type + Z-axis (medium model 200W) slider mount
G1J□HS3□	XYG (large model + medium model) high-speed long type + Z-axis (medium model 200W) slider mount	GE□HB1□	XYBG (large model + medium model) high-speed type + Z-axis (small model) base mount	GE□MS1□	XYBG (large model + medium model) medium-speed type + Z-axis (small model) slider mount
G2J□HS1□	XYG (large model + medium model) high-speed long type + Z-axis (small model) slider mount	GE□HB2□	XYBG (large model + medium model) high-speed type + Z-axis (medium model 100W) base mount	GE□MS3□	XYBG (large model + medium model) medium-speed type + Z-axis (medium model 200W) slider mount
G2J□HS2□	XYG (large model + medium model) high-speed long type + Z-axis (medium model 100W) slider mount	GE□HB3□	XYBG (large model + medium model) high-speed type + Z-axis (medium model 200W) base mount	GF□HS1□	XYBG (large model + medium model) high-speed long type + Z-axis (small model) slider mount
G2J□HS3□	XYG (large model + medium model) high-speed long type + Z-axis (medium model 200W) slider mount	GF□HB1□	XYBG (large model + medium model) high-speed long type + Z-axis (small model) base mount	GF□HS3□	XYBG (large model + medium model) high-speed long type + Z-axis (medium model 200W) slider mount
		GF□HB2□	XYBG (large model + medium model) high-speed long type + Z-axis (medium model 100W) base mount		
		GF□HB3□	XYBG (large model + medium model) high-speed long type + Z-axis (medium model 200W) base mount		