IAI
Quality and Innovation

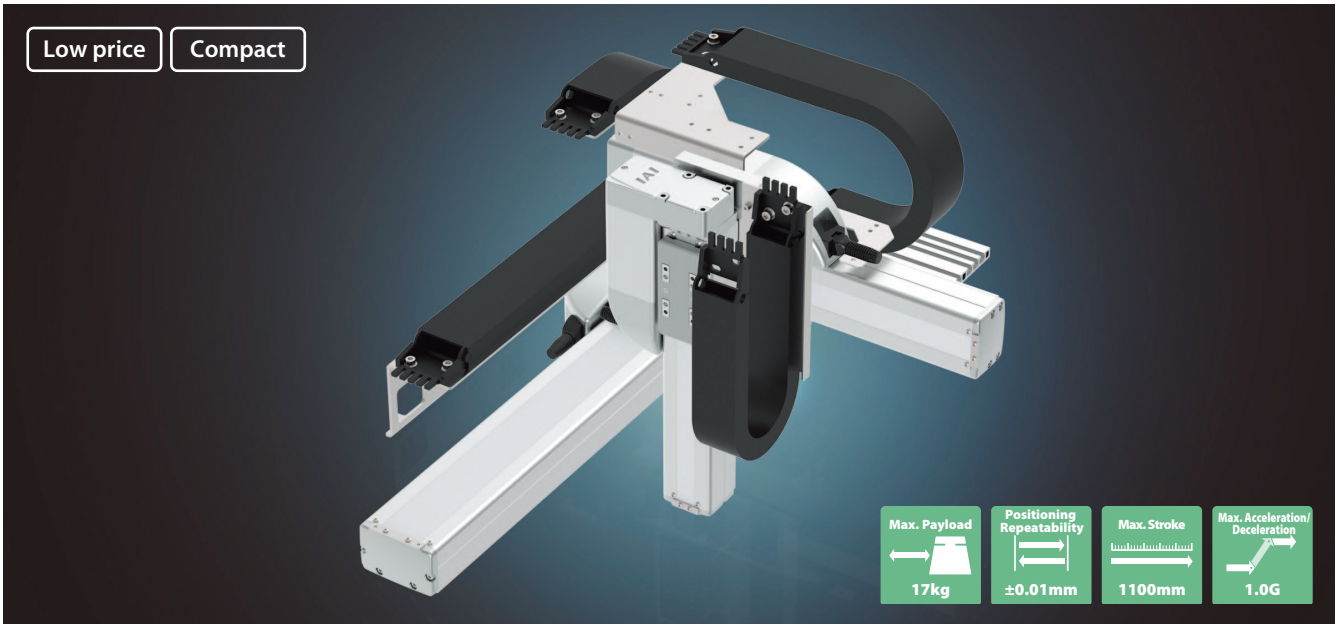
ROBO Cylinder® Configurations
Cartesian Robot

IK Series

www.intelligentactuator.com

Cartesian Robots have never been more affordable.

The ROBO Cylinder® equipped as standard with a Battery-less Absolute Encoder has been added to the "IK Series". It helps reduce the design and assembly steps.
The ROBO Cylinder® RCP6 Series has been adopted to achieve even higher speeds compared with conventional models.

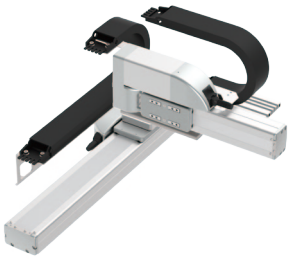


1 Diverse Configurations

The available configurations have been greatly expanded from the conventional models, allowing the ideal selection to suit your needs from 516 options.
New configurations include a table type (TA) with the Z-axis and a model with ZR unit (vertical/rotation).

2-axis configurations (X-axis/Y-axis)

- SA8 + SA7
- SA7 + SA6
- SA6 + SA4
- WSA16 + SA8
- WSA14 + SA7

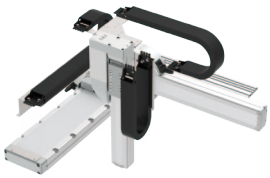


2-axis configurations (Y-axis/Z-axis)

- SA8 + SA7
- SA7 + SA6
- SA6 + SA4
- NEW SA8 + TA7
- NEW SA7 + TA6
- NEW SA6 + TA4

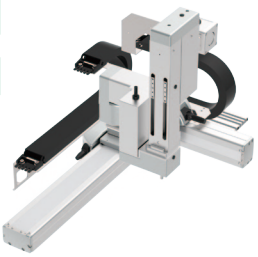
3-axis configurations (X-axis/Y-axis/Z-axis)

- SA8 + SA7 + SA6
- SA7 + SA6 + SA4
- WSA16 + SA8 + SA7
- WSA14 + SA7 + SA6
- NEW SA8 + SA7 + TA6
- NEW SA7 + SA6+ TA4



4-axis configurations (X-axis/Y-axis/ZR unit)

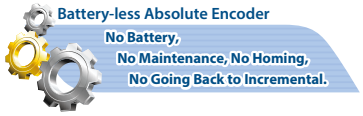
- NEW SA8 + SA7 + ZR
- NEW WSA14 + SA7 + ZR



NEW · · · Newly added size combinations

2 Equipped with high resolution Battery-less Absolute Encoder as standard.

Equipped as standard with Battery-less Absolute Encoder for all configuration axes.
No battery maintenance is required since there is no battery.
Homing operation is not required at startup or after emergency stop or malfunction.
This reduces your operation time, resulting in reduced production costs.

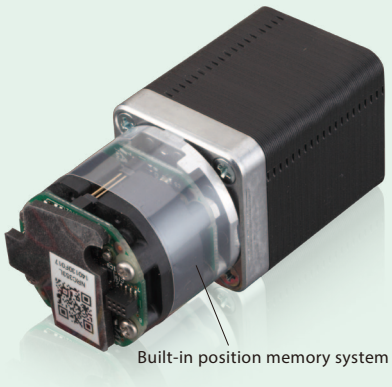


The advantages of using an absolute encoder.

(1) With an absolute encoder, home return is not required.
(2) No external home sensor is required since home return is not necessary.
(3) Removal of workpieces is not necessary, even after an emergency stop.
(4) The troublesome creation of home-return programs is not necessary even when stopping inside of a complex machine.

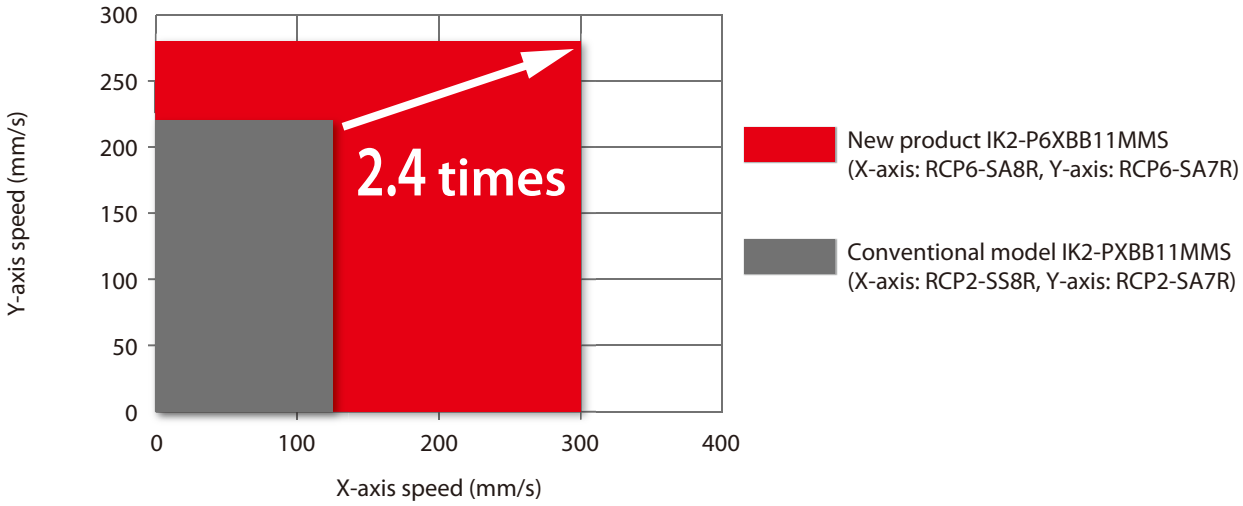
The advantages of battery-less.

(1) No battery maintenance required.
(2) No installation space for battery required.



3 Higher Speed

Compatible with PowerCON® which is equipped with a high-output driver.
The maximum speed has been increased with the use of PowerCON®.
This can reduce cycle time and help improve productivity.

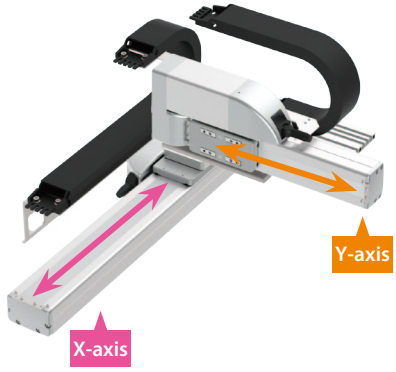


Robot Type Descriptions

Each configuration pattern is available with an extensive range of sizes from light load to heavy load and short stroke to long stroke. Select the optimal model for your application.

XYB (Y-axis base mount) type

→ 2-axis configurations IK2-P6XB: p5~34



A basic configuration type in which the base of the Y-axis is fixed to the X-axis slider. It is operated by fixing equipment or a Z-axis on the Y-axis slider.

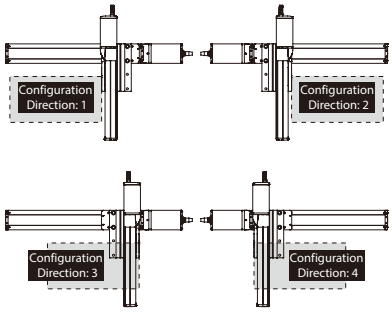
Point 1

Select from 4 patterns of Y-axis configuration directions. (See the figure at right)

Point 2

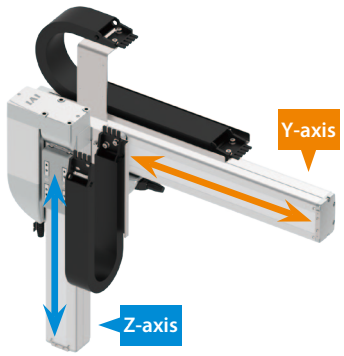
A cable track can be selected for Y-axis wiring. Select the cable track size from a maximum of 4 different sizes. You can also select a cable track for wiring by the user.

Configuration Direction



YZB (Z-axis base mount) type

→ 2-axis configurations IK2-P6YB: p35~70



For this type, the base of the Z-axis (vertical axis) is fixed to the Y-axis slider with the Y-axis side-mounted. The Z-axis slider moves vertically, allowing mounting of jigs or chucks for transport, raising, or lowering of workpieces.

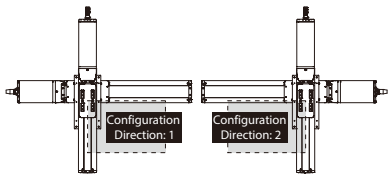
Point 1

Select from 2 patterns of Z-axis configuration directions. (See the figure at right)

Point 2

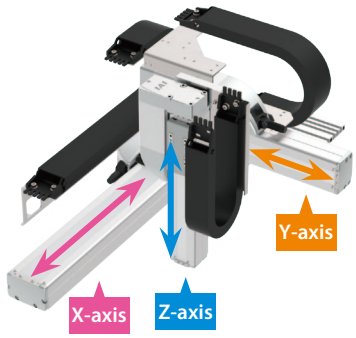
A cable track can be selected for Z-axis wiring. Select the cable track size from a maximum of 4 different sizes. You can also select a cable track for wiring by the user.

Configuration Direction



XYB (Y-axis base mount) + Z-axis base mount type

→ 3-axis configurations IK3-P6BB: p71~118



For this type, the base surface of the Z-axis is fixed to the Y-axis slider of XYB type (Y-axis base is fixed to X-axis slider).

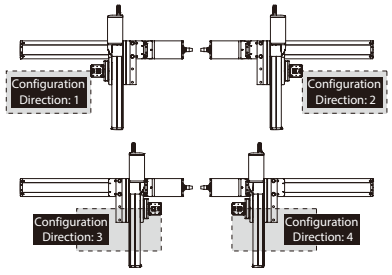
Point 1

The Z-axis body is fixed and the slider moves vertically.

Point 2

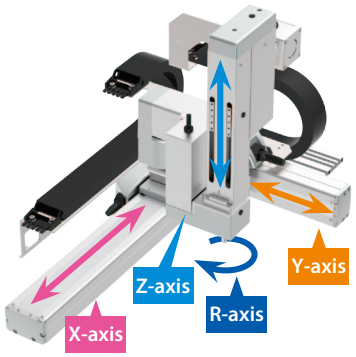
Cable tracks can be selected for Y-axis and Z-axis wiring. Select the cable track size from a maximum of 4 different sizes. You can also select a cable track for wiring by the user.

Configuration Direction



XYB (Y-axis base mount) + ZR (vertical/rotation) unit type

→ 4-axis configurations IK4-P6BB: p119~133



This is an XYB (Y-axis base mount) type Y-axis slider equipped with a ZR unit that enables both vertical and rotational operation.

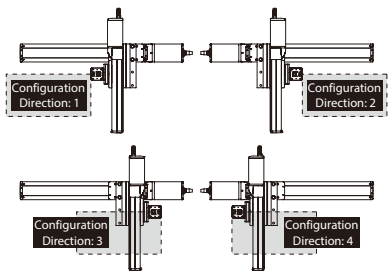
Point 1

More compact with the integrated Z-axis and rotational axis.

Point 2

Cable tracks can be selected for Y-axis and Z-axis wiring. Select the cable track size from a maximum of 4 different sizes.

Configuration direction



Cartesian Robot

ROBO Cylinder 2-axis Configurations

IK2
Stepper Motor

IK2-P6XBD1□□S	5	
IK2-P6XBD2□□S	7	
IK2-P6XBD3□□S	9	
IK2-P6XBC1□□S	11	
IK2-P6XBC2□□S	13	
IK2-P6XBC3□□S	15	
IK2-P6XBB1□□S	17	
IK2-P6XBB2□□S	19	
IK2-P6XBB3□□S	21	
IK2-P6XBF1□□S	23	
IK2-P6XBF2□□S	25	
IK2-P6XBF3□□S	27	
IK2-P6XBE1□□S	29	
IK2-P6XBE2□□S	31	
IK2-P6XBE3□□S	33	
IK2-P6YBD1□□S	35	
IK2-P6YBD2□□S	37	
IK2-P6YBD3□□S	39	
IK2-P6YBC1□□S	41	
IK2-P6YBC2□□S	43	
IK2-P6YBC3□□S	45	
IK2-P6YBB1□□S	47	
IK2-P6YBB2□□S	49	
IK2-P6YBB3□□S	51	
IK2-P6YBI1□□S	53	
IK2-P6YBI2□□S	55	
IK2-P6YBI3□□S	57	
IK2-P6YBH1□□S	59	
IK2-P6YBH2□□S	61	
IK2-P6YBH3□□S	63	
IK2-P6YBG1□□S	65	
IK2-P6YBG2□□S	67	
IK2-P6YBG3□□S	69	

ROBO Cylinder 3-axis Configurations

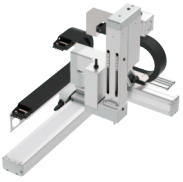
IK3
Stepper Motor

IK3-P6BBC1□□S	71	
IK3-P6BBC2□□S	74	
IK3-P6BBC3□□S	77	
IK3-P6BBB1□□S	80	
IK3-P6BBB2□□S	83	
IK3-P6BBB3□□S	86	
IK3-P6BBF1□□S	89	
IK3-P6BBF2□□S	92	
IK3-P6BBF3□□S	95	
IK3-P6BBE1□□S	98	
IK3-P6BBE2□□S	101	
IK3-P6BBE3□□S	104	
IK3-P6BBH1□□S	107	
IK3-P6BBH2□□S	109	
IK3-P6BBH3□□S	111	
IK3-P6BBG1□□S	113	
IK3-P6BBG2□□S	115	
IK3-P6BBG3□□S	117	

ROBO Cylinder 4-axis Configurations

IK4
Stepper motor

IK4-P6BBB1□□S	119	
IK4-P6BBB2□□S	121	
IK4-P6BBB3□□S	123	
IK4-P6BBF1□□S	125	
IK4-P6BBF2□□S	128	
IK4-P6BBF3□□S	131	



Options		134

Controller

MSEL	MSEL	139
PCON	PCON-CB/CFB	149
MCON	MCON-C/LC	153

IK2-P6XBD1□□S

RCP6 2-axis configurations

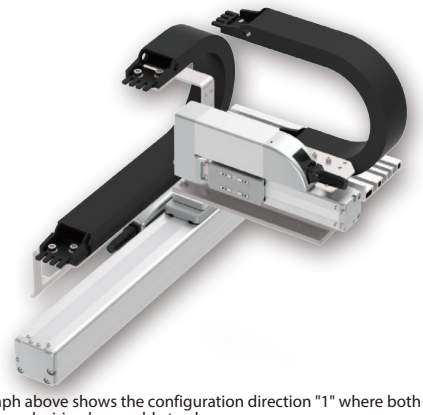
X-axis: SA6R (side-mounted)
Y-axis: SA4R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBD1□□S	WA	□□	□□	PM1	□	□	□

- Configuration Direction: 1 to 4 Refer to Robot Type Descriptions on page 3
- Speed Type: SS: X Ultra High Speed/ Y Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm … (Every 50mm)
- Options: Refer to Options table below.
- Controller: Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring / Second Wiring: Refer to Cable Track table below.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ **SS type: X ultra high speed/Y ultra high speed** (Unit: kg)

Acceleration/ deceleration (G) \ Y-axis stroke (mm)	50~150 (Every 50mm)	200~300 (Every 50mm)
0.1	3	
0.3	3	
0.5	2	
0.7	1	–

* When both X and Y axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300
50	○	○	○	○	○	○
100	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: SA6R, Y-axis: SA4R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item	X-axis	Y-axis
Axis configuration	RCP6-SA6R	RCP6-SA4R
Stroke (Every 50mm)	50~800mm	50~300mm
Max. speed *	640mm/s	560mm/s
Motor size	42□ Stepper motor	35□ Stepper motor
Ball screw lead	20mm	16mm
Drive system	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability	±0.01mm	
Base material	Aluminum	
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)	

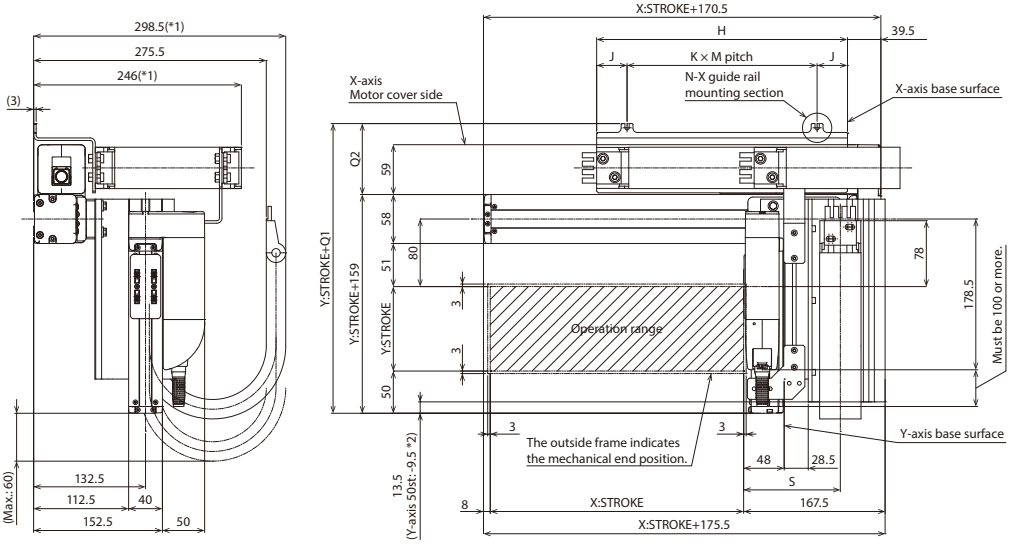
* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

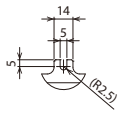
Options

Type	Option code	Reference page	X-axis	Y-axis
Brake	B	See P.134	○	○
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

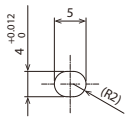
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



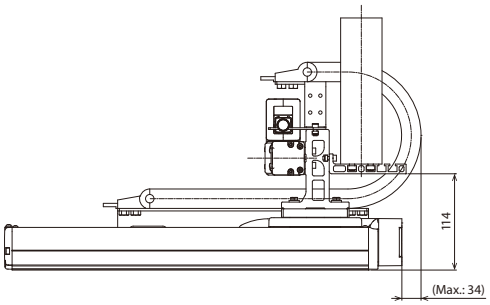


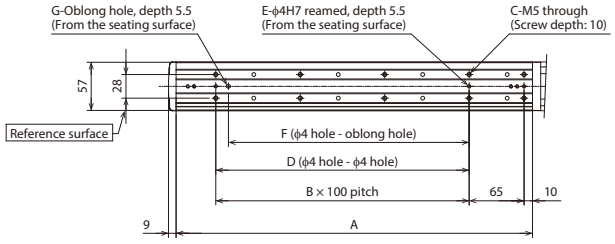
X guide rail mounting section detailed view



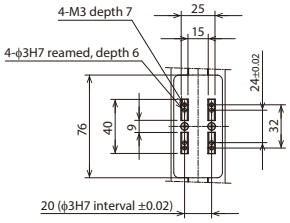
X-axis base oblong hole detailed view

*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: When the Y-axis is 50st, the Y guide rail overhangs the actuator tip.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	172	197	222	247	272	297	322	347	372	397	422	447	472	497	522	547
J	23.5	36	23.5	36	23.5	36	61	23.5	36	48.5	26	23.5	36	48.5	61	48.5
K	1	1	1	1	1	1	1	3	3	2	2	2	2	2	2	3
M	125	125	175	175	225	225	200	100	100	150	185	200	200	200	200	150
N	2	2	2	2	2	2	2	4	4	3	3	3	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	243	256	269	286
Q2	84	97	110	127
S	114.5	121	127.5	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBD2□□S

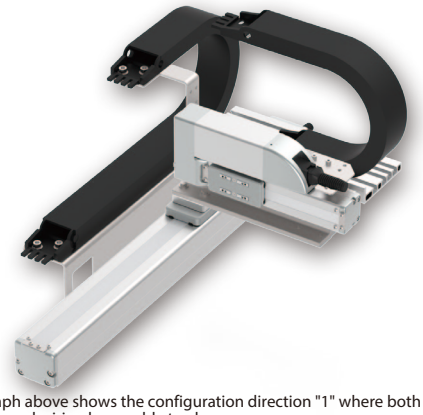
RCP6 2-axis configurations

X-axis: SA6C (straight)
Y-axis: SA4R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable			Options
IK2	P6XBD2□ □S	WA	□ □	□ □	PM1	□	□	□	□
	Configuration Direction 1 to 4 Refer to Robot Type Descriptions on page 3 Speed Type SS: X Ultra High Speed/ Y Ultra High Speed	Encoder Type WA: Battery-less Absolute	Stroke 5: 50mm (Every 50mm)	Options Refer to Options table (1) below.	Controller Refer to Applicable Controllers table below.	Cable Length 1L : 1m 3L : 3m 5L : 5m □L: □m	First Wiring Second Wiring Refer to Cable Track table below.		Options Refer to Options table (2) below.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SS type: X ultra high speed/Y ultra high speed

(Unit: kg)

Acceleration/ deceleration (G) \ Y-axis stroke (mm)	50~150 (Every 50mm)	200~300 (Every 50mm)
0.1	3	
0.3	3	
0.5	2	
0.7	1	–

* When both X and Y axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300
50	○	○	○	○	○	○
100	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: SA6C, Y-axis: SA4R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item	X-axis	Y-axis
Axis configuration	RCP6-SA6C	RCP6-SA4R
Stroke (Every 50mm)	50~800mm	50~300mm
Max. speed *	640mm/s	560mm/s
Motor size	42□ Stepper motor	35□ Stepper motor
Ball screw lead	20mm	16mm
Drive system	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability	±0.01mm	
Base material	Aluminum	
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

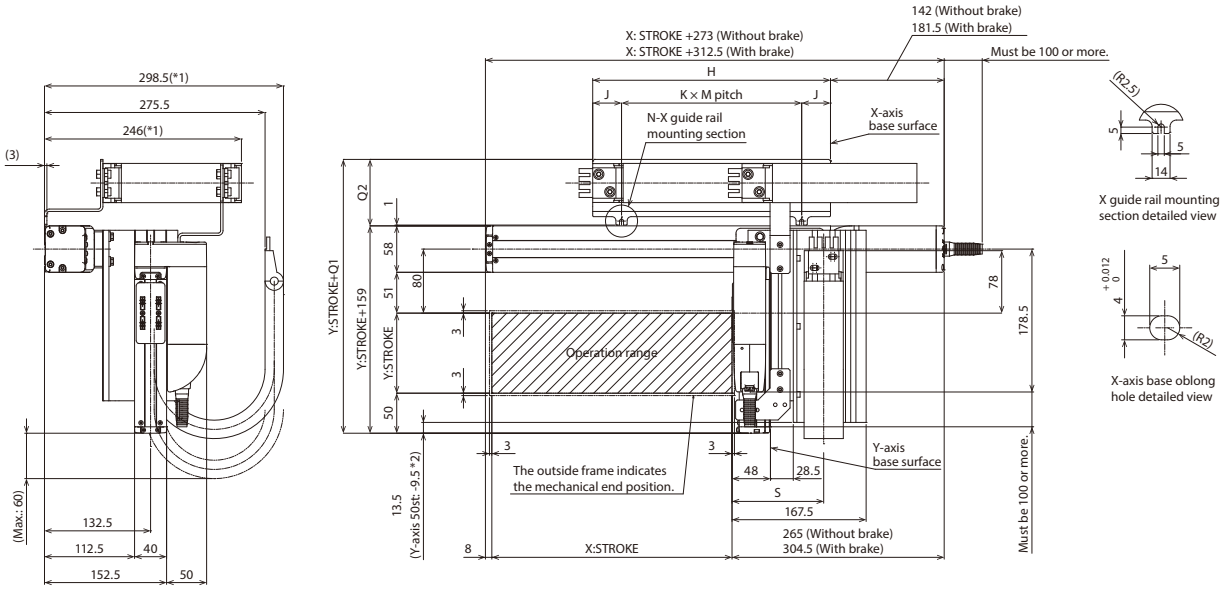
* Brake option for X-axis increases the length of the motor unit.
Please contact IAI for more information.

Options (2)

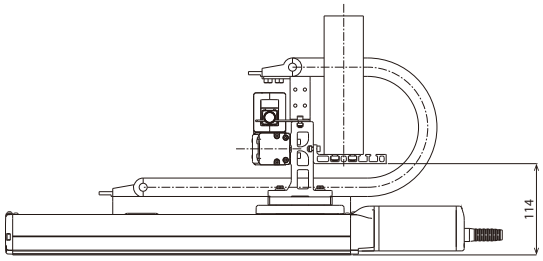
Type	Option code	Reference page
Foot plate	FTP	See P.134

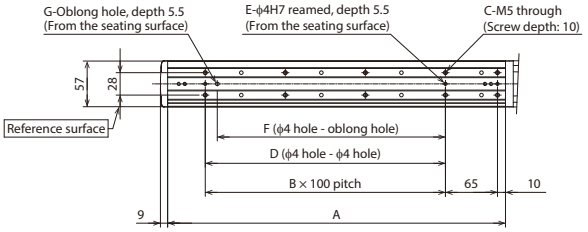
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

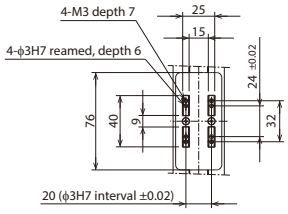


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: When the Y-axis is 50st, the Y guide rail overhangs the actuator tip.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	172	197	222	247	272	297	322	347	372	397	422	447	472	497	522	547
J	23.5	36	23.5	36	23.5	36	61	23.5	36	48.5	26	23.5	36	48.5	61	48.5
K	1	1	1	1	1	1	1	3	3	2	2	2	2	2	2	3
M	125	125	175	175	225	225	200	100	100	150	185	200	200	200	200	150
N	2	2	2	2	2	2	2	4	4	3	3	3	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	242	255	268	285
Q2	83	96	109	126
S	114.5	121	127.5	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBD3□□S

RCP6 2-axis configurations

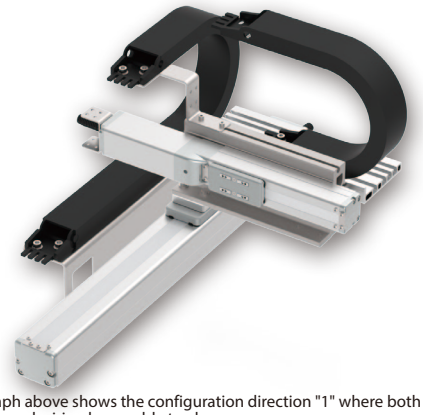
X-axis: SA6C (straight)
Y-axis: SA4C (straight)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable			Options
IK2	P6XBD3□ □S	WA	□ □	□ □	PM1	□	□	□	□

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: SS: X Ultra High Speed/ Y Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table (1) below.
- Controller: Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L: □m
- First Wiring / Second Wiring: Refer to Cable Track table below.
- Options: Refer to Options table (2) below.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ **SS type: X ultra high speed/Y ultra high speed** (Unit: kg)

Acceleration/ deceleration (G) \ Y-axis stroke (mm)	50~150 (Every 50mm)	200~300 (Every 50mm)
0.1	3	
0.3	3	
0.5	2	
0.7	1	–

* When both X and Y axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300
50	○	○	○	○	○	○
100	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: SA6C, Y-axis: SA4C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item	X-axis	Y-axis
Axis configuration	RCP6-SA6C	RCP6-SA4C
Stroke (Every 50mm)	50~800mm	50~300mm
Max. speed *	640mm/s	560mm/s
Motor size	42□ Stepper motor	35□ Stepper motor
Ball screw lead	20mm	16mm
Drive system	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability	±0.01mm	
Base material	Aluminum	
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

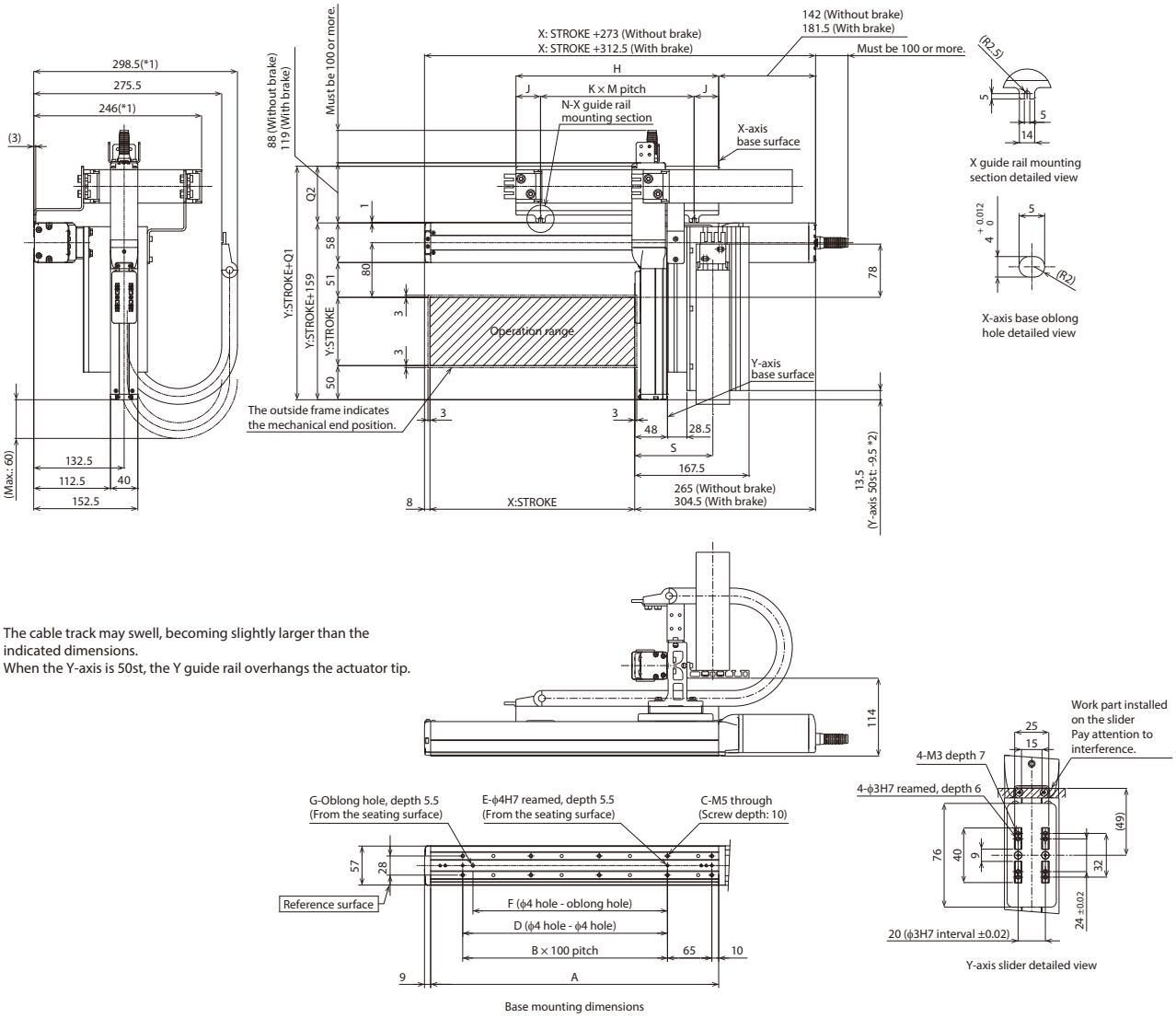
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Options (2)

Type	Option code	Reference page
Foot plate	FTP	See P.134

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: When the Y-axis is 50st, the Y guide rail overhangs the actuator tip.

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	172	197	222	247	272	297	322	347	372	397	422	447	472	497	522	547
J	23.5	36	23.5	36	23.5	36	61	23.5	36	48.5	26	23.5	36	48.5	61	48.5
K	1	1	1	1	1	1	1	3	3	2	2	2	2	2	2	3
M	125	125	175	175	225	225	200	100	100	150	185	200	200	200	200	150
N	2	2	2	2	2	2	2	4	4	3	3	3	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	242	255	268	285
Q2	83	96	109	126
S	114.5	121	127.5	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBC1□□S

RCP6 2-axis configurations

X-axis: SA7R (side-mounted)
Y-axis: SA6R (side-mounted)

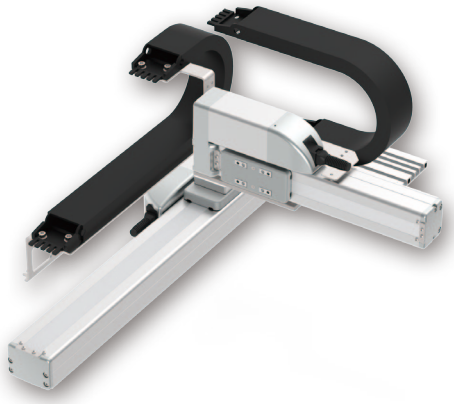
■ Model Specification Items

IK2 — P6XBC1□□S — WA — □□ — □□ — PM1 — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBC1□□S	WA	□□	□□	PM1	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150	200	250~400 (Every 50mm)
0.1	9	8	6	
0.3	9	8	6	
0.5	7		6	
0.7	6			–
1	4			–

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	5	
0.3	5	
0.5	4	
0.7	2	–

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50	100~200 (Every 50mm)	250~400 (Every 50mm)
0.1	4		
0.3	4		
0.5	3	2.5	
0.7	2	1.5	–
1	1		–

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ X-axis: SA7R, Y-axis: SA6R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	☐L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~800mm	50~400mm
Max. speed *	MM	280mm/s	400mm/s
	HH	560mm/s	680mm/s
	SS	640mm/s	800mm/s
Motor size		56☐ Stepper motor	42☐ Stepper motor
Ball screw lead	MM	8mm	6mm
	HH	16mm	12mm
	SS	24mm	20mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

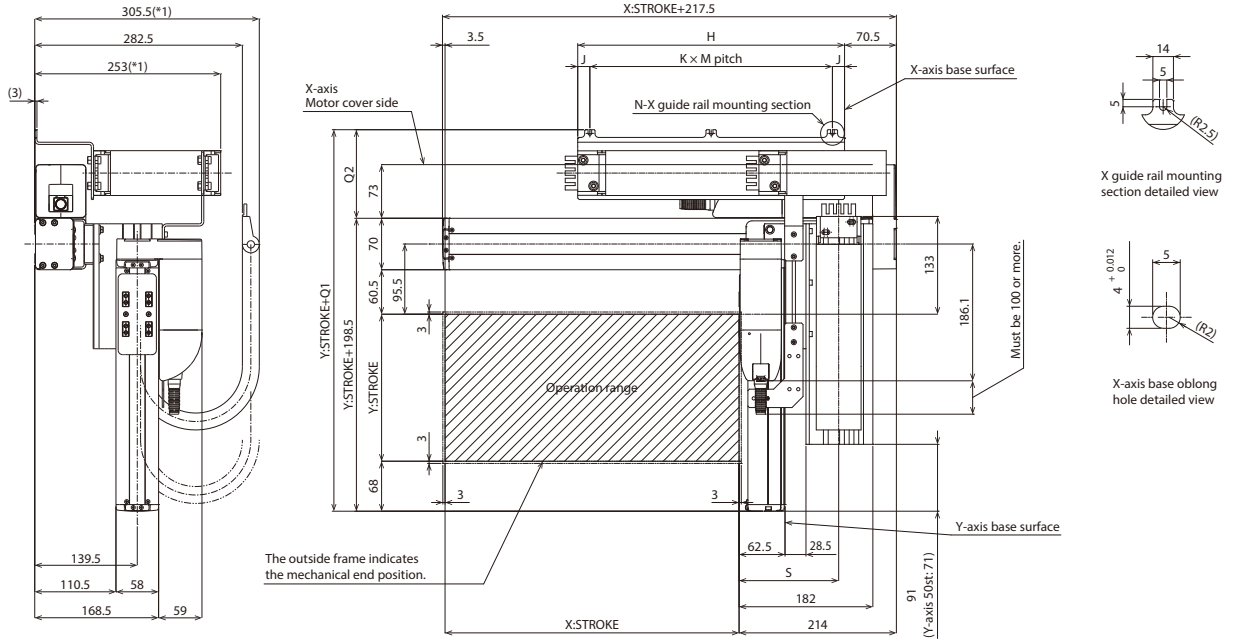
* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

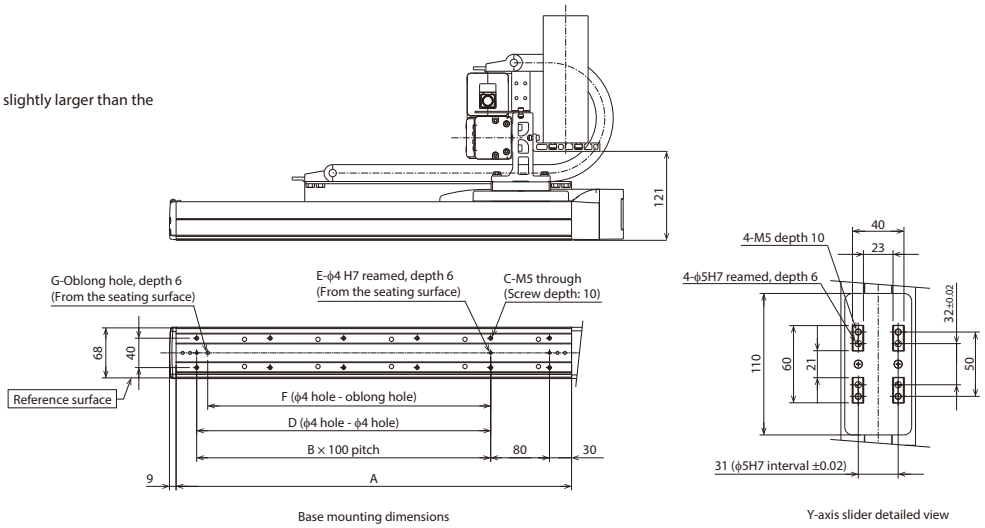
Type	Option code	Reference page	X-axis	Y-axis
Brake	B	See P.134	○	○
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	306	319	332	349
Q2	107.5	120.5	133.5	150.5
S	129	135.5	142	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBC2□□S

RCP6 2-axis configurations

X-axis: SA7C (straight)
Y-axis: SA6R (side-mounted)

■ Model Specification Items

IK2 — P6XBC2□ □S — WA — □ □ — □ □ — PM1 — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable			Options
IK2	P6XBC2□ □S	WA	□ □	□ □	PM1	□	□	□	□

Type
- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed

Encoder Type
- Encoder Type: WA: Battery-less Absolute

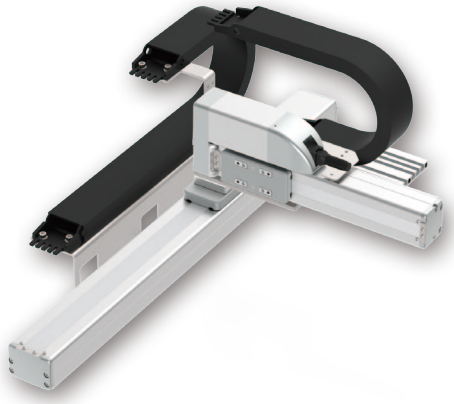
First Axis (X-axis) / Second Axis (Y-axis)
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table (1) below.

Controller
- Controller: Refer to Applicable Controllers table below.

Cable
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring: Refer to Cable Track table below.
- Second Wiring

Options
- Options: Refer to Options table (2) below.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150	200	250~400 (Every 50mm)
0.1	9	8	6	
0.3	9	8	6	
0.5	7		6	
0.7	6			–
1	4			–

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	5	
0.3	5	
0.5	4	
0.7	2	–

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50	100~200 (Every 50mm)	250~400 (Every 50mm)
0.1	4		
0.3	4		
0.5	3	2.5	
0.7	2	1.5	–
1	1		–

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ X-axis: SA7C, Y-axis: SA6R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	☐L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-SA7C	RCP6-SA6R
Stroke (Every 50mm)		50~800mm	50~400mm
Max. speed *	MM	280mm/s	400mm/s
	HH	560mm/s	680mm/s
	SS	640mm/s	800mm/s
Motor size		56☐ Stepper motor	42☐ Stepper motor
Ball screw lead	MM	8mm	6mm
	HH	16mm	12mm
	SS	24mm	20mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

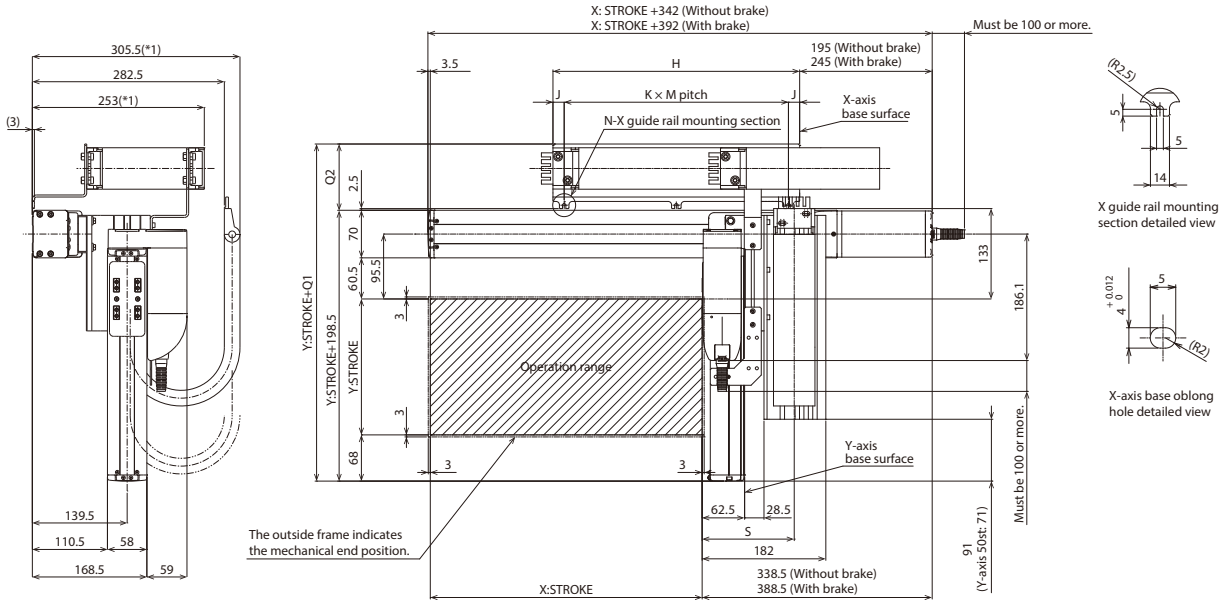
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Options (2)

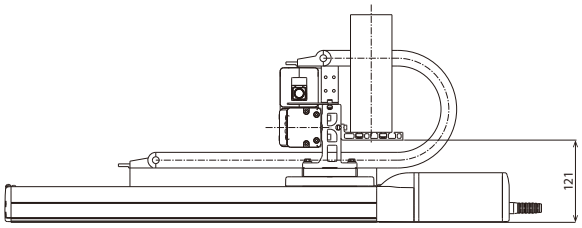
Type	Option code	Reference page
Foot plate	FTP	See P.134

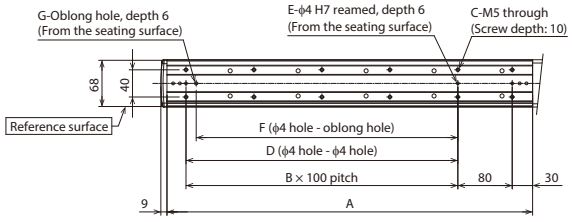
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

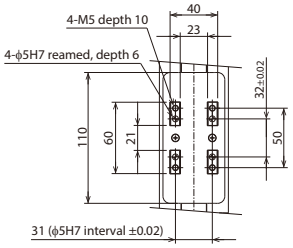


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	283	296	309	326
Q2	84.5	97.5	110.5	127.5
S	129	135.5	142	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBC3□□S

RCP6 2-axis configurations

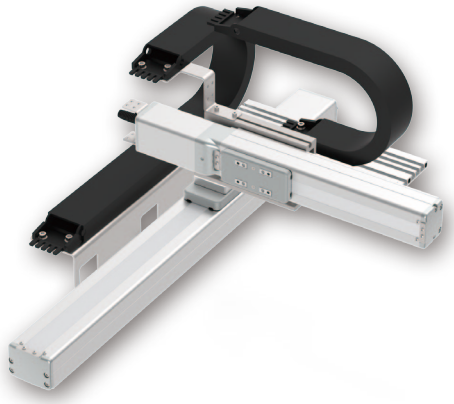
X-axis: SA7C (straight)
Y-axis: SA6C (straight)

Model Specification Items

IK2 — P6XBC3□ □S — WA — □ □ — □ □ — PM1 — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable			Options
IK2	P6XBC3□ □S	WA	□ □	□ □	PM1	□	□	□	□
	Configuration Direction: 1 to 4 (Refer to Robot Type Descriptions on page 3) / Speed Type: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ~ (Every 50mm)	Options: Refer to Options table (1) below.	Controller: Refer to Applicable Controllers table below.	Cable Length: 1L: 1m, 3L: 3m, 5L: 5m, □L: □m	First Wiring: Refer to Cable Track table below.	Second Wiring	Options: Refer to Options table (2) below.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150	200	250~400 (Every 50mm)
0.1	9	8	6	
0.3	9	8	6	
0.5	7		6	
0.7	6			–
1	4			–

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	5	
0.3	5	
0.5	4	
0.7	2	–

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50	100~200 (Every 50mm)	250~400 (Every 50mm)
0.1	4		
0.3	4		
0.5	3	2.5	
0.7	2	1.5	–
1	1		–

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: SA7C, Y-axis: SA6C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-SA7C	RCP6-SA6C
Stroke (Every 50mm)		50~800mm	50~400mm
Max. speed *	MM	280mm/s	400mm/s
	HH	560mm/s	680mm/s
	SS	640mm/s	800mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	MM	8mm	6mm
	HH	16mm	12mm
	SS	24mm	20mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

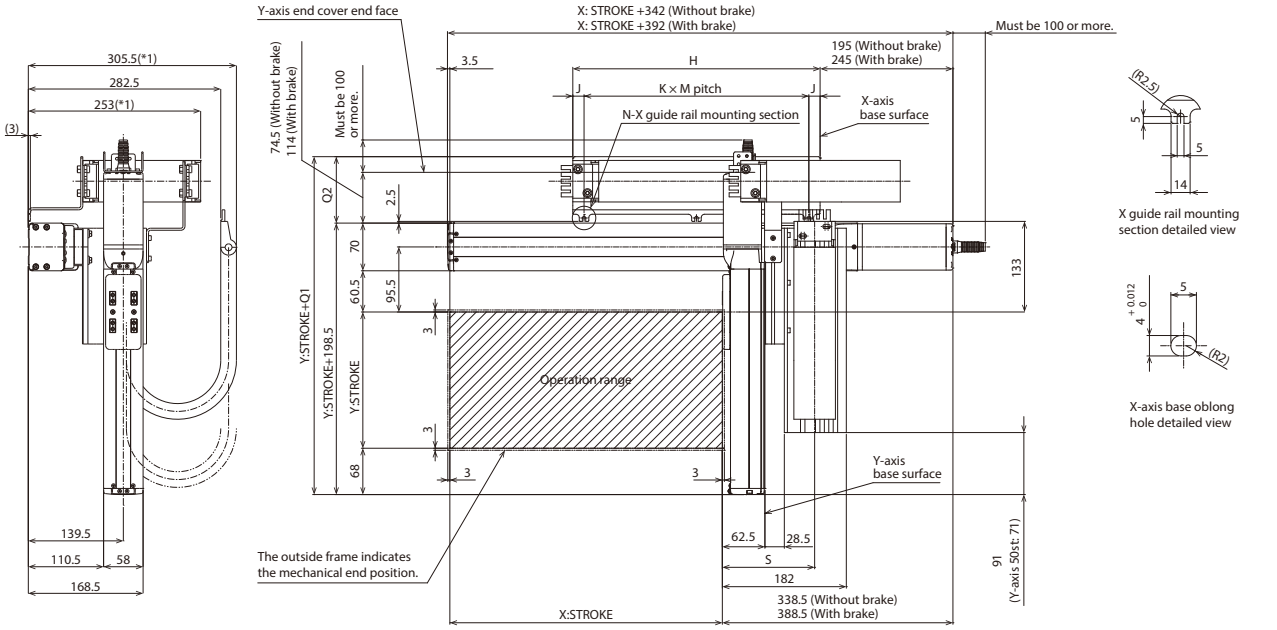
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Options (2)

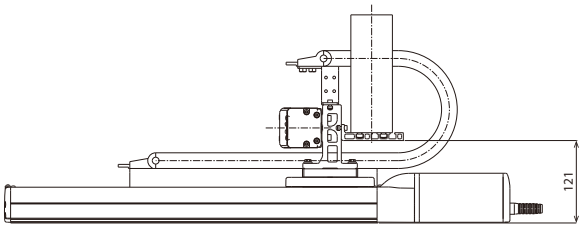
Type	Option code	Reference page
Foot plate	FTP	See P.134

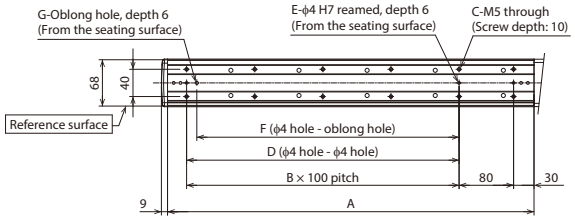
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

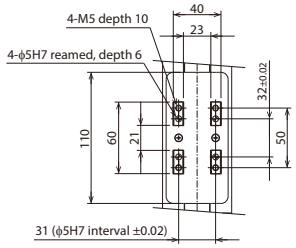


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	283	296	309	326
Q2	84.5	97.5	110.5	127.5
S	129	135.5	142	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBB1□□S

RCP6 2-axis configurations

X-axis: SA8R (side-mounted)
Y-axis: SA7R (side-mounted)

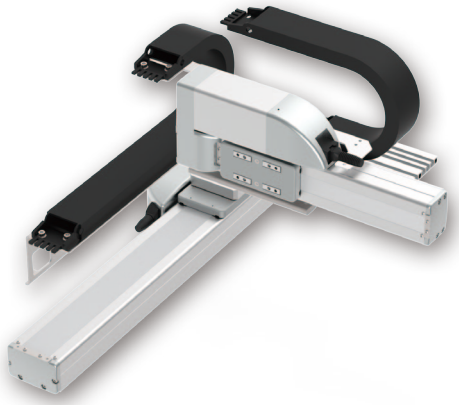
■ Model Specification Items

IK2 — P6XBB1□□S — WA — □□ — □□ — PM1 — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBB1□□S	WA	□□	□□	PM1	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150	200	250	300~400 (Every 50mm)
0.1	16	15	12.5	9	8
0.3	16	15	12.5	9	8
0.5	10			9	8
0.7	6		5.5		–
1	6		5.5		–

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~150 (Every 50mm)	200	250	300~400 (Every 50mm)
0.1	11	10.5	9	8
0.3	8			
0.5	5			
0.7	4			–

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~400 (Every 50mm)
0.1	3
0.3	1.5

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ X-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ X-axis: SA8R

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ Y-axis: SA7R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-SA8R	RCP6-SA7R
Stroke (Every 50mm)		50~1100mm	50~400mm
Max. speed *	MM	300mm/s	280mm/s
	HH	400mm/s	560mm/s
	SS	650mm/s	640mm/s
Motor size		56☐ High thrust stepper motor	56☐ Stepper motor
Ball screw lead	MM	10mm	8mm
	HH	20mm	16mm
	SS	30mm	24mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

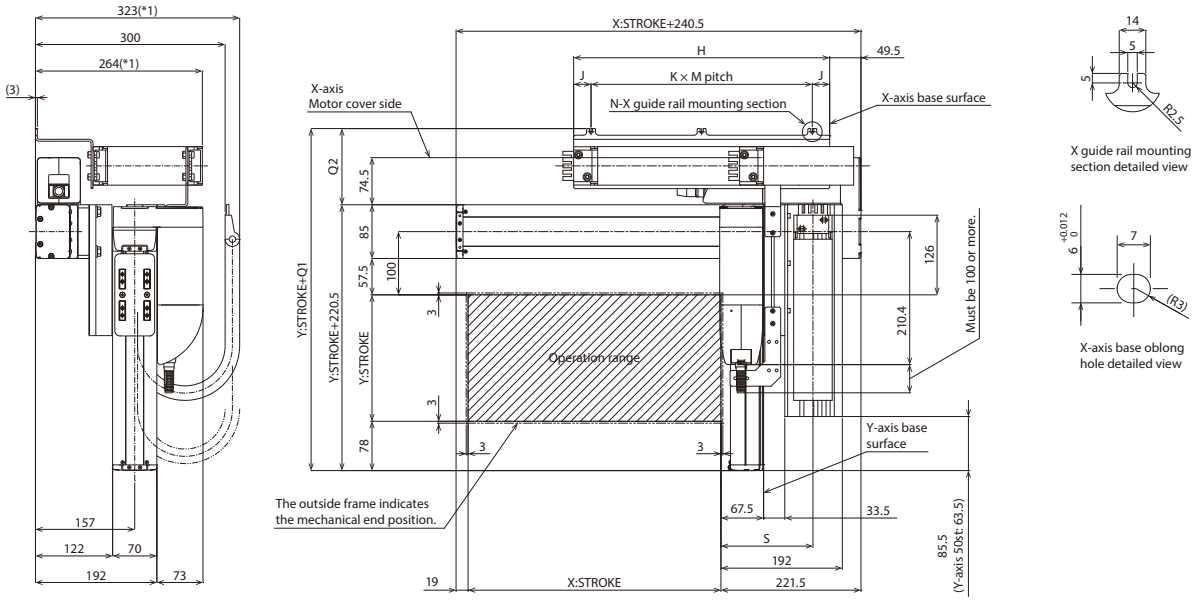
* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

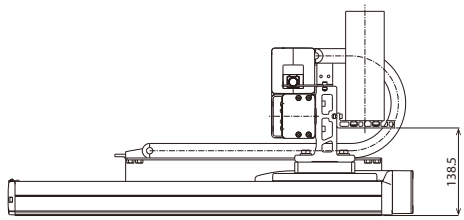
Type	Option code	Reference page	X-axis	Y-axis
Brake	B	See P.134	○	○
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

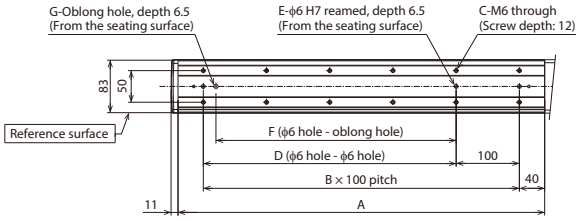
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

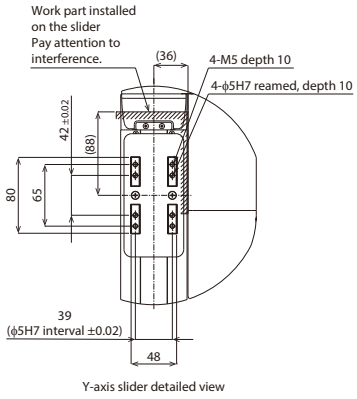


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	328	341	354	371
Q2	107.5	120.5	133.5	150.5
S	139	145.5	152	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBB2□□S

RCP6 2-axis configurations

X-axis: SA8C (straight)
Y-axis: SA7R (side-mounted)

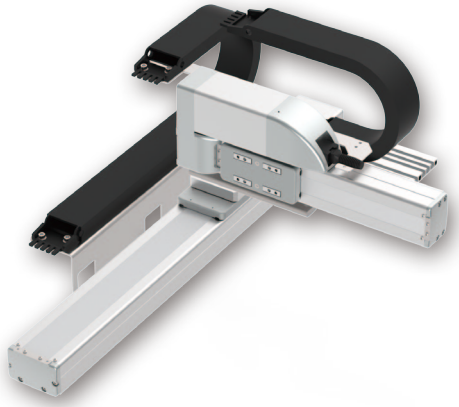
Model Specification Items

IK2 — P6XBB2□□S — WA — □□ — □□ — PM1 — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable			Options
IK2	P6XBB2□□S	WA	□□	□□	PM1	□	□	□	□

- **Type**
  - Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
  - Speed Type: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **First Axis (X-axis)**: Stroke — 5: 50mm … (Every 50mm)
- **Second Axis (Y-axis)**: Options — Refer to Options table (1) below.
- **Controller**: PM1 — Refer to Applicable Controllers table below.
- **Cable**
  - Cable Length: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
  - First Wiring: Refer to Cable Track table below.
  - Second Wiring
- **Options**: Refer to Options table (2) below.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150	200	250	300~400 (Every 50mm)
0.1	16	15	12.5	9	8
0.3	16	15	12.5	9	8
0.5	10			9	8
0.7	6		5.5		–
1	6		5.5		–

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~150 (Every 50mm)	200	250	300~400 (Every 50mm)
0.1	11	10.5	9	8
0.3	8			
0.5	5			
0.7	4			–

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~400 (Every 50mm)
0.1	3
0.3	1.5

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ X-axis: SA8C

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ Y-axis: SA7R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-SA8C	RCP6-SA7R
Stroke (Every 50mm)		50~1100mm	50~400mm
Max. speed *	MM	300mm/s	280mm/s
	HH	400mm/s	560mm/s
	SS	650mm/s	640mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	MM	10mm	8mm
	HH	20mm	16mm
	SS	30mm	24mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

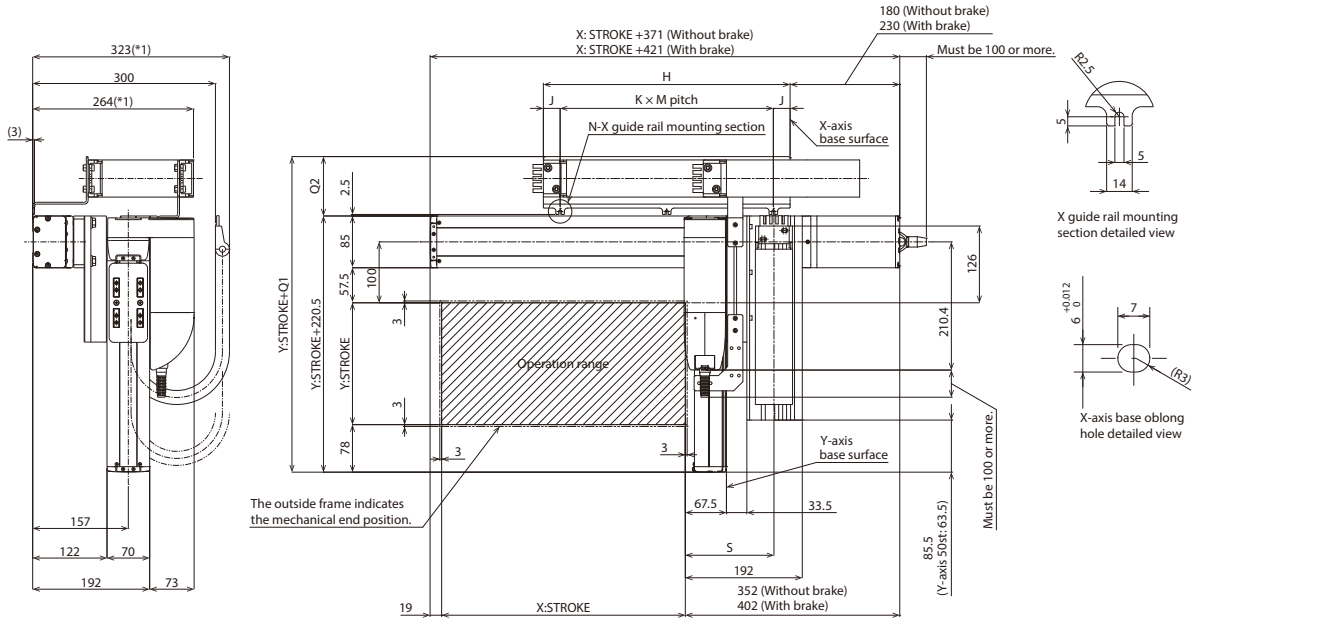
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Options (2)

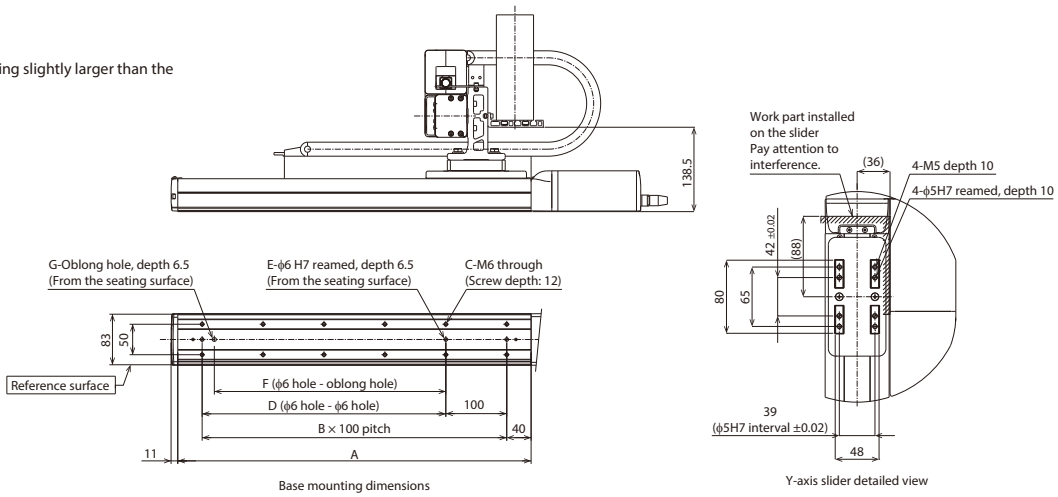
Type	Option code	Reference page
Foot plate	FTP	See P.134

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	305	318	331	348
Q2	84.5	97.5	110.5	127.5
S	139	145.5	152	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBB3□□S

RCP6 2-axis configurations

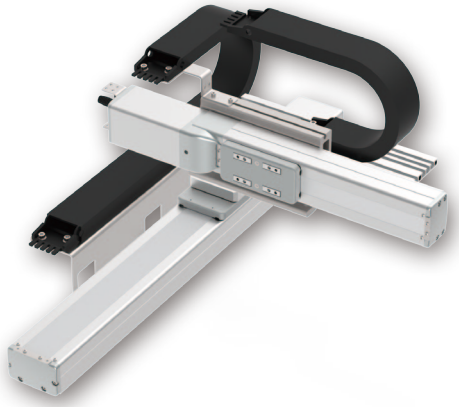
X-axis: SA8C (straight)
Y-axis: SA7C (straight)

Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable			Options
IK2	P6XBB3□ □S	WA	□ □	□ □	PM1	□	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table (1) below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**, **Second Wiring**: Refer to Cable Track table below.
- **Options**: Refer to Options table (2) below.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150	200	250	300~400 (Every 50mm)
0.1	16	15	12.5	9	8
0.3	16	15	12.5	9	8
0.5	10			9	8
0.7	6		5.5		–
1	6		5.5		–

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~150 (Every 50mm)	200	250	300~400 (Every 50mm)
0.1	11	10.5	9	8
0.3	8			
0.5	5			
0.7	4			–

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~400 (Every 50mm)
0.1	3
0.3	1.5

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: SA8C

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

□ Y-axis: SA7C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-SA8C	RCP6-SA7C
Stroke (Every 50mm)		50~1100mm	50~400mm
Max. speed *	MM	300mm/s	280mm/s
	HH	400mm/s	560mm/s
	SS	650mm/s	640mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	MM	10mm	8mm
	HH	20mm	16mm
	SS	30mm	24mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

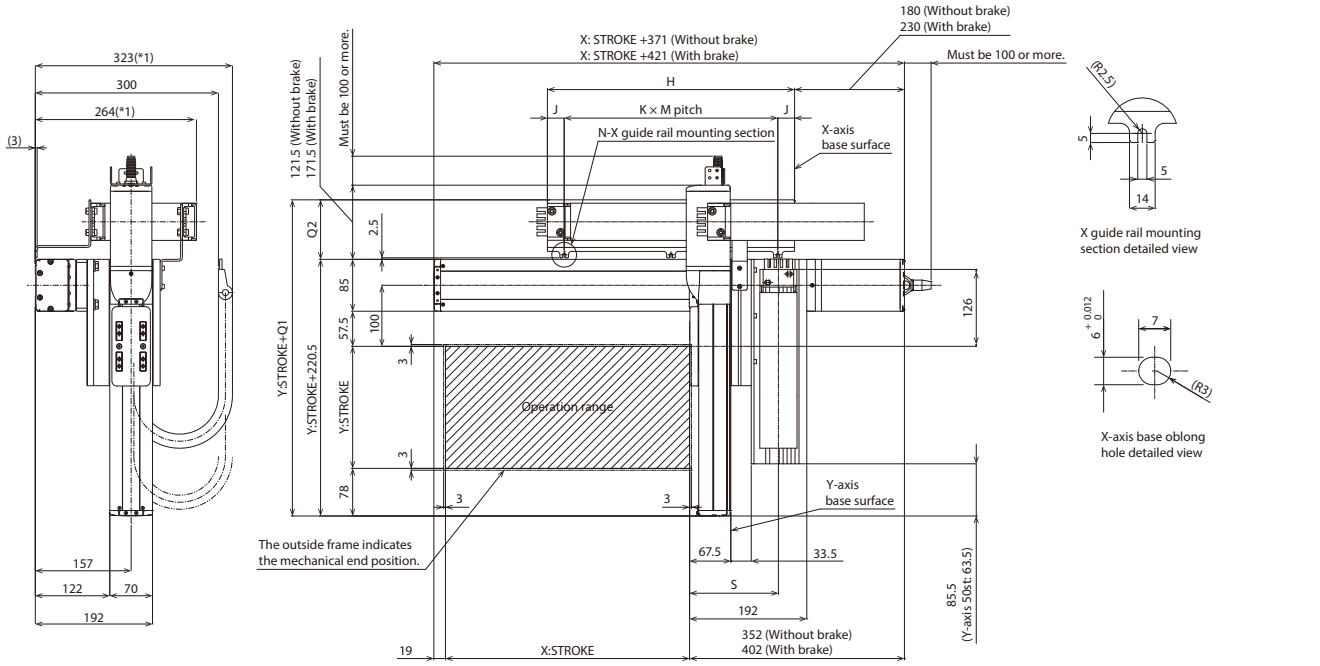
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Options (2)

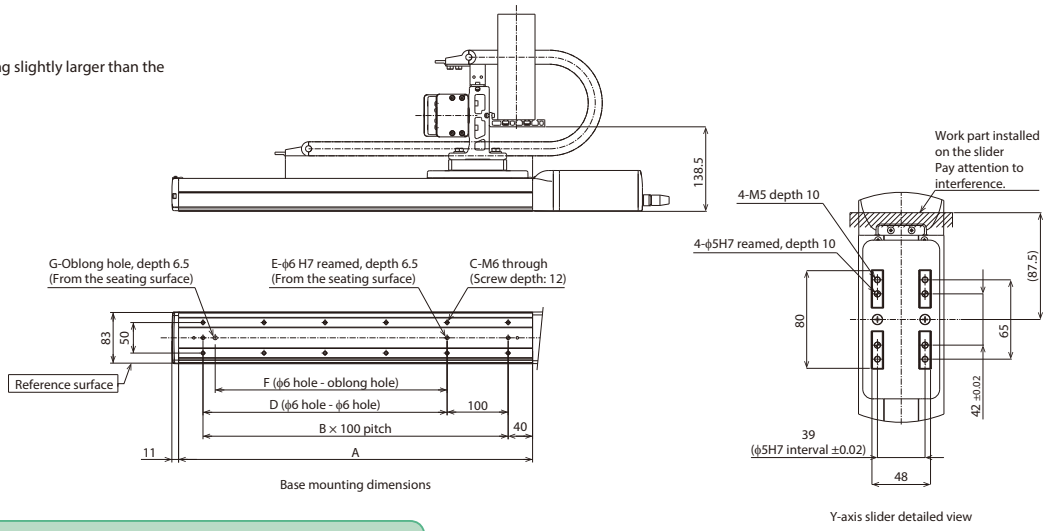
Type	Option code	Reference page
Foot plate	FTP	See P.134

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions

Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	305	318	331	348
Q2	84.5	97.5	110.5	127.5
S	139	145.5	152	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

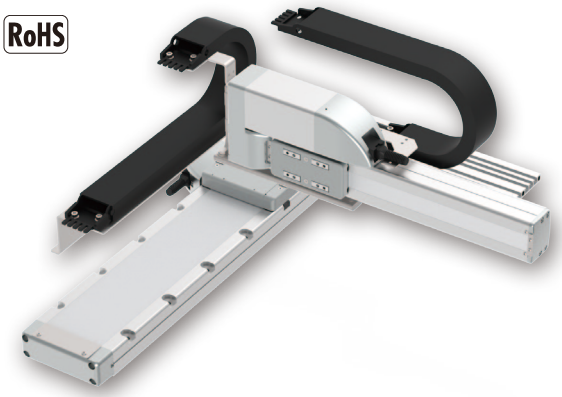
IK2-P6XBF1□□S

RCP6 2-axis configurations

X-axis: WSA14R (side-mounted)
Y-axis: SA7R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBF1□□S	WA	□□	□□	PM1	□	□	□
	Configuration Direction: 1 to 4 Refer to Robot Type Descriptions on page 3 / Speed Type: MM: X Medium Speed/Y Medium Speed HH: X High Speed/Y High Speed SS: X Ultra High Speed/Y Ultra High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ~ (Every 50mm)	Options: Refer to Options table below.	Controller: Refer to Applicable Controllers table below.	Cable Length: 1L : 1m 3L : 3m 5L : 5m □L: □m	First Wiring: Refer to Cable Track table below.	Second Wiring



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~200 (Every 50mm)	250~300 (Every 50mm)	350	400
0.1	16	15	12.5	12	10.5
0.3	16	15	12.5	12	10.5
0.5	12				10.5
0.7	9.5				

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~300 (Every 50mm)	350~400 (Every 50mm)
0.1	8		7.5
0.3	8		7.5
0.5	5	4.5	4
0.7	3	2.5	2

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~300 (Every 50mm)	350~400 (Every 50mm)
0.1	6	5.5	5
0.3	5.5	5	4.5
0.5	3	2.5	2

* When both X and Y axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: WSA14R, Y-axis: SA7R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-WSA14R	RCP6-SA7R
Stroke (Every 50mm)		50~800mm	50~400mm
Max. speed *	MM	210mm/s	280mm/s
	HH	420mm/s	560mm/s
	SS	560mm/s	640mm/s
Motor size		56□ Stepper motor	56□ Stepper motor
Ball screw lead	MM	8mm	8mm
	HH	16mm	16mm
	SS	24mm	24mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

Type	Option code	Reference page	X-axis	Y-axis
Brake	B	See P.134	○	○
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

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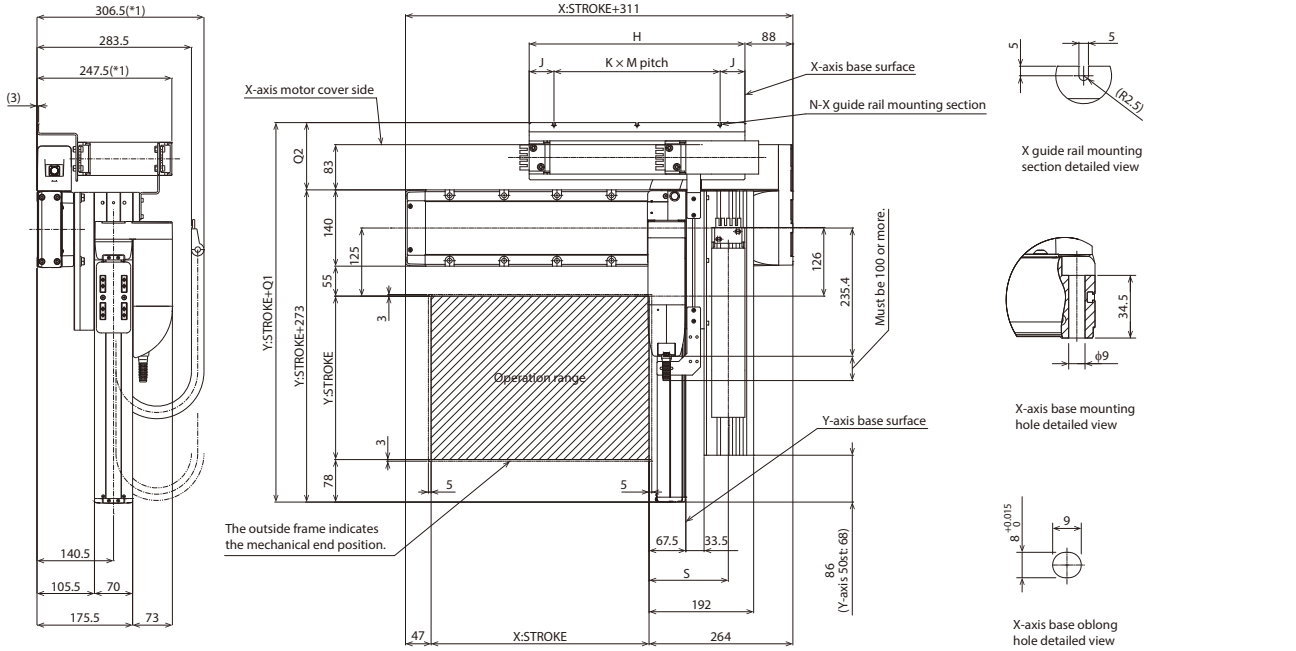
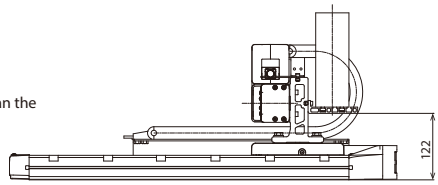
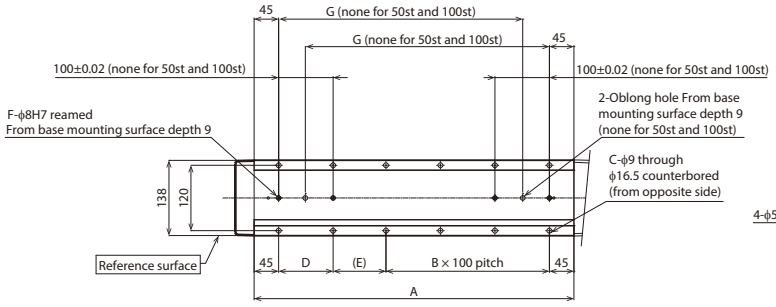
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

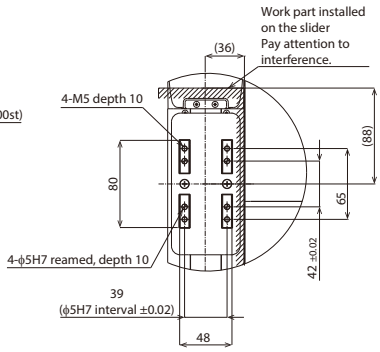


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596
J	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	43	48	45.5	43	43	45.5	43
K	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4
M	130	155	90	102.5	115	127.5	140	152.5	110	120	125	135	145	115	120	127.5
N	2	2	3	3	3	3	3	3	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	383.5	396.5	409.5	426.5
Q2	110.5	123.5	136.5	153.5
S	139	145.5	152	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

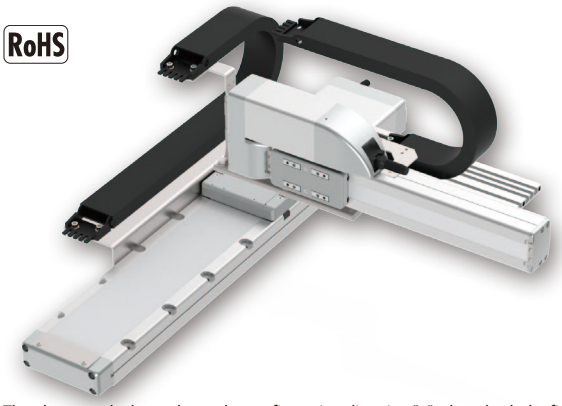
IK2-P6XBF2□□S

RCP6 2-axis configurations

X-axis: WSA14C (straight)
Y-axis: SA7R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBF2□ □S	WA	□ □	□ □	PM1	□	□	□
	Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3		Stroke: 5: 50mm ~ (Every 50mm)	Options: Refer to Options table below.	Controller: Refer to Applicable Controllers table below.	Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L: □m	First Wiring: Refer to Cable Track table below.	Second Wiring
	Speed Type: MM: X Medium Speed/Y Medium Speed, HH: X High Speed/Y High Speed, SS: X Ultra High Speed/Y Ultra High Speed							
		Encoder Type: WA: Battery-less Absolute						



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~200 (Every 50mm)	250~300 (Every 50mm)	350	400
0.1	16	15	12.5	12	10.5
0.3	16	15	12.5	12	10.5
0.5	12				10.5
0.7	9.5				

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~300 (Every 50mm)	350~400 (Every 50mm)
0.1	8		7.5
0.3	8		7.5
0.5	5	4.5	4
0.7	3	2.5	2

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~300 (Every 50mm)	350~400 (Every 50mm)
0.1	6	5.5	5
0.3	5.5	5	4.5
0.5	3	2.5	2

* When both X and Y axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: WSA14C, Y-axis: SA7R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-WSA14C	RCP6-SA7R
Stroke (Every 50mm)		50~800mm	50~400mm
Max. speed *	MM	210mm/s	280mm/s
	HH	420mm/s	560mm/s
	SS	560mm/s	640mm/s
Motor size		56□ Stepper motor	56□ Stepper motor
Ball screw lead	MM	8mm	8mm
	HH	16mm	16mm
	SS	24mm	24mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

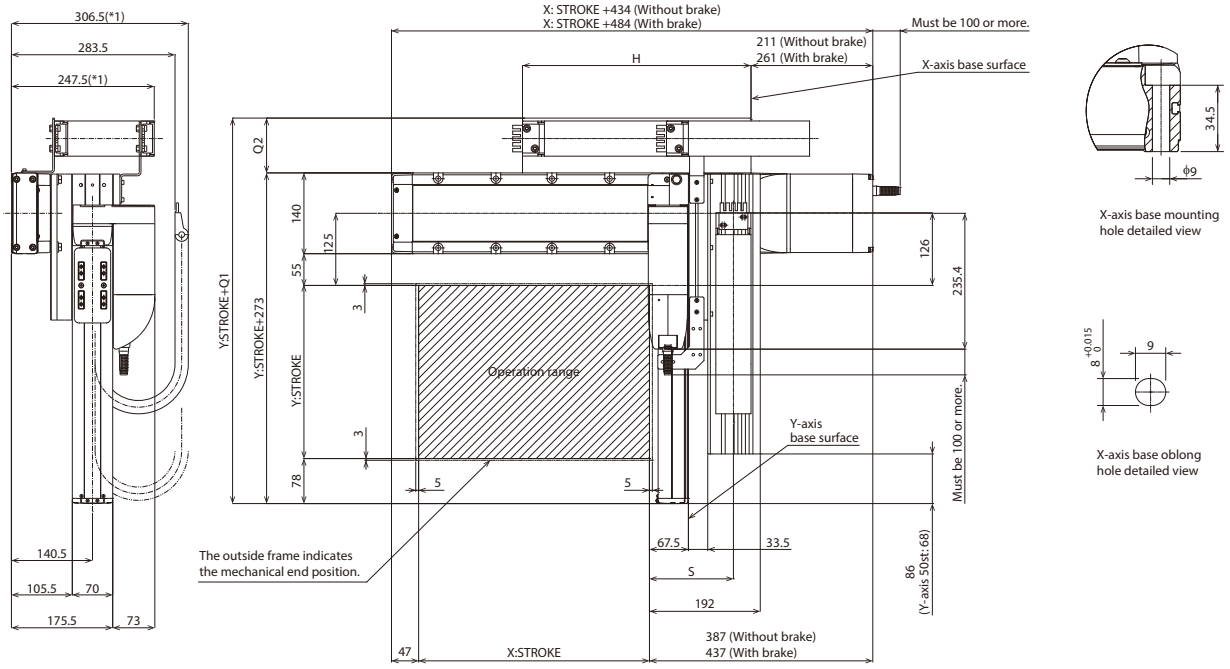
Options

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

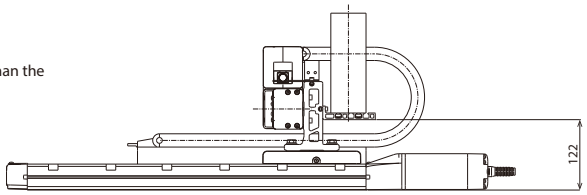
* Brake option for X-axis increases the length of the motor unit.
Please contact IAI for more information.

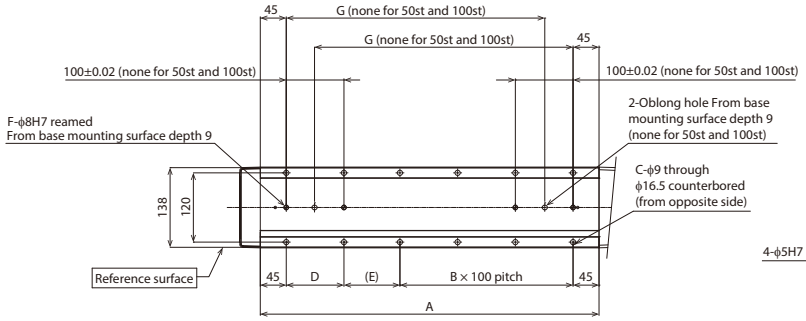
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

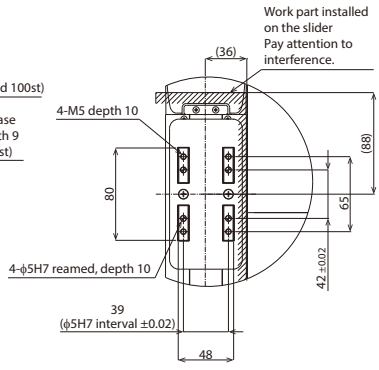


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

**The X-axis cable track guide rail is fixed on the X-axis body.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)**

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Cable track size	CT	CTM	CTL	CTXL
Q1	356	368	383	401
Q2	83	95	110	128
S	139	145.5	152	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBF3□□S

RCP6 2-axis configurations

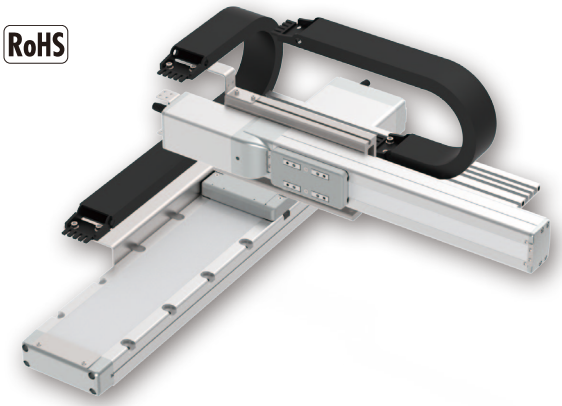
X-axis: WSA14C (straight)
Y-axis: SA7C (straight)

Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)		Second Axis (Y-axis)		Controller	Cable		
IK2	P6XBF3□ □S	WA	□	□	□	□	PM1	□	□	□

- Type — Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Type — Speed Type: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- First Axis (X-axis) / Second Axis (Y-axis) — Stroke: 5: 50mm, ↓ (Every 50mm)
- Second Axis (Y-axis) — Options: Refer to Options table below.
- Controller: PM1 — Controller: Refer to Applicable Controllers table below.
- Cable — Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- Cable — First Wiring: Refer to Cable Track table below.
- Cable — Second Wiring

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~200 (Every 50mm)	250~300 (Every 50mm)	350	400
0.1	16	15	12.5	12	10.5
0.3	16	15	12.5	12	10.5
0.5	12				10.5
0.7	9.5				

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~300 (Every 50mm)	350~400 (Every 50mm)
0.1	8		7.5
0.3	8		7.5
0.5	5	4.5	4
0.7	3	2.5	2

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~300 (Every 50mm)	350~400 (Every 50mm)
0.1	6	5.5	5
0.3	5.5	5	4.5
0.5	3	2.5	2

* When both X and Y axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ X-axis: WSA14C, Y-axis: SA7C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	☐L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-WSA14C	RCP6-SA7C
Stroke (Every 50mm)		50~800mm	50~400mm
Max. speed *	MM	210mm/s	280mm/s
	HH	420mm/s	560mm/s
	SS	560mm/s	640mm/s
Motor size		56☐ Stepper motor	56☐ Stepper motor
Ball screw lead	MM	8mm	8mm
	HH	16mm	16mm
	SS	24mm	24mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

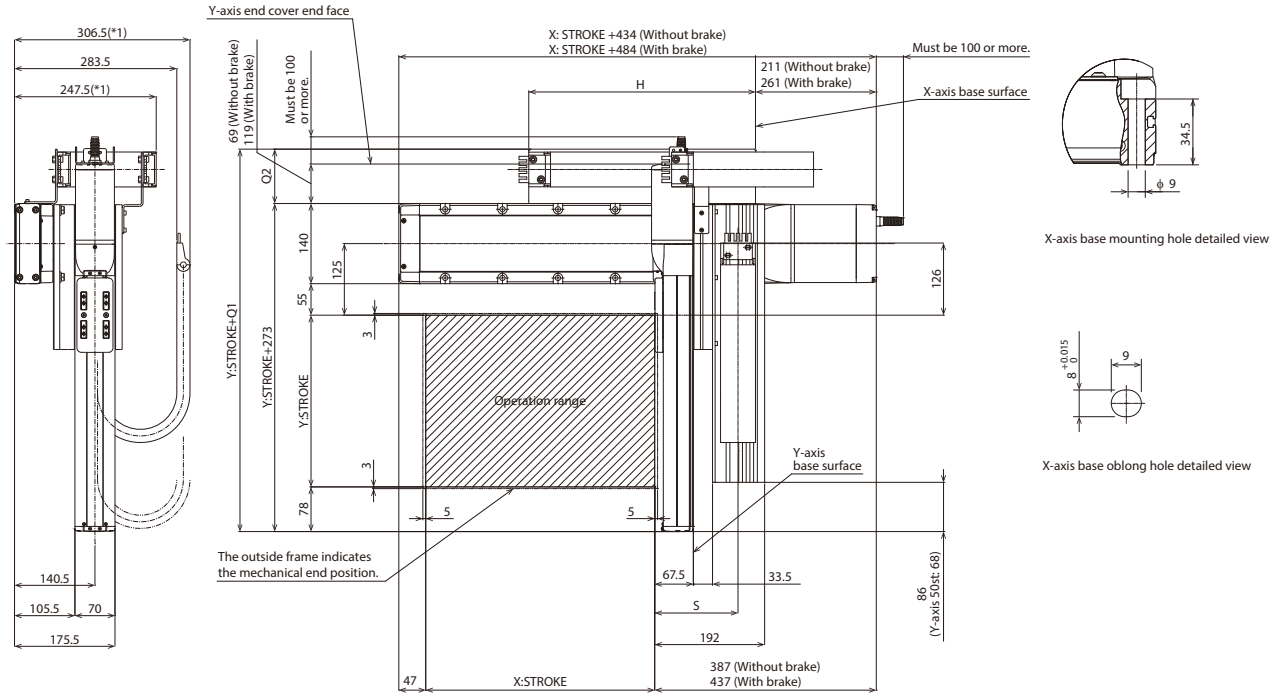
Options

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

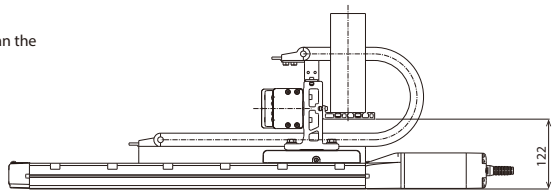
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

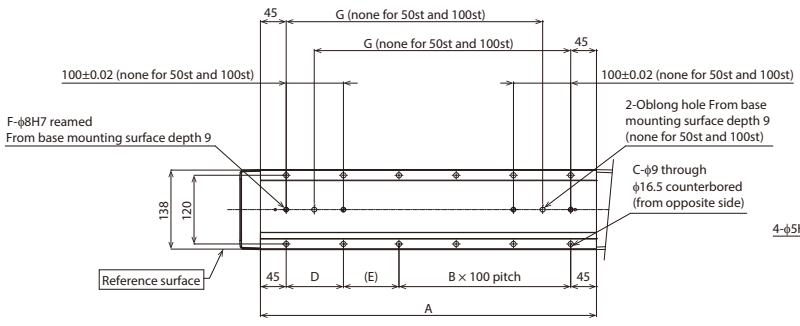
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

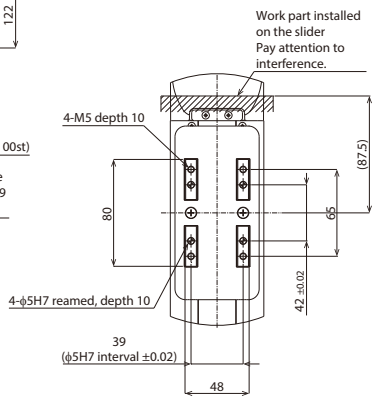


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

**The X-axis cable track guide rail is fixed on the X-axis body.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)**

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Cable track size	CT	CTM	CTL	CTXL
Q1	356	368	383	401
Q2	83	95	110	128
S	139	145.5	152	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBE1□□S

RCP6 2-axis configurations

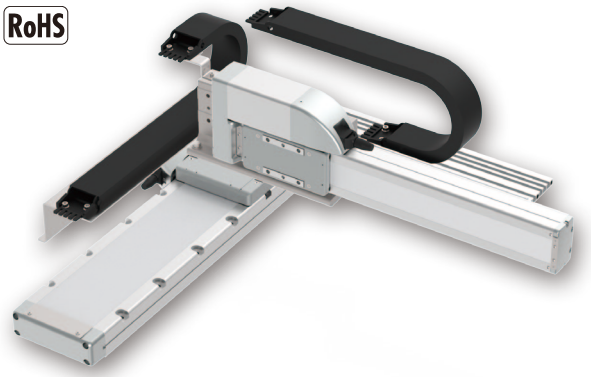
X-axis: WSA16R (side-mounted)
Y-axis: SA8R (side-mounted)

Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)		Second Axis (Y-axis)		Controller	Cable		
IK2	P6XBE1□□S	WA	□	□	□	□	PM1	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: MH: X Medium Speed/Y High Speed; HH: X High Speed/Y High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm … (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MH type: X medium speed/Y high speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~200 (Every 50mm)	250~300 (Every 50mm)	350~400 (Every 50mm)	450	500
0.1	17	16	15	14	12	10
0.3	17	16	15	14	12	10
0.5	11		10.5		10	

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~250 (Every 50mm)	300~400 (Every 50mm)	450~500 (Every 50mm)
0.1	10	9.5	9	8.5
0.3	9	8.5	8	7.5
0.5	4	3.5	3	2.5

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400	450	500
50	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

□ X-axis: WSA16R, Y-axis: SA8R

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-WSA16R	RCP6-SA8R
Stroke (Every 50mm)		50~1100mm	50~500mm
Max. speed *	MH	210mm/s	400mm/s
	HH	365mm/s	650mm/s
Motor size		56□ High thrust stepper motor	56□ High thrust stepper motor
Ball screw lead	MH	10mm	20mm
	HH	20mm	
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ16mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

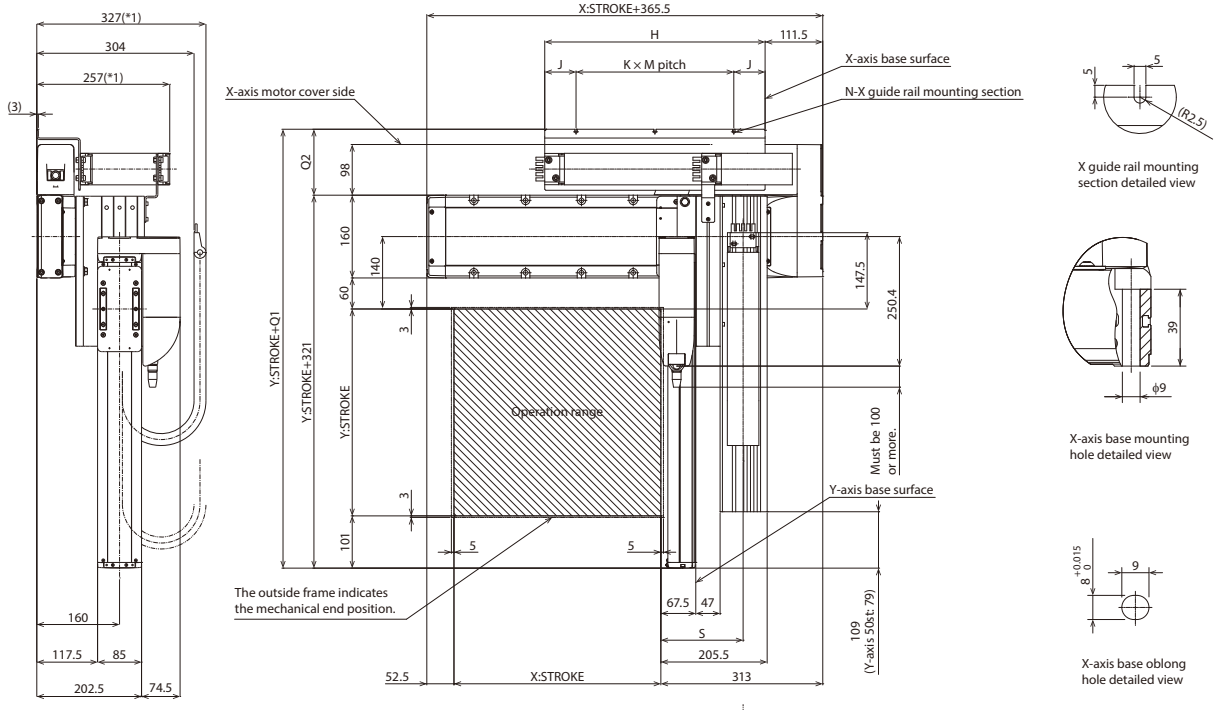
* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

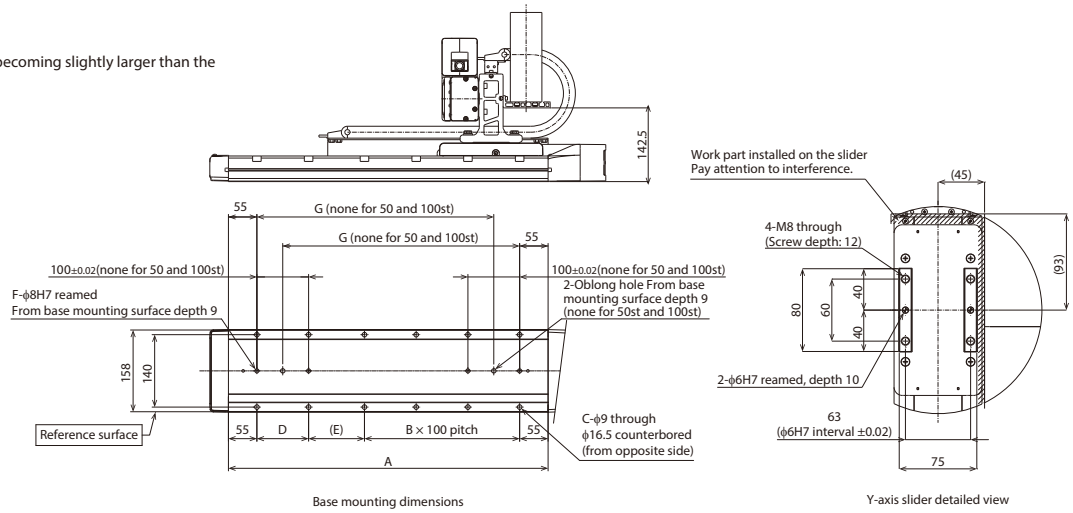
Type	Option code	Reference page	X-axis	Y-axis
Brake	B	See P.134	○	○
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions

Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	158	208	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
H	251	276	301	326	351	376	401	426	451	476	501	526	551	576	601	626	651	676	701	726	751	776
J	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	58	63	60.5	58	58	60.5	58	60.5	58	60.5	63	63	63
K	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4	4	4	4	5	5	5
M	130	155	90	102.5	115	127.5	140	152.5	110	120	125	135	145	115	120	127.5	132.5	140	145	120	125	130
N	2	2	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5	5	6	6	6

Cable track size	CT	CTM	CTL	CTXL
Q1	448.5	448.5	448.5	465.5
Q2	127.5	127.5	127.5	144.5
S	152.5	159	165.5	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBE2□□S

RCP6 2-axis configurations

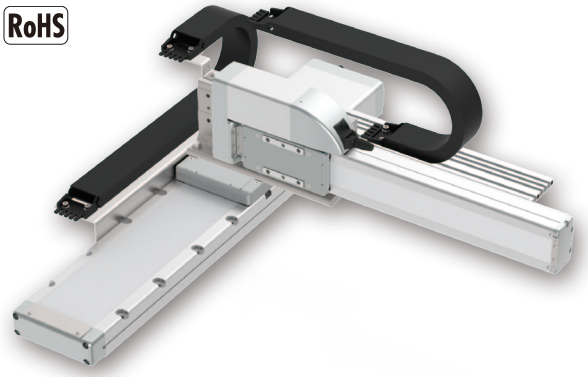
X-axis: WSA16C (straight)
Y-axis: SA8R (side-mounted)

Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBE2□ □S	WA	□ □	□ □	PM1	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: MH: X Medium Speed/Y High Speed; HH: X High Speed/Y High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MH type: X medium speed/Y high speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~200 (Every 50mm)	250~300 (Every 50mm)	350~400 (Every 50mm)	450	500
0.1	17	16	15	14	12	10
0.3	17	16	15	14	12	10
0.5	11		10.5		10	

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~250 (Every 50mm)	300~400 (Every 50mm)	450~500 (Every 50mm)
0.1	10	9.5	9	8.5
0.3	9	8.5	8	7.5
0.5	4	3.5	3	2.5

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ X-axis stroke (mm)	50	100	150	200	250	300	350	400	450	500
50	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

□ X-axis: WSA16C, Y-axis: SA8R

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-WSA16C	RCP6-SA8R
Stroke (Every 50mm)		50~1100mm	50~500mm
Max. speed *	MH	210mm/s	400mm/s
	HH	365mm/s	650mm/s
Motor size		56□ High thrust stepper motor	56□ High thrust stepper motor
Ball screw lead	MH	10mm	20mm
	HH	20mm	
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ16mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

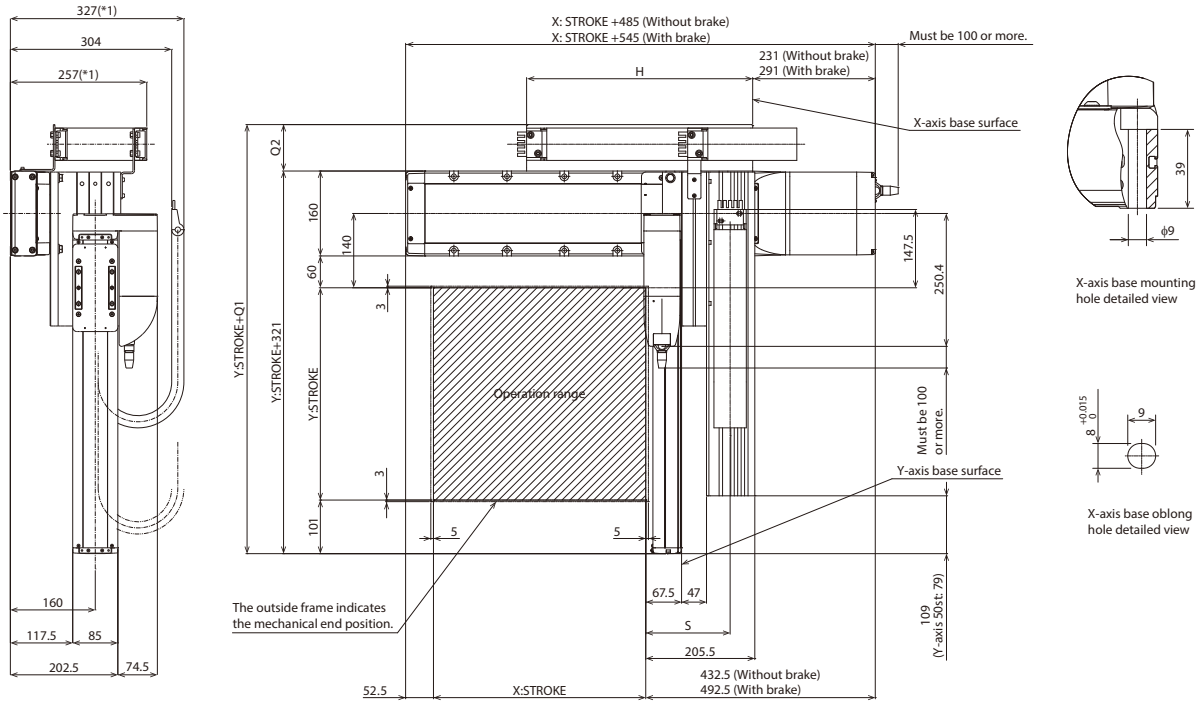
Options

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

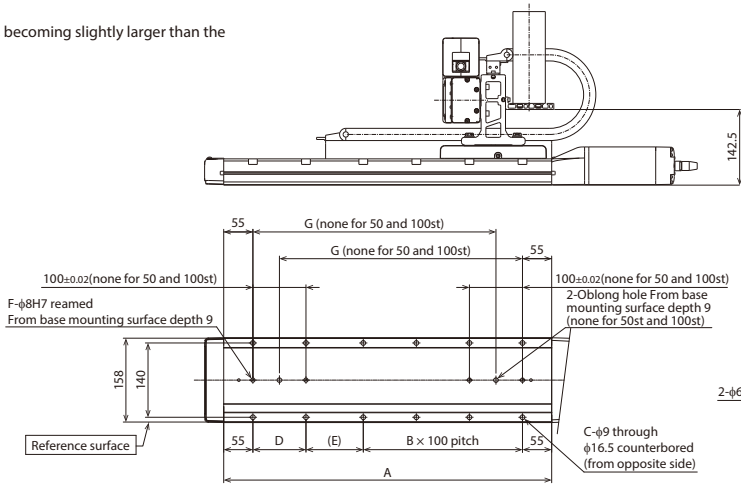
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions

Y-axis slider detailed view

(*) Notes

**The X-axis cable track guide rail is fixed on the X-axis body.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)**

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	158	208	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
H	251	276	301	326	351	376	401	426	451	476	501	526	551	576	601	626	651	676	701	726	751	776

Cable track size	CT	CTM	CTL	CTXL
Q1	396.5	408.5	423.5	441.5
Q2	75.5	87.5	102.5	120.5
S	152.5	159	165.5	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBE3□□S

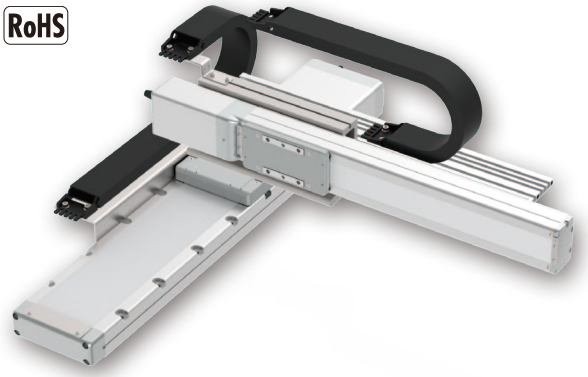
RCP6 2-axis configurations

X-axis: WSA16C (straight)
Y-axis: SA8C (straight)

Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBE3□ □S	WA	□ □	□ □	PM1	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: MH: X Medium Speed/Y High Speed; HH: X High Speed/Y High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm; ↓ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MH type: X medium speed/Y high speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~200 (Every 50mm)	250~300 (Every 50mm)	350~400 (Every 50mm)	450	500
0.1	17	16	15	14	12	10
0.3	17	16	15	14	12	10
0.5	11		10.5		10	

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~250 (Every 50mm)	300~400 (Every 50mm)	450~500 (Every 50mm)
0.1	10	9.5	9	8.5
0.3	9	8.5	8	7.5
0.5	4	3.5	3	2.5

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400	450	500
50	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

□ X-axis: WSA16C, Y-axis: SA8C

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-WSA16C	RCP6-SA8C
Stroke (Every 50mm)		50~1100mm	50~500mm
Max. speed *	MH	210mm/s	400mm/s
	HH	365mm/s	650mm/s
Motor size		56□ High thrust stepper motor	56□ High thrust stepper motor
Ball screw lead	MH	10mm	20mm
	HH	20mm	
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ16mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

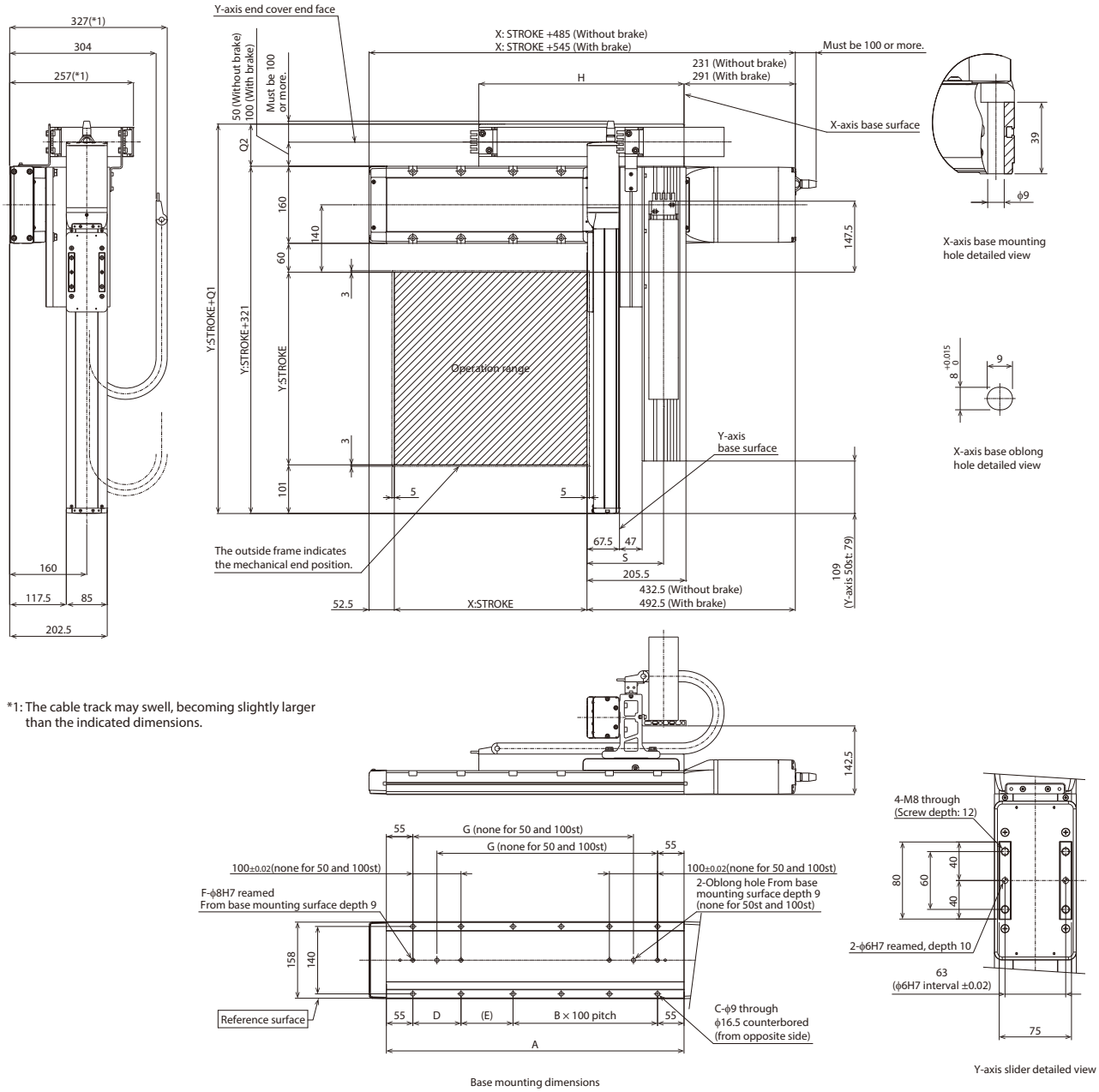
Options

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

Base mounting dimensions

Y-axis slider detailed view

(*) Notes

**The X-axis cable track guide rail is fixed on the X-axis body.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)**

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	158	208	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
H	251	276	301	326	351	376	401	426	451	476	501	526	551	576	601	626	651	676	701	726	751	776

Cable track size	CT	CTM	CTL	CTXL
Q1	396.5	408.5	423.5	441.5
Q2	75.5	87.5	102.5	120.5
S	152.5	159	165.5	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6YBD1□□S

RCP6 2-axis configurations

Y-axis: SA6R (side-mounted)
Z-axis: SA4R (side-mounted)

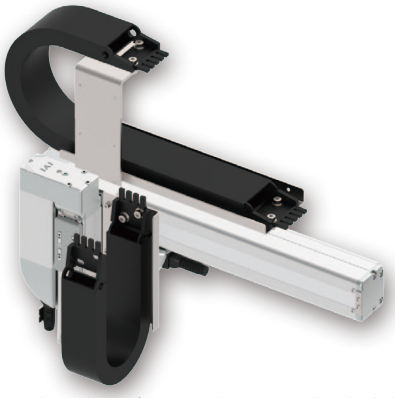
Model Specification Items

Series — Type — Encoder Type — First Axis (Y-axis) — Second Axis (Z-axis) — Controller — Cable

IK2 — **P6YBD1□ □S** — **WA** — **□ □** — **□B□** — **PM1** — **□** — **□** — **□**

- **Configuration Direction**: 1 to 2. Refer to Robot Type Descriptions on page 3
- **Speed Type**: SM: Y Ultra High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SM type: Y ultra high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 50mm)
0.1	1.5
0.3	1.5
0.5	1.5

■ SH type: Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 50mm)
0.1	1
0.3	1
0.5	1

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150
50	○	○	○
100	○	○	○
150	○	○	○
200	○	○	○
250	○	○	○
300	○	○	○
350	○	○	○
400	○	○	○
450	○	○	○
500	○	○	○
550	○	○	○
600	○	○	○
650	○	○	○
700	○	○	○
750	○	○	○
800	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA6R, Z-axis: SA4R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm) *	**CTXL**		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA6R	RCP6-SA4R
Stroke (Every 50mm)		50~800mm	50~150mm
Max. speed *	SM	800mm/s	350mm/s
	SH		610mm/s
Motor size		42□ Stepper motor	35□ Stepper motor
Ball screw lead	SM	20mm	5mm
	SH		10mm
Drive system		Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

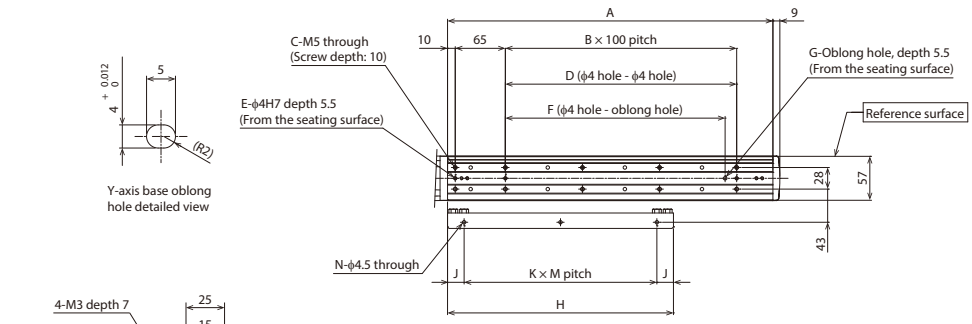
Options

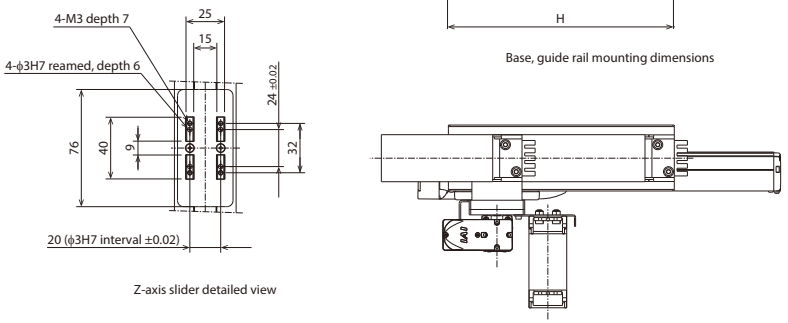
Type	Option code	Reference page	Y-axis	Z-axis
Brake	**B**	See P.134	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	○	Cannot be selected
Non-motor end specification	**NM**	See P.135	○	○
Slider section roller specification	**SR**	See P.135	○	○

* Be sure to specify.

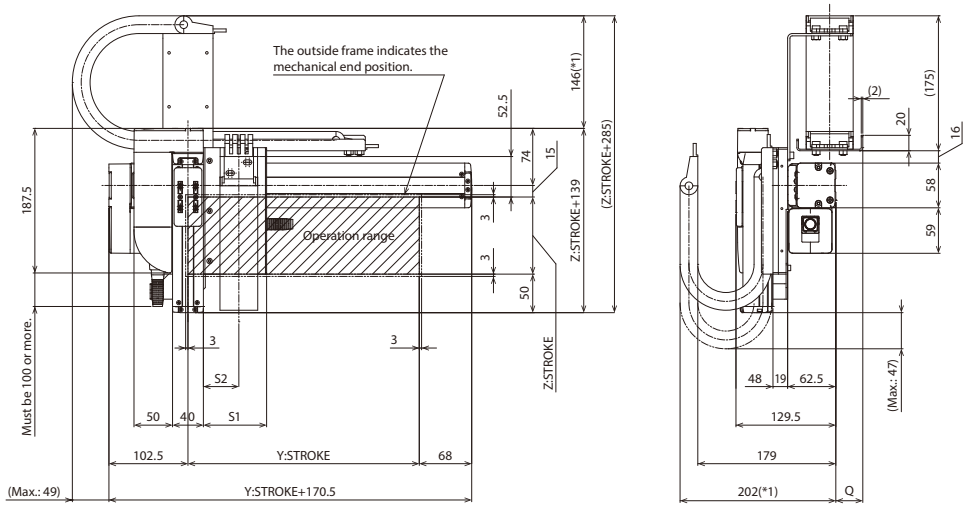
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.





*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	168	193	218	243	268	293	318	343	368	393	418	443	468	493	518	543
J	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	34	9
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4

Cable track size	CT	CTM	CTL	CTXL
Q	23	35	50	68
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBD2□□S

RCP6 2-axis configurations

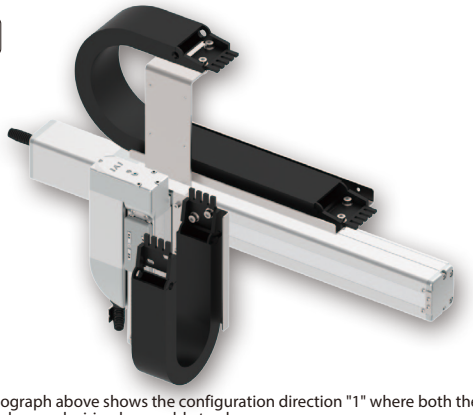
Y-axis: SA6C (straight)
Z-axis: SA4R (side-mounted)

Model Specification Items

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBD2□ □S	WA	□	□	□B□	PM1	□	□	□

- **Series** — IK2
- **Type** — P6YBD2□ □S
  - Configuration Direction: 1 to 2. Refer to Robot Type Descriptions on page 3
  - Speed Type: SM: Y Ultra High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed
- **Encoder Type** — WA
  - Encoder Type: WA: Battery-less Absolute
- **First Axis (Y-axis)** — □ □
  - Stroke: 5: 50mm ~ (Every 50mm)
- **Second Axis (Z-axis)** — □B□
  - Options: Refer to Options table below.
- **Controller** — PM1
  - Controller: Refer to Applicable Controllers table below.
- **Cable** — □ □ □
  - Cable Length: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
  - First Wiring: Refer to Cable Track table below.
  - Second Wiring

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SM type: Y ultra high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 50mm)
0.1	1.5
0.3	1.5
0.5	1.5

■ SH type: Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 50mm)
0.1	1
0.3	1
0.5	1

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150
50	○	○	○
100	○	○	○
150	○	○	○
200	○	○	○
250	○	○	○
300	○	○	○
350	○	○	○
400	○	○	○
450	○	○	○
500	○	○	○
550	○	○	○
600	○	○	○
650	○	○	○
700	○	○	○
750	○	○	○
800	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA6C, Z-axis: SA4R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA6C	RCP6-SA4R
Stroke (Every 50mm)		50~800mm	50~150mm
Max. speed *	SM	800mm/s	350mm/s
	SH		610mm/s
Motor size		42□ Stepper motor	35□ Stepper motor
Ball screw lead	SM	20mm	5mm
	SH		10mm
Drive system		Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

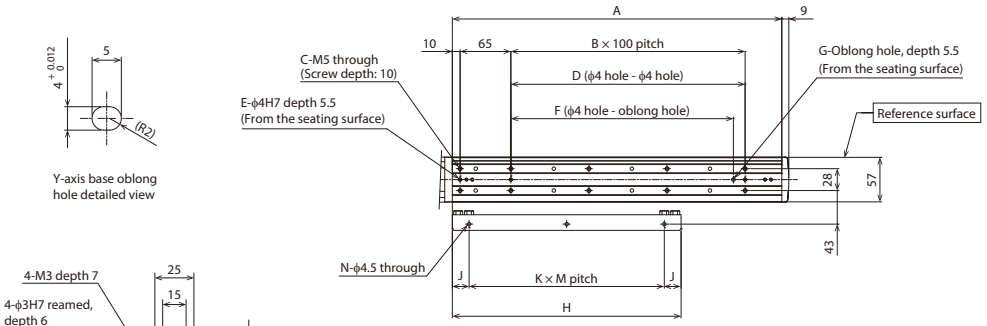
Options

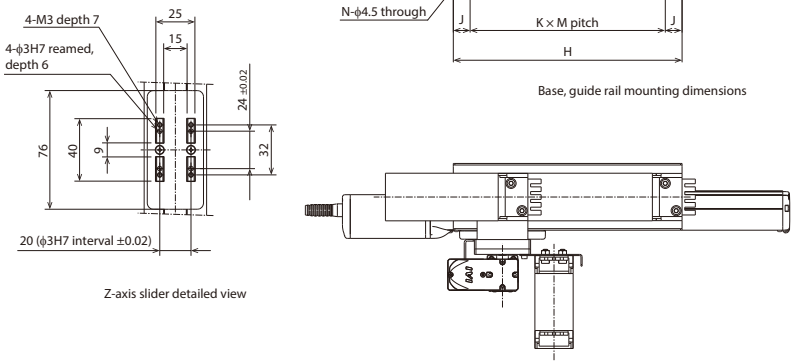
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit. Please contact IAI for more information.

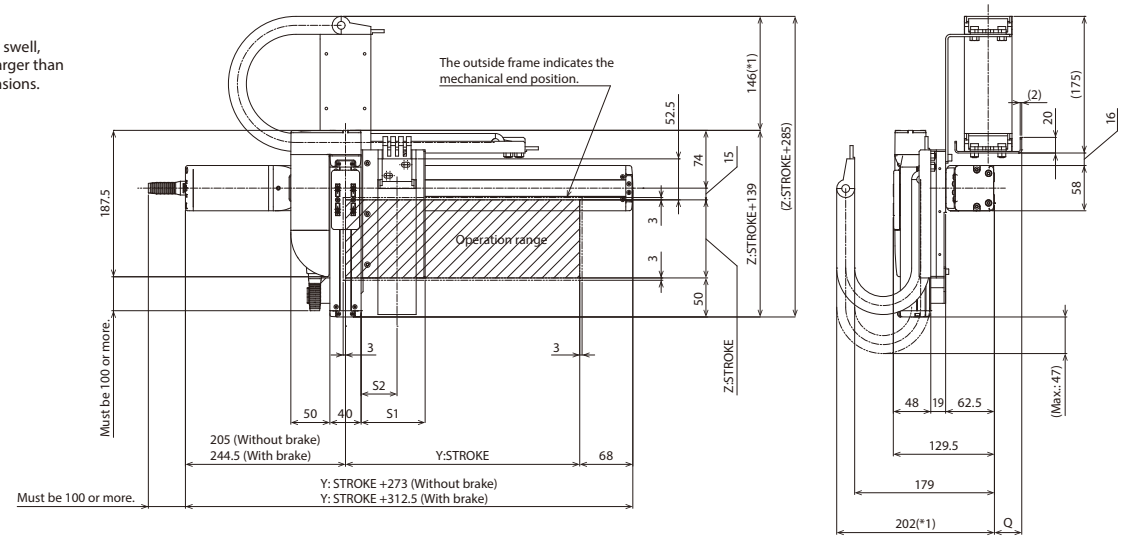
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.





*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	168	193	218	243	268	293	318	343	368	393	418	443	468	493	518	543
J	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	34	9
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4

Cable track size	CT	CTM	CTL	CTXL
Q	23	35	50	68
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBD3□□S

RCP6 2-axis configurations

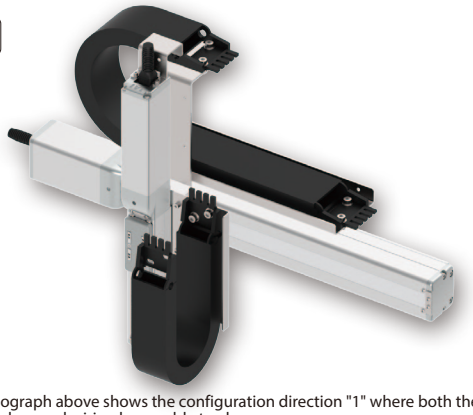
Y-axis: SA6C (straight)
Z-axis: SA4C (straight)

Model Specification Items

Series	Type	Encoder Type	First Axis (Y-axis)	Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBD3□ □S	WA	□ □	□B□	PM1	□	□	□

- **Series** — IK2
- **Type** — P6YBD3□ □S
  - Configuration Direction: 1 to 2. Refer to Robot Type Descriptions on page 3
  - Speed Type: SM: Y Ultra High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed
- **Encoder Type** — WA: Battery-less Absolute
- **First Axis (Y-axis)** — □ □
  - Stroke: 5: 50mm ~ (Every 50mm)
- **Second Axis (Z-axis)** — □B□
  - Options: Refer to Options table below.
- **Controller** — PM1: Refer to Applicable Controllers table below.
- **Cable** — □ □ □
  - Cable Length: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
  - First Wiring: Refer to Cable Track table below.
  - Second Wiring

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SM type: Y ultra high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 50mm)
0.1	1.5
0.3	1.5
0.5	1.5

■ SH type: Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 50mm)
0.1	1
0.3	1
0.5	1

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150
50	○	○	○
100	○	○	○
150	○	○	○
200	○	○	○
250	○	○	○
300	○	○	○
350	○	○	○
400	○	○	○
450	○	○	○
500	○	○	○
550	○	○	○
600	○	○	○
650	○	○	○
700	○	○	○
750	○	○	○
800	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA6C, Z-axis: SA4C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA6C	RCP6-SA4C
Stroke (Every 50mm)		50~800mm	50~150mm
Max. speed *	SM	800mm/s	350mm/s
	SH		610mm/s
Motor size		42□ Stepper motor	35□ Stepper motor
Ball screw lead	SM	20mm	5mm
	SH		10mm
Drive system		Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

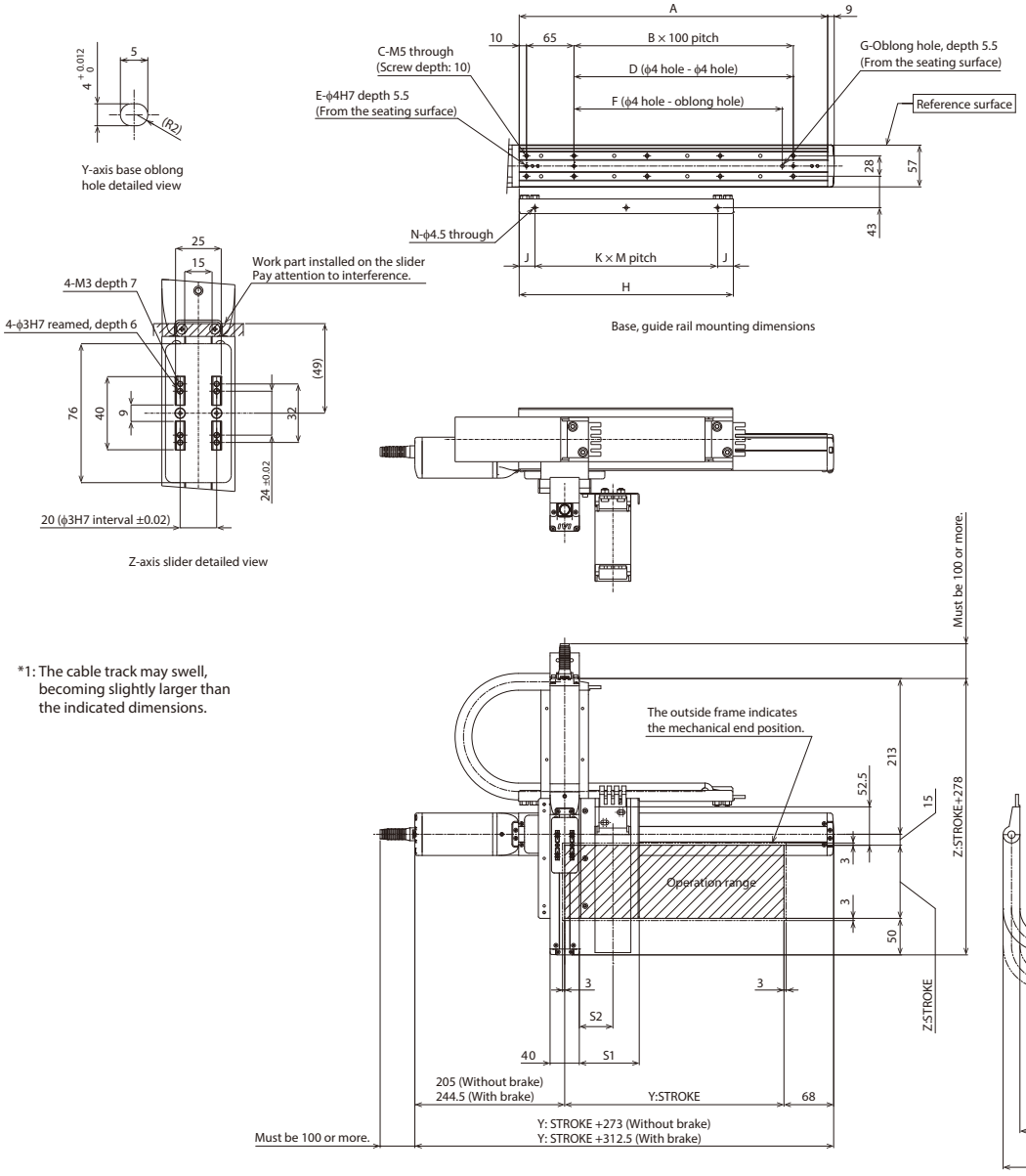
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit. Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	168	193	218	243	268	293	318	343	368	393	418	443	468	493	518	543
J	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	34	9
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4

Cable track size	CT	CTM	CTL	CTXL
Q	23	35	50	68
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBC1□□S

RCP6 2-axis configurations

Y-axis: SA7R (side-mounted)
Z-axis: SA6R (side-mounted)

Model Specification Items

Series	Type	Encoder Type	First Axis (Y-axis)	Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBC1□ □S	WA	□ □	□B□	PM1	□	□	□
	Configuration Direction: 1 to 2 (Refer to Robot Type Descriptions on page 3) / Speed Type: SL: Y Ultra High Speed/Z Low Speed; SM: Y Ultra High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed; SS: Y Ultra High Speed/Z Ultra High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ~ (Every 50mm)	Options: Refer to Options table below.	Controller: Refer to Applicable Controllers table below.	Cable Length: 1L: 1m, 3L: 3m, 5L: 5m, □L: □m	First Wiring: Refer to Cable Track table below.	Second Wiring

The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

(Unit: kg)

■ SL type: Y ultra high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	3
0.3	3
0.5	2.5

■ SM type: Y ultra high speed/ Z medium speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	2
0.3	2
0.5	2

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ SS type: Y ultra high speed/ Z ultra high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150	200
50	○	○	○	○
100	○	○	○	○
150	○	○	○	○
200	○	○	○	○
250	○	○	○	○
300	○	○	○	○
350	○	○	○	○
400	○	○	○	○
450	○	○	○	○
500	○	○	○	○
550	○	○	○	○
600	○	○	○	○
650	○	○	○	○
700	○	○	○	○
750	○	○	○	○
800	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA7R, Z-axis: SA6R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~800mm	50~200mm
Max. speed *	SL	640mm/s	170mm/s
	SM		340mm/s
	SH		680mm/s
	SS		800mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	SL	24mm	3mm
	SM		6mm
	SH		12mm
	SS		20mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

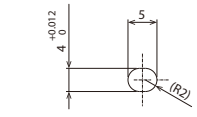
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake	B	See P.134	○	Standard equipment *
Cable exit direction (Outside)	CJO	See P.134	○	Cannot be selected
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

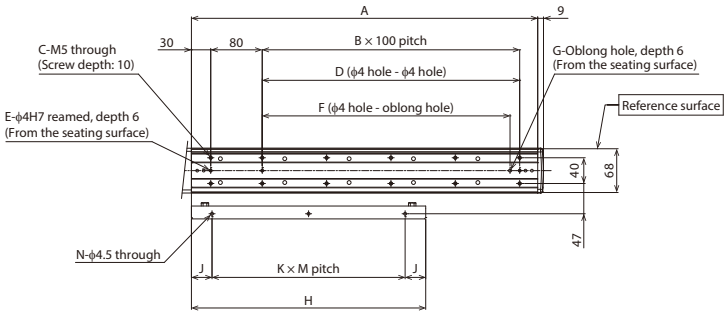
* Be sure to specify.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

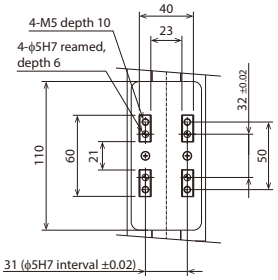
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



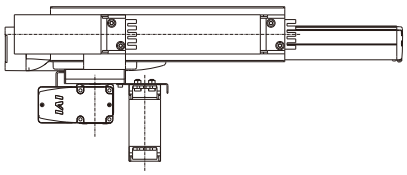
Y-axis base oblong hole detailed view



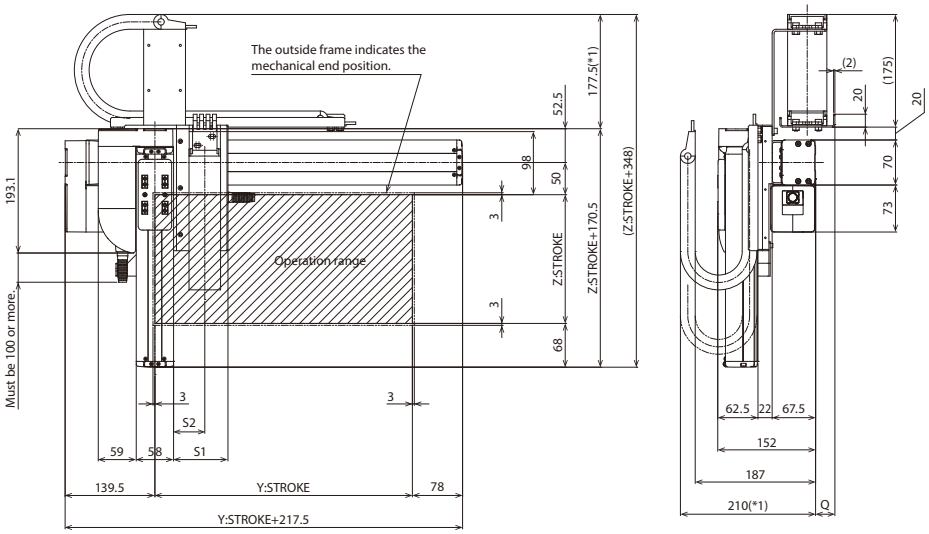
Base, guide rail mounting dimensions



Z-axis slider detailed view



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	189	214	239	264	289	314	339	364	389	414	439	464	489	514	539	564
J	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	44.5	19.5
K	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	250	250	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	84.5	96.5	109.5	–
S2	48.5	55	61.5	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBC2□□S

RCP6 2-axis configurations

Y-axis: SA7C (straight)
Z-axis: SA6R (side-mounted)

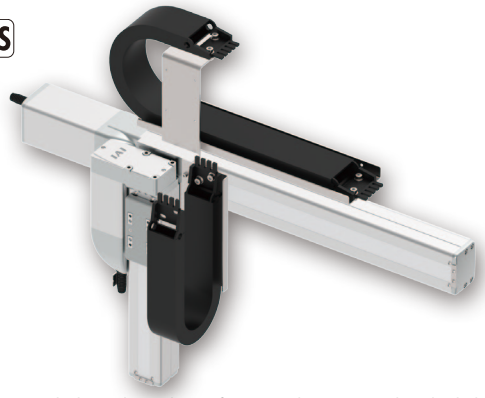
■ Model Specification Items

Series — Type — Encoder Type — First Axis (Y-axis) — Second Axis (Z-axis) — Controller — Cable

IK2 — **P6YBC2□ □S** — **WA** — **□ □** — **□B□** — **PM1** — **□** — **□** — **□**

- **Configuration Direction**: 1 to 2. Refer to Robot Type Descriptions on page 3
- **Speed Type**: SL: Y Ultra High Speed/Z Low Speed; SM: Y Ultra High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed; SS: Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

(Unit: kg)

■ SL type: Y ultra high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	3
0.3	3
0.5	2.5

■ SM type: Y ultra high speed/ Z medium speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	2
0.3	2
0.5	2

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ SS type: Y ultra high speed/ Z ultra high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150	200
50	○	○	○	○
100	○	○	○	○
150	○	○	○	○
200	○	○	○	○
250	○	○	○	○
300	○	○	○	○
350	○	○	○	○
400	○	○	○	○
450	○	○	○	○
500	○	○	○	○
550	○	○	○	○
600	○	○	○	○
650	○	○	○	○
700	○	○	○	○
750	○	○	○	○
800	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA7C, Z-axis: SA6R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm) *	**CTXL**		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-SA6R
Stroke (Every 50mm)		50~800mm	50~200mm
Max. speed *	SL	640mm/s	170mm/s
	SM		340mm/s
	SH		680mm/s
	SS		800mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	SL	24mm	3mm
	SM		6mm
	SH		12mm
	SS		20mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

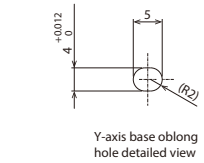
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake *	**B**	See P.134	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected
Cable exit direction (Right)	**CJR**	See P.134	○	
Cable exit direction (Left)	**CJL**	See P.134	○	
Cable exit direction (Bottom)	**CJB**	See P.134	○	
Non-motor end specification	**NM**	See P.135	○	○
Slider section roller specification	**SR**	See P.135	○	○

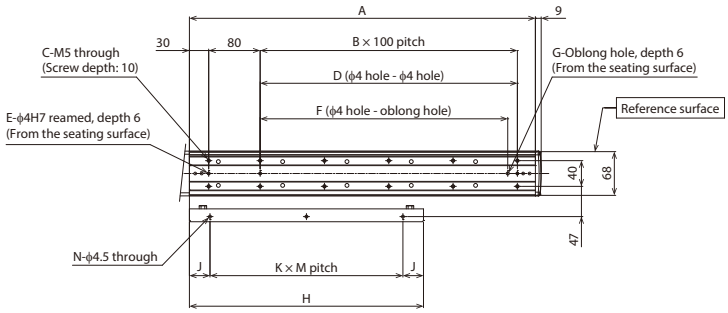
* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit. Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

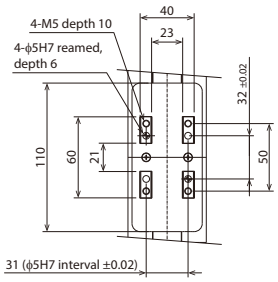
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



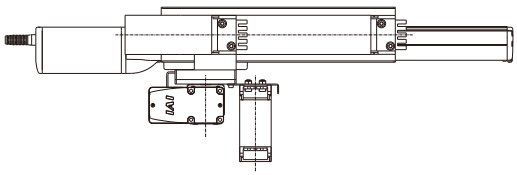
Y-axis base oblong hole detailed view



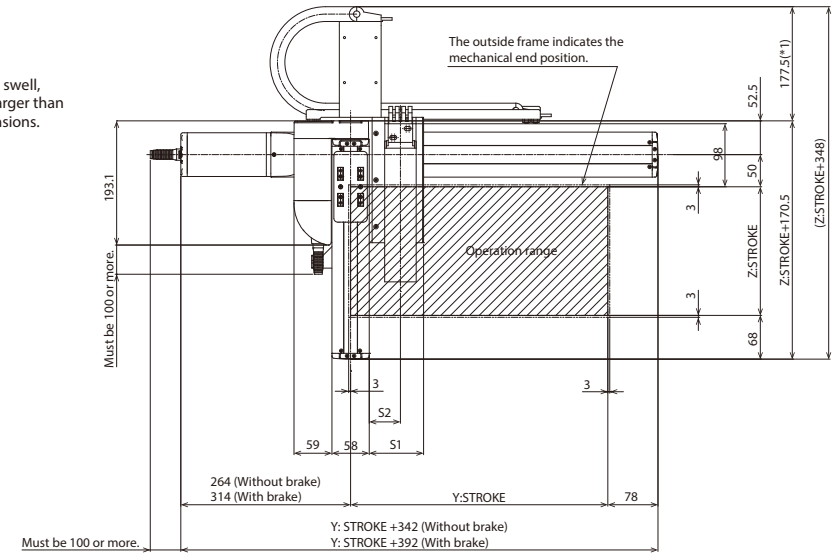
Base, guide rail mounting dimensions

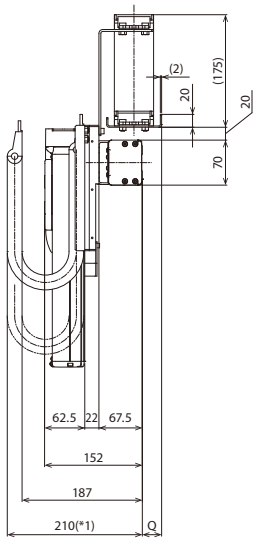


Z-axis slider detailed view



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	189	214	239	264	289	314	339	364	389	414	439	464	489	514	539	564
J	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	44.5	19.5
K	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	250	250	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	84.5	96.5	109.5	–
S2	48.5	55	61.5	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBC3□□S

RCP6 2-axis configurations

Y-axis: SA7C (straight)
Z-axis: SA6C (straight)

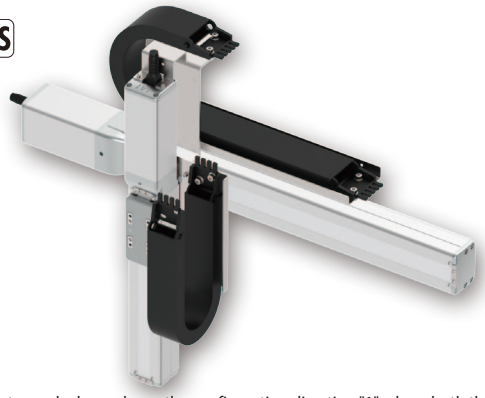
■ Model Specification Items

Series — Type — Encoder Type — First Axis (Y-axis) — Second Axis (Z-axis) — Controller — Cable

IK2 — P6YBC3□ □S — WA — □ □ — □B□ — PM1 — □ — □ — □

- **Configuration Direction**: 1 to 2. Refer to Robot Type Descriptions on page 3
- **Speed Type**: SL: Y Ultra High Speed/Z Low Speed; SM: Y Ultra High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed; SS: Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

(Unit: kg)

■ SL type: Y ultra high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	3
0.3	3
0.5	2.5

■ SM type: Y ultra high speed/ Z medium speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	2
0.3	2
0.5	2

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ SS type: Y ultra high speed/ Z ultra high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150	200
50	○	○	○	○
100	○	○	○	○
150	○	○	○	○
200	○	○	○	○
250	○	○	○	○
300	○	○	○	○
350	○	○	○	○
400	○	○	○	○
450	○	○	○	○
500	○	○	○	○
550	○	○	○	○
600	○	○	○	○
650	○	○	○	○
700	○	○	○	○
750	○	○	○	○
800	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA7C, Z-axis: SA6C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-SA6C
Stroke (Every 50mm)		50~800mm	50~200mm
Max. speed *	SL	640mm/s	170mm/s
	SM		340mm/s
	SH		680mm/s
	SS		800mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	SL	24mm	3mm
	SM		6mm
	SH		12mm
	SS		20mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

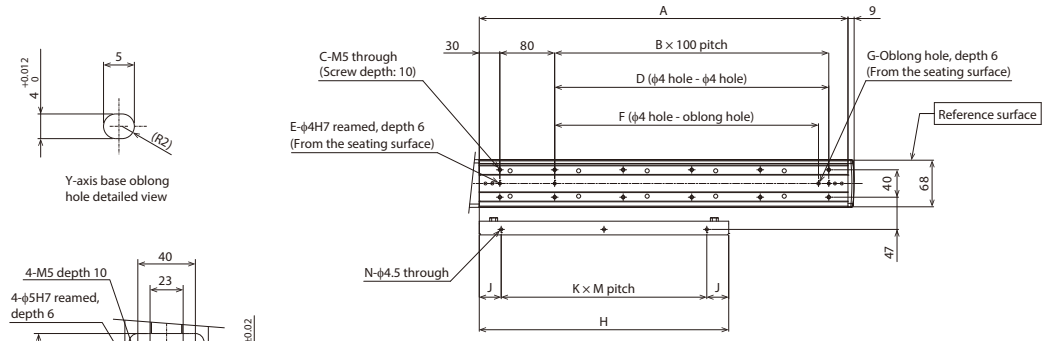
Options

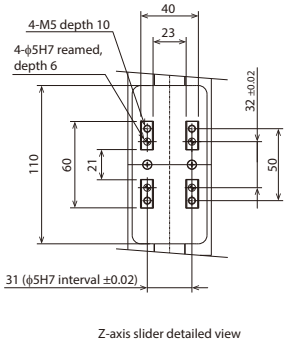
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

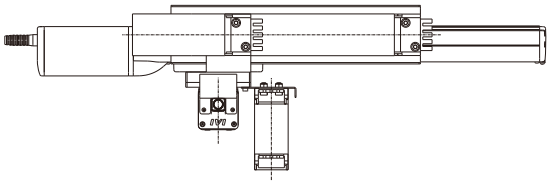
* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit. Please contact IAI for more information.

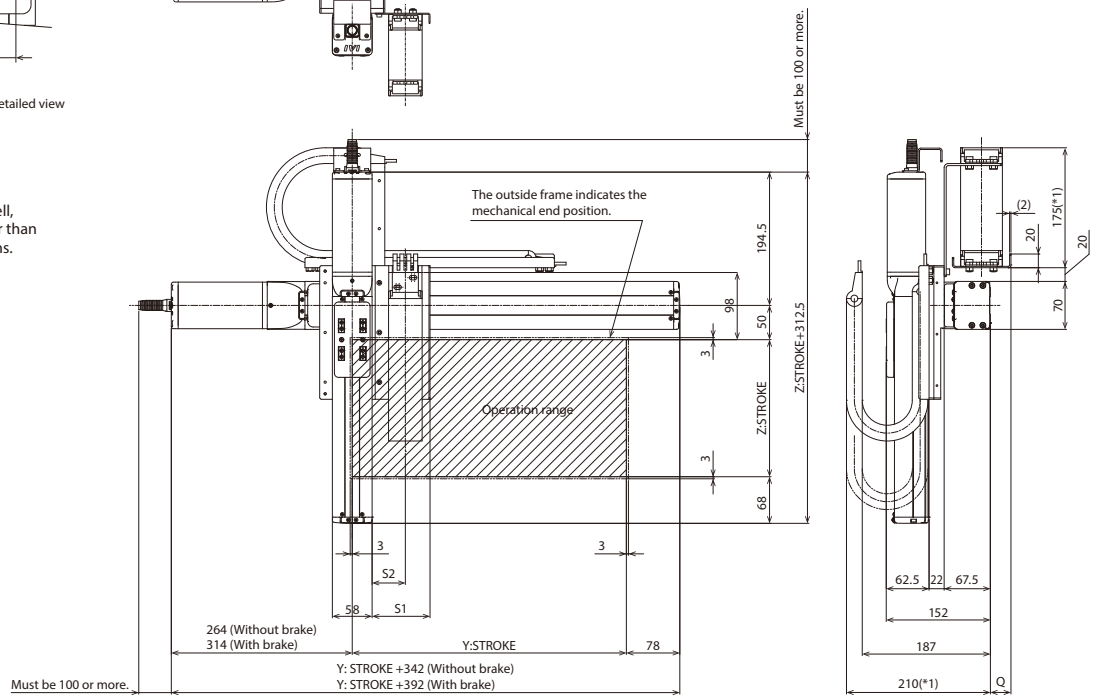
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.









*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	189	214	239	264	289	314	339	364	389	414	439	464	489	514	539	564
J	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	44.5	19.5
K	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	250	250	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	84.5	96.5	109.5	–
S2	48.5	55	61.5	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBB1□□S

RCP6 2-axis configurations

Y-axis: SA8R (side-mounted)
Z-axis: SA7R (side-mounted)

Model Specification Items

Series — Type — Encoder Type — First Axis (Y-axis) — Second Axis (Z-axis) — Controller — Cable

IK2 — **P6YBB1□ □S** — **WA** — **□ □** — **□B□** — **PM1** — **□** — **□** — **□**

- **Configuration Direction**: 1 to 2. Refer to Robot Type Descriptions on page 3
- **Speed Type**: HL: Y High Speed/Z Low Speed; HM: Y High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed; SS: Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS

The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

(Unit: kg)

■ HL type: Y high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	9
0.3	8
0.5	7

■ HM type: Y high speed/ Z medium speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	4.5
0.3	4
0.5	3.5

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	3
0.3	2
0.5	1.5

■ SS type: Y ultra high speed/ Z ultra high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)	250~300 (Every 50mm)
0.1	1.5	
0.3	1.5	
0.5	1.5	1

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150	200	250	300
50	○	○	○	○	○	○
100	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○
850	○	○	○	○	○	○
900	○	○	○	○	○	○
950	○	○	○	○	○	○
1000	○	○	○	○	○	○
1050	○	○	○	○	○	○
1100	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ Y-axis: SA8R

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ Z-axis: SA7R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm) *	**CTXL**		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA8R	RCP6-SA7R
Stroke (Every 50mm)		50~1100mm	50~300mm
Max. speed *	HL	400mm/s	105mm/s
	HM		280mm/s
	SH	650mm/s	560mm/s
	SS		640mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	HL	20mm	4mm
	HM		8mm
	SH	30mm	16mm
	SS		24mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

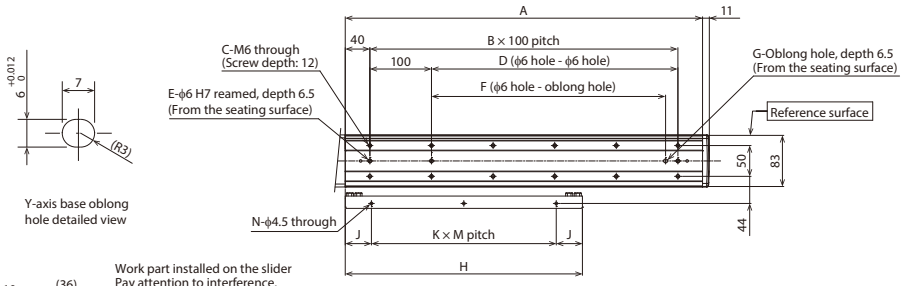
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake	**B**	See P.134	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	○	Cannot be selected
Non-motor end specification	**NM**	See P.135	○	○
Slider section roller specification	**SR**	See P.135	○	○

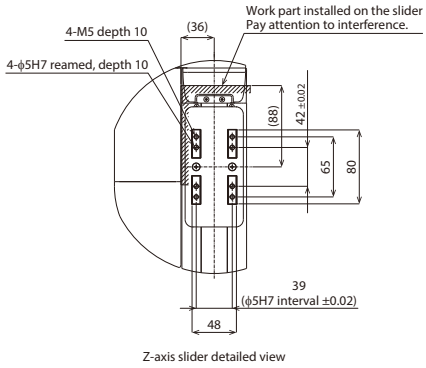
* Be sure to specify.

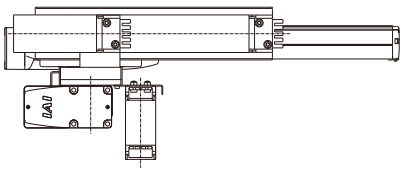
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

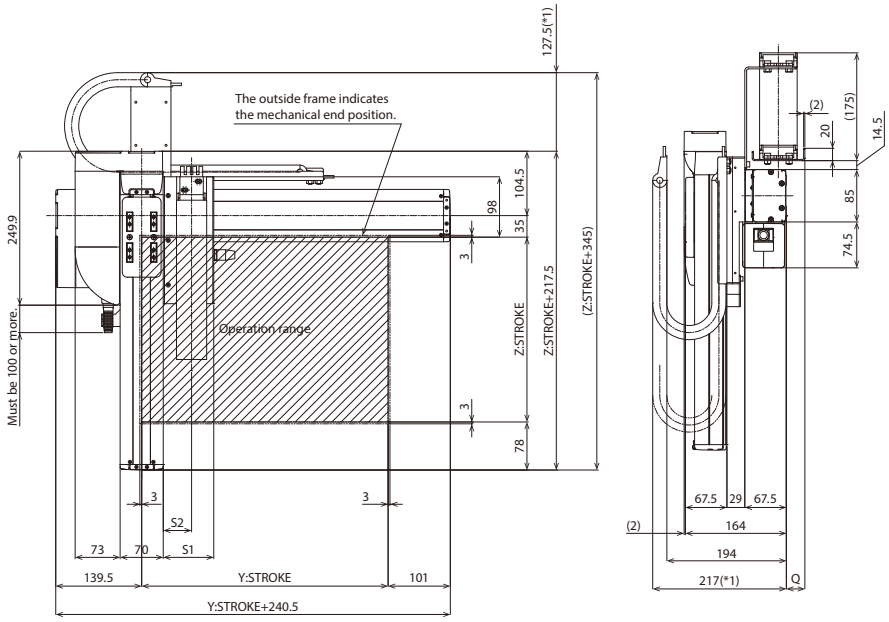


Base, guide rail mounting dimensions





*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735
J	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	55	30	42.5	55	30	42.5	55	17.5
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175	175	175	200	200	200	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBB2□□S

RCP6 2-axis configurations

Y-axis: SA8C (straight)
Z-axis: SA7R (side-mounted)

Model Specification Items

Series — Type — Encoder Type — First Axis (Y-axis) — Second Axis (Z-axis) — Controller — Cable

IK2 — **P6YBB2□ □S** — **WA** — **□ □** — **□B□** — **PM1** — **□** — **□** — **□**

- **Configuration Direction**: 1 to 2. Refer to Robot Type Descriptions on page 3
- **Speed Type**: HL: Y High Speed/Z Low Speed; HM: Y High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed; SS: Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HL type: Y high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	9
0.3	8
0.5	7

■ HM type: Y high speed/ Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	4.5
0.3	4
0.5	3.5

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	3
0.3	2
0.5	1.5

■ SS type: Y ultra high speed/ Z ultra high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)	250~300 (Every 50mm)
0.1	1.5	
0.3	1.5	
0.5	1.5	1

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150	200	250	300
50	○	○	○	○	○	○
100	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○
850	○	○	○	○	○	○
900	○	○	○	○	○	○
950	○	○	○	○	○	○
1000	○	○	○	○	○	○
1050	○	○	○	○	○	○
1100	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ Y-axis: SA8C

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ Z-axis: SA7R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm) *	**CTXL**		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-SA7R
Stroke (Every 50mm)		50~1100mm	50~300mm
Max. speed *	HL	400mm/s	105mm/s
	HM		280mm/s
	SH	650mm/s	560mm/s
	SS		640mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	HL	20mm	4mm
	HM		8mm
	SH	30mm	16mm
	SS		24mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

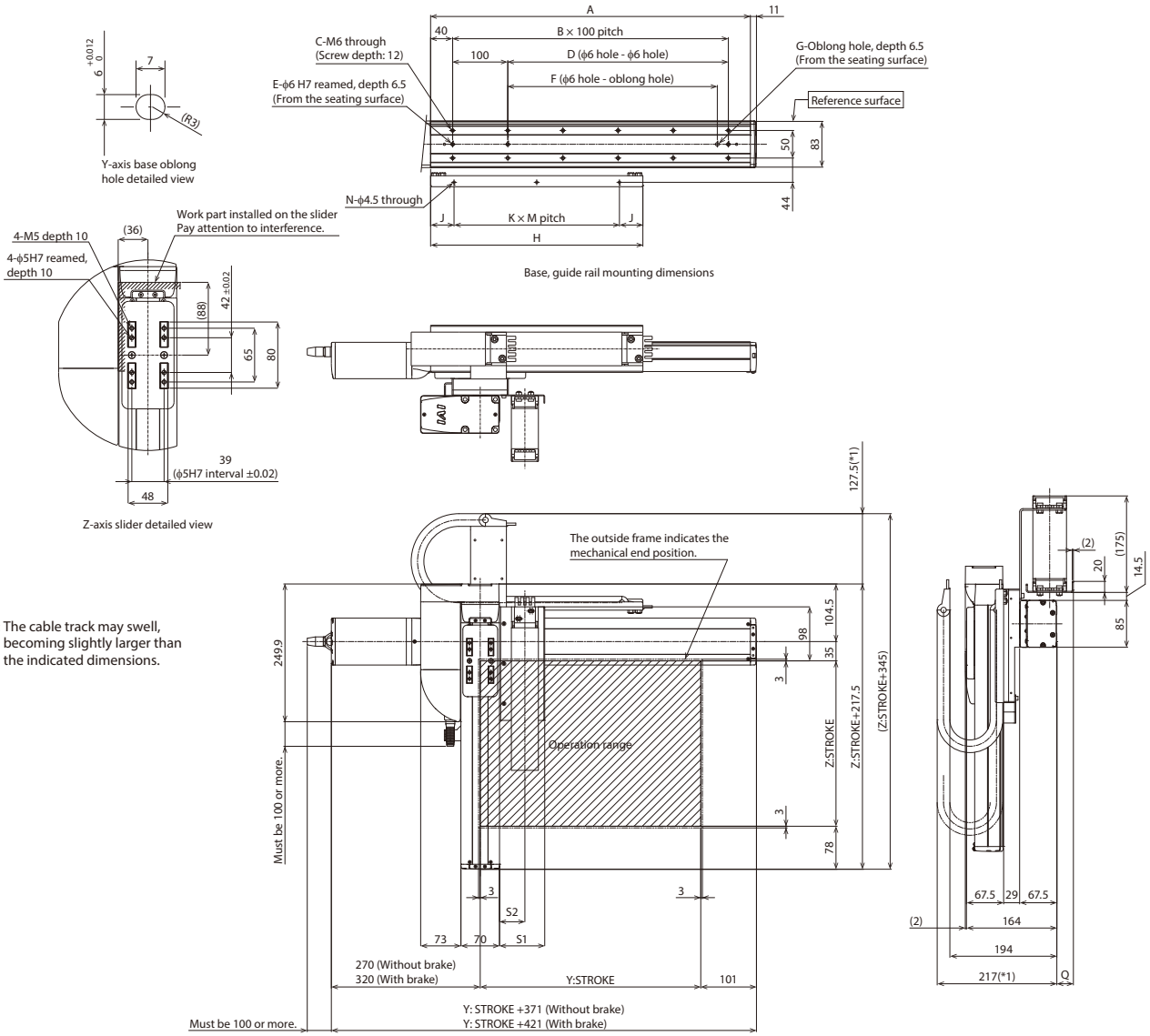
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake *	**B**	See P.134	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected
Cable exit direction (Right)	**CJR**	See P.134	○	
Cable exit direction (Left)	**CJL**	See P.134	○	
Cable exit direction (Bottom)	**CJB**	See P.134	○	
Non-motor end specification	**NM**	See P.135	○	○
Slider section roller specification	**SR**	See P.135	○	○

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit. Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735
J	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	55	30	42.5	55	30	42.5	55	17.5
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175	175	175	200	200	200	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBB3□□S

RCP6 2-axis configurations

Y-axis: SA8C (straight)
Z-axis: SA7C (straight)

Model Specification Items

Series — Type — Encoder Type — First Axis (Y-axis) — Second Axis (Z-axis) — Controller — Cable

IK2 — P6YBB3□ □S — WA — □ □ — □B□ — PM1 — □ — □ — □

- **Configuration Direction**: 1 to 2. Refer to Robot Type Descriptions on page 3
- **Speed Type**: HL: Y High Speed/Z Low Speed; HM: Y High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed; SS: Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS

The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

(Unit: kg)

■ HL type: Y high speed/ Z low speed

Acceleration/ deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	9
0.3	8
0.5	7

■ HM type: Y high speed/ Z medium speed

Acceleration/ deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	4.5
0.3	4
0.5	3.5

■ SH type: Y ultra high speed/ Z high speed

Acceleration/ deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	3
0.3	2
0.5	1.5

■ SS type: Y ultra high speed/ Z ultra high speed

Acceleration/ deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)	250~300 (Every 50mm)
0.1	1.5	
0.3	1.5	
0.5	1.5	1

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150	200	250	300
50	○	○	○	○	○	○
100	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○
850	○	○	○	○	○	○
900	○	○	○	○	○	○
950	○	○	○	○	○	○
1000	○	○	○	○	○	○
1050	○	○	○	○	○	○
1100	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA8C

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

□ Z-axis: SA7C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm) *	**CTXL**		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-SA7C
Stroke (Every 50mm)		50~1100mm	50~300mm
Max. speed *	HL	400mm/s	105mm/s
	HM		280mm/s
	SH	650mm/s	560mm/s
	SS		640mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	HL	20mm	4mm
	HM		8mm
	SH	30mm	16mm
	SS		24mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

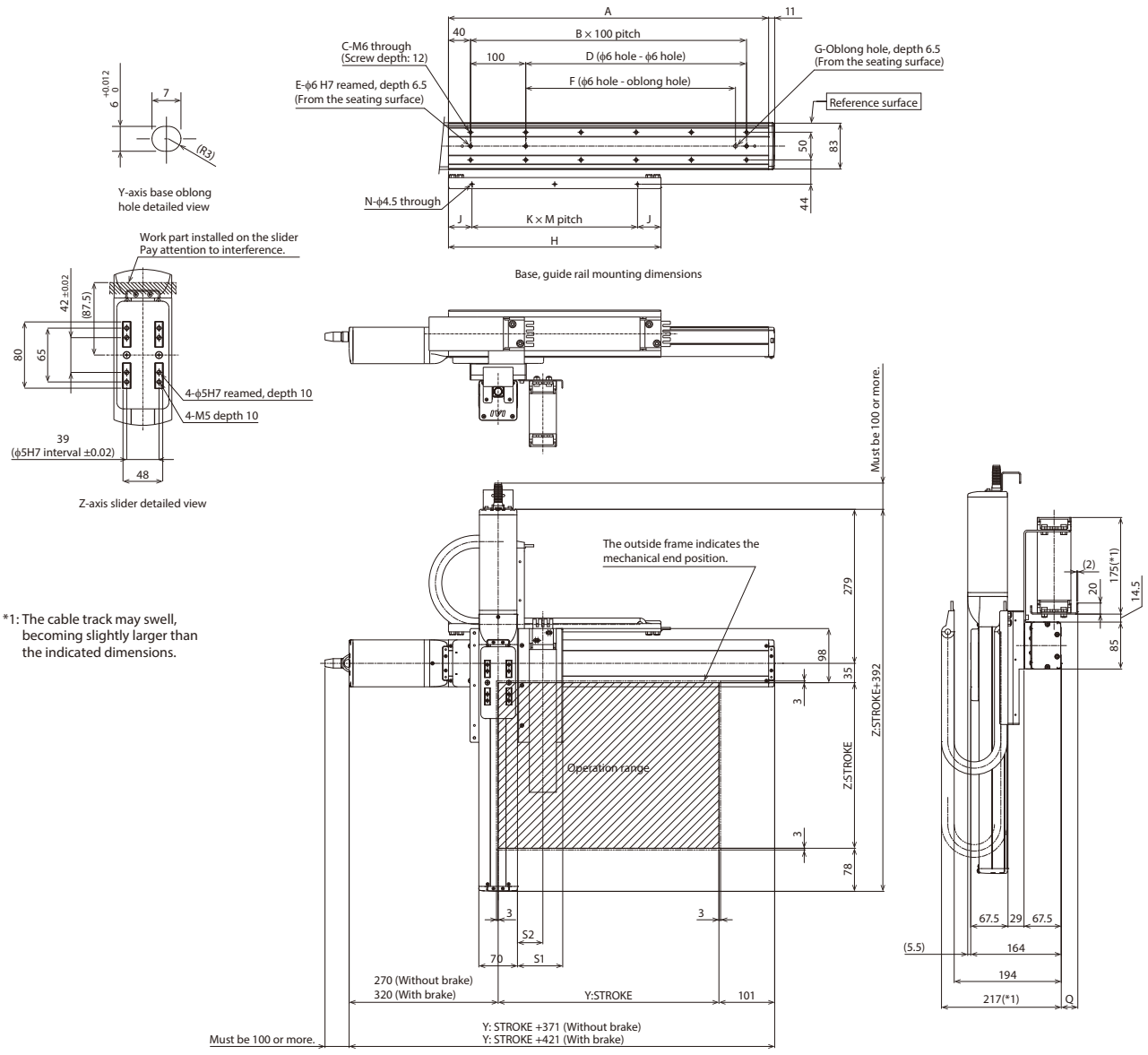
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake *	**B**	See P.134	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected
Cable exit direction (Right)	**CJR**	See P.134	○	
Cable exit direction (Left)	**CJL**	See P.134	○	
Cable exit direction (Bottom)	**CJB**	See P.134	○	
Non-motor end specification	**NM**	See P.135	○	○
Slider section roller specification	**SR**	See P.135	○	○

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit. Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735
J	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	55	30	42.5	55	30	42.5	55	17.5
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175	175	175	200	200	200	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBI1□□S

RCP6 2-axis configurations

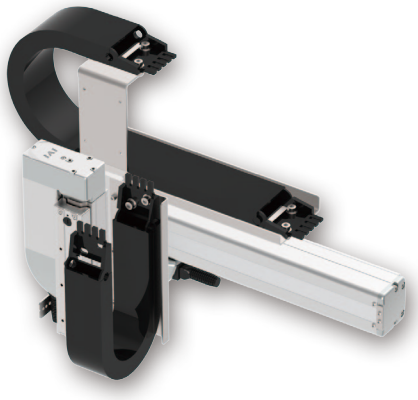
Y-axis: SA6R (side-mounted)
Z-axis: TA4R (side-mounted)

Model Specification Items

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)		Controller	Cable		
IK2	P6YBI1□□S	WA	□	□	□	B□	PM1	□	□	□
	Configuration Direction: 1 to 2 (Refer to Robot Type Descriptions on page 3) / Speed Type: SH: Y Ultra High Speed/Z High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5:50mm ~ (Every 50mm)	Stroke: 5: 50mm * ~ (Every 25mm)	Options: Refer to Options table below.		Controller: Refer to Applicable Controllers table below.	Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m	First Wiring: Refer to Cable Track table below.	Second Wiring

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

SH type: Y ultra high speed/Z high speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 25mm)
0.1	1
0.3	1
0.5	1

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150
50	○	○	○	○	○
100	○	○	○	○	○
150	○	○	○	○	○
200	○	○	○	○	○
250	○	○	○	○	○
300	○	○	○	○	○
350	○	○	○	○	○
400	○	○	○	○	○
450	○	○	○	○	○
500	○	○	○	○	○
550	○	○	○	○	○
600	○	○	○	○	○
650	○	○	○	○	○
700	○	○	○	○	○
750	○	○	○	○	○
800	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA6R, Z-axis: TA4R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track.
A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item	Y-axis	Z-axis
Axis configuration	RCP6-SA6R	RCP6-TA4R
Stroke	50 ~ 800mm (Every 50mm)	50 ~ 150mm (Every 25mm)
Max speed *	800mm/s	350mm/s
Motor size	42□ Stepper motor	35□ Stepper motor
Ball screw lead	20mm	10mm
Drive system	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability	±0.01mm	
Base material	Aluminum	
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

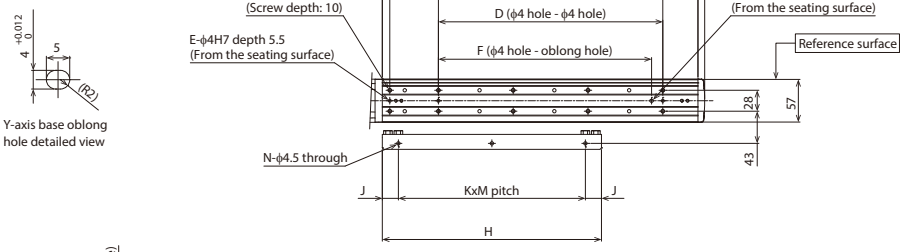
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake	B	See P.134	○	Standard equipment *
Cable exit direction (Outside)	CJO	See P.134	○	Cannot be selected
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.

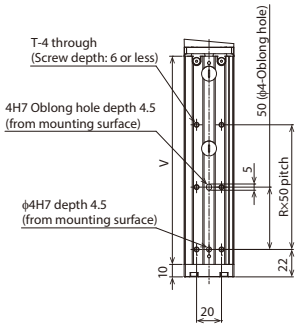
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

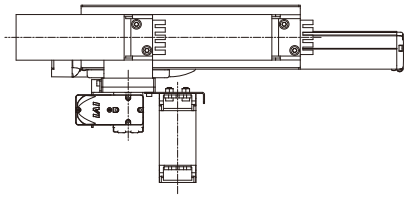
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

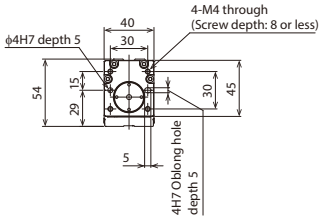


Base, guide rail mounting dimensions

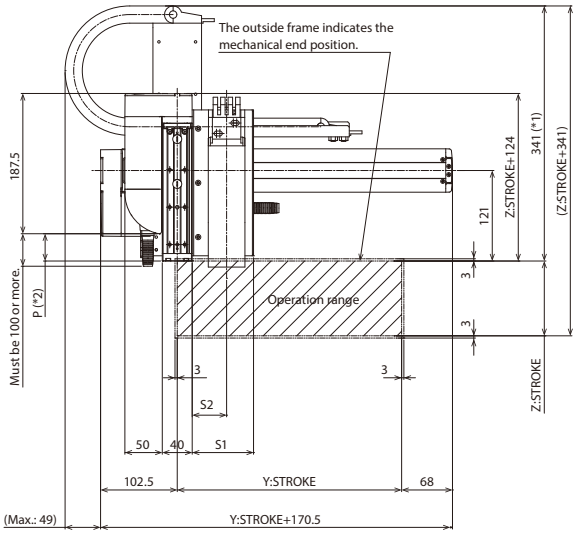
Y-axis base oblong hole detailed view

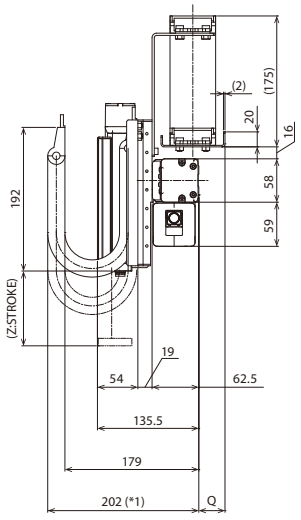






Z-axis table detailed view





*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: A negative number for P means that the edge of the motor unit is located frontward past the end face of the table.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	168	193	218	243	268	293	318	343	368	393	418	443	468	493	518	543
J	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	34	9
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4

Z: Stroke	50	75	100	125	150
P (*2)	-13.5	11.5	36.5	61.5	86.5
R	1	2	2	3	3
T	4	6	6	8	8
V	117	142	167	192	217

Cable track size	CT	CTM	CTL	CTXL
Q	23	35	50	68
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBI2□□S

RCP6 2-axis configurations

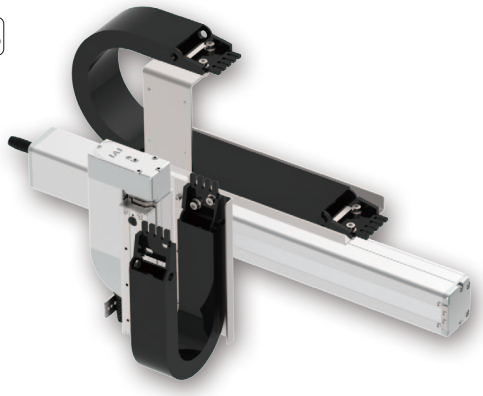
Y-axis: SA6C (straight)
Z-axis: TA4R (side-mounted)

Model Specification Items

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)		Controller	Cable		
IK2	P6YBI2□ □S	WA	□	□	□	B□	PM1	□	□	□
	Speed Type	Encoder Type	Stroke	Stroke	Options		Controller	Cable Length	First Wiring	Second Wiring
Configuration Direction: 1 to 2 Refer to Robot Type Descriptions on page 3	SH: Y Ultra High Speed/Z High Speed	WA: Battery-less Absolute	5:50mm ~ (Every 50mm)	5: 50mm * ~ (Every 25mm)	Refer to Options table below.		Refer to Applicable Controllers table below.	1L : 1m 3L : 3m 5L : 5m □L : □m	Refer to Cable Track table below.	

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SH type: Y ultra high speed/Z high speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 25mm)
0.1	1
0.3	1
0.5	1

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150
50	○	○	○	○	○
100	○	○	○	○	○
150	○	○	○	○	○
200	○	○	○	○	○
250	○	○	○	○	○
300	○	○	○	○	○
350	○	○	○	○	○
400	○	○	○	○	○
450	○	○	○	○	○
500	○	○	○	○	○
550	○	○	○	○	○
600	○	○	○	○	○
650	○	○	○	○	○
700	○	○	○	○	○
750	○	○	○	○	○
800	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA6C, Z-axis: TA4R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track.
A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item	Y-axis	Z-axis
Axis configuration	RCP6-SA6C	RCP6-TA4R
Stroke	50 ~ 800mm (Every 50mm)	50 ~ 150mm (Every 25mm)
Max speed *	800mm/s	350mm/s
Motor size	42□ Stepper motor	35□ Stepper motor
Ball screw lead	20mm	10mm
Drive system	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability	±0.01mm	
Base material	Aluminum	
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

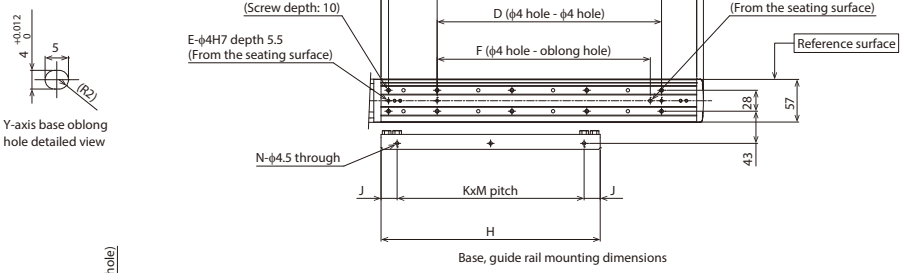
Options

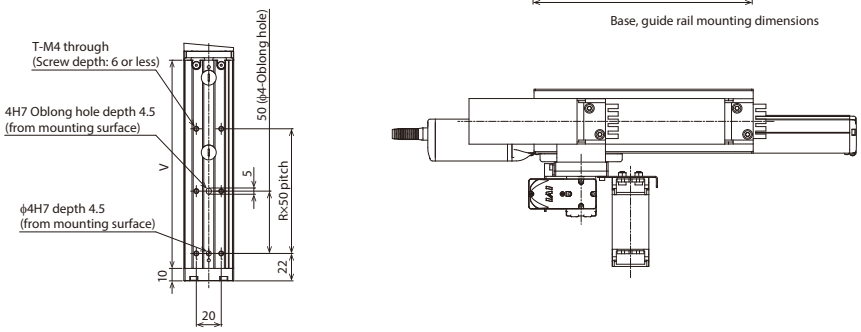
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

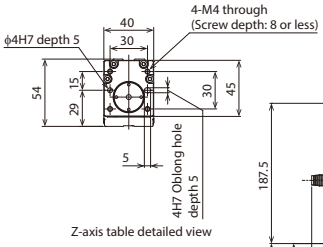
* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit.
Please contact IAI for more information.

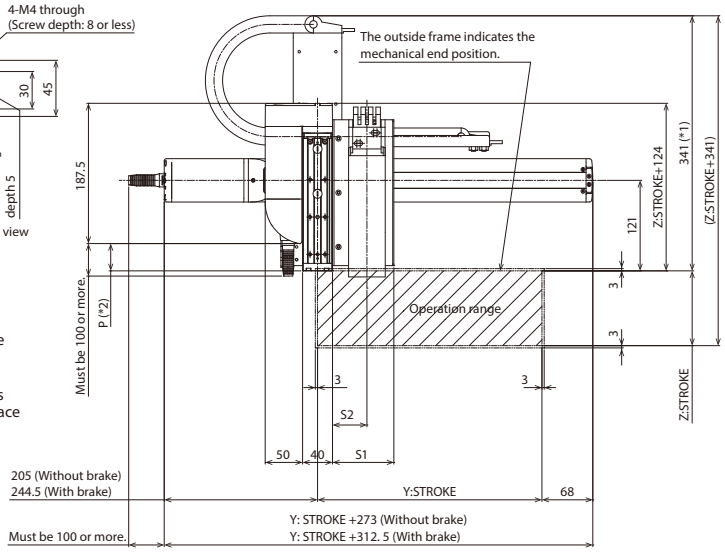
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

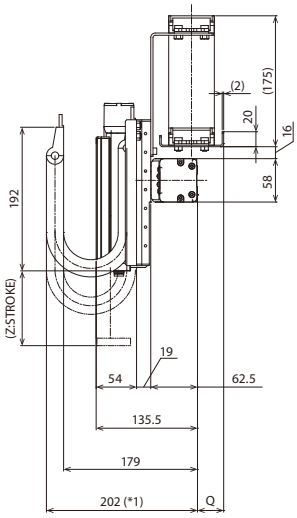
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.











*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: A negative number for P means that the edge of the motor unit is located frontward past the end face of the table.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	168	193	218	243	268	293	318	343	368	393	418	443	468	493	518	543
J	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	34	9
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4

Z: Stroke	50	75	100	125	150
P (*2)	-13.5	11.5	36.5	61.5	86.5
R	1	2	2	3	3
T	4	6	6	8	8
V	117	142	167	192	217

Cable track size	CT	CTM	CTL	CTXL
Q	23	35	50	68
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBI3□□S

RCP6 2-axis configurations

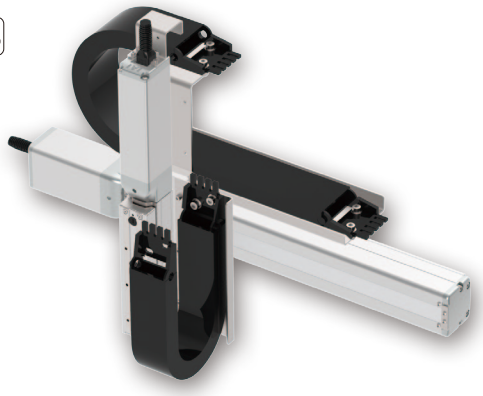
Y-axis: SA6C (straight)
Z-axis: TA4C (straight)

Model Specification Items

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)		Controller	Cable		
IK2	P6YBI3□ □S	WA	□	□	□	B□	PM1	□	□	□
Configuration Direction	Speed Type	Encoder Type	Stroke	Stroke	Options		Controller	Cable Length	First Wiring	Second Wiring
1 to 2 Refer to Robot Type Descriptions on page 3	SH: Y Ultra High Speed/Z High Speed	WA: Battery-less Absolute	5: 50mm ↓ (Every 50mm)	5: 50mm * ↓ (Every 25mm)	Refer to Options table below.		Refer to Applicable Controllers table below.	1L : 1m 3L : 3m 5L : 5m □L : □m	Refer to Cable Track table below.	

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

SH type: Y ultra high speed/Z high speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 25mm)
0.1	1
0.3	1
0.5	1

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150
50	○	○	○	○	○
100	○	○	○	○	○
150	○	○	○	○	○
200	○	○	○	○	○
250	○	○	○	○	○
300	○	○	○	○	○
350	○	○	○	○	○
400	○	○	○	○	○
450	○	○	○	○	○
500	○	○	○	○	○
550	○	○	○	○	○
600	○	○	○	○	○
650	○	○	○	○	○
700	○	○	○	○	○
750	○	○	○	○	○
800	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA6C, Z-axis: TA4C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track.
A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item	Y-axis	Z-axis
Axis configuration	RCP6-SA6C	RCP6-TA4C
Stroke	50 ~ 800mm (Every 50mm)	50 ~ 150mm (Every 25mm)
Max speed *	800mm/s	350mm/s
Motor size	42□ Stepper motor	35□ Stepper motor
Ball screw lead	20mm	10mm
Drive system	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability	±0.01mm	
Base material	Aluminum	
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

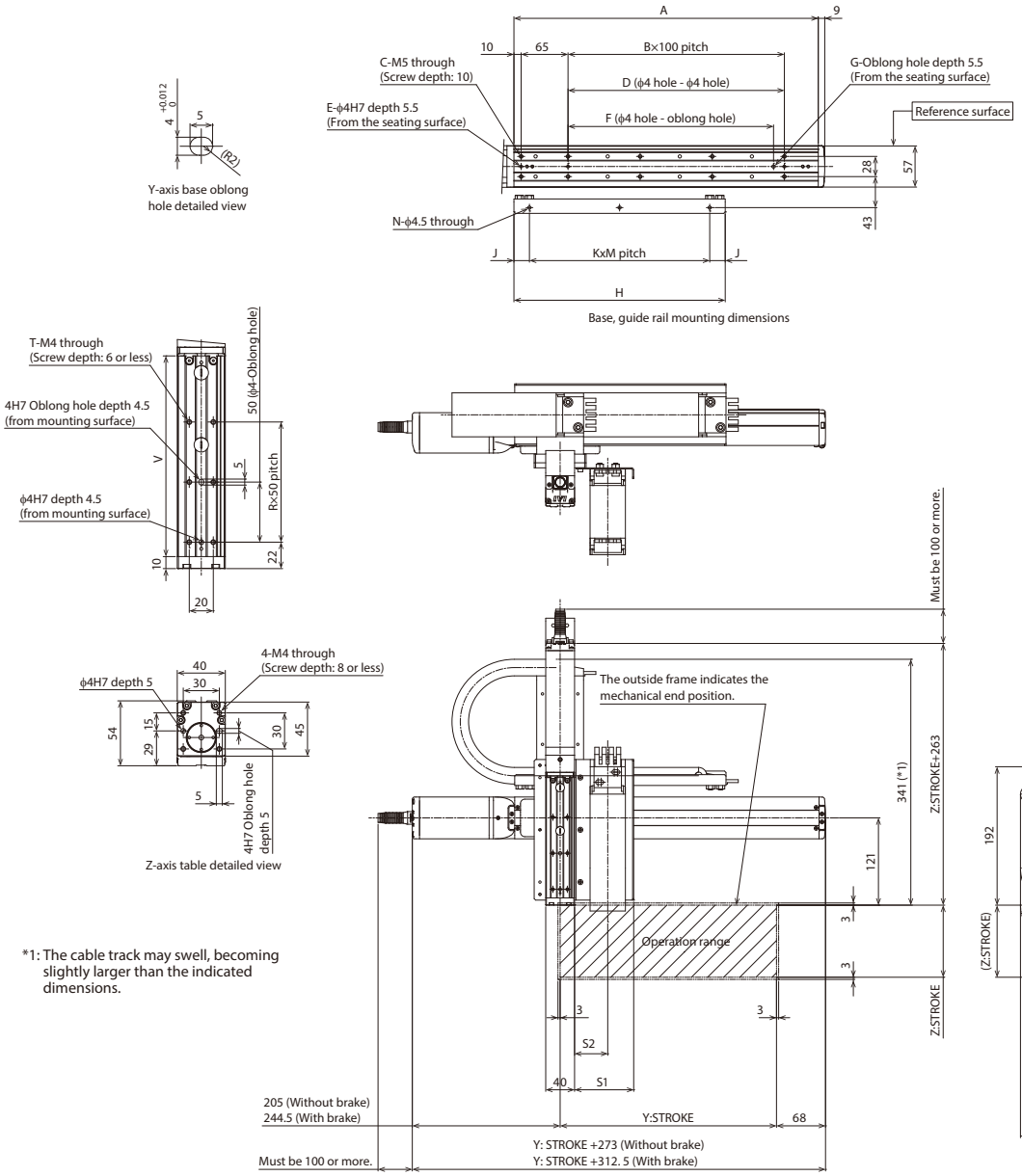
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit.
Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	168	193	218	243	268	293	318	343	368	393	418	443	468	493	518	543
J	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	34	9
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4

Z: Stroke	50	75	100	125	150
R	1	2	2	3	3
T	4	6	6	8	8
V	117	142	167	192	217

Cable track size	CT	CTM	CTL	CTXL
Q	23	35	50	68
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBH1□□S

RCP6 2-axis configurations

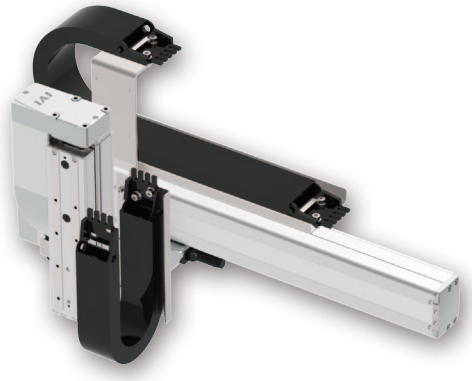
Y-axis: SA7R (side-mounted)
Z-axis: TA6R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)		Controller	Cable		
IK2	P6YBH1□ □S	WA	□	□	□	B □	PM1	□	□	□
Configuration Direction: 1 to 2 Refer to Robot Type Descriptions on page 3	Speed Type: SM: Y Ultra High Speed/Z Medium Speed SH: Y Ultra High Speed/Z High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ~ (Every 50mm)	Stroke: 5: 50mm * ~ (Every 25mm)	Options: Refer to Options table below.		Controller: Refer to Applicable Controllers table below.	Cable Length: 1L : 1m 3L : 3m 5L : 5m □L : □m	First Wiring: Refer to Cable Track table below.	Second Wiring

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SM type: Y ultra high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)
0.1	3
0.3	2.5
0.5	2.5

■ SH type: Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)
0.1	1.5
0.3	1.5
0.5	1.5

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150	175	200
50	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA7R, Z-axis: TA6R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track.
A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA7R	RCP6-TA6R
Stroke		50 ~ 800mm (Every 50mm)	50 ~ 200mm (Every 25mm)
Max speed *	SM	640mm/s	280mm/s
	SH		440mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	SM	24mm	6mm
	SH		12mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

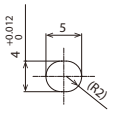
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake	B	See P.134	○	Standard equipment *
Cable exit direction (Outside)	CJO	See P.134	○	Cannot be selected
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

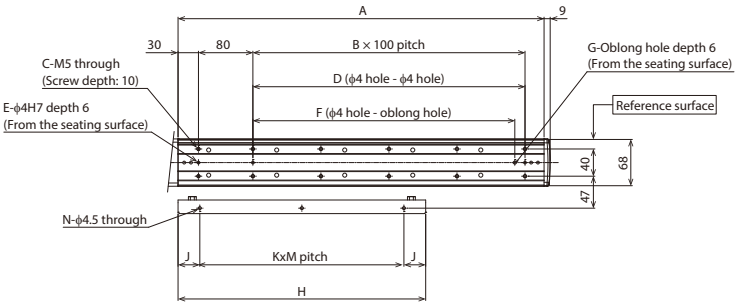
* Be sure to specify.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

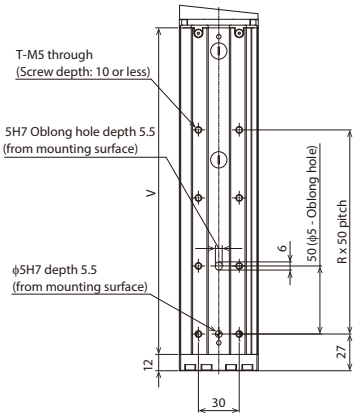
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

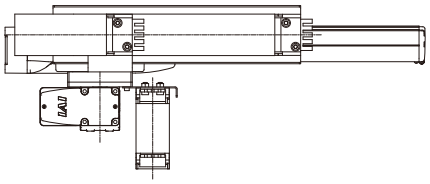


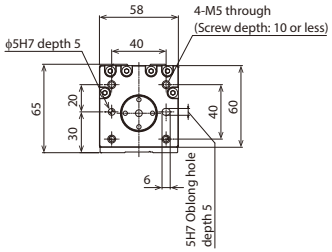
Y-axis base oblong hole detailed view



Base, guide rail mounting dimensions

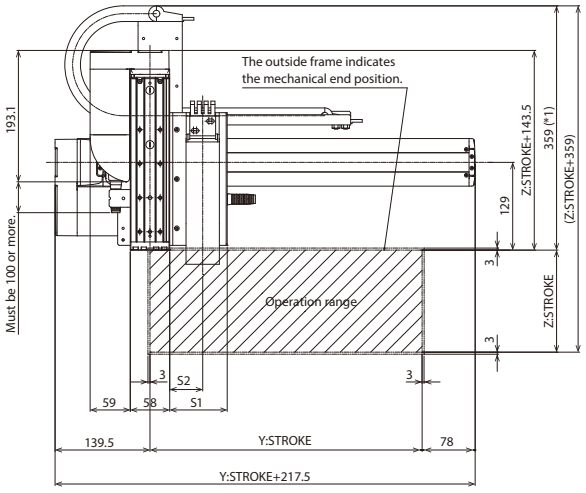


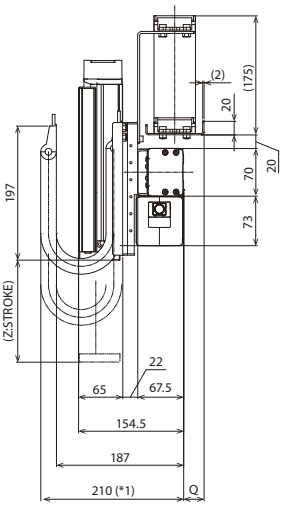




Z-axis table detailed view

*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	189	214	239	264	289	314	339	364	389	414	439	464	489	514	539	564
J	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	44.5	19.5
K	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	250	250	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4

Z: Stroke	50	75	100	125	150	175	200
R	1	2	2	3	3	4	4
T	4	6	6	8	8	10	10
V	140	165	190	215	240	265	290

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	84.5	96.5	109.5	–
S2	48.5	55	61.5	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBH2□□S

RCP6 2-axis configurations

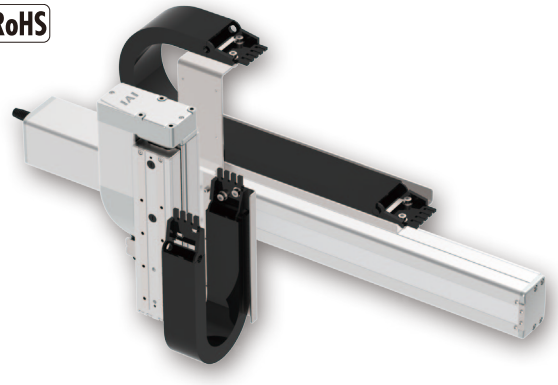
Y-axis: SA7C (straight)
Z-axis: TA6R (side-mounted)

Model Specification Items

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)		Controller	Cable		
IK2	P6YBH2□ □S	WA	□	□	□	B□	PM1	□	□	□
Configuration Direction	Speed Type	Encoder Type	Stroke	Stroke	Options		Controller	Cable Length	First Wiring	Second Wiring
1 to 2 Refer to Robot Type Descriptions on page 3	SM: Y Ultra High Speed/Z Medium Speed SH: Y Ultra High Speed/Z High Speed	WA: Battery-less Absolute	5: 50mm ~ (Every 50mm)	5: 50mm* ~ (Every 25mm)	Refer to Options table below.		Refer to Applicable Controllers table below.	1L : 1m 3L : 3m 5L : 5m □L : □m	Refer to Cable Track table below.	

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SM type: Y ultra high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)
0.1	3
0.3	2.5
0.5	2.5

■ SH type: Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)
0.1	1.5
0.3	1.5
0.5	1.5

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150	175	200
50	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA7C, Z-axis: TA6R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track.
A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-TA6R
Stroke		50 ~ 800mm (Every 50mm)	50 ~ 200mm (Every 25mm)
Max speed *	SM	640mm/s	280mm/s
	SH		440mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	SM	24mm	6mm
	SH		12mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

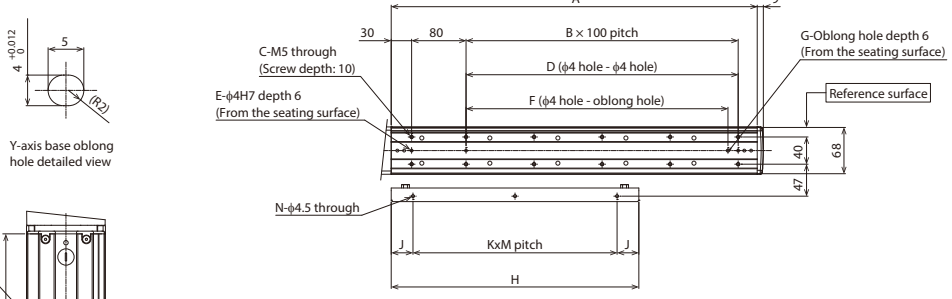
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit.
Please contact IAI for more information.

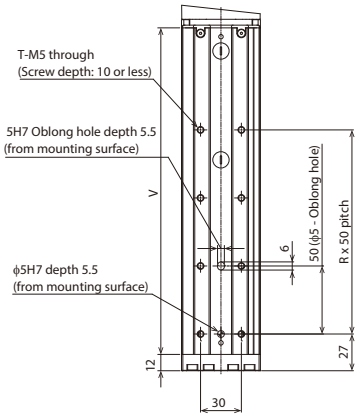
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

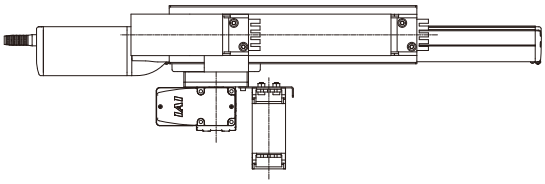
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

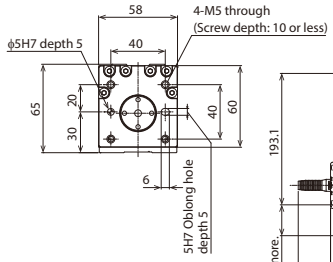


Base, guide rail mounting dimensions

Y-axis base oblong hole detailed view

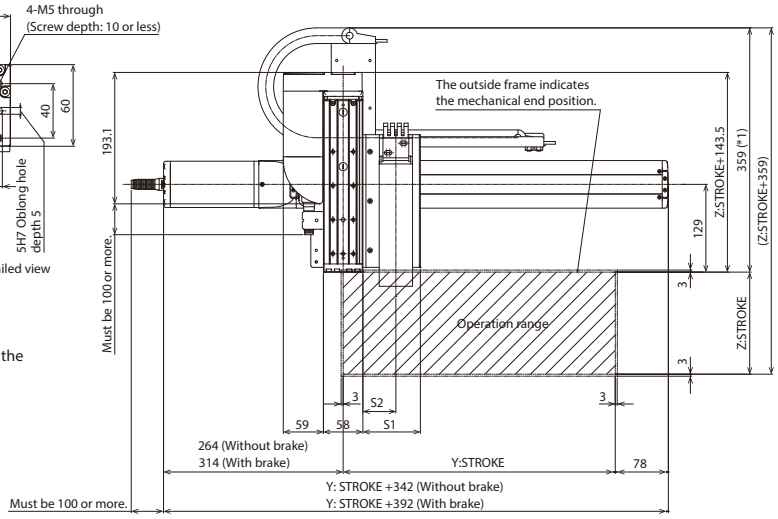


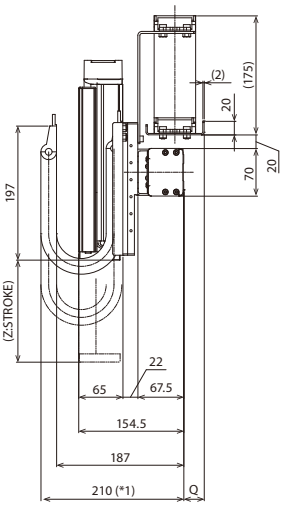




Z-axis table detailed view

*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	189	214	239	264	289	314	339	364	389	414	439	464	489	514	539	564
J	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	44.5	19.5
K	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	250	250	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4

Z: Stroke	50	75	100	125	150	175	200
R	1	2	2	3	3	4	4
T	4	6	6	8	8	10	10
V	140	165	190	215	240	265	290

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	84.5	96.5	109.5	–
S2	48.5	55	61.5	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBH3□□S

RCP6 2-axis configurations

Y-axis: SA7C (straight)
Z-axis: TA6C (straight)

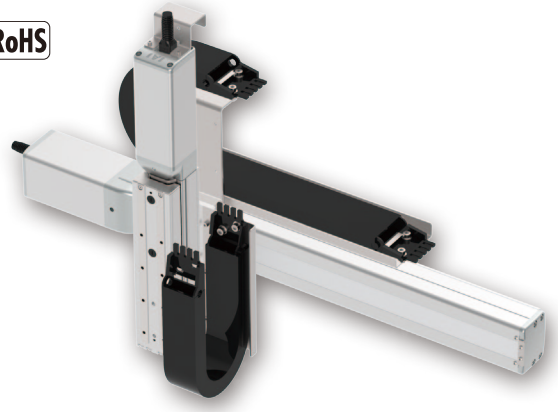
Model Specification Items

IK2 — P6YBH3□ □S — WA — □ □ — □B□ — PM1 — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBH3□ □S	WA	□	□	□B□	PM1	□	□	□
Configuration Direction	Speed Type	Encoder Type	Stroke	Stroke	Options	Controller	Cable Length	First Wiring	Second Wiring
1 to 2 Refer to Robot Type Descriptions on page 3	SM: Y Ultra High Speed/Z Medium Speed SH: Y Ultra High Speed/Z High Speed	WA: Battery-less Absolute	5: 50mm ↓ (Every 50mm)	5: 50mm* ↓ (Every 25mm)	Refer to Options table below.	Refer to Applicable Controllers table below.	1L : 1m 3L : 3m 5L : 5m □L : □m	Refer to Cable Track table below.	

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SM type: Y ultra high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)
0.1	3
0.3	2.5
0.5	2.5

■ SH type: Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)
0.1	1.5
0.3	1.5
0.5	1.5

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150	175	200
50	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ Y-axis: SA7C, Z-axis: TA6C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	☐L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track.
A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-TA6C
Stroke		50 ~ 800mm (Every 50mm)	50 ~ 200mm (Every 25mm)
Max speed *	SM	640mm/s	280mm/s
	SH		440mm/s
Motor size		56☐ Stepper motor	42☐ Stepper motor
Ball screw lead	SM	24mm	6mm
	SH		12mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

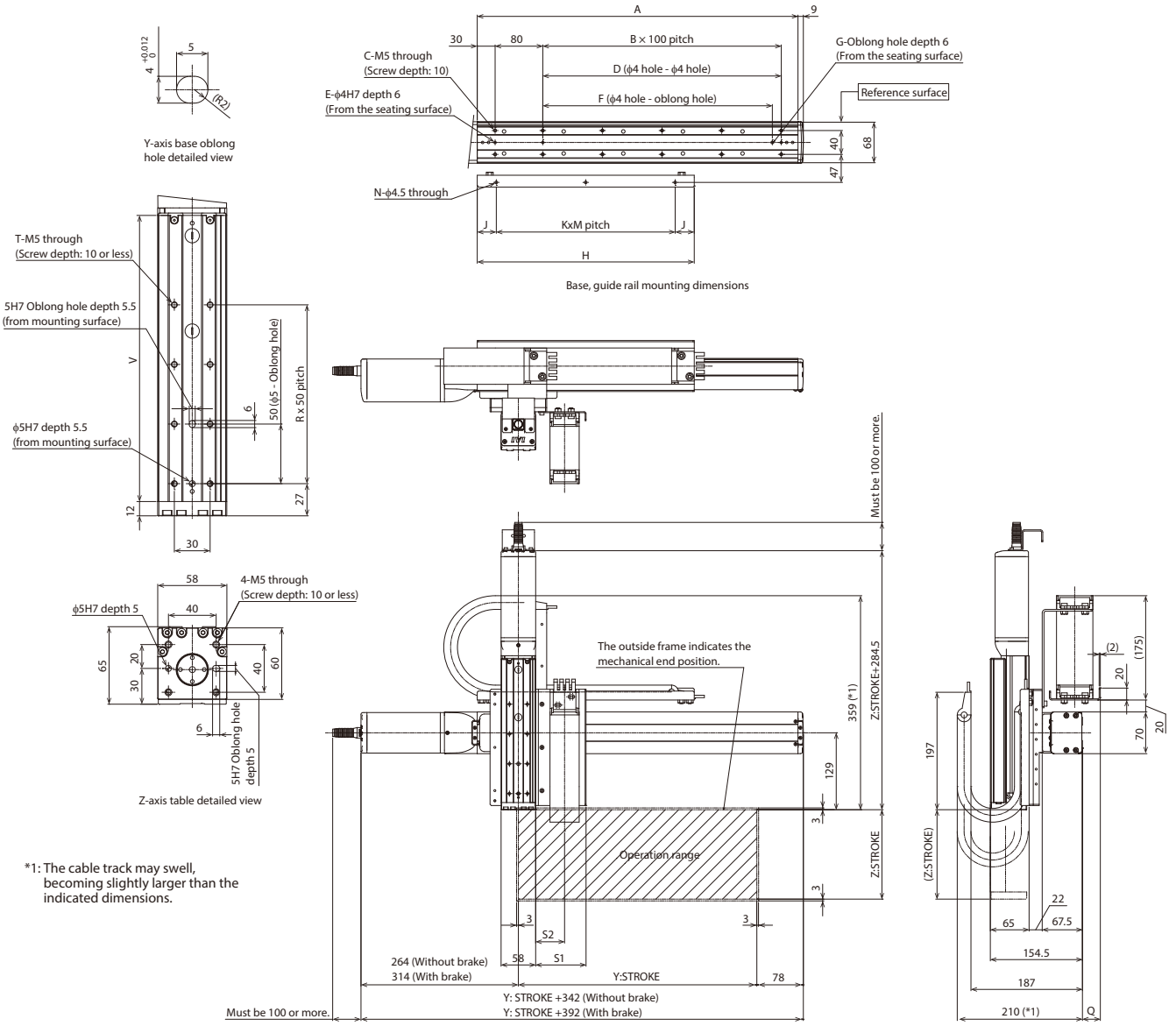
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit.
Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	189	214	239	264	289	314	339	364	389	414	439	464	489	514	539	564
J	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	44.5	19.5
K	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	250	250	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4

Z: Stroke	50	75	100	125	150	175	200
R	1	2	2	3	3	4	4
T	4	6	6	8	8	10	10
V	140	165	190	215	240	265	290

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	84.5	96.5	109.5	–
S2	48.5	55	61.5	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBG1□□S

RCP6 2-axis configurations

Y-axis: SA8R (side-mounted)
Z-axis: TA7R (side-mounted)

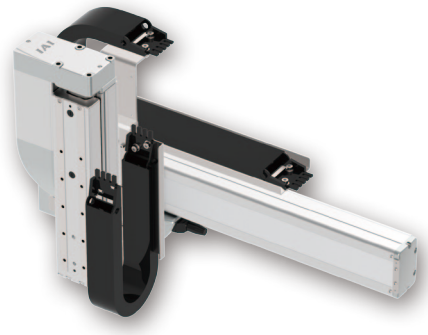
Model Specification Items

Series — Type — Encoder Type — First Axis (Y-axis) — Second Axis (Z-axis) — Controller — Cable

IK2 — **P6YBG1□ □S** — **WA** — **□ □** — **□B□** — **PM1** — **□** — **□** — **□**

- **Configuration Direction**: 1 to 2. Refer to Robot Type Descriptions on page 3
- **Speed Type**: HL: Y High Speed/Z Low Speed; HM: Y High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke** (First Axis): 5: 50mm ~ (Every 50mm)
- **Stroke** (Second Axis): 5: 50mm * ~
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**
- * In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HL type: Y high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	8		
0.3	6		

■ HM type: Y high speed/ Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	4		
0.3	3		
0.5	3		

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	3		
0.3	2.5		

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150	175	200	250	300
50	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA8R

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

□ Z-axis: TA7R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	**N**	See P.136	–	–
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm) *	**CTXL**		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA8R	RCP6-TA7R
Stroke		50 ~ 1100mm (Every 50mm)	50 ~ 200 (Every 25mm), 250, 300mm
Max speed *	HL	400mm/s	140mm/s
	HM		280mm/s
	SH	650mm/s	420mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	HL	20mm	4mm
	HM		8mm
	SH	30mm	16mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

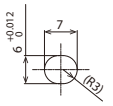
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake	**B**	See P.134	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	○	Cannot be selected
Non-motor end specification	**NM**	See P.135	○	○
Slider section roller specification	**SR**	See P.135	○	Cannot be selected

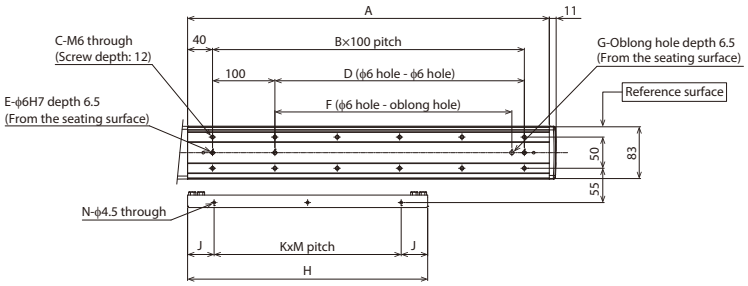
* Be sure to specify.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

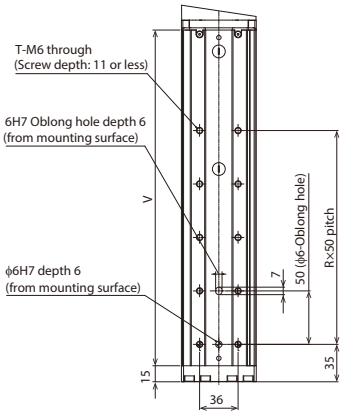
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

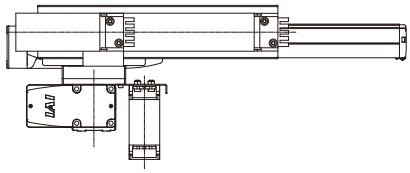


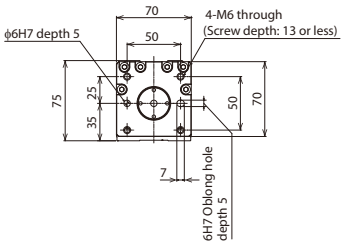
Y-axis base oblong hole detailed view



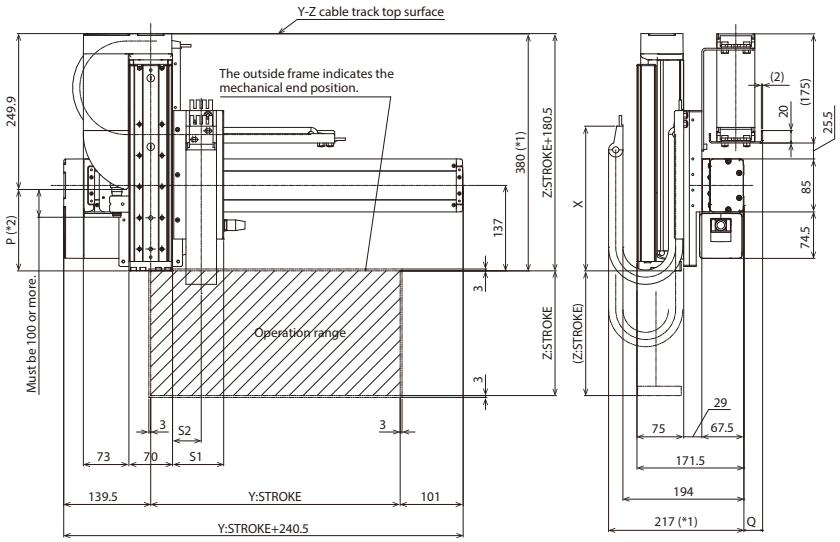
Base, guide rail mounting dimensions







Z-axis table detailed view



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: A negative number for P means that the edge of the motor unit is located frontward past the end face of the table.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735
J	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	55	30	42.5	55	30	42.5	55	17.5
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175	175	175	200	200	200	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5

Z: Stroke	50	75	100	125	150	175	200	250	300
P (*2)	-19.4	5.6	30.6	55.6	80.6	105.6	130.6	180.6	230.6
R	1	2	2	3	3	4	4	5	6
T	4	6	6	8	8	10	10	12	14
V	164	189	214	239	264	289	314	364	414
X	188			232					

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBG2□□S

RCP6 2-axis configurations

Y-axis: SA8C (straight)
Z-axis: TA7R (side-mounted)

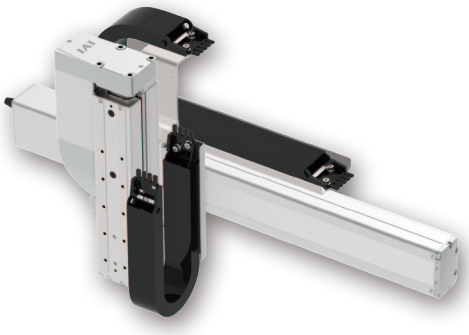
Model Specification Items

Series — Type — Encoder Type — First Axis (Y-axis) — Second Axis (Z-axis) — Controller — Cable

IK2 — P6YBG2□ □S — WA — □ □ — □B□ — PM1 — □ — □ — □

- **Configuration Direction**: 1 to 2. Refer to Robot Type Descriptions on page 3
- **Speed Type**: HL: Y High Speed/Z Low Speed; HM: Y High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Stroke**: 5: 50mm* ~
- **Options**: Refer to Options table below.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**
- * In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HL type: Y high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	8		
0.3	6		

■ HM type: Y high speed/ Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	4		
0.3	3		
0.5	3		

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	3		
0.3	2.5		

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150	175	200	250	300
50	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ Y-axis: SA8C

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

□ Z-axis: TA7R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track.
A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-TA7R
Stroke		50 ~ 1100mm (Every 50mm)	50 ~ 200 (Every 25mm), 250, 300mm
Max speed *	HL	400mm/s	140mm/s
	HM		280mm/s
	SH	650mm/s	420mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	HL	20mm	4mm
	HM		8mm
	SH	30mm	16mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

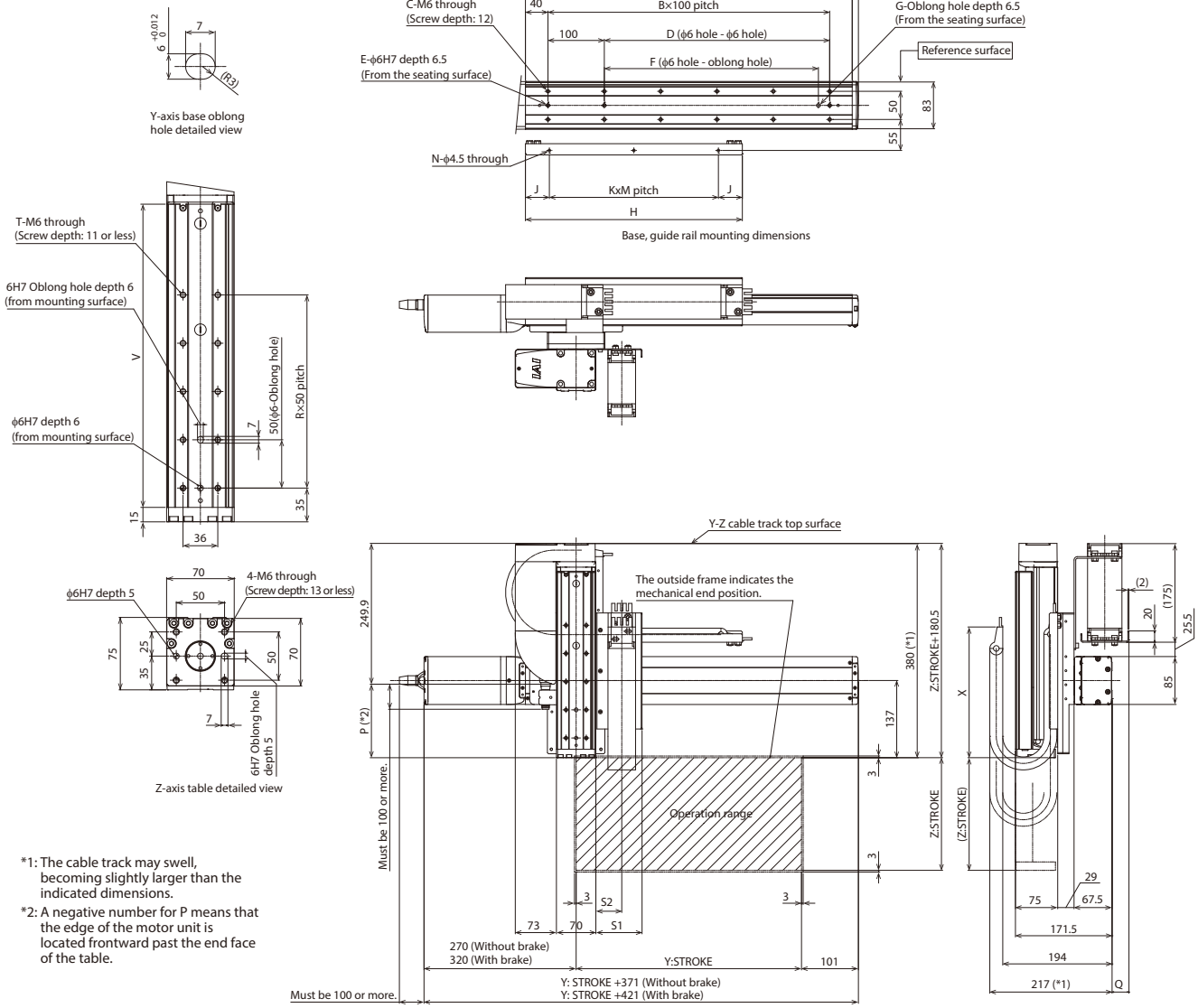
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit.
Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: A negative number for P means that the edge of the motor unit is located frontward past the end face of the table.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735
J	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	55	30	42.5	55	30	42.5	55	17.5
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175	175	175	200	200	200	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5

Z: Stroke	50	75	100	125	150	175	200	250	300
P (*2)	-19.4	5.6	30.6	55.6	80.6	105.6	130.6	180.6	230.6
R	1	2	2	3	3	4	4	5	6
T	4	6	6	8	8	10	10	12	14
V	164	189	214	239	264	289	314	364	414
X	188			232					

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBG3□□S

RCP6 2-axis configurations

Y-axis: SA8C (straight)
Z-axis: TA7C (straight)

Model Specification Items

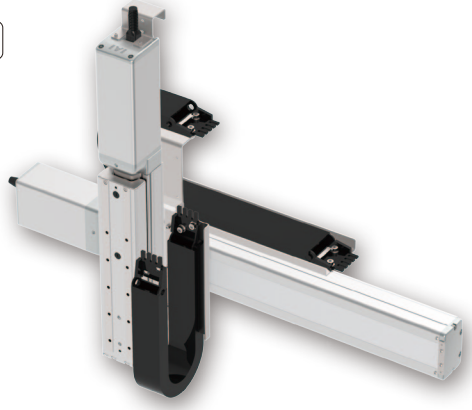
Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBG3□ □S	WA	□	□	□B□	PM1	□	□	□
	Configuration Direction: 1 to 2. Refer to Robot Type Descriptions on page 3		Stroke: 5: 50mm ~ (Every 50mm)	Stroke: 5: 50mm * ~	Options: Refer to Options table below.	Controller: Refer to Applicable Controllers table below.	Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m	First Wiring: Refer to Cable Track table below.	Second Wiring

Speed Type: HL: Y High Speed/Z Low Speed; HM: Y High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed

Encoder Type: WA: Battery-less Absolute

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HL type: Y high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	8		
0.3	6		

■ HM type: Y high speed/ Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	4		
0.3	3		
0.5	3		

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	3		
0.3	2.5		

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150	175	200	250	300
50	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ Y-axis: SA8C

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ Z-axis: TA7C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	☐L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track.
A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	**N**	See P.136	–	–
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm) *	**CTXL**		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-TA7C
Stroke		50 ~ 1100mm (Every 50mm)	50 ~ 200 (Every 25mm), 250, 300mm
Max speed *	HL	400mm/s	140mm/s
	HM		280mm/s
	SH	650mm/s	420mm/s
Motor size		56☐ High thrust stepper motor	56☐ Stepper motor
Ball screw lead	HL	20mm	4mm
	HM		8mm
	SH	30mm	16mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

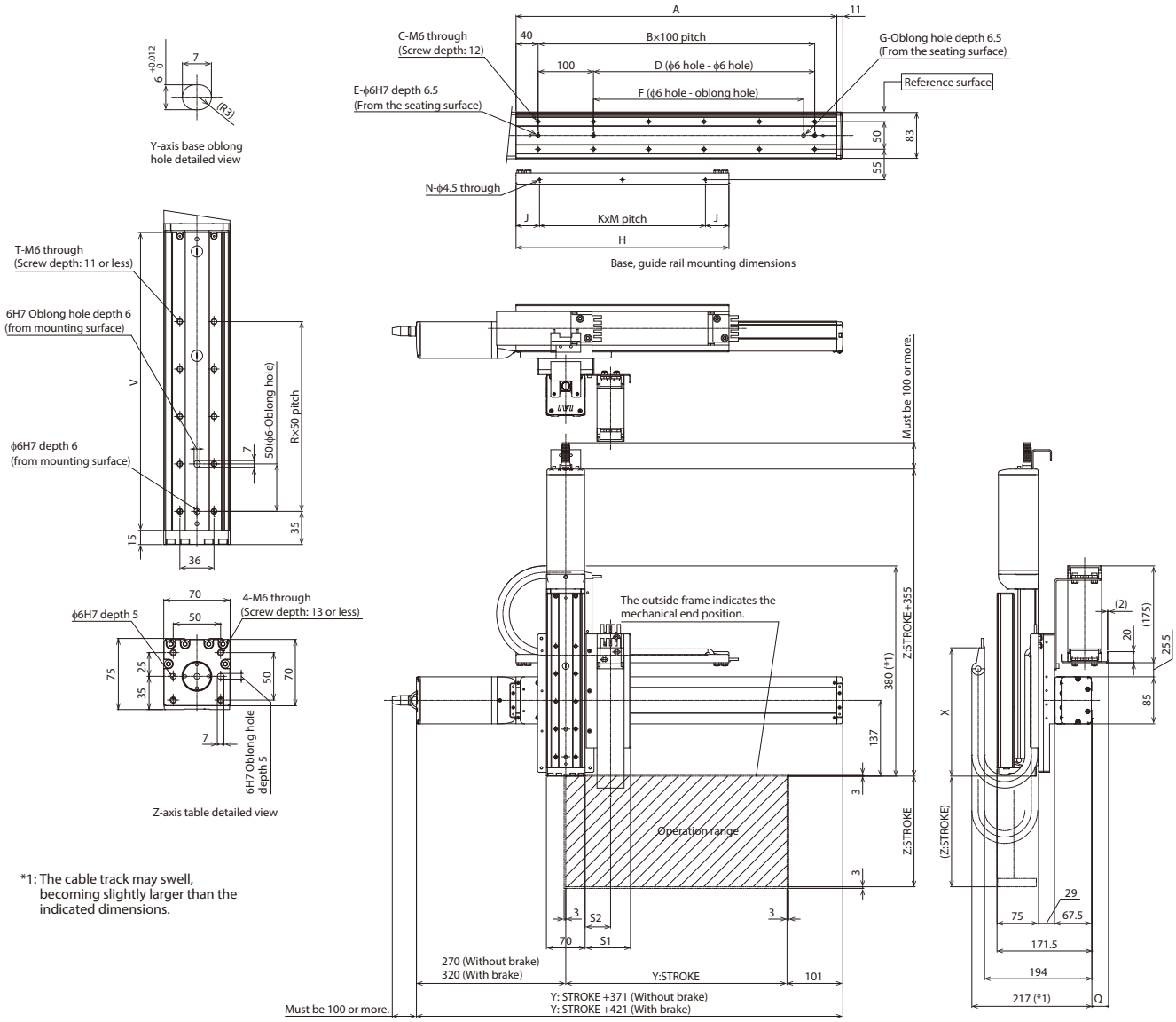
Options

Type	Option code	Reference page	Y-axis	Z-axis
Brake *	**B**	See P.134	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected
Cable exit direction (Right)	**CJR**	See P.134	○	
Cable exit direction (Left)	**CJL**	See P.134	○	
Cable exit direction (Bottom)	**CJB**	See P.134	○	
Non-motor end specification	**NM**	See P.135	○	○
Slider section roller specification	**SR**	See P.135	○	Cannot be selected

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit.
Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735
J	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	55	30	42.5	55	30	42.5	55	17.5
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175	175	175	200	200	200	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5

Z: Stroke	50	75	100	125	150	175	200	250	300
R	1	2	2	3	3	4	4	5	6
T	4	6	6	8	8	10	10	12	14
V	164	189	214	239	264	289	314	364	414
X	188			232					

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK3-P6BBC1□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA7R (side-mounted)
Y-axis: SA6R (side-mounted) Z-axis: SA4R (side-mounted)

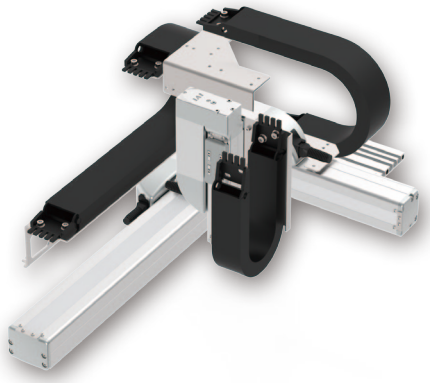
■ Model Specification Items

Series — Type — Encoder Type — First Axis (X-axis) — Second Axis (Y-axis) — Third Axis (Z-axis) — Controller — Cable

IK3 — P6BBC1□ □S — WA — □ □ — □ □ — □BCJO□ — PM1 — □ — □ — □ — □

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: HHL: X High Speed/Y High Speed/Z Low Speed; HHM: X High Speed/Y High Speed/Z Medium Speed; HHH: X High Speed/Y High Speed/Z High Speed; HHS: X High Speed/Y High Speed/Z Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table on the next page.
- Controller: Refer to Applicable Controllers table on the next page.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring
- Second Wiring: Refer to Cable Track table below.
- Third Wiring

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HHL type: X high speed/Y high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	3	–
0.3	3	–

■ HHM type: X high speed/Y high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	2	
0.3	2	1

■ HHH type: X high speed/Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HHS type: X high speed/Y high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50			100			150			200		
Z-axis stroke (mm)		50	100	150	50	100	150	50	100	150	50	100	150
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		250 *			300 *			350 *			400 *		
Z-axis stroke (mm)		50	100	150	50	100	150	50	100	150	50	100	150
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

* When the speed type "HHL" is selected, the maximum Y-axis stroke will be 200mm. (250mm or more cannot be selected.)

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	☐L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ X-axis: SA7R, Y-axis: SA6R, Z-axis: SA4R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA7R	RCP6-SA6R	RCP6-SA4R
Stroke (Every 50mm)		50~800mm	50~400mm *1	50~150mm
Max. speed *2	HHL	420mm/s	560mm/s	150mm/s
	HHM			305mm/s
	HHH			525mm/s
	HHS			560mm/s
Motor size		56☐ Stepper motor	42☐ Stepper motor	35☐ Stepper motor
Ball screw lead	HHL	16mm	12mm	2.5mm
	HHM			5mm
	HHH			10mm
	HHS			16mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

*1 When the speed type "HHL" is selected, the maximum Y-axis stroke will be 200 mm.
*2 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

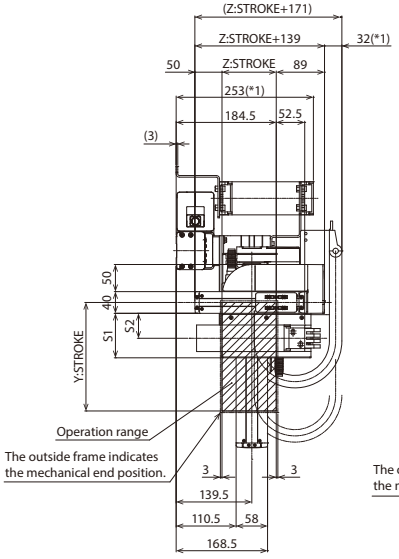
Options

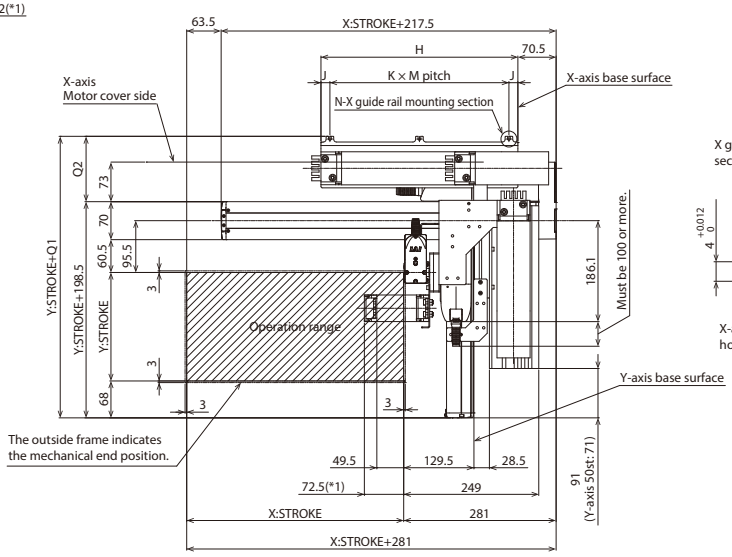
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

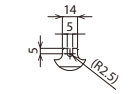
* Be sure to specify.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

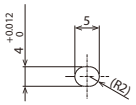
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.





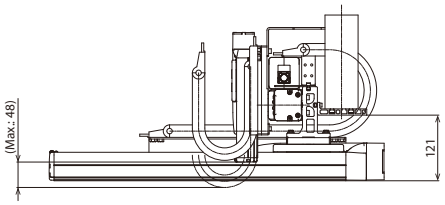


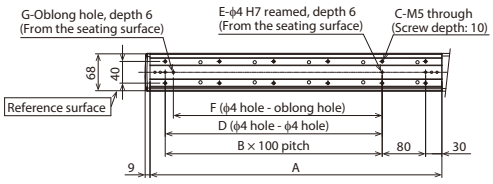
X guide rail mounting section detailed view



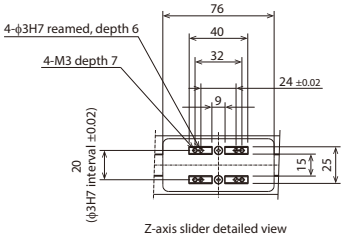
X-axis base oblong hole detailed view

*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Z-axis slider detailed view

(*) Notes **The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.**

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	306	319	332	349
Q2	107.5	120.5	133.5	150.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBC2□□S

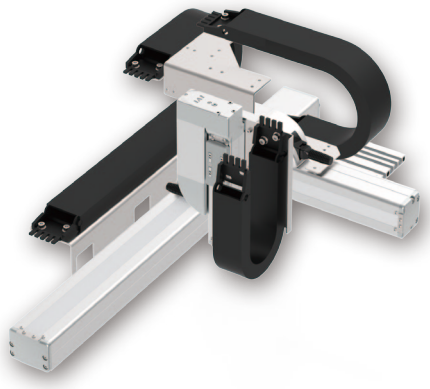
RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA7C (straight)
Y-axis: SA6R (side-mounted) Z-axis: SA4R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBC2□ □S	WA	□ □	□ □	□BCJO□	PM1	□	□	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: HHL: X High Speed/Y High Speed/Z Low Speed; HHM: X High Speed/Y High Speed/Z Medium Speed; HHH: X High Speed/Y High Speed/Z High Speed; HHS: X High Speed/Y High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table (1) on the next page.
- **Controller**: Refer to Applicable Controllers table on the next page.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**
- **Second Wiring**
- **Third Wiring**
- Refer to Cable Track table below.
- **Options**: Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HHL type: X high speed/Y high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	3	–
0.3	3	–

■ HHM type: X high speed/Y high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	2	
0.3	2	1

■ HHH type: X high speed/Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HHS type: X high speed/Y high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50			100			150			200		
Z-axis stroke (mm)		50	100	150	50	100	150	50	100	150	50	100	150
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		250 *			300 *			350 *			400 *		
Z-axis stroke (mm)		50	100	150	50	100	150	50	100	150	50	100	150
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

* When the speed type "HHL" is selected, the maximum Y-axis stroke will be 200mm. (250mm or more cannot be selected.)

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	☐L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ X-axis: SA7C, Y-axis: SA6R, Z-axis: SA4R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-SA6R	RCP6-SA4R
Stroke (Every 50mm)		50~800mm	50~400mm *1	50~150mm
Max. speed *2	HHL	420mm/s	560mm/s	150mm/s
	HHM			305mm/s
	HHH			525mm/s
	HHS			560mm/s
Motor size		56☐ Stepper motor	42☐ Stepper motor	35☐ Stepper motor
Ball screw lead	HHL	16mm	12mm	2.5mm
	HHM			5mm
	HHH			10mm
	HHS			16mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

*1 When the speed type "HHL" is selected, the maximum Y-axis stroke will be 200 mm.
*2 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

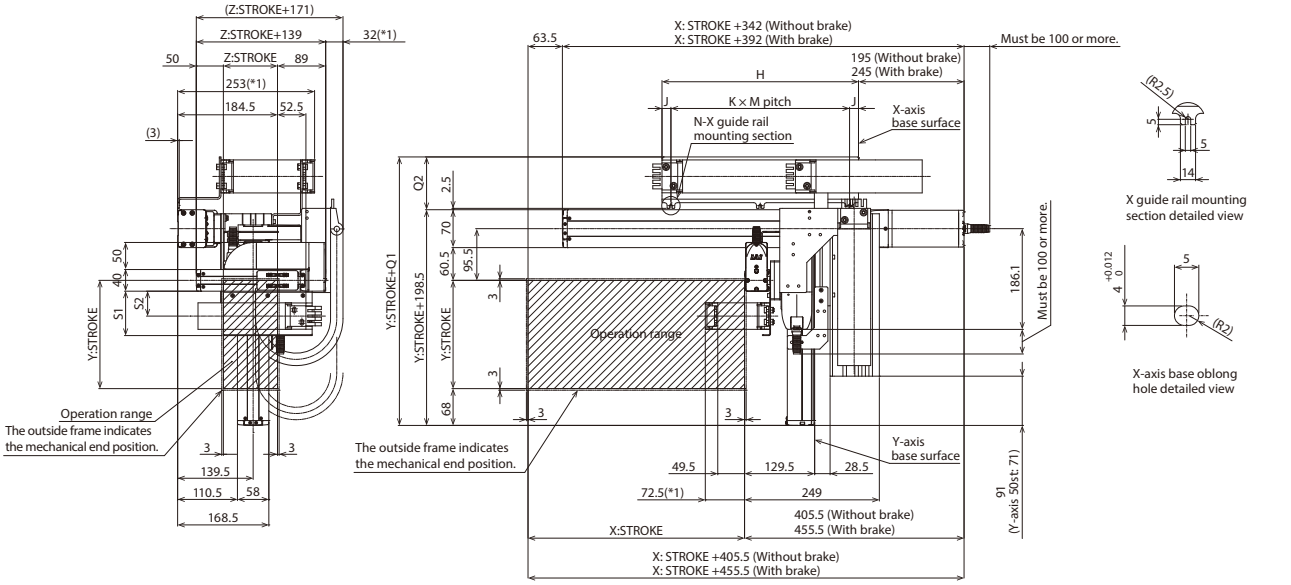
* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Options (2)

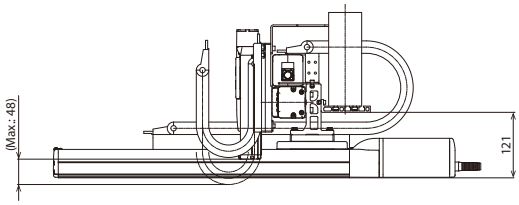
Type	Option code	Reference page
Foot plate	**FTP**	See P.134

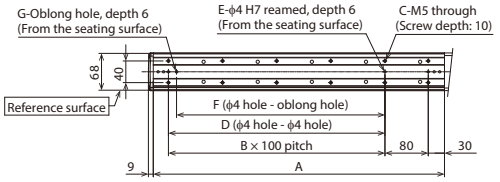
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

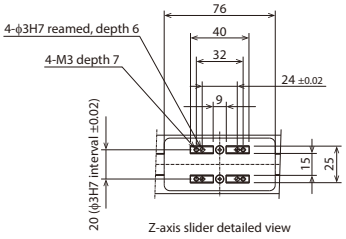


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Z-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	283	296	309	326
Q2	84.5	97.5	110.5	127.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBC3□□S

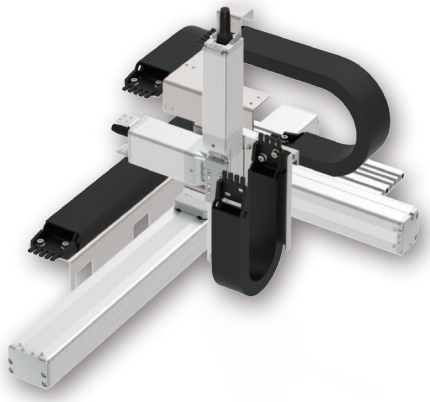
RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA7C (straight)
Y-axis: SA6C (straight) Z-axis: SA4C (straight)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBC3□ □S	WA	□ □	□ □	□B□	PM1	□	□	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: HHL: X High Speed/Y High Speed/Z Low Speed; HHM: X High Speed/Y High Speed/Z Medium Speed; HHH: X High Speed/Y High Speed/Z High Speed; HHS: X High Speed/Y High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table (1) on the next page.
- **Controller**: Refer to Applicable Controllers table on the next page.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**, **Second Wiring**, **Third Wiring**: Refer to Cable Track table below.
- **Options**: Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HHL type: X high speed/Y high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	3	–
0.3	3	–

■ HHM type: X high speed/Y high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	2	
0.3	2	1

■ HHH type: X high speed/Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HHS type: X high speed/Y high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50			100			150			200		
Z-axis stroke (mm)	X-axis stroke (mm)	50	100	150	50	100	150	50	100	150	50	100	150
	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		250 *			300 *			350 *			400 *		
Z-axis stroke (mm)	X-axis stroke (mm)	50	100	150	50	100	150	50	100	150	50	100	150
	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

* When the speed type "HHL" is selected, the maximum Y-axis stroke will be 200mm. (250mm or more cannot be selected.)

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track Price List

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: SA7C, Y-axis: SA6C, Z-axis: SA4C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-SA6C	RCP6-SA4C
Stroke (Every 50mm)		50~800mm	50~400mm *1	50~150mm
Max. speed *2	HHL	420mm/s	560mm/s	150mm/s
	HHM			305mm/s
	HHH			525mm/s
	HHS			560mm/s
Motor size		56□ Stepper motor	42□ Stepper motor	35□ Stepper motor
Ball screw lead	HHL	16mm	12mm	2.5mm
	HHM			5mm
	HHH			10mm
	HHS			16mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

*1 When the speed type "HHL" is selected, the maximum Y-axis stroke will be 200 mm.
*2 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

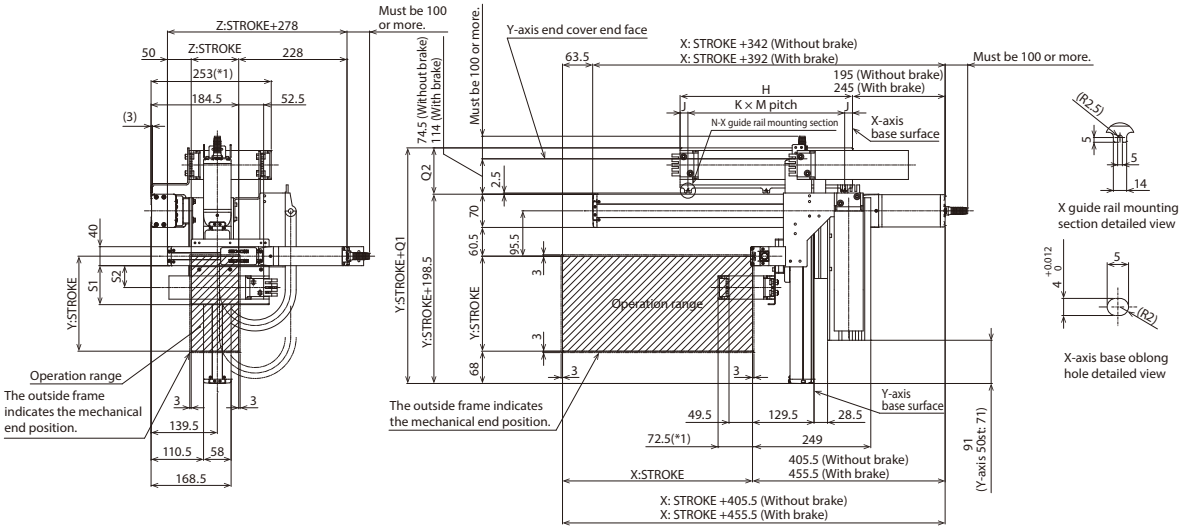
* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Options (2)

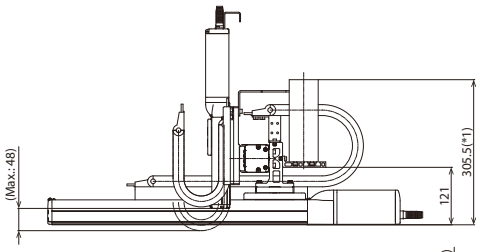
Type	Option code	Reference page
Foot plate	**FTP**	See P.134

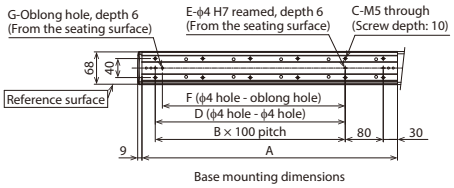
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

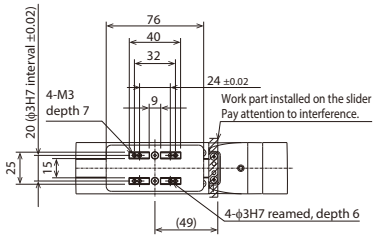


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Z-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	283	296	309	326
Q2	84.5	97.5	110.5	127.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBB1□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA8R (side-mounted)
Y-axis: SA7R (side-mounted) Z-axis: SA6R (side-mounted)

Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable			
IK3	P6BBB1□ □S	WA	□□	□□	□BCJO□	PM1	□	□	□	□

Configuration Direction
1 to 4
Refer to Robot Type Descriptions on page 3

Speed Type
HSL: X High Speed/Y Ultra High Speed/Z Low Speed
HSM: X High Speed/Y Ultra High Speed/Z Medium Speed
HSH: X High Speed/Y Ultra High Speed/Z High Speed
HSS: X High Speed/Y Ultra High Speed/Z Ultra High Speed

Encoder Type
WA: Battery-less Absolute

Stroke
5: 50mm
:
(Every 50mm)

Options
Refer to Options table on the next page.

Controller
Refer to Applicable Controllers table on the next page.

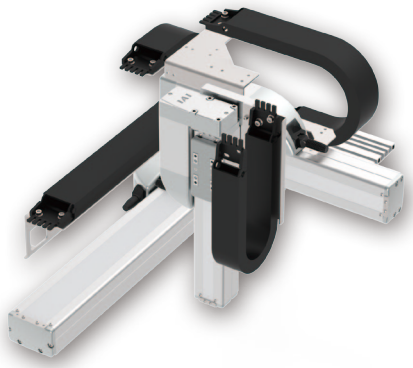
Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

First Wiring

Second Wiring

Third Wiring

Refer to Cable Track table below.



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~250 (Every 50mm)	300~400 (Every 50mm)
0.1	4	–
0.3	4	–
0.5	4	–

■ HSM type: X high speed/Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~250 (Every 50mm)	300~400 (Every 50mm)
0.1	2	
0.3	2	1
0.5	2	1

■ HSH type: X high speed/Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300 *			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

* When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm. (300mm or more cannot be selected.)

Y-axis stroke (mm)		350 *				400 *			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○

* When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm. (300mm or more cannot be selected.)

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	☐L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected
*2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

☐ X-axis: SA8R

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ Y-axis: SA7R, Z-axis: SA6R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA8R	RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~1100mm	50~400mm *1	50~200mm
Max. speed *2	HSL	300mm/s	640mm/s	170mm/s
	HSM			340mm/s
	HSH			680mm/s
	HSS			800mm/s
Motor size		56☐ High thrust stepper motor	56☐ Stepper motor	42☐ Stepper motor
Ball screw lead	HSL	20mm	24mm	3mm
	HSM			6mm
	HSH			12mm
	HSS			20mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

*1 When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm.
*2 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Be sure to specify.

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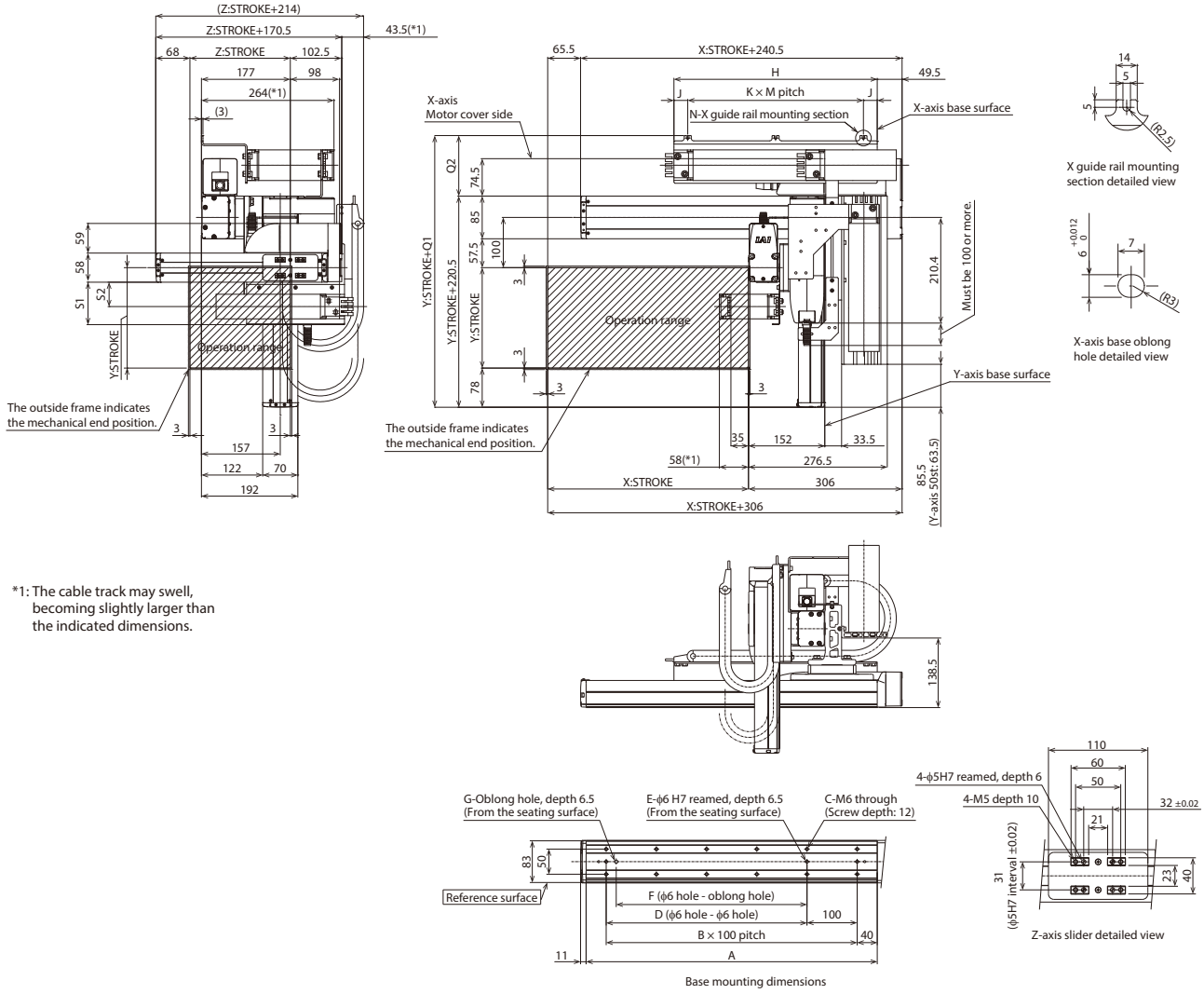
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	328	341	354	371
Q2	107.5	120.5	133.5	150.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBB2□□S

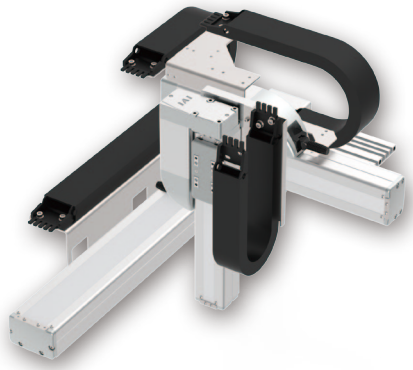
RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA8C (straight)
Y-axis: SA7R (side-mounted) Z-axis: SA6R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBB2□ □S	WA	□ □	□ □	□BCJO□	PM1	□	□	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: HSL: X High Speed/Y Ultra High Speed/Z Low Speed; HSM: X High Speed/Y Ultra High Speed/Z Medium Speed; HSH: X High Speed/Y Ultra High Speed/Z High Speed; HSS: X High Speed/Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table (1) on the next page.
- **Controller**: Refer to Applicable Controllers table on the next page.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**
- **Second Wiring**
- **Third Wiring**
- Refer to Cable Track table below.
- **Options**: Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks. Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~250 (Every 50mm)	300~400 (Every 50mm)
0.1	4	–
0.3	4	–
0.5	4	–

■ HSM type: X high speed/Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~250 (Every 50mm)	300~400 (Every 50mm)
0.1	2	
0.3	2	1
0.5	2	1

■ HSH type: X high speed/Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)	X-axis stroke (mm)	50	100	150	200	50	100	150	200	50	100	150	200
	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300 *			
Z-axis stroke (mm)	X-axis stroke (mm)	50	100	150	200	50	100	150	200	50	100	150	200
	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

* When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm. (300mm or more cannot be selected.)

Y-axis stroke (mm)		350 *				400 *			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○

* When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm. (300mm or more cannot be selected.)

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

□ X-axis: SA8C

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

□ Y-axis: SA7R, Z-axis: SA6R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~1100mm	50~400mm *1	50~200mm
Max. speed *2	HSL	300mm/s	640mm/s	170mm/s
	HSM			340mm/s
	HSH			680mm/s
	HSS			800mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	20mm	24mm	3mm
	HSM			6mm
	HSH			12mm
	HSS			20mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

*1 When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm.
*2 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	–	–	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	–	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	–		
Cable exit direction (Left)	**CJL**	See P.134	–		
Cable exit direction (Bottom)	**CJB**	See P.134	–		
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	–	–	–
Slider section roller specification	**SR**	See P.135	–	–	–

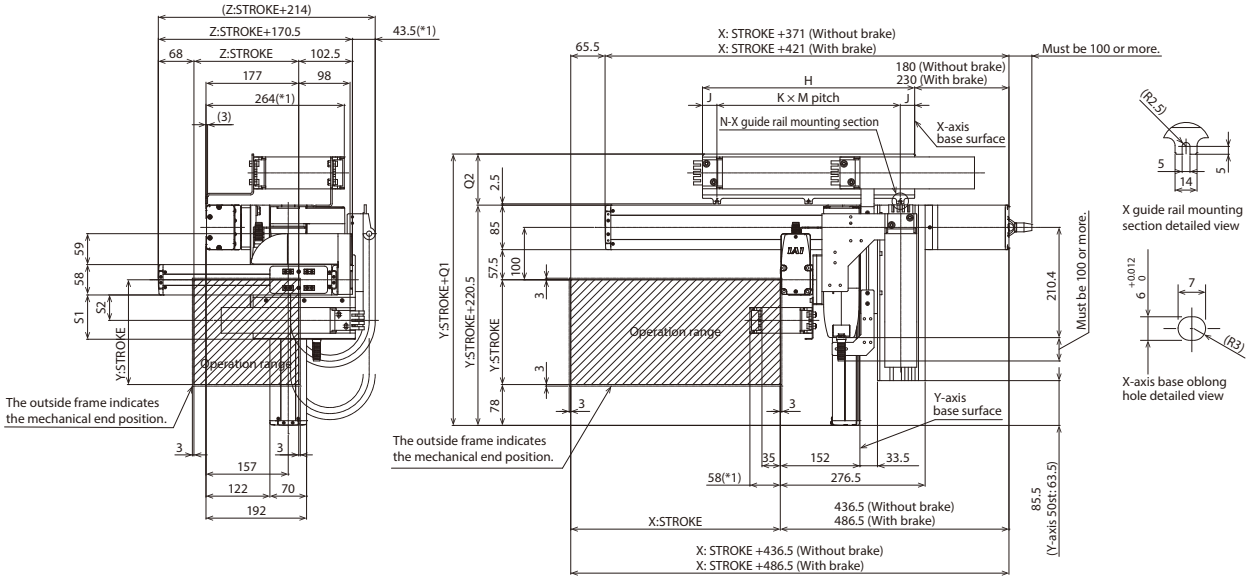
* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Options (2)

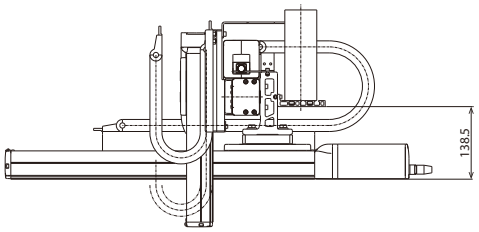
Type	Option code	Reference page
Foot plate	**FTP**	See P.134

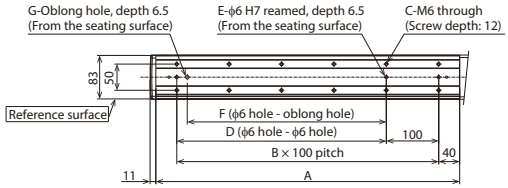
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

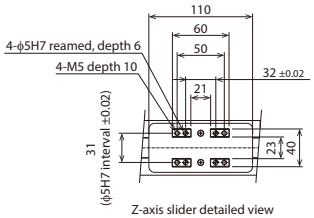


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Z-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	305	318	331	348
Q2	84.5	97.5	110.5	127.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBB3□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA8C (straight)
Y-axis: SA7C (straight) Z-axis: SA6C (straight)

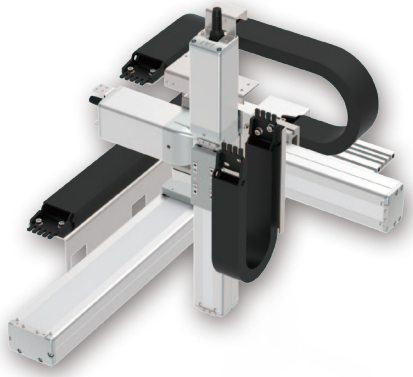
Model Specification Items

Series — Type — Encoder Type — First Axis (X-axis) — Second Axis (Y-axis) — Third Axis (Z-axis) — Controller — Cable — Options

IK3 – P6BBB3□ □S – WA – □□ – □□ – □B□ – PM1 – □ – □ – □ – □ – □

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: HSL: X High Speed/Y Ultra High Speed/Z Low Speed; HSM: X High Speed/Y Ultra High Speed/Z Medium Speed; HSH: X High Speed/Y Ultra High Speed/Z High Speed; HSS: X High Speed/Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm … (Every 50mm)
- **Options**: Refer to Options table (1) on the next page.
- **Controller**: Refer to Applicable Controllers table on the next page.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**, **Second Wiring**, **Third Wiring**: Refer to Cable Track table below.
- **Options**: Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks. Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/Y ultra high speed/Z low speed

Y-axis (mm) / Acceleration/deceleration (G)	50~250 (Every 50mm)	300~400 (Every 50mm)
0.1	4	–
0.3	4	–
0.5	4	–

■ HSM type: X high speed/Y ultra high speed/Z medium speed (Unit: kg)

Y-axis (mm) / Acceleration/deceleration (G)	50~250 (Every 50mm)	300~400 (Every 50mm)
0.1	2	
0.3	2	1
0.5	2	1

■ HSH type: X high speed/Y ultra high speed/Z high speed

Y-axis (mm) / Acceleration/deceleration (G)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

Y-axis (mm) / Acceleration/deceleration (G)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300 *			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

* When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm. (300mm or more cannot be selected.)

Y-axis stroke (mm)		350 *				400 *			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○

* When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm. (300mm or more cannot be selected.)

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	☐L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

☐ X-axis: SA8C

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ Y-axis: SA7C, Z-axis: SA6C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-SA7C	RCP6-SA6C
Stroke (Every 50mm)		50~1100mm	50~400mm *1	50~200mm
Max. speed *2	HSL	300mm/s	640mm/s	170mm/s
	HSM			340mm/s
	HSH			680mm/s
	HSS			800mm/s
Motor size		56☐ High thrust stepper motor	56☐ Stepper motor	42☐ Stepper motor
Ball screw lead	HSL	20mm	24mm	3mm
	HSM			6mm
	HSH			12mm
	HSS			20mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

*1 When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm.
*2 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

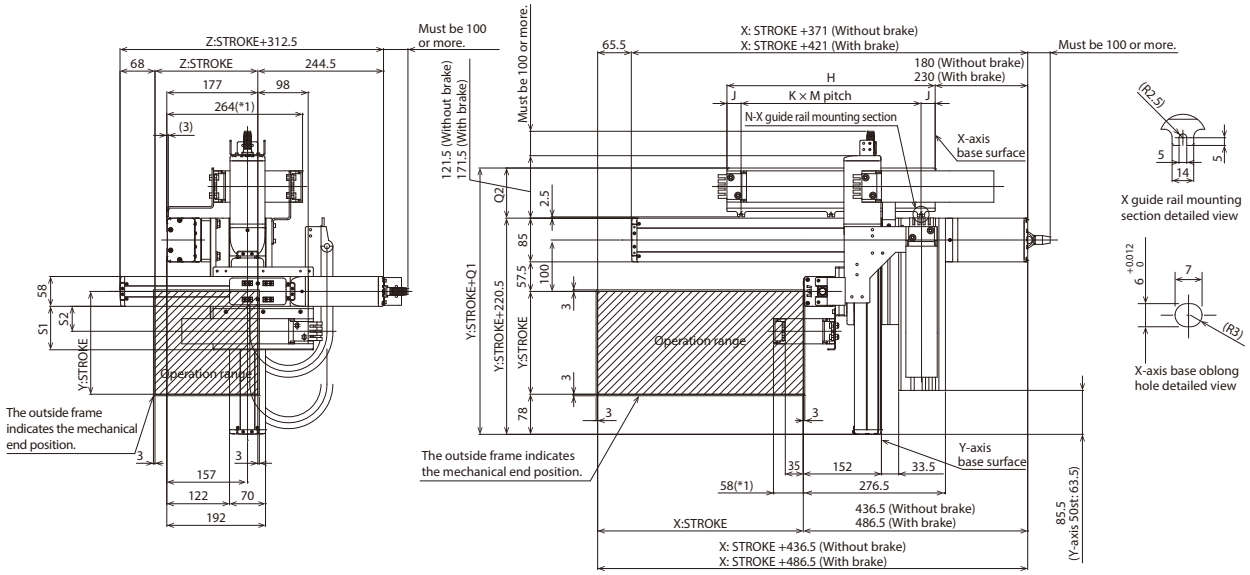
* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Options (2)

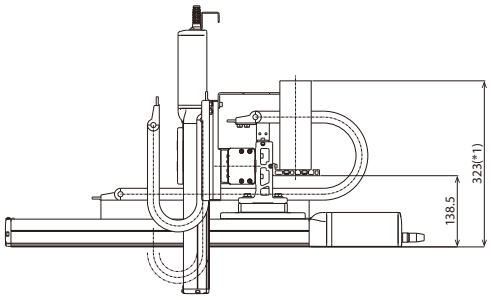
Type	Option code	Reference page
Foot plate	**FTP**	See P.134

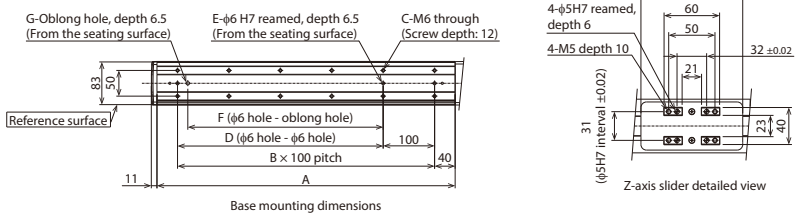
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	305	318	331	348
Q2	84.5	97.5	110.5	127.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBF1□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA14R (side-mounted)
Y-axis: SA7R (side-mounted) Z-axis: SA6R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable			
IK3	P6BBF1□□S	WA	□□	□□	□BCJO□	PM1	□	□	□	□

Configuration Direction
1 to 4
Refer to Robot Type Descriptions on page 3

Speed Type
HSL: X High Speed/Y Ultra High Speed/Z Low Speed
HSM: X High Speed/Y Ultra High Speed/Z Medium Speed
HSH: X High Speed/Y Ultra High Speed/Z High Speed
HSS: X High Speed/Y Ultra High Speed/Z Ultra High Speed

Encoder Type
WA: Battery-less Absolute

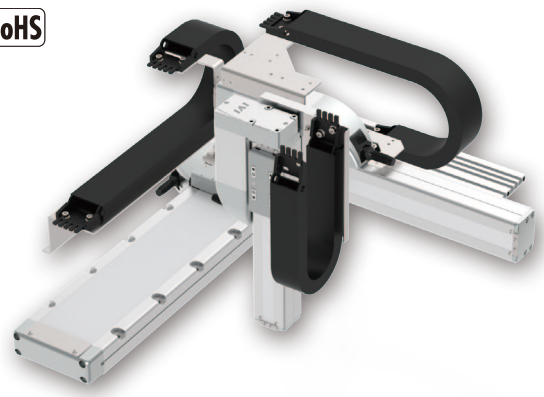
Stroke
5: 50mm
:
(Every 50mm)

Options
Refer to Options table on the next page.

Controller
Refer to Applicable Controllers table on the next page.

Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

First Wiring / Second Wiring / Third Wiring
Refer to Cable Track table on the next page.



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	4

■ HSM type: X high speed/Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	2
0.3	2
0.5	2

■ HSH type: X high speed/Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)	X-axis stroke (mm)	50	100	150	200	50	100	150	200	50	100	150	200
	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)	X-axis stroke (mm)	50	100	150	200	50	100	150	200	50	100	150	200
	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350				400			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: WSA14R, Y-axis: SA7R, Z-axis: SA6R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-WSA14R	RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~800mm	50~400mm	50~200mm
Max. speed *	HSL	280mm/s	640mm/s	170mm/s
	HSM			340mm/s
	HSH			680mm/s
	HSS			800mm/s
Motor size		56□ Stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	16mm	24mm	3mm
	HSM			6mm
	HSH			12mm
	HSS			20mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

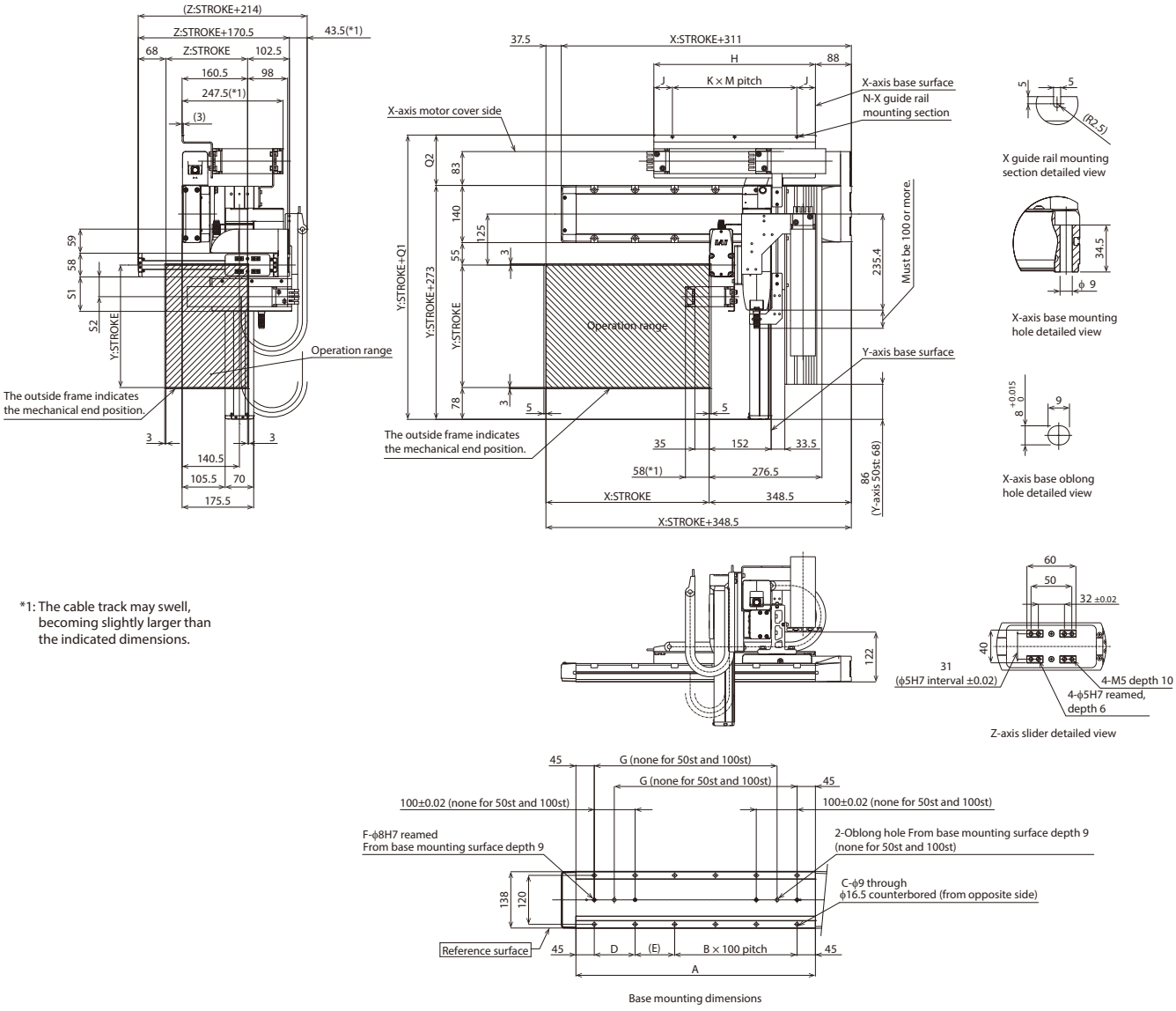
Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Be sure to specify.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596
J	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	43	48	45.5	43	43	45.5	43
K	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4
M	130	155	90	102.5	115	127.5	140	152.5	110	120	125	135	145	115	120	127.5
N	2	2	3	3	3	3	3	3	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	383.5	396.5	409.5	426.5
Q2	110.5	123.5	136.5	153.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBF2□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA14C (straight)
Y-axis: SA7R (side-mounted) Z-axis: SA6R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable			
IK3	P6BBF2□ □S	WA	□ □	□ □	□BCJO□	PM1	□	□	□	□
	Configuration Direction	Speed Type	Encoder Type	Stroke	Options	Controller	Cable Length	First Wiring	Second Wiring	Third Wiring

Configuration Direction
1 to 4
Refer to Robot Type Descriptions on page 3

Speed Type
HSL: X High Speed/Y Ultra High Speed/Z Low Speed
HSM: X High Speed/Y Ultra High Speed/Z Medium Speed
HSH: X High Speed/Y Ultra High Speed/Z High Speed
HSS: X High Speed/Y Ultra High Speed/Z Ultra High Speed

Encoder Type
WA: Battery-less Absolute

Stroke
5: 50mm
:
(Every 50mm)

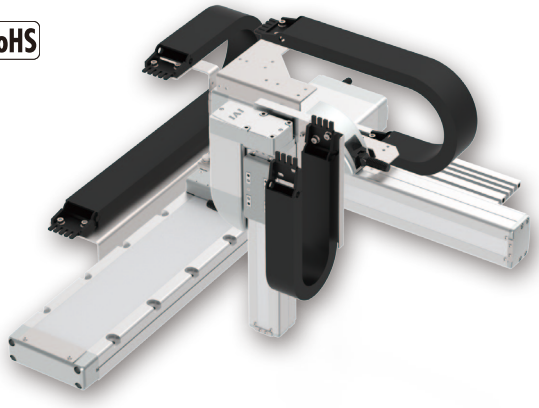
Options
Refer to Options table on the next page.

Controller
Refer to Applicable Controllers table on the next page.

Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

First Wiring / Second Wiring / Third Wiring
Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	4

■ HSM type: X high speed/Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	2
0.3	2
0.5	2

■ HSH type: X high speed/Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350				400			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: WSA14C, Y-axis: SA7R, Z-axis: SA6R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-WSA14C	RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~800mm	50~400mm	50~200mm
Max. speed *	HSL	280mm/s	640mm/s	170mm/s
	HSM			340mm/s
	HSH			680mm/s
	HSS			800mm/s
Motor size		56□ Stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	16mm	24mm	3mm
	HSM			6mm
	HSH			12mm
	HSS			20mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

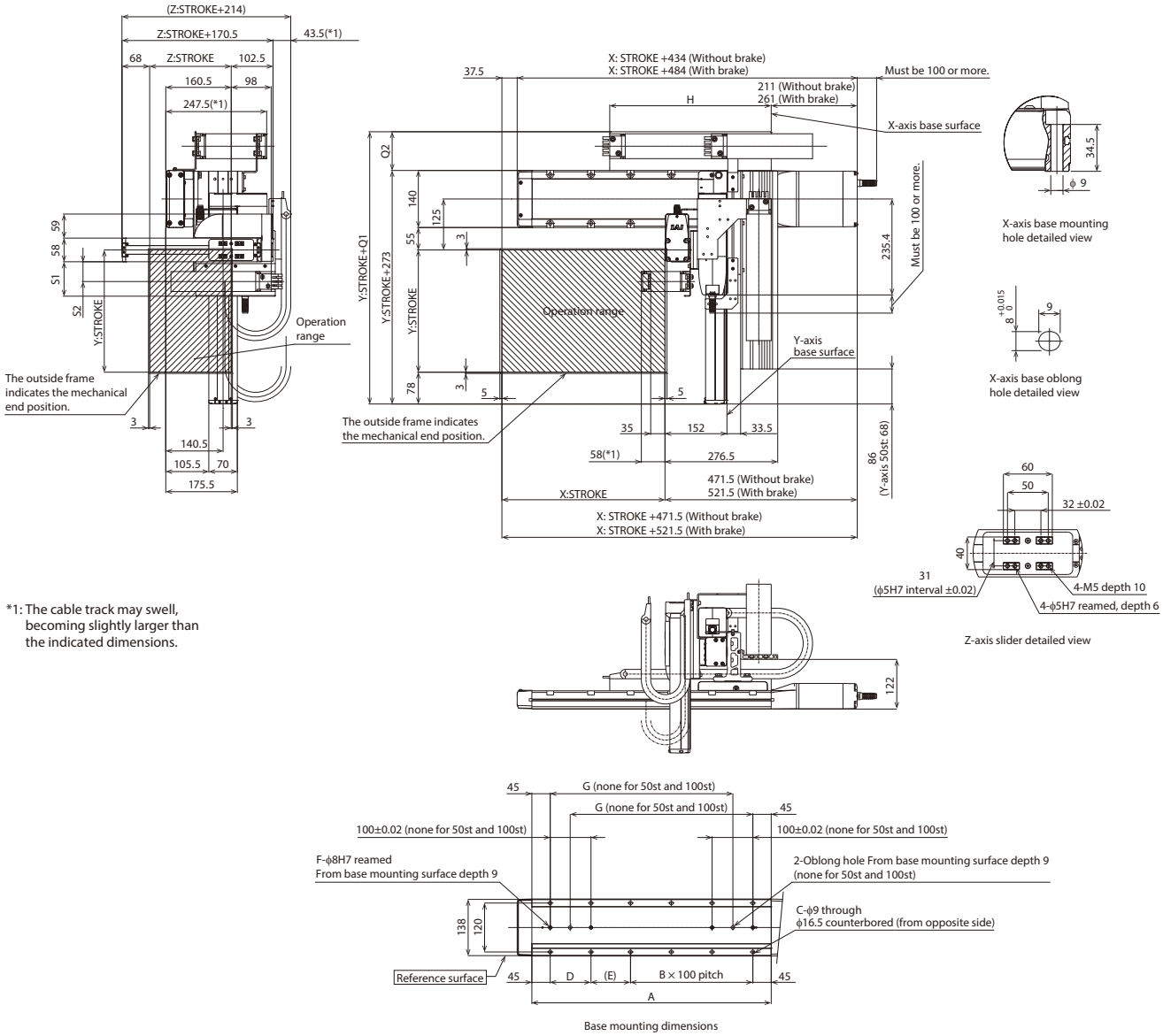
Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit.
Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

The moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Cable track size	CT	CTM	CTL	CTXL
Q1	356	368	383	401
Q2	83	95	110	128
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBF3□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA14C (straight)
Y-axis: SA7C (straight) Z-axis: SA6C (straight)

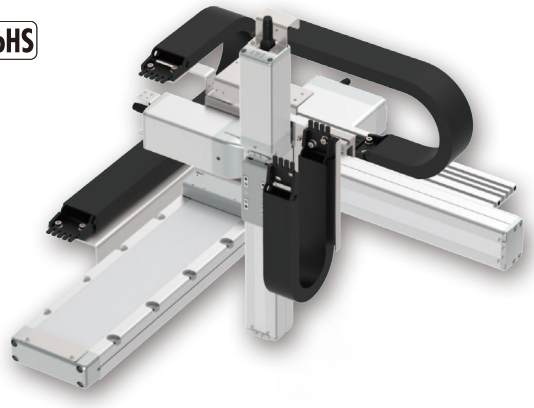
Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable			
IK3	P6BBF3□ □S	WA	□ □	□ □	□B□	PM1	□	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: HSL: X High Speed/Y Ultra High Speed/Z Low Speed; HSM: X High Speed/Y Ultra High Speed/Z Medium Speed; HSH: X High Speed/Y Ultra High Speed/Z High Speed; HSS: X High Speed/Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table on the next page.
- **Controller**: Refer to Applicable Controllers table on the next page.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**
- **Second Wiring**
- **Third Wiring**

Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	4

■ HSM type: X high speed/Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	2
0.3	2
0.5	2

■ HSH type: X high speed/Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350				400			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	☐L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ X-axis: WSA14C, Y-axis: SA7C, Z-axis: SA6C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-WSA14C	RCP6-SA7C	RCP6-SA6C
Stroke (Every 50mm)		50~800mm	50~400mm	50~200mm
Max. speed *	HSL	280mm/s	640mm/s	170mm/s
	HSM			340mm/s
	HSH			680mm/s
	HSS			800mm/s
Motor size		56☐ Stepper motor	56☐ Stepper motor	42☐ Stepper motor
Ball screw lead	HSL	16mm	24mm	3mm
	HSM			6mm
	HSH			12mm
	HSS			20mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

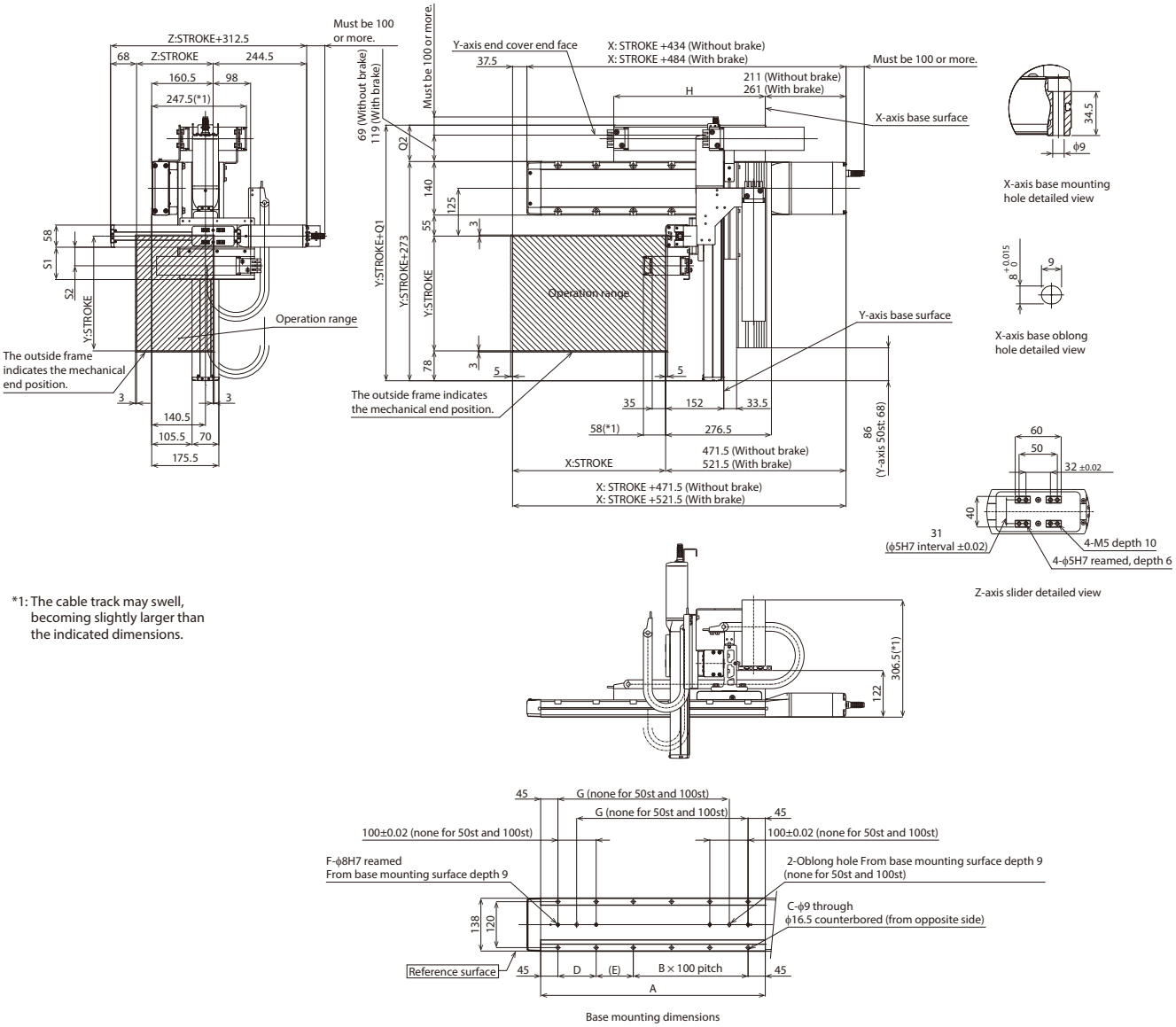
Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s).
Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

The moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Cable track size	CT	CTM	CTL	CTXL
Q1	356	368	383	401
Q2	83	95	110	128
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBE1□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA16R (side-mounted)
Y-axis: SA8R (side-mounted) Z-axis: SA7R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable			
IK3	P6BBE1□ □S	WA	□ □	□ □	□BCJO□	PM1	□	□	□	□

Configuration Direction
1 to 4
Refer to Robot Type Descriptions on page 3

Speed Type
MHL: X Medium Speed/Y High Speed/Z Low Speed
MHM: X Medium Speed/Y High Speed/Z Medium Speed
MHH: X Medium Speed/Y High Speed/Z High Speed
MHS: X Medium Speed/Y High Speed/Z Ultra High Speed

Encoder Type
WA: Battery-less Absolute

Stroke
5: 50mm
:
(Every 50mm)

Options
Refer to Options table on page 100.

Controller
Refer to Applicable Controllers table on the next page.

Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

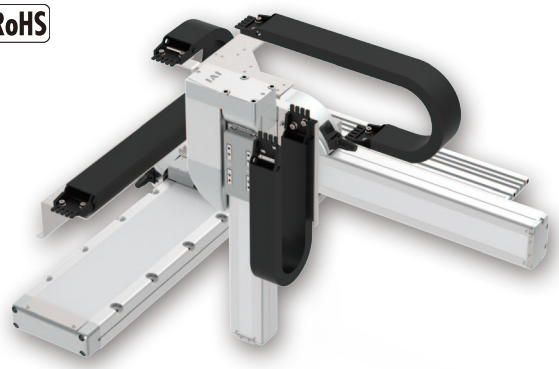
First Wiring

Second Wiring

Third Wiring

Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MHL type: X medium speed/Y high speed/Z low speed

Y-axis (mm) / Acceleration/deceleration (G)	50~500 (Every 50mm)
0.1	6

■ MHM type: X medium speed/Y high speed/Z medium speed (Unit: kg)

Y-axis (mm) / Acceleration/deceleration (G)	50~400 (Every 50mm)	450~500 (Every 50mm)
0.1	4	
0.3	4	–

■ MHH type: X medium speed/Y high speed/Z high speed

Y-axis (mm) / Acceleration/deceleration (G)	50~500 (Every 50mm)
0.1	2
0.3	2

■ MHS type: X medium speed/Y high speed/Z ultra high speed

Y-axis (mm) / Acceleration/deceleration (G)	50~500 (Every 50mm)
0.1	1
0.3	1

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50						100					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		150						200					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Stroke

Y-axis stroke (mm)		250						300					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350						400					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		450						500					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

□ X-axis: WSA16R, Y-axis: SA8R

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

□ Z-axis: SA7R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-WSA16R	RCP6-SA8R	RCP6-SA7R
Stroke (Every 50mm)		50~1100mm	50~500mm	50~300mm
Max. speed *	MHL	210mm/s	400mm/s	105mm/s
	MHM			210mm/s
	MHH			420mm/s
	MHS			640mm/s
Motor size		56□ High thrust stepper motor	56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	MHL	10mm	20mm	4mm
	MHM			8mm
	MHH			16mm
	MHS			24mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	–	–	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	–	–	–
Slider section roller specification	**SR**	See P.135	–	–	–

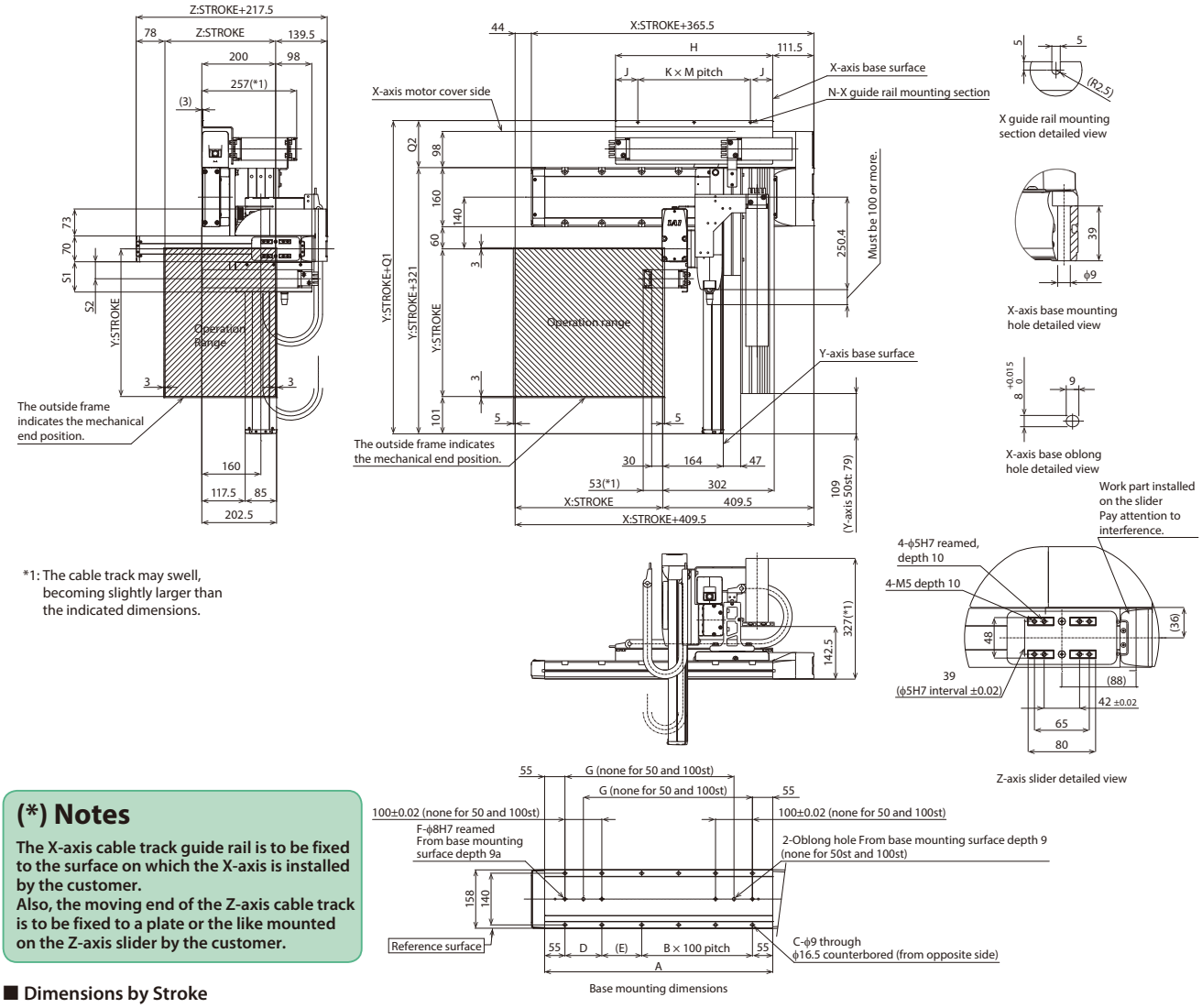
* Be sure to specify.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	158	208	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
H	251	276	301	326	351	376	401	426	451	476	501	526	551	576	601	626	651	676	701	726	751	776
J	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	58	63	60.5	58	58	60.5	58	60.5	58	60.5	63	63	63
K	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4	4	4	4	5	5	5
M	130	155	90	102.5	115	127.5	140	152.5	110	120	125	135	145	115	120	127.5	132.5	140	145	120	125	130
N	2	2	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5	5	6	6	6

Cable track size	CT	CTM	CTL	CTXL
Q1	448.5	448.5	448.5	465.5
Q2	127.5	127.5	127.5	144.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBE2□□S

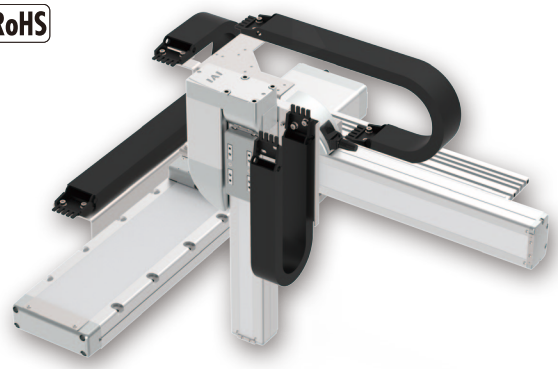
RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA16C (straight)
Y-axis: SA8R (side-mounted) Z-axis: SA7R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable			
IK3	P6BBE2□ □S	WA	□ □	□ □	□BCJO□	PM1	□	□	□	□

- Type: Configuration Direction — 1 to 4. Refer to Robot Type Descriptions on page 3. Speed Type — MHL: X Medium Speed/Y High Speed/Z Low Speed; MHM: X Medium Speed/Y High Speed/Z Medium Speed; MHH: X Medium Speed/Y High Speed/Z High Speed; MHS: X Medium Speed/Y High Speed/Z Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- First Axis (X-axis) / Second Axis (Y-axis): Stroke — 5: 50mm ~ (Every 50mm)
- Third Axis (Z-axis): Options — Refer to Options table on page 103.
- Controller: Refer to Applicable Controllers table on the next page.
- Cable: Cable Length — 1L : 1m, 3L : 3m, 5L : 5m, □L : □m; First Wiring; Second Wiring; Third Wiring. Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MHL type: X medium speed/Y high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	6

■ MHM type: X medium speed/Y high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)	450~500 (Every 50mm)
0.1	4	
0.3	4	–

■ MHH type: X medium speed/Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	2
0.3	2

■ MHS type: X medium speed/Y high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	1
0.3	1

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50						100					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		150						200					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Stroke

Y-axis stroke (mm)	250						300					
Z-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm) 50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)	350						400					
Z-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm) 50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)	450						500					
Z-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm) 50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	–	–	–
Cable track S size (inner width: 38mm)	**CT**		–	–	–
Cable track M size (inner width: 50mm)	**CTM**		–	–	–
Cable track L size (inner width: 63mm)	**CTL**		–	–	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		–	Cannot be selected *2	

*1 Only the first and second wiring can be selected
*2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

□ X-axis: WSA16C, Y-axis: SA8R

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

□ Z-axis: SA7R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-WSA16C	RCP6-SA8R	RCP6-SA7R
Stroke (Every 50mm)		50~1100mm	50~500mm	50~300mm
Max. speed *	MHL	210mm/s	400mm/s	105mm/s
	MHM			210mm/s
	MHH			420mm/s
	MHS			640mm/s
Motor size		56□ High thrust stepper motor	56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	MHL	10mm	20mm	4mm
	MHM			8mm
	MHH			16mm
	MHS			24mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

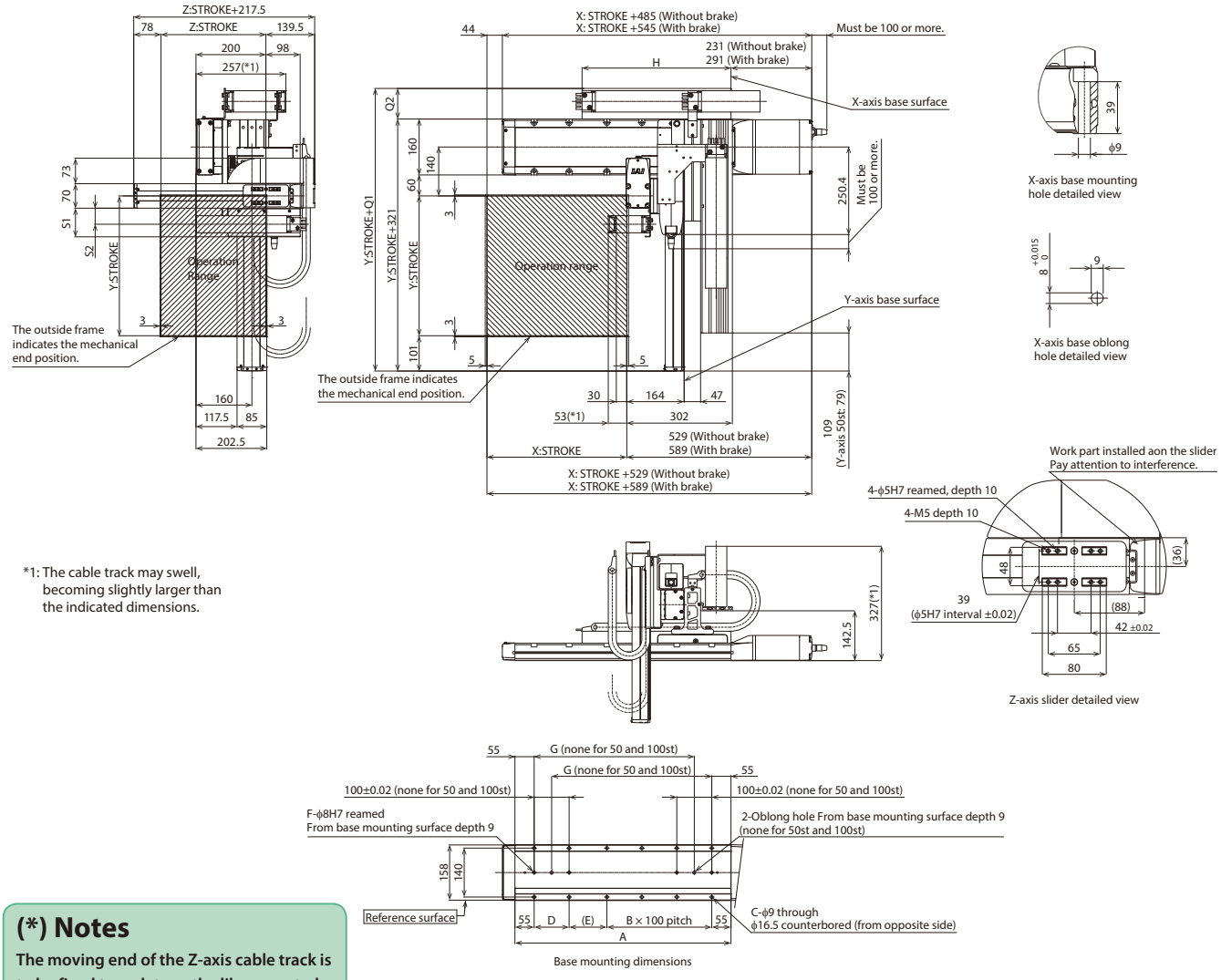
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

The moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	158	208	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
H	251	276	301	326	351	376	401	426	451	476	501	526	551	576	601	626	651	676	701	726	751	776

Cable track size	CT	CTM	CTL	CTXL
Q1	396.5	408.5	423.5	441.5
Q2	75.5	87.5	102.5	120.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBE3□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA16C (straight)
Y-axis: SA8C (straight) Z-axis: SA7C (straight)

Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable			
IK3	P6BBE3□ □S	WA	□ □	□ □	□B□	PM1	□	□	□	□

Configuration Direction
1 to 4
Refer to Robot Type Descriptions on page 3

Speed Type
MHL: X Medium Speed/Y High Speed/Z Low Speed
MHM: X Medium Speed/Y High Speed/Z Medium Speed
MHH: X Medium Speed/Y High Speed/Z High Speed
MHS: X Medium Speed/Y High Speed/Z Ultra High Speed

Encoder Type
WA: Battery-less Absolute

Stroke
5: 50mm
:
(Every 50mm)

Options
Refer to Options table on page 106.

Controller
Refer to Applicable Controllers table on the next page.

Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

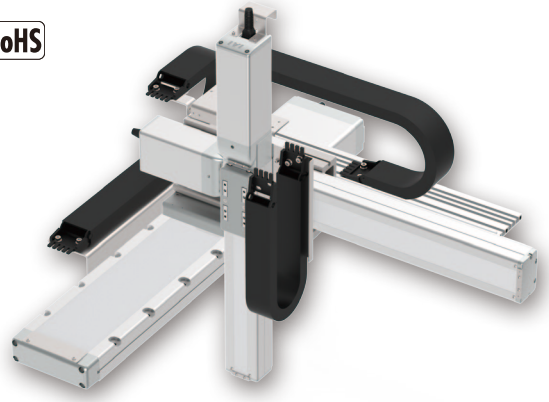
First Wiring

Second Wiring

Third Wiring

Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MHL type: X medium speed/Y high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	6

■ MHM type: X medium speed/Y high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)	450~500 (Every 50mm)
0.1	4	
0.3	4	–

■ MHH type: X medium speed/Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	2
0.3	2

■ MHS type: X medium speed/Y high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	1
0.3	1

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50						100					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		150						200					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Stroke

Y-axis stroke (mm)		250						300					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350						400					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		450						500					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	☐L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

☐ X-axis: WSA16C, Y-axis: SA8C

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ Z-axis: SA7C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-WSA16C	RCP6-SA8C	RCP6-SA7C
Stroke (Every 50mm)		50~1100mm	50~500mm	50~300mm
Max. speed *	MHL	210mm/s	400mm/s	105mm/s
	MHM			210mm/s
	MHH			420mm/s
	MHS			640mm/s
Motor size		56□ High thrust stepper motor	56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	MHL	10mm	20mm	4mm
	MHM			8mm
	MHH			16mm
	MHS			24mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
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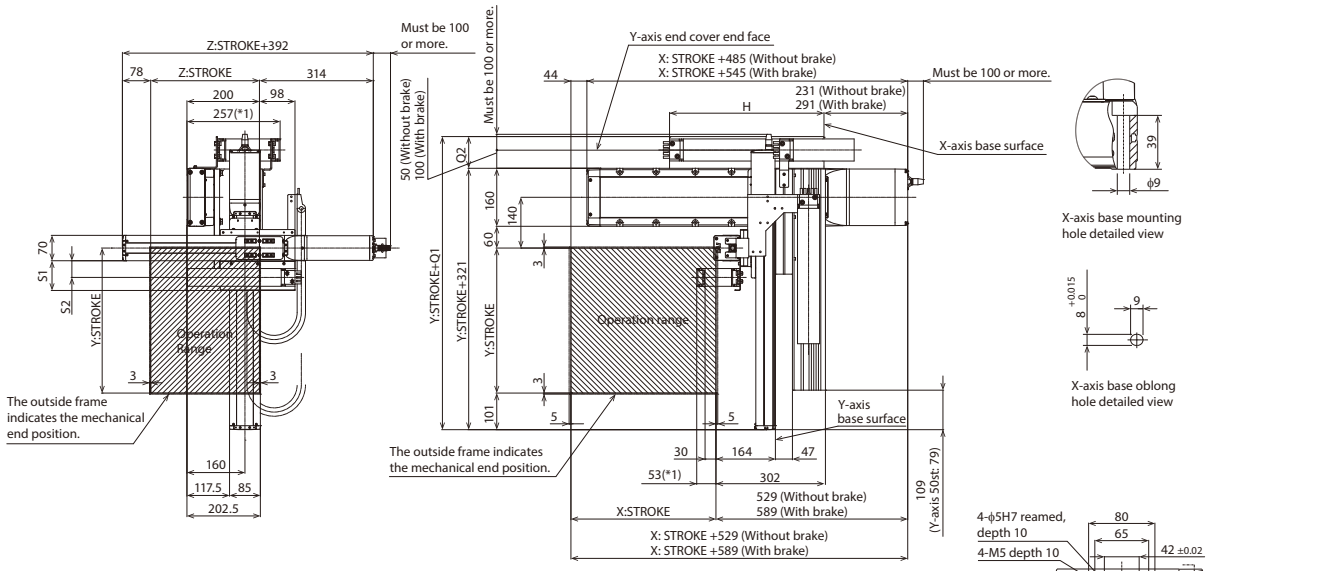
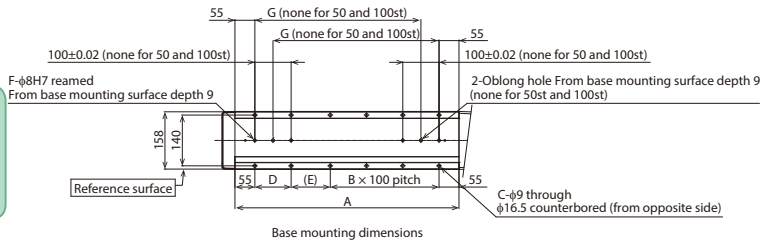
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions

(*) Notes

The moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	158	208	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
H	251	276	301	326	351	376	401	426	451	476	501	526	551	576	601	626	651	676	701	726	751	776

Cable track size	CT	CTM	CTL	CTXL
Q1	396.5	408.5	423.5	441.5
Q2	75.5	87.5	102.5	120.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBH1□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA7R (side-mounted)
Y-axis: SA6R (side-mounted) Z-axis: TA4R (side-mounted)

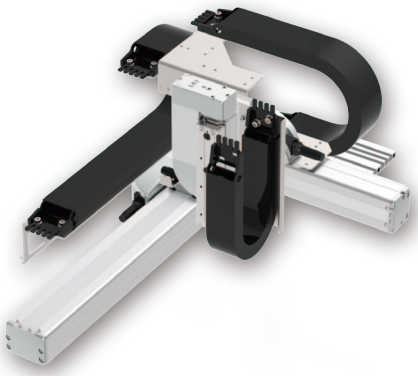
Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)		Second Axis (Y-axis)		Third Axis (Z-axis)	Controller	Cable			
IK3	P6BBH1□ □S	WA	□	□	□	□	□BCJO□	PM1	□	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: HHM: X High Speed/Y High Speed/Z Medium Speed; HHH: X High Speed/Y High Speed/Z High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Stroke**: 5: 50mm * ~ (Every 25mm)
- **Options**: Refer to Options table on the next page.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**, **Second Wiring**, **Third Wiring**: Refer to Cable Track table below.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ **HHM type: X high speed/ Y high speed/Z medium speed**

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)
0.1	2
0.3	2
0.5	1.5

■ **HHH type: X high speed/ Y high speed/Z high speed** (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)
0.1	1
0.3	1
0.5	1

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50			100			150			200		
	50	75	100	50	75	100	50	75	100	50	75	100
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)	Third wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–	–
Cable track S size (inner width: 38mm)	CT		○	○	○
Cable track M size (inner width: 50mm)	CTM		○	○	○
Cable track L size (inner width: 63mm)	CTL		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected
*2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: SA7R, Y-axis: SA6R, Z-axis: TA4R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA7R	RCP6-SA6R	RCP6-TA4R
Stroke		50 ~ 800mm (Every 50mm)	50 ~ 200mm (Every 50mm)	50 ~ 100mm (Every 25mm)
Max speed *	HHM	420mm/s	560mm/s	260mm/s
	HHH			350mm/s
Motor size		56□ Stepper motor	42□ Stepper motor	35□ Stepper motor
Ball screw lead	HHM	16mm	12mm	5mm
	HHH			10mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

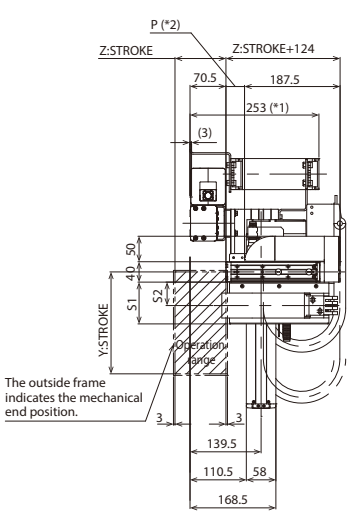
* Be sure to specify.

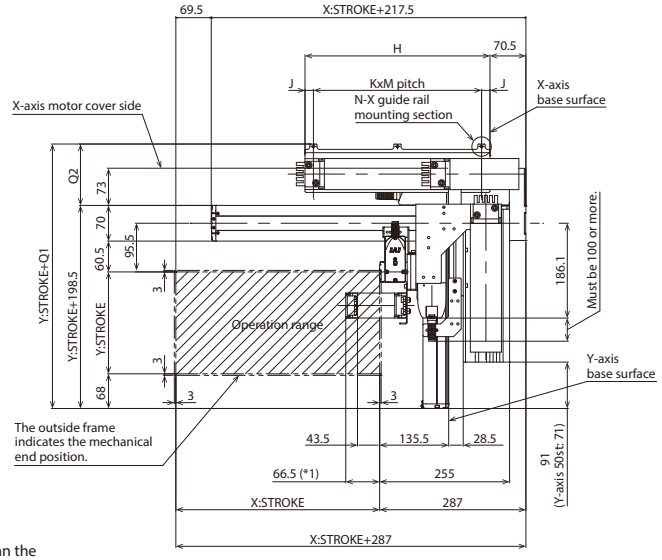
Dimensions

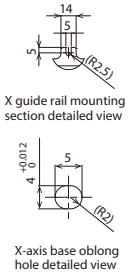
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD

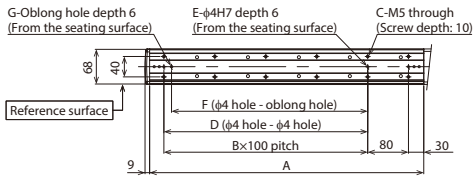
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



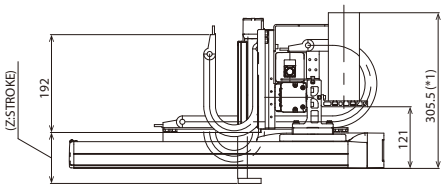




*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: A negative number for P means that the edge of the motor unit is located frontward past the end face of the table.

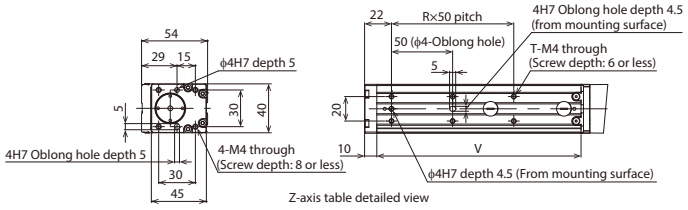


Base mounting dimensions



(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.



Z-axis table detailed view

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Z: Stroke	50	75	100
P (*2)	-13.5	11.5	36.5
R	1	2	2
T	4	6	6
V	117	142	167

Cable track size	CT	CTM	CTL	CTXL
Q1	306	319	332	349
Q2	107.5	120.5	133.5	150.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBH2□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA7C (Straight)
Y-axis: SA6R (side-mounted) Z-axis: TA4R (side-mounted)

■ Model Specification Items

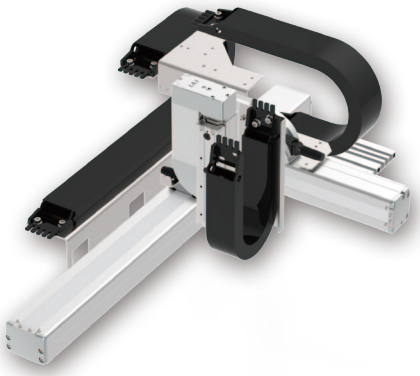
Series — Type — Encoder Type — First Axis (X-axis) — Second Axis (Y-axis) — Third Axis (Z-axis) — Controller — Cable — Options

IK3 — P6BBH2□ □S — WA — □ □ — □ □ — □BCJO□ — PM1 — □ — □ — □ — □ — □

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: HHM: X High Speed/Y High Speed/Z Medium Speed; HHH: X High Speed/Y High Speed/Z High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Stroke: 5: 50mm * ~ (Every 25mm)
- Options: Refer to Options table (1) on the next page.
- Controller: Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring / Second Wiring / Third Wiring
- Refer to Cable Track table below.
- Options: Refer to Options table (2) on the next page.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HHM type: X high speed/ Y high speed/Z medium speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)
0.1	2
0.3	2
0.5	1.5

■ HHH type: X high speed/ Y high speed/Z high speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)
0.1	1
0.3	1
0.5	1

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50			100			150			200		
	50	75	100	50	75	100	50	75	100	50	75	100
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)	Third wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–	–
Cable track S size (inner width: 38mm)	CT		○	○	○
Cable track M size (inner width: 50mm)	CTM		○	○	○
Cable track L size (inner width: 63mm)	CTL		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected
*2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: SA7C, Y-axis: SA6R, Z-axis: TA4R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-SA6R	RCP6-TA4R
Stroke		50 ~ 800mm (Every 50mm)	50 ~ 200mm (Every 50mm)	50 ~ 100mm (Every 25mm)
Max speed *	HHM	420mm/s	560mm/s	260mm/s
	HHH			350mm/s
Motor size		56□ Stepper motor	42□ Stepper motor	35□ Stepper motor
Ball screw lead	HHM	16mm	12mm	5mm
	HHH			10mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.110.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake*	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Options (2)

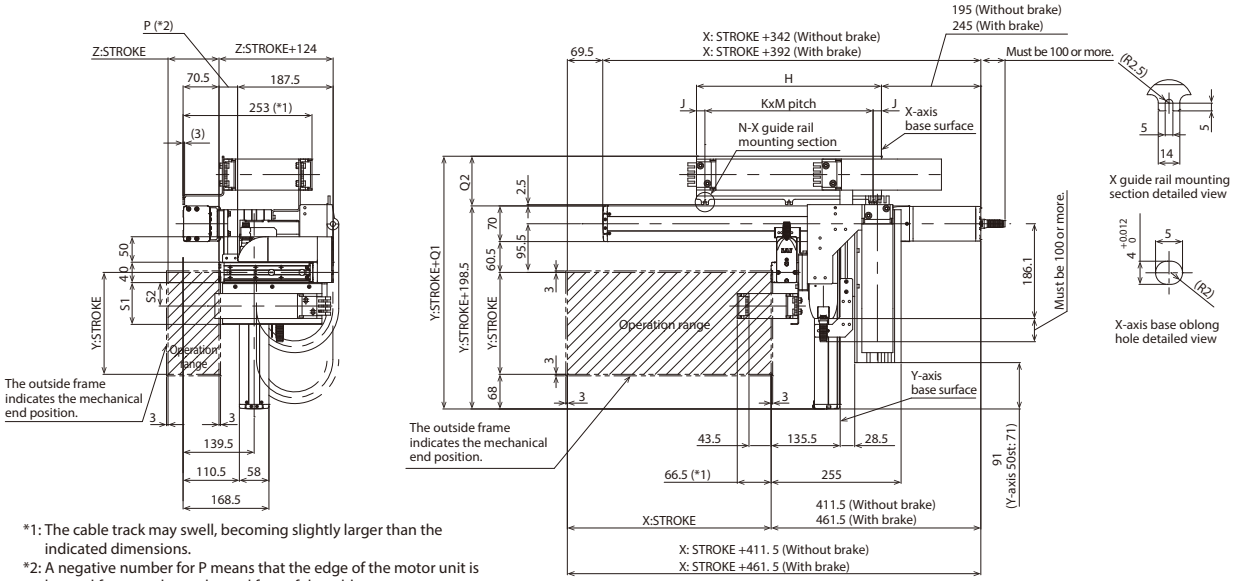
Type	Option code	Reference page
Foot plate	**FTP**	See P.134

Dimensions

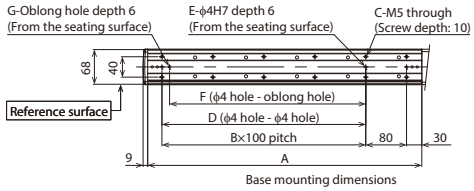
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

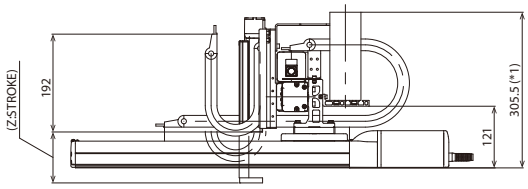
2D CAD 3D CAD

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



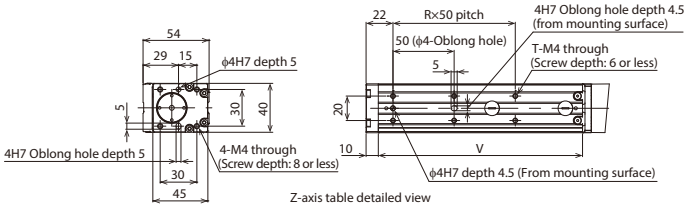
*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: A negative number for P means that the edge of the motor unit is located frontward past the end face of the table.





(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P. 134)
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.



■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Z: Stroke	50	75	100
P (*2)	-13.5	11.5	36.5
R	1	2	2
T	4	6	6
V	117	142	167

Cable track size	CT	CTM	CTL	CTXL
Q1	283	296	309	326
Q2	84.5	97.5	110.5	127.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBH3□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA7C (Straight)
Y-axis: SA6C (straight), Z-axis: TA4C (straight)

■ Model Specification Items

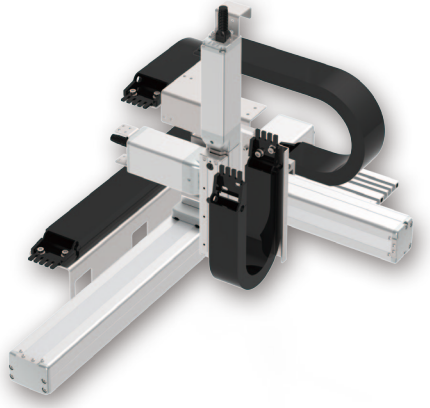
Series — Type — Encoder Type — First Axis (X-axis) — Second Axis (Y-axis) — Third Axis (Z-axis) — Controller — Cable — Options

IK3 — P6BBH3□ □S — WA — □ □ — □ □ — □B□ — PM1 — □ — □ — □ — □ — □

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: HHM: X High Speed/Y High Speed/Z Medium Speed; HHH: X High Speed/Y High Speed/Z High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Stroke: 5: 50mm * ~ (Every 25mm)
- Options: Refer to Options table (1) on the next page.
- Controller: Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring / Second Wiring / Third Wiring: Refer to Cable Track table below.
- Options: Refer to Options table (2) on the next page.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ **HHM type: X high speed/ Y high speed/Z medium speed**

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)
0.1	2
0.3	2
0.5	1.5

■ **HHH type: X high speed/ Y high speed/Z high speed** (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)
0.1	1
0.3	1
0.5	1

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50			100			150			200		
	50	75	100	50	75	100	50	75	100	50	75	100
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)	Third wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–	–
Cable track S size (inner width: 38mm)	CT		○	○	○
Cable track M size (inner width: 50mm)	CTM		○	○	○
Cable track L size (inner width: 63mm)	CTL		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected
*2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: SA7C, Y-axis: SA6C, Z-axis: TA4C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-SA6C	RCP6-TA4C
Stroke		50 ~ 800mm (Every 50mm)	50 ~ 200mm (Every 50mm)	50 ~ 100mm (Every 25mm)
Max speed *	HHM	420mm/s	560mm/s	260mm/s
	HHH			350mm/s
Motor size		56□ Stepper motor	42□ Stepper motor	35□ Stepper motor
Ball screw lead	HHM	16mm	12mm	5mm
	HHH			10mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake*	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

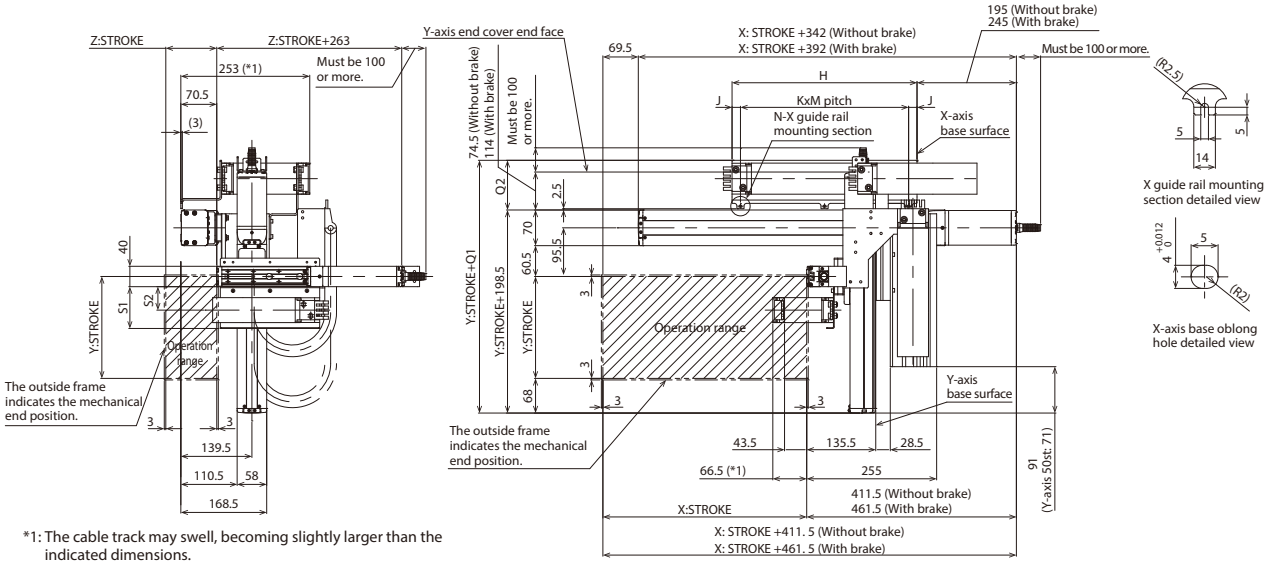
Options (2)

Type	Option code	Reference page
Foot plate	**FTP**	See P.134

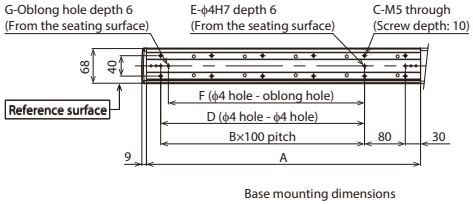
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

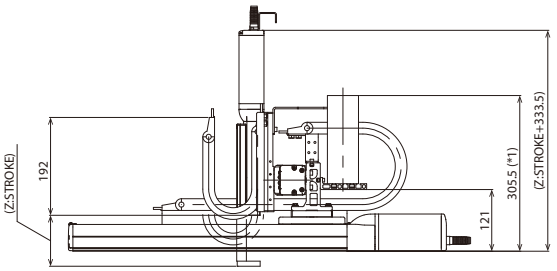
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

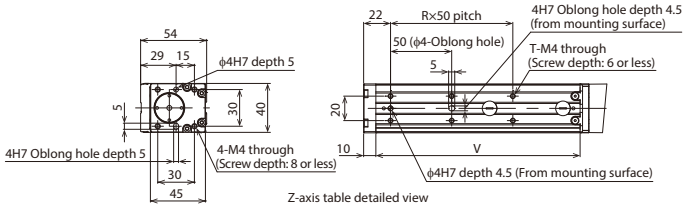


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions





Z-axis table detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P. 134)
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Z: Stroke	50	75	100
R	1	2	2
T	4	6	6
V	117	142	167

Cable track size	CT	CTM	CTL	CTXL
Q1	283	296	309	326
Q2	84.5	97.5	110.5	127.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBG1□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA8R (side-mounted)
Y-axis: SA7R (side-mounted) Z-axis: TA6R (side-mounted)

Model Specification Items

Series — Type — Encoder Type — First Axis (X-axis) — Second Axis (Y-axis) — Third Axis (Z-axis) — Controller — Cable

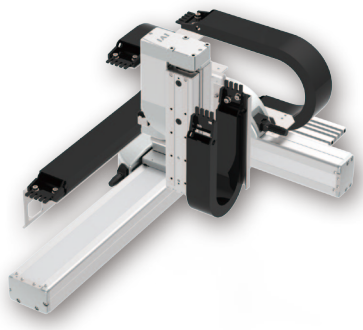
IK3 – P6BBG1□ □S – WA – □ □ – □ □ – □BCJO□ – PM1 – □ – □ – □ – □

- **Configuration Direction**: 1 to 4 — Refer to Robot Type Descriptions on page 3
- **Speed Type**: HSL: X High Speed/Y Ultra High Speed/Z Low Speed; HSM: X High Speed/Y Ultra High Speed/Z Medium Speed; HSH: X High Speed/Y Ultra High Speed/Z High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Stroke**: 5: 50mm * ~ (Every 25mm)
- **Options**: Refer to Options table on the next page.
- **Controller**: Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**
- **Second Wiring**
- **Third Wiring**

Refer to Cable Track table below.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/ Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	4	3
0.3	4	3
0.5	4	3

■ HSM type: X high speed/ Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	2.5	2
0.3	2.5	2
0.5	2.5	2

■ HSH type: X high speed/ Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	1.5	1
0.3	1.5	1
0.5	1.5	1

* When X, Y and Z axes all have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50					100					150				
Z-axis stroke (mm)	50	75	100	125	150	50	75	100	125	150	50	75	100	125	150
50	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

X-axis stroke (mm) \ Y-axis stroke (mm)	200					250				
Z-axis stroke (mm)	50	75	100	125	150	50	75	100	125	150
50	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ X-axis: SA8R

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ Y-axis: SA7R, Z-axis: TA6R

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	☐L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)	Third wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–	–
Cable track S size (inner width: 38mm)	CT		○	○	○
Cable track M size (inner width: 50mm)	CTM		○	○	○
Cable track L size (inner width: 63mm)	CTL		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected
*2 Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA8R	RCP6-SA7R	RCP6-TA6R
Stroke		50 ~ 1100mm (Every 50mm)	50 ~ 250mm (Every 50mm)	50 ~ 150mm (Every 25mm)
Max speed *	HSL	300mm/s	640mm/s	140mm/s
	HSM			280mm/s
	HSH			440mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	20mm	24mm	3mm
	HSM			6mm
	HSH			12mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

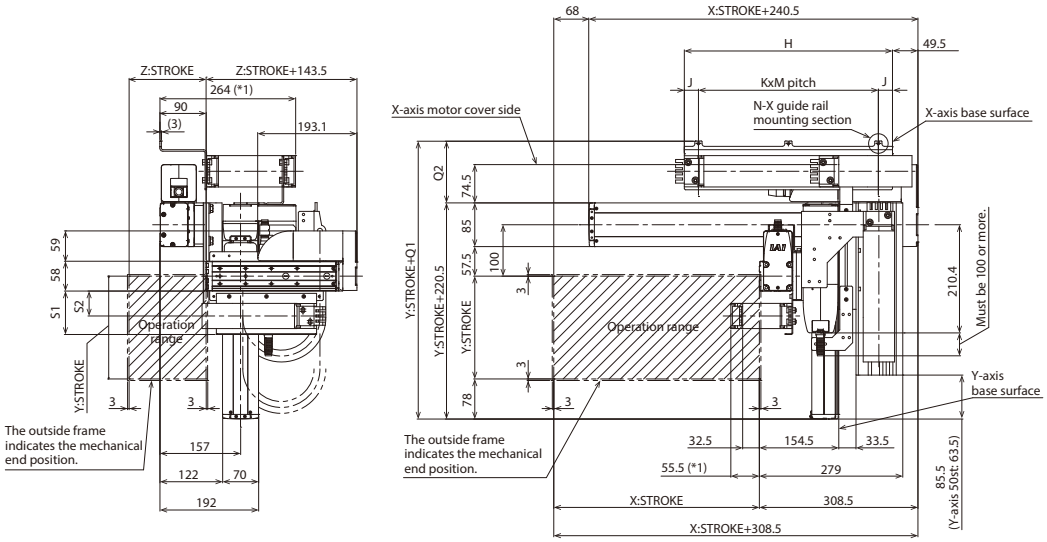
* Be sure to specify.

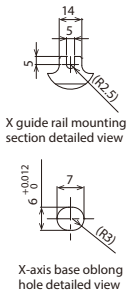
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

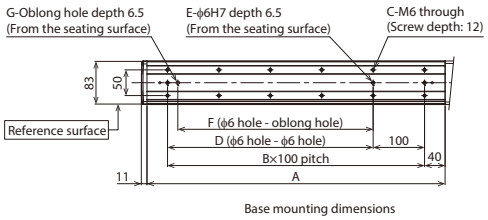
2D CAD 3D CAD

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

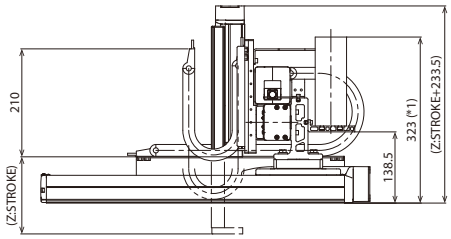


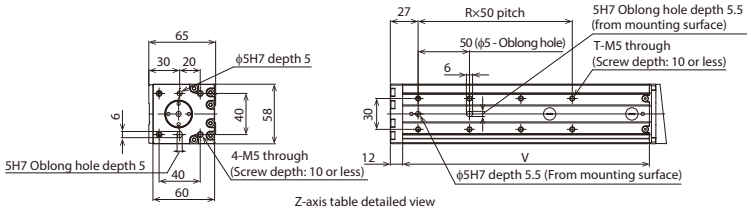


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions





Z-axis table detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Z: Stroke	50	75	100	125	150
R	1	2	2	3	3
T	4	6	6	8	8
V	140	165	190	215	240

Cable track size	CT	CTM	CTL	CTXL
Q1	328	341	354	371
Q2	107.5	120.5	133.5	150.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBG2□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA8C (straight)
Y-axis: SA7R (side-mounted) Z-axis: TA6R (side-mounted)

■ Model Specification Items

IK3 — P6BBG2□ □S — WA — □ □ — □ □ — □BCJO□ — PM1 — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBG2□ □S	WA	□ □	□ □	□BCJO□	PM1	□	□	□	□	□

Configuration Direction
1 to 4
Refer to Robot Type Descriptions on page 3

Speed Type
HSL: X High Speed/Y Ultra High Speed/Z Low Speed
HSM: X High Speed/Y Ultra High Speed/Z Medium Speed
HSH: X High Speed/Y Ultra High Speed/Z High Speed

Encoder Type
WA: Battery-less Absolute

Stroke
5: 50mm
↓
(Every 50mm)

Stroke
5: 50mm *
↓
(Every 25mm)

Options
Refer to Options table (1) on the next page.

Controller
Refer to Applicable Controllers table below.

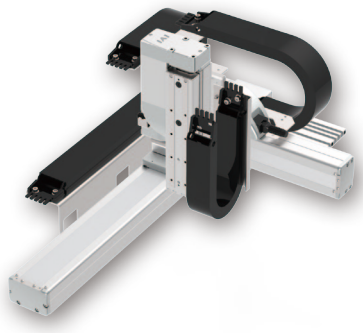
Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

First Wiring
Second Wiring
Third Wiring
Refer to Cable Track table below.

Options
Refer to Options table (2) on the next page.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ **HSL type: X high speed/ Y ultra high speed/Z low speed**

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	4	3
0.3	4	3
0.5	4	3

■ **HSM type: X high speed/ Y ultra high speed/Z medium speed** (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	2.5	2
0.3	2.5	2
0.5	2.5	2

■ **HSH type: X high speed/ Y ultra high speed/Z high speed**

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	1.5	1
0.3	1.5	1
0.5	1.5	1

* When X, Y and Z axes all have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50					100					150				
Z-axis stroke (mm)	50	75	100	125	150	50	75	100	125	150	50	75	100	125	150
50	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

X-axis stroke (mm) \ Y-axis stroke (mm)	200					250				
Z-axis stroke (mm)	50	75	100	125	150	50	75	100	125	150
50	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ **X-axis: SA8C**

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ **Y-axis: SA7R, Z-axis: TA6R**

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)	Third wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–	–
Cable track S size (inner width: 38mm)	CT		○	○	○
Cable track M size (inner width: 50mm)	CTM		○	○	○
Cable track L size (inner width: 63mm)	CTL		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected
*2 Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-SA7R	RCP6-TA6R
Stroke		50 ~ 1100mm (Every 50mm)	50 ~ 250mm (Every 50mm)	50 ~ 150mm (Every 25mm)
Max speed *	HSL	300mm/s	640mm/s	140mm/s
	HSM			280mm/s
	HSH			440mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	20mm	24mm	3mm
	HSM			6mm
	HSH			12mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

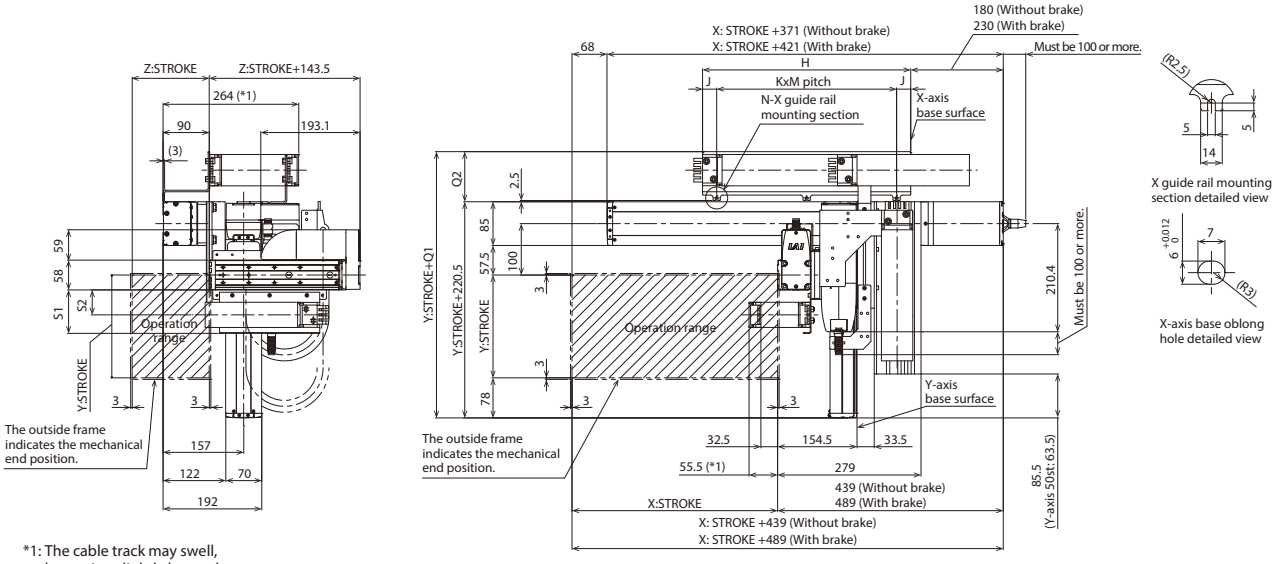
Options (2)

Type	Option code	Reference page
Foot plate	**FTP**	See P.134

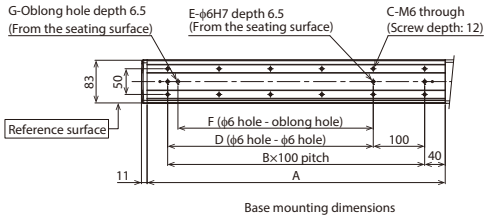
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

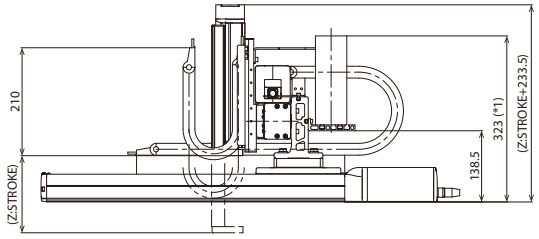
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

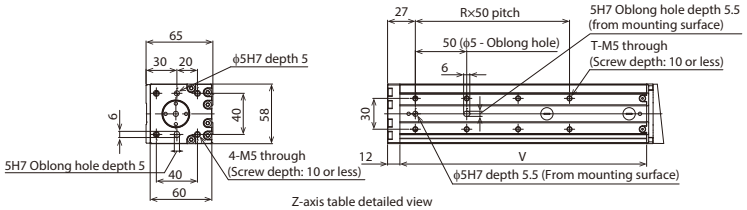


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions





Z-axis table detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Z: Stroke	50	75	100	125	150
R	1	2	2	3	3
T	4	6	6	8	8
V	140	165	190	215	240

Cable track size	CT	CTM	CTL	CTXL
Q1	305	318	331	348
Q2	84.5	97.5	110.5	127.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBG3□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA8C (straight)
Y-axis: SA7C (straight), Z-axis: TA6C (straight)

■ Model Specification Items

IK3 — P6BBG3□ □S — WA — □ □ — □ □ — □B□ — PM1 — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBG3□ □S	WA	□ □	□ □	□B□	PM1	□	□	□	□	□

Configuration Direction
1 to 4
Refer to Robot Type Descriptions on page 3

Speed Type
HSL: X High Speed/Y Ultra High Speed/Z Low Speed
HSM: X High Speed/Y Ultra High Speed/Z Medium Speed
HSH: X High Speed/Y Ultra High Speed/Z High Speed

Encoder Type
WA: Battery-less Absolute

Stroke
5: 50mm
↓
(Every 50mm)

Stroke
5: 50mm *
↓
(Every 25mm)

Options
Refer to Options table (1) on the next page.

Controller
Refer to Applicable Controllers table below.

Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

First Wiring

Second Wiring

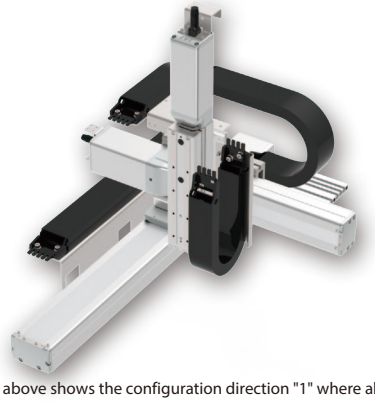
Third Wiring

Refer to Cable Track table below.

Options
Refer to Options table (2) on the next page.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/ Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	4	3
0.3	4	3
0.5	4	3

■ HSM type: X high speed/ Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	2.5	2
0.3	2.5	2
0.5	2.5	2

■ HSH type: X high speed/ Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	1.5	1
0.3	1.5	1
0.5	1.5	1

* When X, Y and Z axes all have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50					100					150				
Z-axis stroke (mm)	50	75	100	125	150	50	75	100	125	150	50	75	100	125	150
50	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

X-axis stroke (mm) \ Y-axis stroke (mm)	200					250				
Z-axis stroke (mm)	50	75	100	125	150	50	75	100	125	150
50	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: SA8C

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

□ Y-axis: SA7C, Z-axis: TA6C

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)	Third wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–	–
Cable track S size (inner width: 38mm)	CT		○	○	○
Cable track M size (inner width: 50mm)	CTM		○	○	○
Cable track L size (inner width: 63mm)	CTL		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected
*2 Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-SA7C	RCP6-TA6C
Stroke		50 ~ 1100mm (Every 50mm)	50 ~ 250mm (Every 50mm)	50 ~ 150mm (Every 25mm)
Max speed *	HSL	300mm/s	640mm/s	140mm/s
	HSM			280mm/s
	HSH			440mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	20mm	24mm	3mm
	HSM			6mm
	HSH			12mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

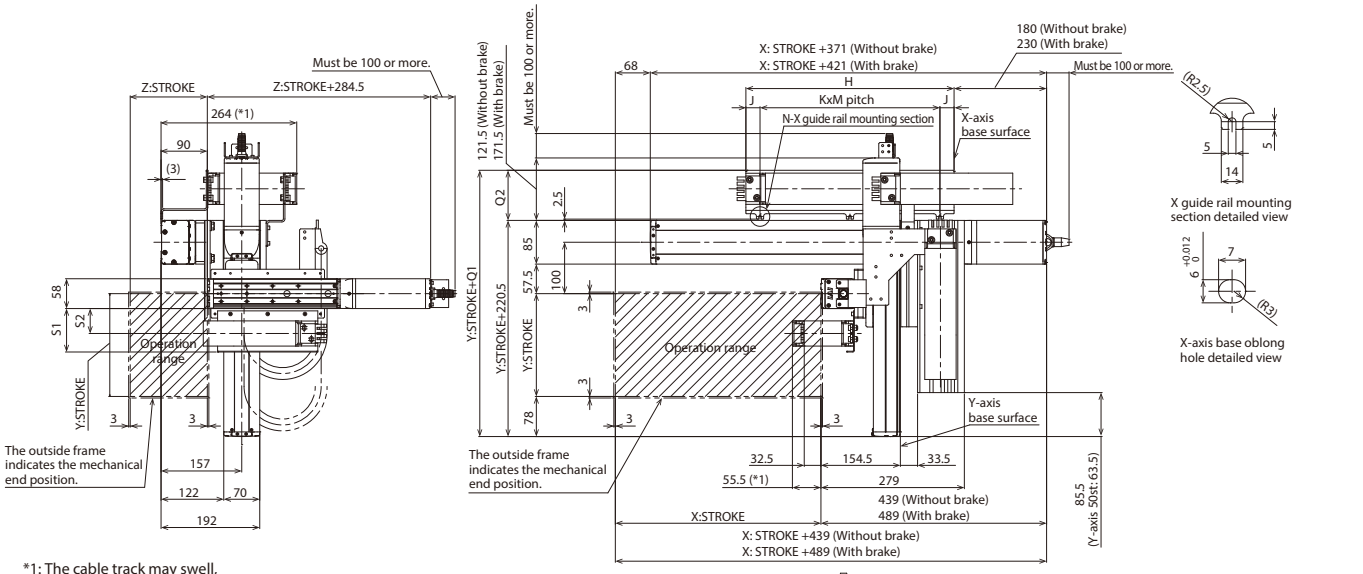
Options (2)

Type	Option code	Reference page
Foot plate	**FTP**	See P.134

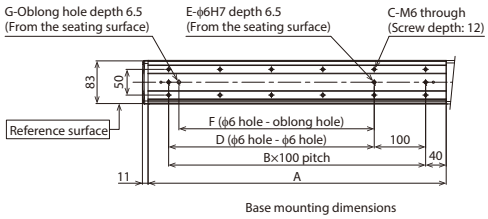
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

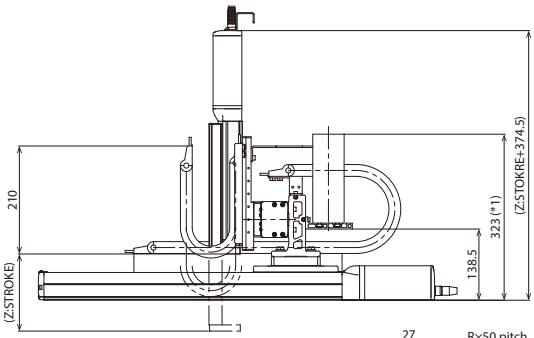
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

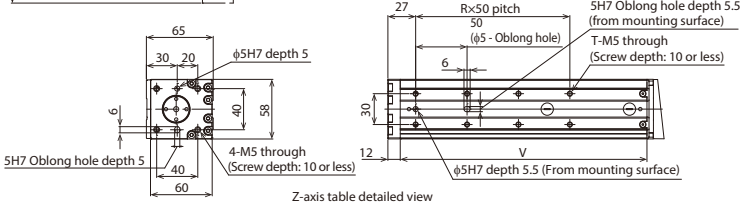


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions





Z-axis table detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Z: Stroke	50	75	100	125	150
R	1	2	2	3	3
T	4	6	6	8	8
V	140	165	190	215	240

Cable track size	CT	CTM	CTL	CTXL
Q1	305	318	331	348
Q2	84.5	97.5	110.5	127.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK4-P6BBB1□□S

RCP6 2-axis XYB + ZR unit configurations
X-axis: SA8R (side-mounted)
Y-axis: SA7R (side-mounted)

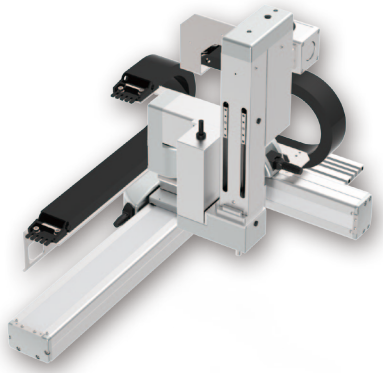
■ Model Specification Items

Series — Type — Encoder Type — First Axis (X-axis) — Second Axis (Y-axis) — Third Axis (Z-axis) — Fourth Axis (R-axis) — Controller — Cable

IK4 – P6BBB1□□S – WA – □□ – □□ – □B□ – □ – PM1 – □ – □ – □

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: MM: X Medium Speed/Y Medium Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table on the next page.
- Stroke: 10: 100mm 15: 150mm
- Options: Refer to Options table on the next page.
- Stroke: 18 : ±180deg. 36L : ±360deg. (Equipped with home limit switch)
- Controller: Refer to Applicable Controllers table on the next page.
- Cable Length: 1L : 1m 3L : 3m 5L : 5m □L : □m
- First Wiring / Second Wiring: Refer to Cable Track table below.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~200 (Every 50mm)	250~300 (Every 50mm)
0.1	3.5	
0.3	2	1

* When X, Y, Z and R axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (Max. 15m)

Note 1. All-axis standard cable is used.
Note 2. The length of the second, third, and fourth axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *1

*1 Only the first wiring can be selected

Specifications

Item	X-axis	Y-axis	Z-axis	R-axis
Axis configuration	RCP6-SA8R	RCP6-SA7R	TTPIK-AZR	
Stroke	50 ~ 1100mm (Every 50mm)	50 ~ 300mm (Every 50mm)	100, 150mm	180deg., 360deg.
Max. speed *1	300mm/s	280mm/s	400mm/s	1,000deg/s *2
Allowable moment of inertia *2	–			0.01kg·m²
Motor size	56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor	42□ Stepper motor
Ball screw lead	10mm	8mm	12mm	–
Drive system	Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	–
Positioning repeatability	±0.01mm			±0.01 deg.
Base material	Aluminum			
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)			

*1 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.
*2 Angular velocity and acceleration/deceleration differ depending on allowable moment of inertia. Please refer to P.138 for more information.

Options

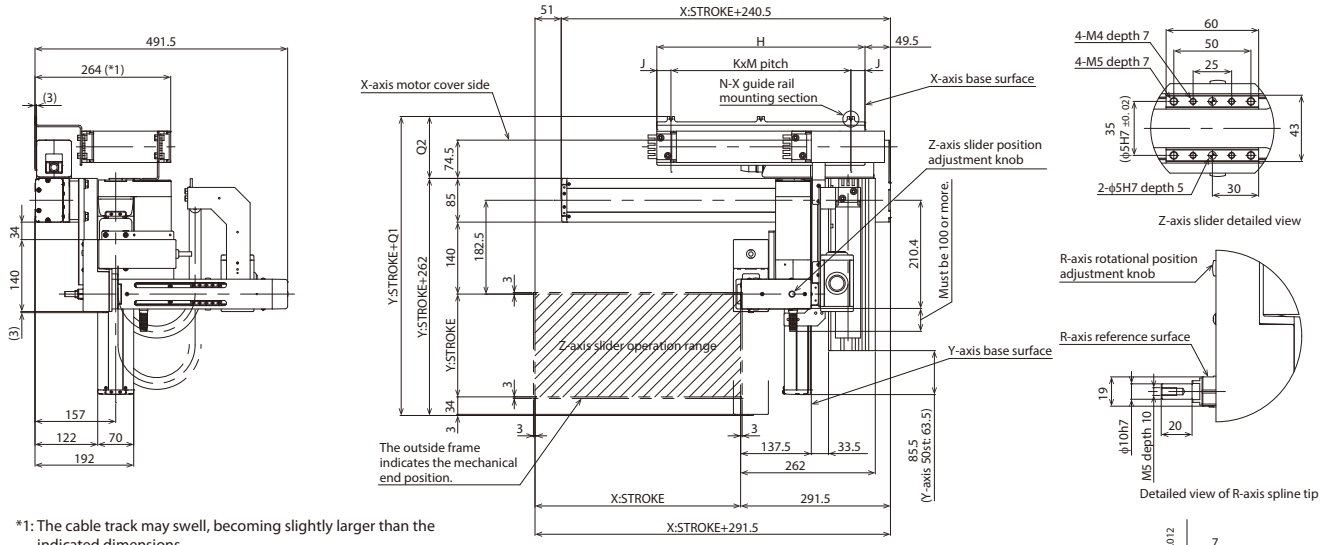
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	○	○	Standard equipment *
Slider cover	**CO**	See P.134	Cannot be selected		○
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Be sure to specify.

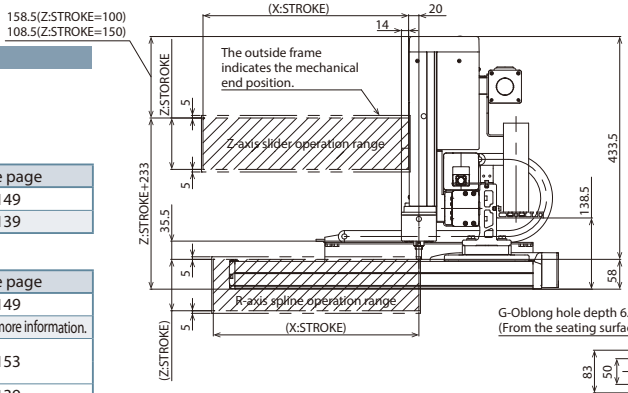
Dimensions

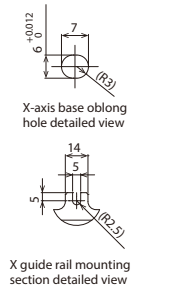
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

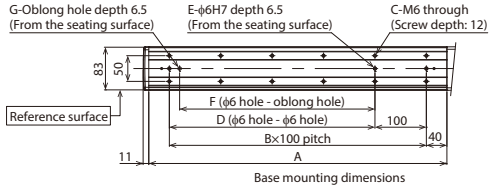
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first and second wirings with cable tracks.
Note 3. Refer to P.136 for the details of the cable tracks.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.







Base mounting dimensions

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ X-axis: SA8R

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ Y-axis: SA7R, Z-axis, R-axis

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

(*) Notes The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	369.5	382.5	395.5	412.5
Q2	107.5	120.5	133.5	150.5

* Dimensions Q1 and Q2 change depending on the size of the cable track.

IK4-P6BBB2□□S

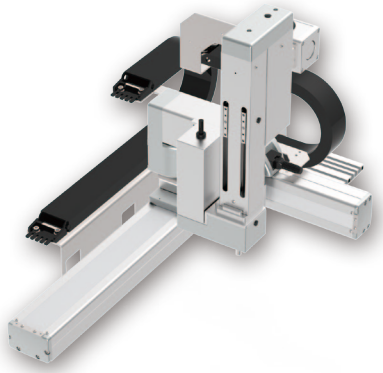
RCP6 2-axis XYB + ZR unit configurations
X-axis: SA8C (straight)
Y-axis: SA7R (side-mounted)

Model Specification Items

Series	Type		Encoder Type	First Axis (X-axis)		Second Axis (Y-axis)		Third Axis (Z-axis)		Fourth Axis (R-axis)	Controller	Cable			Options
IK4	P6BBB2□	□S	WA	□	□	□	□	□B	□	□	PM1	□	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: MM: X Medium Speed/Y Medium Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table (1) on the next page.
- **Stroke**: 10: 100mm, 15: 150mm
- **Options**: Refer to Options table (1) on the next page.
- **Stroke**: 18 : ±180deg., 36L : ±360deg. (Equipped with home limit switch)
- **Controller**: Refer to Applicable Controllers table on the next page.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**
- **Options**: Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~200 (Every 50mm)	250~300 (Every 50mm)
0.1	3.5	
0.3	2	1

* When X, Y, Z and R axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)	50				100				150			
Z-axis stroke (mm)	100		150		100		150		100		150	
R-axis operation range (deg.)	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm) 50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)	200				250				300			
Z-axis stroke (mm)	100		150		100		150		100		150	
R-axis operation range (deg.)	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm) 50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (Max. 15m)

Note 1. All-axis standard cable is used.
Note 2. The length of the second, third, and fourth axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *1

*1 Only the first wiring can be selected

Specifications

Item	X-axis	Y-axis	Z-axis	R-axis
Axis configuration	RCP6-SA8C	RCP6-SA7R	TTPIK-AZR	
Stroke	50 ~ 1100mm (Every 50mm)	50 ~ 300mm (Every 50mm)	100, 150mm	180deg., 360deg.
Max. speed *1	300mm/s	280mm/s	400mm/s	1,000deg/s *2
Allowable moment of inertia *2	–			0.01kg·m²
Motor size	56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor	42□ Stepper motor
Ball screw lead	10mm	8mm	12mm	–
Drive system	Ball screw φ16mm rolled C10	Ball screw φ12mm rolled C10	Ball screw φ10mm rolled C10	–
Positioning repeatability	±0.01mm			±0.01 deg.
Base material	Aluminum			
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)			

*1 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.
*2 Angular velocity and acceleration/deceleration differ depending on allowable moment of inertia. Please refer to P.138 for more information.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Slider cover	**CO**	See P.134	Cannot be selected		○
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

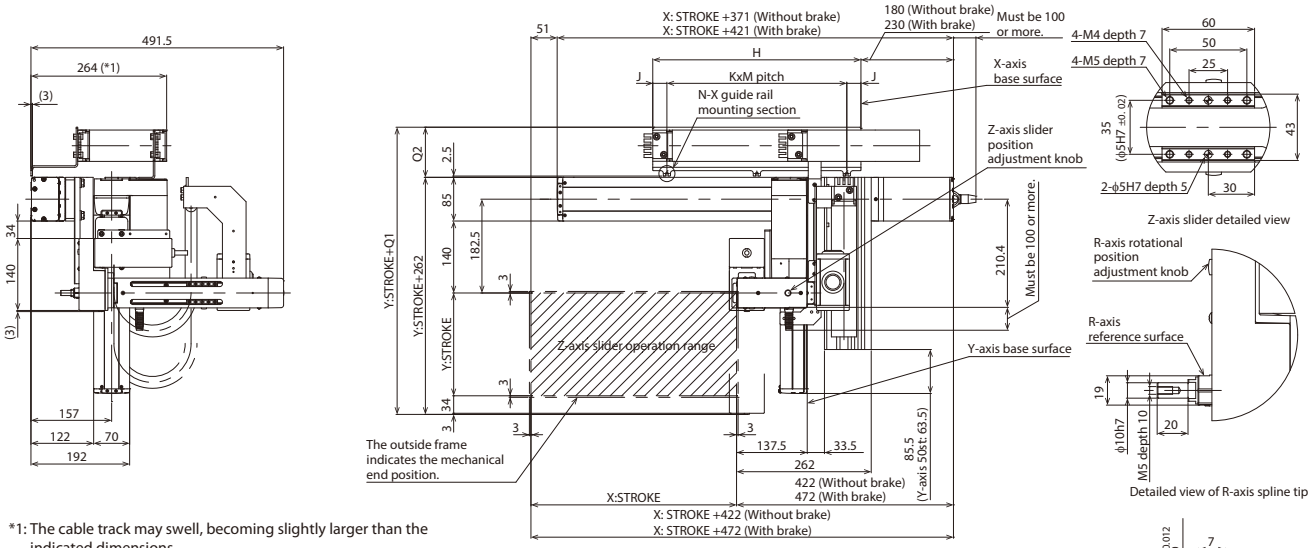
Options (2)

Type	Option code	Reference page
Foot plate	**FTP**	See P.134

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first and second wirings with cable tracks.
Note 3. Refer to P.136 for the details of the cable tracks.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ **X-axis: SA8C**

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ **Y-axis: SA7R, Z-axis, R-axis**

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	346.5	359.5	372.5	389.5
Q2	84.5	97.5	110.5	127.5

* Dimensions Q1 and Q2 change depending on the size of the cable track.

IK4-P6BBB3□□S

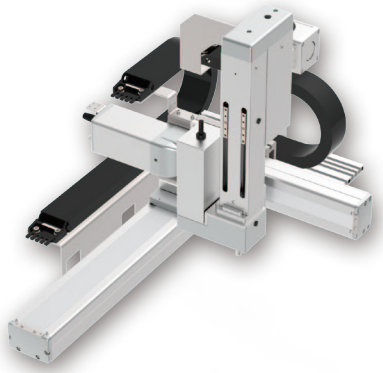
RCP6 2-axis XYB + ZR unit configurations
X-axis: SA8C (straight)
Y-axis: SA7C (straight)

■ Model Specification Items

IK4 – P6BBB3□□S – WA – □□ – □□ – □B□ – □ – PM1 – □ – □ – □ – □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Fourth Axis (R-axis)	Controller	Cable			Options
IK4	P6BBB3□□S	WA	□□	□□	□B□	□	PM1	□	□	□	□
	Configuration Direction: 1 to 4 Refer to Robot Type Descriptions on page 3 Speed Type: MM: X Medium Speed/Y Medium Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ~ (Every 50mm)	Options: Refer to Options table (1) on the next page.	Stroke: 10: 100mm 15: 150mm	Options: Refer to Options table (1) on the next page.	Stroke: 18 : ±180deg. 36L : ±360deg. (Equipped with home limit switch)	Controller: Refer to Applicable Controllers table on the next page.	Cable Length: 1L : 1m 3L : 3m 5L : 5m □L : □m	First Wiring Second Wiring Refer to Cable Track table below.		Options: Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~200 (Every 50mm)	250~300 (Every 50mm)
0.1	3.5	
0.3	2	1

* When X, Y, Z and R axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (Max. 15m)

Note 1. All-axis standard cable is used.
Note 2. The length of the second, third, and fourth axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *1

*1 Only the first wiring can be selected

Specifications

Item	X-axis	Y-axis	Z-axis	R-axis
Axis configuration	RCP6-SA8C	RCP6-SA7C	TTPIK-AZR	
Stroke	50 ~ 1100mm (Every 50mm)	50 ~ 300mm (Every 50mm)	100, 150mm	180deg., 360deg.
Max. speed *1	300mm/s	280mm/s	400mm/s	1,000deg/s *2
Allowable moment of inertia *2	–			0.01kg·m²
Motor size	56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor	42□ Stepper motor
Ball screw lead	10mm	8mm	12mm	–
Drive system	Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	–
Positioning repeatability	±0.01mm			±0.01 deg.
Base material	Aluminum			
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)			

*1 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.
*2 Angular velocity and acceleration/deceleration differ depending on allowable moment of inertia. Please refer to P.138 for more information.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Slider cover	**CO**	See P.134	Cannot be selected		○
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

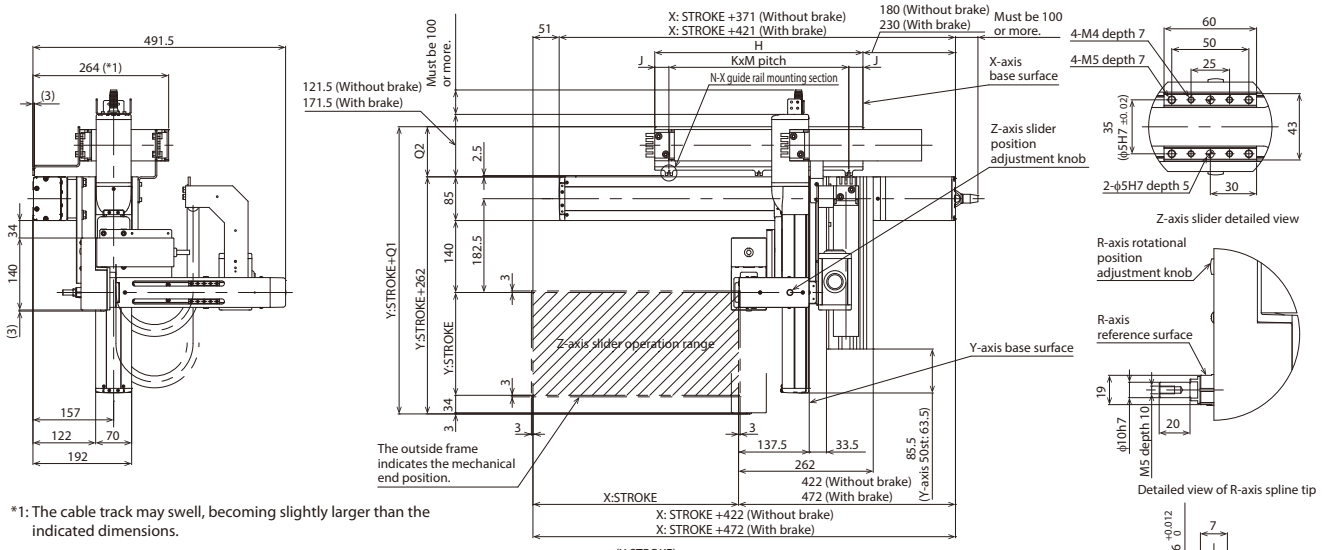
Options (2)

Type	Option code	Reference page
Foot plate	**FTP**	See P.134

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com
2D CAD 3D CAD

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first and second wirings with cable tracks.
Note 3. Refer to P.136 for the details of the cable tracks.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

☐ X-axis: SA8C

Type	Reference page
PCON-CFB/CGFB	See P.149
MSEL-PCF/PGF	See P.139

☐ Y-axis: SA7C, Z-axis, R-axis

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

(*) Notes The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	346.5	359.5	372.5	389.5
Q2	84.5	97.5	110.5	127.5

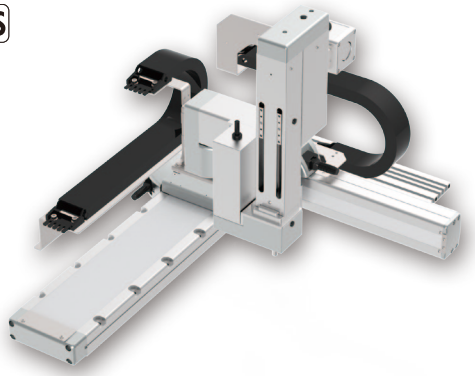
* Dimensions Q1 and Q2 change depending on the size of the cable track.

IK4-P6BBF1□□S

RCP6 2-axis XYB + ZR unit configurations
X-axis: WSA14R (side-mounted)
Y-axis: SA7R (side-mounted)

Model Specification Items

Series	Type		Encoder Type	First Axis (X-axis)		Second Axis (Y-axis)		Third Axis (Z-axis)		Fourth Axis (R-axis)	Controller	Cable		
IK4 –	P6BBF1□	□S –	WA –	□	□ –	□	□ –	□B	□ –	□	– PM1 –	□ –	□ –	□
	Configuration Direction	Speed Type	Encoder Type	Stroke	Options	Stroke	Options	Stroke			Controller	Cable Length	First Wiring	Second Wiring
	1 to 4 Refer to Robot Type Descriptions on page 3	MM: X Medium Speed/Y Medium Speed	WA: Battery-less Absolute	5:50mm ↓ (Every 50mm)	Refer to Options table on the next page.	10: 100mm 15: 150mm	Refer to Options table on the next page.	18 : ±180deg. 36L : ±360deg. (Equipped with home limit switch)			Refer to Applicable Controllers table on the next page.	1L : 1m 3L : 3m 5L : 5m □L : □m	Refer to Cable Track table on the next page.	



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~300 (Every 50mm)	350	400
0.1	5	3	2
0.3	3	–	–

* When X, Y, Z and R axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350				400			
Z-axis stroke (mm)		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second, third, and fourth axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)
Without cable track (cable only)	**N**	See P.136	–	–
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *1

*1 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: WSA14R, Y-axis: SA7R, Z-axis, R-axis

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.126

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item	X-axis	Y-axis	Z-axis	R-axis
Axis configuration	RCP6-WSA14R	RCP6-SA7R	TTPIK-AZR	
Stroke	50 ~ 800mm (Every 50mm)	50 ~ 400mm (Every 50mm)	100, 150mm	180deg., 360deg.
Max. speed *1	210mm/s	280mm/s	400mm/s	1,000deg/s *2
Allowable moment of inertia *2	–			0.01kg·m²
Motor size	56□ Stepper motor	56□ Stepper motor	42□ Stepper motor	42□ Stepper motor
Ball screw lead	8mm	8mm	12mm	–
Drive system	Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	–
Positioning repeatability	±0.01mm			±0.01 deg.
Base material	Aluminum			
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)			

*1 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.
*2 Angular velocity and acceleration/deceleration differ depending on allowable moment of inertia. Please refer to P.138 for more information.

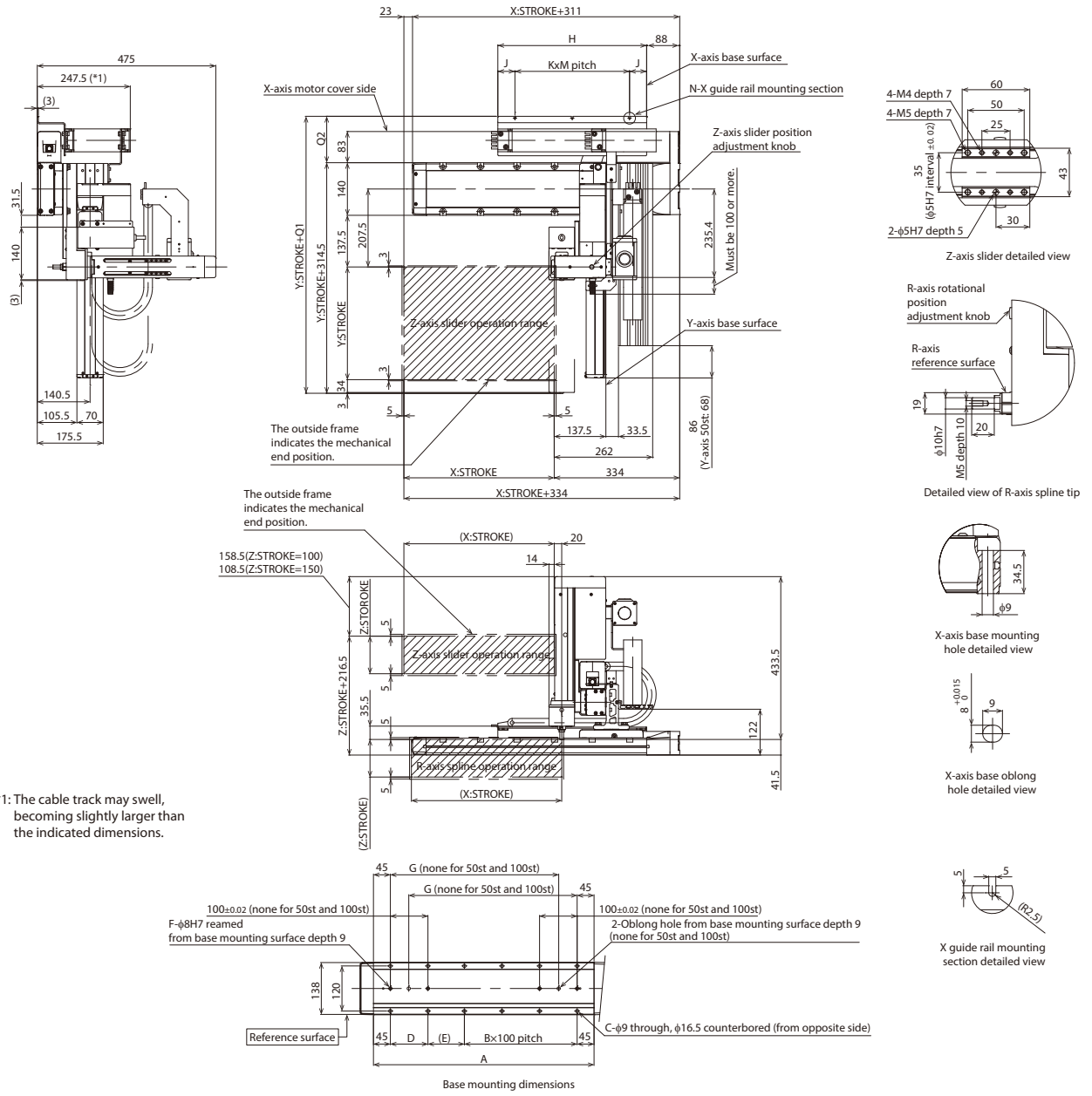
Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	○	○	Standard equipment *
Slider cover	**CO**	See P.134	Cannot be selected		○
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Be sure to specify.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first and second wirings with cable tracks.
Note 3. Refer to P.136 for the details of the cable tracks.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

Base mounting dimensions

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596
J	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	43	48	45.5	43	43	45.5	43
K	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4
M	130	155	90	102.5	115	127.5	140	152.5	110	120	125	135	145	115	120	127.5
N	2	2	3	3	3	3	3	3	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	425	438	451	468
Q2	110.5	123.5	136.5	153.5

* Dimensions Q1 and Q2 change depending on the size of the cable track.

IK4-P6BBF2□□S

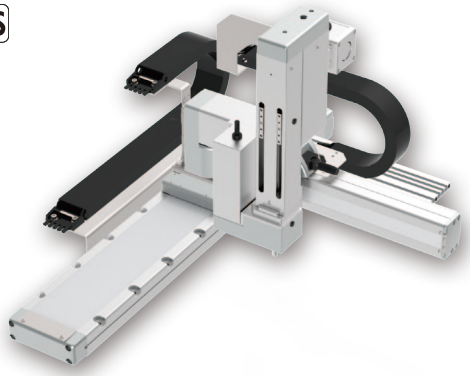
RCP6 2-axis XYB + ZR unit configurations
X-axis: WSA14C (straight)
Y-axis: SA7R (side-mounted)

Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Fourth Axis (R-axis)	Controller	Cable		
IK4	P6BBF2□ □S	WA	□□	□□	□B□	□	PM1	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: MM: X Medium Speed/Y Medium Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke** (First Axis): 5: 50mm ~ (Every 50mm)
- **Options** (First Axis): Refer to Options table on the next page.
- **Stroke** (Second Axis): 10:100mm 15:150mm
- **Options** (Second Axis): Refer to Options table on the next page.
- **Stroke** (Third Axis): 18 : ±180deg. 36L : ±360deg. (Equipped with home limit switch)
- **Controller**: Refer to Applicable Controllers table on the next page.
- **Cable Length**: 1L : 1m, 3L : 3m, 5 : 5m, □L : □m
- **First Wiring**: Refer to Cable Track table on the next page.
- **Second Wiring**: Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~300 (Every 50mm)	350	400
0.1	5	3	2
0.3	3	–	–

* When X, Y, Z and R axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350				400			
Z-axis stroke (mm)		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second, third, and fourth axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)
Without cable track (cable only)	**N**	See P.136	–	–
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *1

*1 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: WSA14C, Y-axis: SA7R, Z-axis, R-axis

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item	X-axis	Y-axis	Z-axis	R-axis
Axis configuration	RCP6-WSA14C	RCP6-SA7R	TTPIK-AZR	
Stroke	50 ~ 800mm (Every 50mm)	50 ~ 400mm (Every 50mm)	100, 150mm	180deg., 360deg.
Max. speed *1	210mm/s	280mm/s	400mm/s	1,000deg/s *2
Allowable moment of inertia *2	–			0.01kg·m²
Motor size	56□ Stepper motor	56□ Stepper motor	42□ Stepper motor	42□ Stepper motor
Ball screw lead	8mm	8mm	12mm	–
Drive system	Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	–
Positioning repeatability	±0.01mm			±0.01 deg.
Base material	Aluminum			
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)			

*1 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.
*2 Angular velocity and acceleration/deceleration differ depending on allowable moment of inertia. Please refer to P.138 for more information.

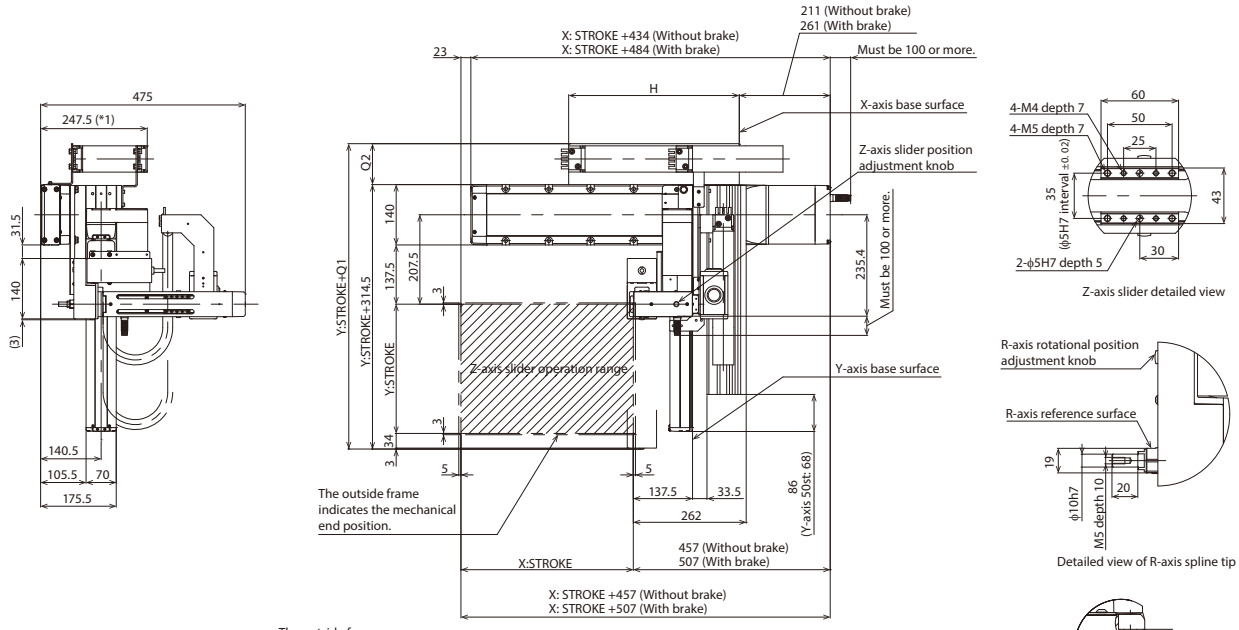
Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Slider cover	**CO**	See P.134	Cannot be selected		○
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

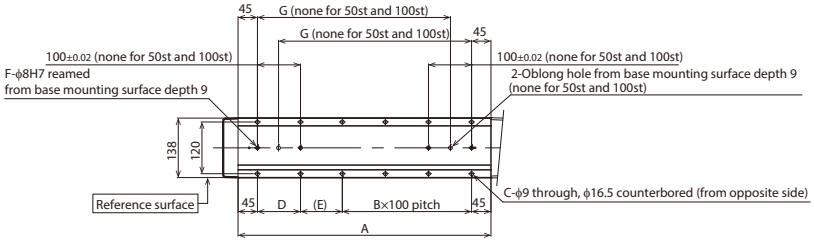
* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first and second wirings with cable tracks.
Note 3. Refer to P.136 for the details of the cable tracks.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Cable track size	CT	CTM	CTL	CTXL
Q1	397.5	409.5	424.5	442.5
Q2	83	95	110	128

* Dimensions Q1 and Q2 change depending on the size of the cable track.

IK4-P6BBF3□□S

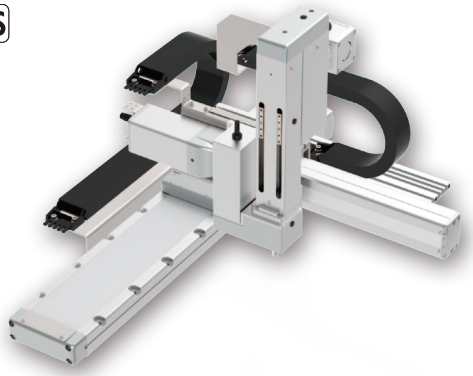
RCP6 2-axis XYB + ZR unit configurations
X-axis: WSA14C (straight)
Y-axis: SA7C (straight)

Model Specification Items

Series	Type		Encoder Type	First Axis (X-axis)		Second Axis (Y-axis)		Third Axis (Z-axis)		Fourth Axis (R-axis)	Controller	Cable		
IK4 –	P6BBF3□	□S –	WA –	□	□ –	□	□ –	□	B□ –	□ –	PM1 –	□ –	□ –	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: MM: X Medium Speed/Y Medium Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table on the next page.
- **Stroke**: 10: 100mm, 15: 150mm
- **Options**: Refer to Options table on the next page.
- **Stroke**: 18 : ±180deg., 36L : ±360deg. (Equipped with home limit switch)
- **Controller**: Refer to Applicable Controllers table on the next page.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**, **Second Wiring**: Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~300 (Every 50mm)	350	400
0.1	5	3	2
0.3	3	–	–

* When X, Y, Z and R axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350				400			
Z-axis stroke (mm)		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second, third, and fourth axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)
Without cable track (cable only)	**N**	See P.136	–	–
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *1

*1 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

□ X-axis: WSA14C, Y-axis: SA7C, Z-axis, R-axis

Type	Reference page
PCON-CB/CGB	See P.149
PCON-CYB/PLB/POB	Please contact IAI for more information.
MCON-C/CG	See P.153
MCON-LC/LCG	
MSEL	See P.139

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item	X-axis	Y-axis	Z-axis	R-axis
Axis configuration	RCP6-WSA14C	RCP6-SA7C	TTPIK-AZR	
Stroke	50 ~ 800mm (Every 50mm)	50 ~ 400mm (Every 50mm)	100, 150mm	180deg., 360deg.
Max. speed *1	210mm/s	280mm/s	400mm/s	1,000deg/s *2
Allowable moment of inertia *2	–			0.01kg·m²
Motor size	56□ Stepper motor	56□ Stepper motor	42□ Stepper motor	42□ Stepper motor
Ball screw lead	8mm	8mm	12mm	–
Drive system	Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	–
Positioning repeatability	±0.01mm			±0.01 deg.
Base material	Aluminum			
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)			

*1 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.
*2 Angular velocity and acceleration/deceleration differ depending on allowable moment of inertia. Please refer to P.138 for more information.

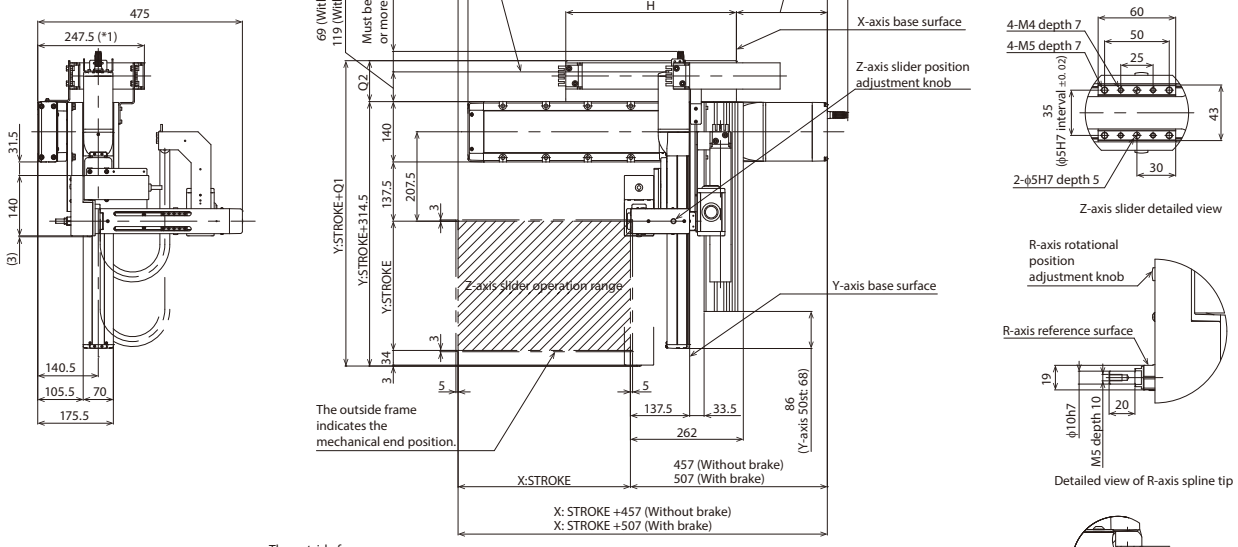
Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake*	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Slider cover	**CO**	See P.134	Cannot be selected		○
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

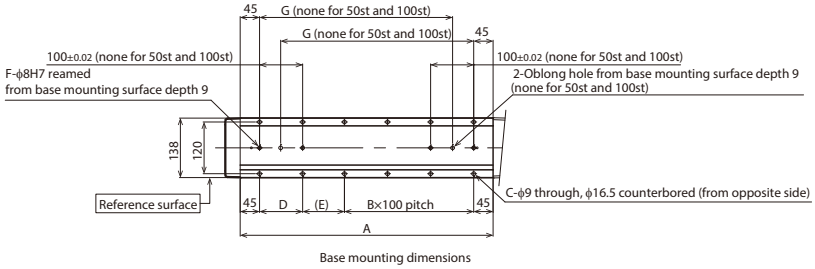
* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first and second wirings with cable tracks.
Note 3. Refer to P.136 for the details of the cable tracks.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Cable track size	CT	CTM	CTL	CTXL
Q1	397.5	409.5	424.5	442.5
Q2	83	95	110	128

* Dimensions Q1 and Q2 change depending on the size of the cable track.

Brake

Option Code B

Description This is a holding mechanism that prevents the slider from falling and damaging any attached fittings when the power or servo is turned off.
As the Z-axis is designed to be used vertically, a brake will be equipped as a standard feature.
For axes other than the Z-axis, please use the brake option as required.

Slider Cover (IK4 dedicated)

Option Code CO

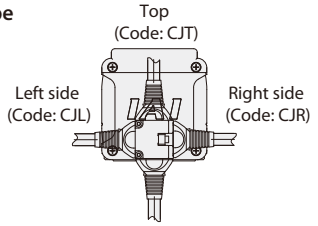
Description Equips the IK4 (rotational axis specification) with a slider cover for when the Z-axis slider is not in use.

Cable Exit Direction

Option Code CJT / CJR / CJL / CJB / CJO

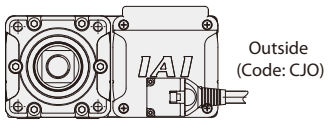
Description This option allows you to change the exit direction of the motor-encoder cable to top, bottom, left, or right.

Straight motor type



* When viewed from the actuator rear side (motor side).

Side-mounted motor type



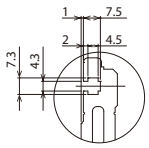
* When viewed from the actuator front side.

Foot Plate

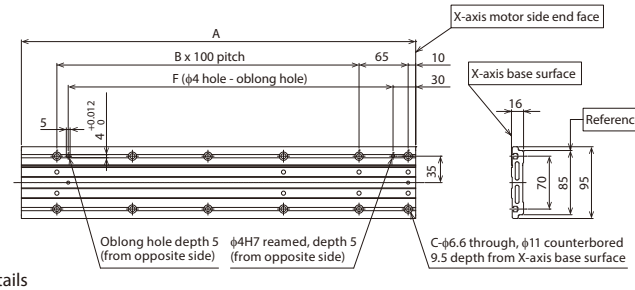
Option Code FTP

Description X-axis can be installed from the top with this Foot Plate.

IK2-P6XBD2□□S
IK2-P6XBD3□□S



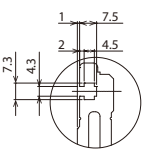
Foot plate T-slot details



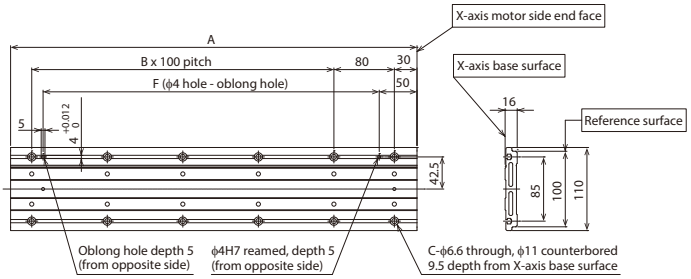
Foot plate mounting dimensions

X-axis stroke	A	B	C	F
50	172	0	4	30
100	222	1	6	130
150	272	1	6	130
200	322	2	8	230
250	372	2	8	230
300	422	3	10	330
350	472	3	10	330
400	522	4	12	430
450	572	4	12	430
500	622	5	14	530
550	672	5	14	530
600	722	6	16	630
650	772	6	16	630
700	822	7	18	730
750	872	7	18	730
800	922	8	20	830

IK2-P6XBC2□□S
IK2-P6XBC3□□S
IK3-P6BBC2□□S
IK3-P6BBC3□□S
IK3-P6BBH2□□S
IK3-P6BBH3□□S



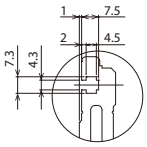
Foot plate T-slot details



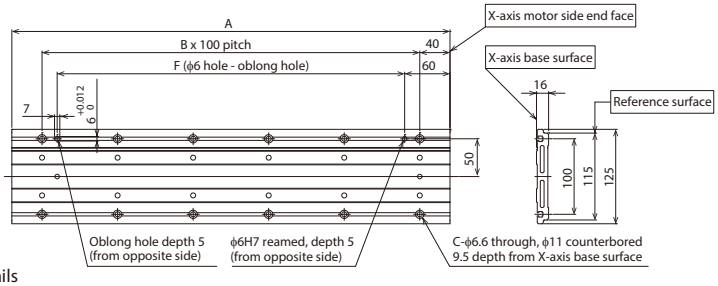
Foot plate mounting dimensions

X-axis stroke	A	B	C	F
50	188	0	4	45
100	238	1	6	145
150	288	1	6	145
200	338	2	8	245
250	388	2	8	245
300	438	3	10	345
350	488	3	10	345
400	538	4	12	445
450	588	4	12	445
500	638	5	14	545
550	688	5	14	545
600	738	6	16	645
650	788	6	16	645
700	838	7	18	745
750	888	7	18	745
800	938	8	20	845

IK2-P6XBB2□□S
IK2-P6XBB3□□S
IK3-P6BBB2□□S
IK3-P6BBB3□□S
IK3-P6BBG2□□S
IK3-P6BBG3□□S
IK4-P6BBB2□□S
IK4-P6BBB3□□S



Foot plate T-slot details

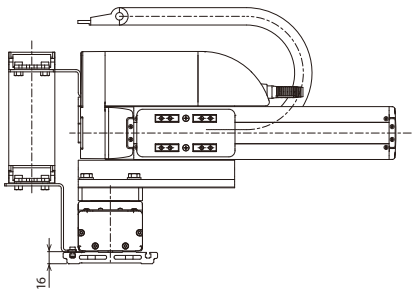


Foot plate mounting dimensions

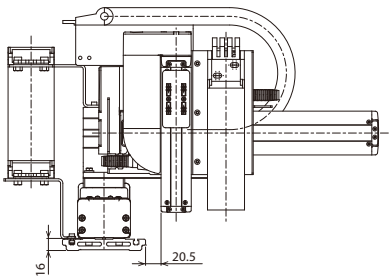
X-axis stroke	A	B	C	F
50	230	1	4	60
100	280	2	6	160
150	330	2	6	160
200	380	3	8	260
250	430	3	8	260
300	480	4	10	360
350	530	4	10	360
400	580	5	12	460
450	630	5	12	460
500	680	6	14	560
550	730	6	14	560
600	780	7	16	660
650	830	7	16	660
700	880	8	18	760
750	930	8	18	760
800	980	9	20	860
850	1030	9	20	860
900	1080	10	22	960
950	1130	10	22	960
1000	1180	11	24	1060
1050	1230	11	24	1060
1100	1280	12	26	1160

* Please refer to the dimensions below when mounting.

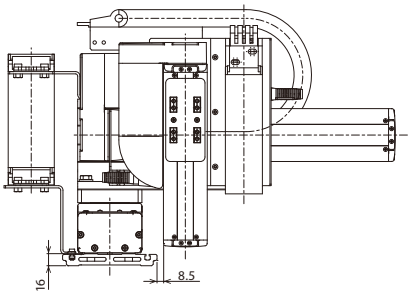
■IK2-P6XBD2□□S
IK2-P6XBD3□□S
IK2-P6XBC2□□S
IK2-P6XBC3□□S
IK2-P6XBB2□□S
IK2-P6XBB3□□S



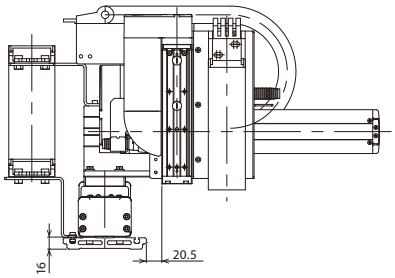
■IK3-P6BBC2□□S
IK3-P6BBC3□□S



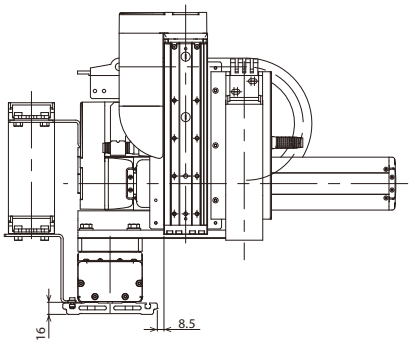
■IK3-P6BBB2□□S
IK3-P6BBB3□□S



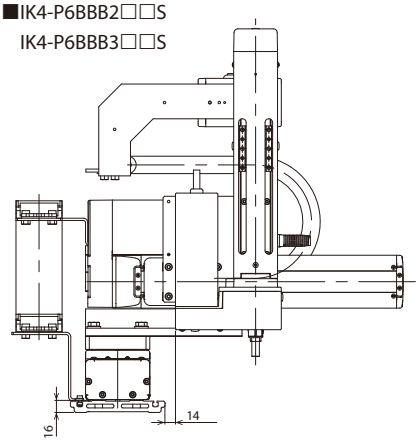
■IK3-P6BBH2□□S
IK3-P6BBH3□□S



■IK3-P6BBG2□□S
IK3-P6BBG3□□S



■IK4-P6BBB2□□S
IK4-P6BBB3□□S



Non-motor End Specification

Option Code **NM**

Description The normal home position is set by the slider and rod on the motor side, however there is the option for the home position to be on the other side to accommodate variations in equipment layout, etc. (Please note that changing the home position after the actuators are shipped may require the products to be sent back to IAI for re-setting.)

Slider Roller Specification

Option Code **SR**

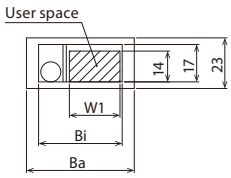
Description The slider of the standard slider type specification is changed to the same roller structure as the cleanroom type. When using the slider roller spec., the appearance and dimensions of the slider cover will be the same as the cleanroom type.
Changing to roller specification will make the external view and dimensions of the slider cover the same as the cleanroom type.

Appendix

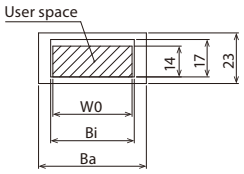
●Cable Track

2-axis configurations | Cable storage | Detailed view

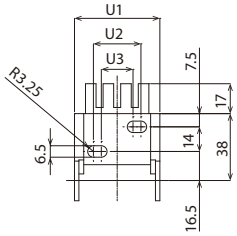
Cable track size	CT	CTM	CTL	CTXL
U1	48.5	60.5	75	–
U2	27	39.5	48	–
U3	18	30.5	–	–
Ba	49	61	76	94
Bi	38	50	63	80
W0	36	48	61	78
W1	23	35	48	65



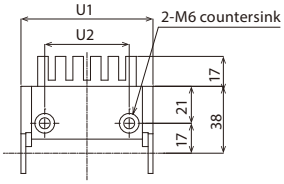
X-Y, Y-Z cable track sectional view



Y-Y, Z-Z cable track sectional view



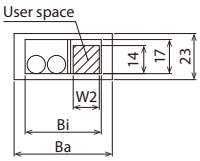
Y-Y, Z-Z cable track moving end detailed view (CT, CTM)



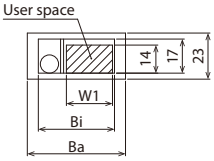
Y-Y, Z-Z cable track moving end detailed view (CTL)

3-axis configurations | Cable storage | Detailed view

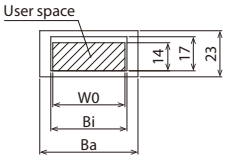
Cable track size	CT	CTM	CTL	CTXL
U1	48.5	60.5	–	–
U2	27	39.5	–	–
U3	18	30.5	–	–
Ba	49	61	76	94
Bi	38	50	63	80
W0	36	48	61	78
W1	23	35	48	65
W2	13	25	38	55



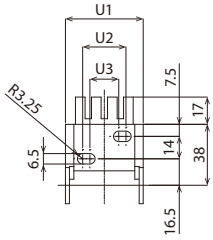
X-Y cable track sectional view



Y-Z cable track sectional view



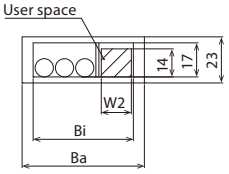
Z-Z cable track sectional view



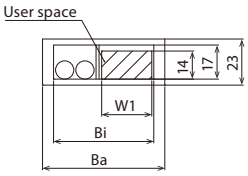
Z-Z cable track moving end detailed view

4-axis configurations | Cable storage | Detailed view

Cable track size	CT	CTM	CTL	CTXL
Ba	49	61	76	94
Bi	38	50	63	80
W1	13	25	38	–
W2	–	15	28	45



X-Y cable track sectional view



Y-ZR cable track sectional view

Bigger user space is available by ordering as a special specification, if it is insufficient. Please refer to each controller page.

●Cable Length

Cable code	Length	RCP6 2-axis IK2-P6	RCP6 3-axis IK3-P6	RCP6 4-axis IK4-P6
1L	1m	○	○	○
2L	2m	○	○	○
3L	3m	○	○	○
4L	4m	○	○	○
5L	5m	○	○	○
6L	6m	○	○	○
7L	7m	○	○	○
8L	8m	○	○	○
9L	9m	○	○	○
10L	10m	○	○	○
11L	11m	○	○	○
12L	12m	○	○	○
13L	13m	○	○	○
14L	14m	○	○	○
15L	15m	○	○	○

Table of Maximum Speed by Stroke

Only models and axes whose maximum speed varies depending on the stroke are listed.
For models and axes not listed below, there is no change in the maximum speed depending on the stroke. Please refer to the product pages.
However, the maximum speed may not be reached if the stroke is short or the acceleration is low.

■ **IK2-P6XBD1□□S X-axis: SA6R**
■ **IK2-P6XBD2□□S X-axis: SA6C**
■ **IK2-P6XBD3□□S X-axis: SA6C**

(Unit: mm/s)

Speed type \ Stroke	50~750 (Every 50mm)	800 (mm)
SS	640	575

■ **IK2-P6XBC1□□S X-axis: SA7R**
■ **IK2-P6XBC2□□S X-axis: SA7C**
■ **IK2-P6XBC3□□S X-axis: SA7C**

(Unit: mm/s)

Speed type \ Stroke	50~700 (Every 50mm)	750 (mm)	800 (mm)
MM	280	275	245
HH	560		500
SS	640		

■ **IK2-P6XBB1□□S X-axis: SA8R**
■ **IK2-P6XBB2□□S X-axis: SA8C**
■ **IK2-P6XBB3□□S X-axis: SA8C**

(Unit: mm/s)

Speed type \ Stroke	50~900 (Every 50mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)
MM	300	285	260	235	220
HH	400				
SS	650				

■ **IK2-P6XBE1□□S X-axis: WSA16R**
■ **IK2-P6XBE2□□S X-axis: WSA16C**
■ **IK2-P6XBE3□□S X-axis: WSA16C**

(Unit: mm/s)

Speed type \ Stroke	50~1050 (Every 50mm)	1100 (mm)
MH	210	205
HH	365	

■ **IK2-P6YBD1□□S Y-axis: SA6R**
■ **IK2-P6YBD2□□S Y-axis: SA6C**
■ **IK2-P6YBD3□□S Y-axis: SA6C**

(Unit: mm/s)

Speed type \ Stroke	50~650 (Every 50mm)	700 (mm)	750 (mm)	800 (mm)
SM	800	735	650	575
SH				

■ **IK2-P6YBI1□□S Y-axis: SA6R**
■ **IK2-P6YBI2□□S Y-axis: SA6C**
■ **IK2-P6YBI3□□S Y-axis: SA6C**

(Unit: mm/s)

Speed type \ Stroke	50~650 (Every 50mm)	700 (mm)	750 (mm)	800 (mm)
SH	800	735	650	575

■ **IK3-P6BBE1□□S X-axis: WSA16R**
■ **IK3-P6BBE2□□S X-axis: WSA16C**
■ **IK3-P6BBE3□□S X-axis: WSA16C**

(Unit: mm/s)

Speed Type \ Stroke	50 ~ 1050 (Every 50mm)	1100 (mm)
MHL	210	205
MHM		
MHH		
MHS		

■ **IK4-P6BBB1□□S X-axis: SA8R**
■ **IK4-P6BBB2□□S X-axis: SA8C**
■ **IK4-P6BBB3□□S X-axis: SA8C**

(Unit: mm/s)

Speed Type \ Stroke	50 ~ 900 (Every 50mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)
MM	300	285	260	235	220

R-Axis Allowable Moment of Inertia, and Angular Velocity and Angular Acceleration/Deceleration

R-axis allowable moment of inertia	Set angular velocity	Set acceleration/deceleration
0.010kg·m^2	300 deg/s	0.10 G (1,000 deg/s^2)
0.008kg·m^2	400 deg/s	0.18 G (1,778 deg/s^2)
0.006kg·m^2	500 deg/s	0.28 G (2,778 deg/s^2)
0.005kg·m^2	600 deg/s	0.30 G (2,940 deg/s^2)
0.004kg·m^2	800 deg/s	
0.003kg·m^2 or less	1,000deg/s	

MSEL

RCP6/RCP5/RCP4/RCP3/RCP2
Program Controller

Features

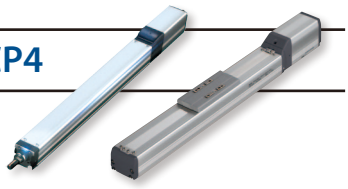
1 Control maximum of 4 axes available with stepper motor mounted ROBO Cylinder

It is also available for interpolation operation, widening the range of possible applications

Example of combinations

Available to connect 4 axes at maximun

2 Available to connect ROBO Cylinders RCP6/RCP5/RCP4



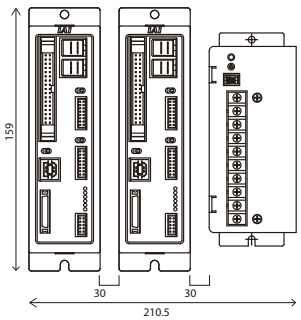
By applying PowerCON, it is now possible to perform interpolation operation with ROBO Cylinders RCP6/RCP5/RCP4, which are applicable for high-output driver, but were not feasible with the program controller PSEL in the past.

3 Reduced wiring/space saving

Until now, with 4 axes controlled for the actuator, 2 controllers (PSEL) for 2-axis control and a 24 V power supply were required.
Using MSEL with a built-in power supply, 4-axis control is possible with 1 controller. As a result, wiring is reduced and space is saved.

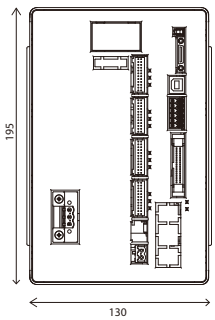
In 4-axis controlling of actuator

Conventional Product **PSEL 2 units + PS241 (24 V power supply)**



Cable Reduction
Applicable for 100 ~230VAC
with built-in power source

New product **MSEL 1 unit**



4 Equipped with expansion I/O slot

In addition to standard IO (IN 16 points / OUT 16 points), one slot is available as the expansion I/O slot. The expansion I/O is available to select from either a PIO (IN 16 points / OUT 16 points) or one of the various available communication boards.

List of Models

Program controller available for operation of RCP6/RCP5/RCP4/RCP3/RCP2 series actuator. A single unit can handle various forms of control.

Type name		PC	PG
Type		Standard type	Safety Category type
External view			
Max. number of controlled axes		4	
No. of positions		30,000 points	
Power supply		Single-phase 100~230VAC	
Safety Category		B	3 *1
Battery-less absolute Incremental Simple absolute	1-axis	○	
	2-axis	○	
	3-axis	○	
	4-axis	○	

*1: To comply with the safety category, the customer will need to install a safety circuit external to the controller.

Model Specification Items

MSEL – [ ] – [ ] – [ ] [ ] [ ] – [ ] [ ] [ ] – [ ] [ ] [ ] – 4 – [ ] – [ ]

Series / Type / Number of Connected Axes / (Axis 1): Motor Type, Encoder Type, Options / (Axis 2 to Axis 4): Motor Type, Encoder Type, Options / Standard I/O Type / Expansion I/O Type / I/O Cable Length / Power Supply Voltage / Simple Absolute Unit / Controller Mounting Specification

Series

PC	Standard type
PG	Safety Category type

Number of Connected Axes

1	1-axis specification
2	2-axis specification
3	3-axis specification
4	4-axis specification

(Axis 1) Motor Type

20P	20□
20SP	20□
28P	28□
28SP	28□
35P	35□
42P	42□
42SP	42□
56P	56□

(Example) 20P: Supports 20□ stepper motor

(Axis 1) Encoder Type

WAI	Battery-less absolute specification Incremental specification
SA	Simple absolute specification

* Battery-less absolute and incremental cannot be used together with simple absolute. When using simple absolute, all axes need to be used with simple absolute.

(Axis 1) Options

B	Brake

(Axis 2 to Axis 4) Motor Type

20P	20□
20SP	20□
28P	28□
28SP	28□
35P	35□
42P	42□
42SP	42□
56P	56□

(Example) 20P: Supports 20□ stepper motor

(Axis 2 to Axis 4) Encoder Type

WAI	Battery-less absolute specification Incremental specification
SA	Simple absolute specification

* Battery-less absolute and incremental cannot be used together with simple absolute. When using simple absolute, all axes need to be used with simple absolute.

(Axis 2 to Axis 4) Options

B	Brake

Standard I/O Type

NP	NPN specification
PN	PNP specification

Expansion I/O Type

E	Not used
NP	Expansion PIO board (NPN specification)
PN	Expansion PIO board (PNP specification)
DV	DeviceNet board
DV2	DeviceNet board (with 2-way connector)
CC	CC-Link board
CC2	CC-Link board (with 2-way connector)
PR	PROFIBUS-DP board
EP	EtherNet/IP board
EC	EtherCAT board
PRT	PROFINET IO board
SE1	RS232C connection board
SE2	RS485 connection board
IA	IA Net connection board

* If DV2 or CC2 is selected, a 2-way connector is supplied for branch wiring.
* When using EIOU (please contact IAI for more information), an IA Net connection board is required.

I/O Cable Length

0	No cable
2	2m (Standard)
3	3m
5	5m

Power Supply Voltage

4	100~230VAC

Simple Absolute Unit

ABB	With absolute data backup battery box
ABBN	Without absolute data backup battery box
(Blank)	Battery-less absolute or incremental

* Make sure to select ABB/ABBN when selecting simple absolute type "SA".

Controller Mounting Specification

(Blank)	Screw mounting specification
DN	DIN rail mounting specification

Notes

While the motor type specified in the actuator model number and the controller model number usually matches, there are some models where the actuator and controller motor types do not match.
Be sure to check the corresponding models listed below during selection.

<28SP corresponding actuator>

● Controller motor type [28SP]
…RCP2-RA3C

When connecting an actuator with the motor type 56SP, 60P, or 86P.

List of Models

Type name	PCF	PGF
Type	56SP/60P/86P motor-compatible type	Safety Category compliant, 56SP/60P/86P motor-compatible type
External view		
Max. number of controlled axes	4	
No. of positions	30,000 points	
Power supply	Single-phase 100~230VAC	
Safety Category	B	3 *1

Standard price

1 Base price			2 56SP, 60P, 86P actuator quantity			3 Quantity of simple absolute encoders			Price
Number of axes	Price	+	Number of axes	Price	+	Number of axes	Price	=	Standard price by specification
1-axis specification	○		1-axis	○		1-axis	○		
2-axis specification	○		2-axis	○		2-axis	○		
3-axis specification	○					3-axis	○		
4-axis specification	○								

*1: To comply with the safety category, the customer will need to install a safety circuit external to the controller.

Model Specification Items

MSEL – □ – □ – □ WAI □ – □ □ □ – □ □ □ – □ – □ – □ – 4 – □ – □

Series | Type | Number of Connected Axes | (Axis 1): Motor Type, Encoder Type, Options | (Axis 2): Motor Type, Encoder Type, Options | (Axis 3 to Axis 4): Motor Type, Encoder Type, Options | Standard I/O Type | Expansion I/O Type | I/O Cable Length | Power Supply Voltage | Simple Absolute Unit | Controller Mounting Specification

Type

PCF	56SP/60P/86P motor-compatible type
PGF	Safety Category compliant, 56SP/60P/86P motor-compatible type

Number of Connected Axes

1	1-axis specification
2	2-axis specification
3	3-axis specification
4	4-axis specification

(Axis 1) Motor Type

56SP	56□
60P	60□
86P	86□

(Example) 20P: Supports 20□ stepper motor

(Axis 1) Encoder Type

WAI	Battery-less absolute specification Incremental specification
SA	Simple absolute specification

* When connecting a 56SP, 60P or 86P actuator, a simple absolute unit cannot be selected.

(Axis 1) Options

B	Brake

(Axis 2) Motor Type

20P	20□
20SP	20□
28P	28□
28SP	28□
35P	35□
42P	42□
42SP	42□
56P	56□
56SP	56□
60P	60□
86P	86□

(Example) 20P: Supports 20□ stepper motor

(Axis 2) Encoder Type

WAI	Battery-less absolute specification Incremental specification
SA	Simple absolute specification

* When connecting a 56SP, 60P or 86P actuator, a simple absolute unit cannot be selected.

(Axis 2) Options

B	Brake

(Axis 3 to Axis 4) Motor Type

20P	20□
20SP	20□
28P	28□
28SP	28□
35P	35□
42P	42□
42SP	42□
56P	56□

(Example) 20P: Supports 20□ stepper motor

(Axis 3 to Axis 4) Encoder Type

WAI	Battery-less absolute specification Incremental specification
SA	Simple absolute specification

* Battery-less absolute and incremental cannot be used together with simple absolute. When using simple absolute, all axes need to be used in simple absolute.

(Axis 3 to Axis 4) Options

B	Brake

Standard I/O Type

NP	NPN specification
PN	PNP specification

Expansion I/O Type

E	Not used
NP	Expansion PIO board (NPN specification)
PN	Expansion PIO board (PNP specification)
DV	DeviceNet board
DV2	DeviceNet board (with 2-way connector)
CC	CC-Link board
CC2	CC-Link board (with 2-way connector)
PR	PROFIBUS-DP board
EP	EtherNet/IP board
EC	EtherCAT connection specification
PRT	PROFINET IO connection specification
SE1	RS232C connection board
SE2	RS485 connection board
IA	IA Net connection board

* If DV2 or CC2 is selected, a 2-way connector is supplied for branch wiring.
* When using EIOU (please contact IAI for more information), an IA Net connection board is required.

I/O Cable Length

0	No cable
2	2m (Standard)
3	3m
5	5m

Power Supply Voltage

4	100~230VAC

Simple Absolute Unit

ABB	With absolute data backup battery box
ABBN	Without absolute data backup battery box
(Blank)	Battery-less absolute or incremental

* Make sure to select ABB/ABBN when selecting simple absolute type "SA".

Controller Mounting Specification

(Blank)	Screw mounting specification
DN	DIN rail mounting specification

Options

Teaching pendant
(See P. 145)
<Model: TB-02-□>
* Supported versions
PC/PG: Ver.1.10 or later
PCF/PGF: Ver.1.60 or later

Options

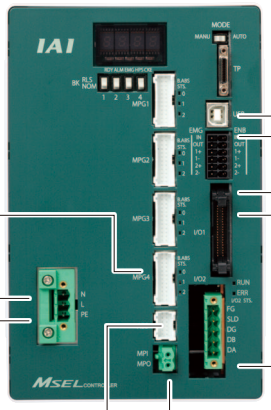
PC compatible software
(See P. 146)
<Model: IA-101-X-MW-JS>
(With RS232C cable
+ connector conversion cable)
<Model: IA-101-X-USBS>
(With USB cable + dummy plug)
* Supported versions
PC/PG: Ver.12.00.01.00 or later
PCF/PGF: Ver.13.02.00.00 or later

Accessories

Dummy plug
(See P. 145)
<Model: DP-4S>
(Included with MSEL-PG/PGF/
included with IA-101-X-USBS)

Accessories

Connector conversion cable
(See P. 145)
<Model: CB-SEL-SJS002>
(Included with TB-01-SJ/
TB-02-S/IA-101-X-MW-JS)



Emergency stop switch

Enable switch

Accessories

PIO flat cable
(See P. 148)
<Model: CB-PAC-PIO020>
Standard: 2m

PLC

100~230VAC

Options

Remote I/O unit
(Please contact IAI for more details)
<Model: EIOU-1-□-□>

Protective grounding

Electromagnetic contactor

Accessories

Connection cable
<Model: CB-MSEL-AB005>
(Included with MSEL-ABB)

Options

Absolute data backup battery box
(See P. 145)
<Model: MSEL-ABB>

Replacement battery
(See P. 145)
<Model: AB-7>

* If the simple absolute type is selected for a controller model, an absolute data backup battery box will be included. (See P. 145 for dimensions)

Expansion PIO/various field networks

Included with expansion PIO specification

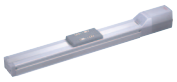
PIO flat cable
(See P. 148)
<Model: CB-PAC-PIO020>
Standard: 2m

PROFIBUS DeviceNet PROFINET
CC-Link EtherNet/IP EtherCAT

<Connectable actuators>

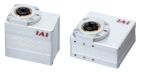
* Emergency stop switch, enable switch, electromagnetic contactor, and other devices may be connected and wired as necessary. The factory setting (short-circuit bridge) with no external devices connected still operates properly.

Integrated Motor-encoder Cable
(See P. 148)
<Model: CB-PSEP-MPA□□□>
Standard: 1 m/3 m/5 m
Supplied with the actuator



Actuator RCP2 Series

Integrated Motor-encoder Cable
(See P. 148)
<Model: CB-RPSEP-MPA□□□>
Standard: 1 m/3 m/5 m
Supplied with the actuator



Actuator RCP2 compact rotary

Integrated Motor-encoder Cable
(See P. 148)
<Model: CB-APSEP-MPA□□□>
Standard: 1 m/3 m/5 m
Supplied with the actuator

Actuator RCP3 Series

Integrated Motor-encoder Cable
(See P. 147)
<Model: CB-CA-MPA□□□>
<Model: CB-CA-MPA□□□-RB>
Standard: 1 m/3 m/5 m
Supplied with the actuator

Actuator RCP4 Series
* Excluding SA3/RA3

Integrated Motor-encoder Cable
(See P. 147)
<Model: CB-CAN-MPA□□□>
<Model: CB-CAN-MPA□□□-RB>
Standard: 1 m/3 m/5 m
Supplied with the actuator

Actuator RCP5 Series

Integrated Motor-encoder Cable
(See P. 147)
<Model: CB-CAN-MPA□□□>
<Model: CB-CAN-MPA□□□-RB>
Standard: 1 m/3 m/5 m
Supplied with the actuator

Actuator RCP6 Series

Basic Controller Specifications

Specification item			Description
Power supply input voltage			Single-phase 100~230 VAC ±10%
Power supply current			2.9A typ. (100 VAC), 1.4A typ. (200 VAC), 1.2A typ. (230 VAC)
Power frequency range			50/60Hz ±5%
Motor type			Stepper motor (servo control)
Supported encoders			Incremental Encoder/Battery-Less Absolute Encoder
Data storage device			FlashROM/FRAM
Number of program steps			9,999
Number of positions			30,000
Number of programs			255
Number of multi-tasks			16
Operation mode	Serial communication		○
	Program		○
SIO interface	Communication method		RS232 (asynchronous communication)
	Baud rate		9.6, 19.2, 38.4, 57.6, 76.8, 115.2kbps
	Live wire connection	TP port	×
		USB	○
Standard PIO interface	Input specification	Number of input points	16 points
		Input voltage	24VDC ± 10%
		Input current	7mA/circuit
		ON voltage	Min.16VDC
		OFF voltage	Max.5VDC
		Leak current	Allowable leak current: 1mA max.
		Isolation method	Photocoupler insulation
	Output specification	Number of output	16 points
		Load voltage	24VDC ± 10%
		Max. current	100mA/1 point, 400mA/8 points (Note 1)
		Saturated voltage	Max.3V
		Leak current	Max.0.1mA
		Isolation method	Photocoupler insulation
Applicable expansion I/O interface			Expansion PIO NPN specification (16IN/16OUT)
			Expansion PIO PNP specification (16IN/16OUT)
			CC-Link (remote device station), DeviceNet, PROFIBUS-DP, PROFINET IO, EtherCAT, EtherNet/IP, IA Net, RS232C, RS485
Calendar/clock function	Retention time		Approx. 10 days
	Charging time		Approx. 100 hours (full charge) data retention is possible even if the batteries are not fully charge
Protection function			Overcurrent, abnormal temperature, fan speed degradation monitoring, encoder disconnection, etc.
Operating temperature range			0 to 40°C
Operating humidity range			85% RH max. (no condensation or freezing)
Installation	Mounting direction		Vertical mounting (exhaust-side top)
	Mounting method		Screw mounted or DIN rail mounted
Rush current			15A typ. (100 VAC), 30A typ. (200 VAC): 5ms max. (Ambient temperature 25°C/No cycling of the power)
Air cooling method			Forced air cooling
External dimensions			Width 130mm x Height 195mm x Depth 125mm
Mass			Approx. 1400g

Note 1: The total load current is 400mA for every eight points from standard I/O No. 316. (The maximum current per point is 100mA.)

PIO Signal Chart

Pin Layouts for Standard PIO Connector/Expansion PIO Connector

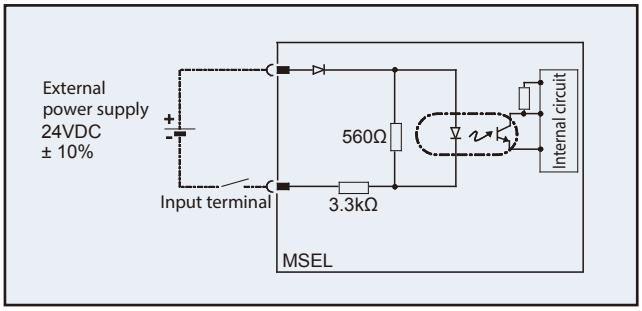
Pin No.	Category	Assignment	Pin No.	Category	Assignment
1A	24V	P24	1B	Output	OUT0
2A	24V	P24	2B		OUT1
3A	-	-	3B		OUT2
4A	-	-	4B		OUT3
5A	Input	IN0	5B		OUT4
6A		IN1	6B		OUT5
7A		IN2	7B		OUT6
8A		IN3	8B		OUT7
9A		IN4	9B		OUT8
10A		IN5	10B		OUT9
11A		IN6	11B		OUT10
12A		IN7	12B		OUT11
13A		IN8	13B		OUT12
14A		IN9	14B		OUT13
15A		IN10	15B		OUT14
16A		IN11	16B		OUT15
17A		IN12	17B	-	-
18A		IN13	18B	-	-
19A		IN14	19B	0V	N
20A		IN15	20B	0V	N

Standard I/O (NPN Specification) Internal Circuit

[Input] External input specification (NPN specification)

Item	Specification
Input voltage	24VDC ±10%
Input current	7mA, 1 circuit
ON/OFF voltage	ON voltage: min. 16.0VDC; OFF voltage: max. 5.0VDC
Insulation method	Photocoupler insulation

* The port numbers in the circuit diagram below are the default port numbers set at time of shipping.
* The allowable leakage current when input is off is 1mA or less.

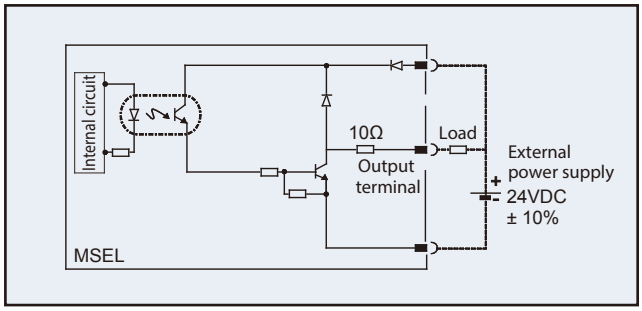


* Please refer to the instruction manual for standard I/O (PNP specification).

[Output] External output specification (NPN specification)

Item	Specification	
Load voltage	24VDC ±10%	TD62084 (equivalent) used
Maximum load current	100mA/1 point, 400mA/8 points (Note)	
Leakage current	0.1mA max./point	
Insulation method	Photocoupler insulation	

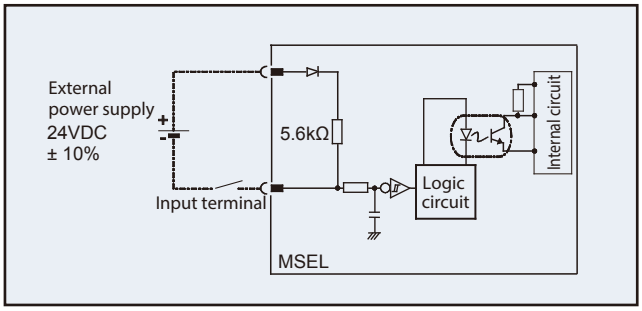
* The port numbers in the circuit diagram below are the default port numbers set at time of shipping.
Note: The total load current is 400mA for every eight points from standard I/O No. 316.
(The maximum current per point is 100mA.)



Expansion I/O (NPN Specification) Internal Circuit

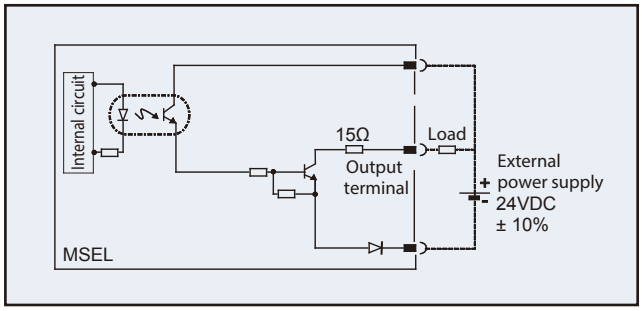
[Input] External input specification

Item	Specification
Number of input	16 points
Input voltage	24VDC ±10%
Input current	4mA, 1 circuit
ON/OFF voltage	ON voltage: 18VDC min. (3.5mA) OFF voltage: 6VDC max. (1mA)
Insulation method	Photocoupler insulation

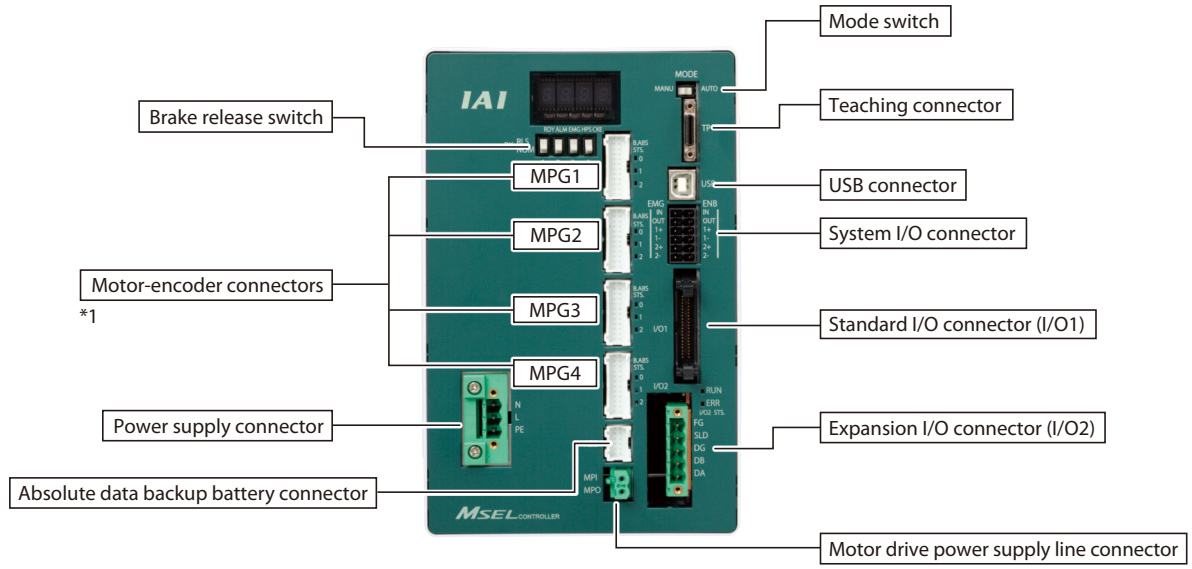


[Output] External output specification

Item	Specification
Number of output	16 points
Rated load current	24VDC ±10%
Max. current	50mA, 1 circuit
Insulation method	Photocoupler insulation



Name of Each Component

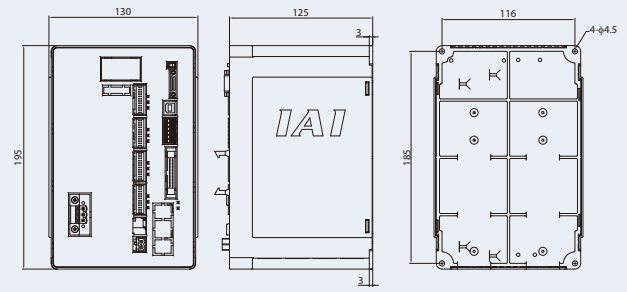


*1: Do not connect a motor to the wrong MPG1, MPG2, MPG3, or MPG4 connector. This may lead to malfunction or failure.

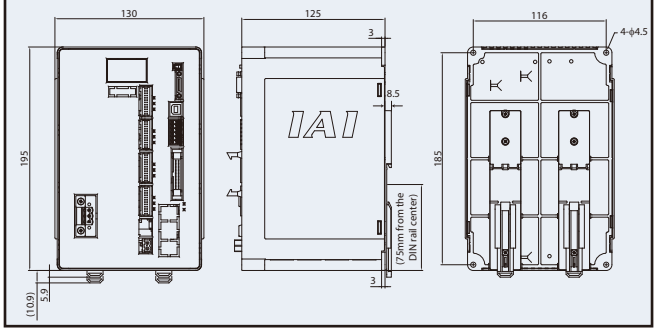
External dimensions

Controller

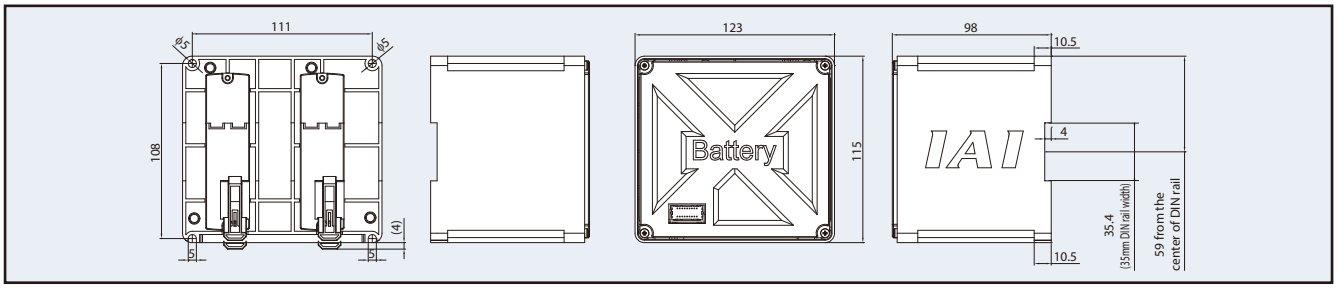
Screw mounting specification



DIN rail mounting specification



Absolute data backup battery box



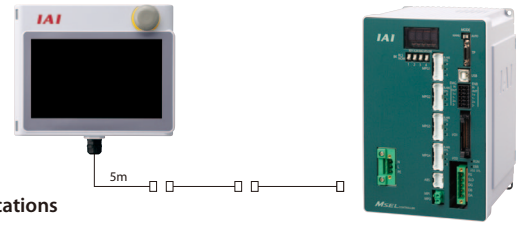
Options

Teaching pendant

Features A teaching device equipped with functions such as program and position input, trial operation, monitoring, etc.

Model **TB-02-□**

Configuration



Specifications

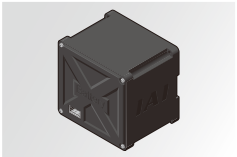
Rated voltage	24V DC
Power consumption	3.6W or less (150mA or less)
Ambient operating temperature	0 to 40°C
Ambient operating humidity	20~85% RH (no condensation)
Environmental resistance	IP20
Mass	470g (TB-02 unit only)

Absolute data backup battery box

Overview If the simple absolute type is selected with the code ABB, the absolute data backup battery box is included with the controller. However, if the battery box is ordered as a separate unit, batteries will not be included, only the box itself. If the battery is needed, please purchase it separately (Model: AB-7).

Model **MSEL-ABB** (battery sold separately)

External Dimensions **See P. 145**



* Cable that connects the absolute data backup battery box and MSEL (Model: CB-MSEL-AB005) is included with the box.

Dummy plug

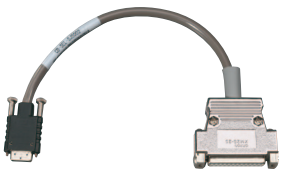
Features Required when operating safety category specification (MSEL-PG/PGF) units or when operated using a USB cable. (MSEL-PG/PGF type, PC software IA-101-X-USBS accessory)

Model **DP-4S**

Connector conversion cable

Features Converts a teaching pendant or RS232C cable D-sub 25-pin connector to an MSEL teaching connector. (TB-01-SJ, TB-02-S, IA-101-X-MW-JS accessory)

Model **CB-SEL-SJS002**



Replacement battery

Overview Replacement battery for the absolute data backup battery box.

Model **AB-7**

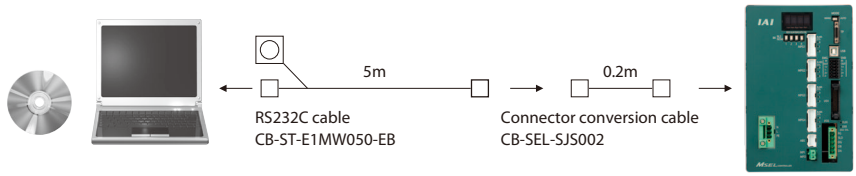
* The number of required absolute batteries is the same as the number of axes.

PC compatible software (Windows only)

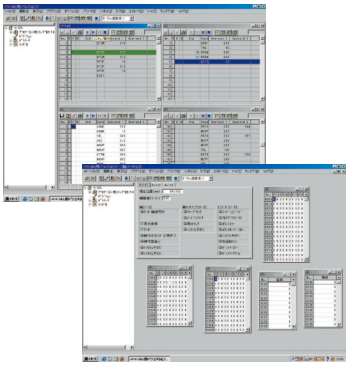
Features This is start-up support software which comes equipped with functions such as program/position input, trial operation, monitoring, etc. The functions required for debugging have been significantly improved to shorten the start-up time.

Model **IA-101-X-MW-JS** (With RS232C cable + connector conversion cable)

Configuration

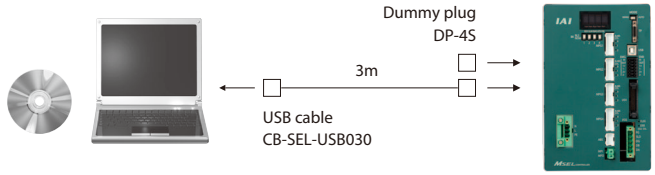


Compatible with Windows XP SP2 or later/Vista/7/8



Model **IA-101-X-USBS** (With USB cable + dummy plug)

Configuration



MSEL-PC/PG is supported by Ver.12.00.01.00 or later.

CB-ST-E1MW050-EB cannot be used "when building an enable system using the system I/O connector and an external power supply." or "when building a redundant safety circuit". (The use of CB-ST-A2MW050-EB is required.)

Maintenance Parts

When placing an order for a replacement cable, please use the model name shown below. (* For connectable actuators, please contact IAI for more information.)

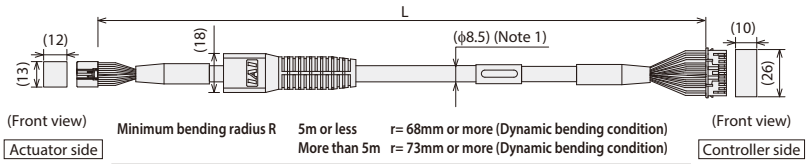
■ Table of compatible cables

	Model name		Integrated Motor-encoder Cable	Integrated Motor-encoder Robot Cable
①	RCP6/RCP6CR/RCP5/RCP5CR/RCP5W (Models other than (3))		CB-CAN-MPA□□□	CB-CAN-MPA□□□-RB
②	RCP4	SA3/RA3/GR		
③	RCP6/RCP6CR RCP5 RCP5W	SA8/RRA8 RA7 (High thrust specification)/RA8/RA10 WSA16/WRA16	CB-CFA3-MPA□□□	CB-CFA3-MPA□□□-RB
④	RCP4/RCP4CR/RCP4W (Models other than (2), (5), (6))		CB-CA-MPA□□□	CB-CA-MPA□□□-RB
⑤	RCP4	RA6C (High thrust specification)	CB-CFA2-MPA□□□	CB-CFA2-MPA□□□-RB
⑥	RCP4W	RA7C (High thrust specification)		
⑦	RCP3		–	CB-APSEP-MPA□□□
⑧	RCP2	GRSS/GRLS/GRST/GRHM/GRHB/SRA4R/ SRGS4R/SRGD4R		
⑨		RTBS/RTBSL RTCS/RTCSL	–	CB-RPSEP-MPA□□□
⑩	RCP2CR RCP2W	GRS/GRM GR3SS/GR3SM	CB-CAN-MPA□□□	CB-CAN-MPA□□□-RB
⑪		RTBS/RTBSL RTCS/RTCSL/RTB/RTBL/RTC/RTCL/RTBB/ RTBBL/RTCB/RTCBL		
⑫	RCP2 RCP2CR RCP2W	RA10/HS8 RA8	CB-CFA-MPA□□□	CB-CFA-MPA□□□-RB
⑬	RCP2W	SA16C		
⑭	RCP2 (Models other than (8)~(13))		–	CB-PSEP-MPA□□□

	Model name	PIO flat cable
⑮	PCON-CB·CGB/CFB·CGFB	CB-PAC-PIO□□□

Model: CB-CAN-MPA□□□/CB-CAN-MPA□□□-RB

* Please indicate the cable length (L) in □□□,
e.g.) 080 = 8m, maximum 20m



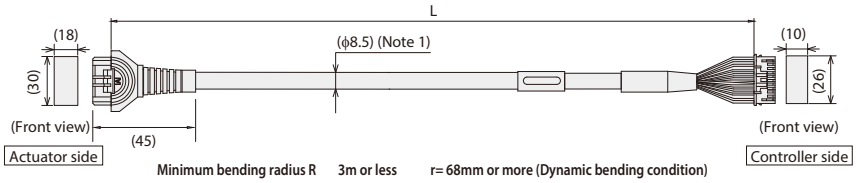
* The robot cable is designed for flex-resistance:
Please use the robot cable if the cable needs to be installed through the cable track.

(Note 1) If the cable length is 5m or more, ϕ9.1 cable diameter applies
for both non-robot cables and robot cables.

Pin No.	Signal name	Pin No.	Signal name
3	ϕA/U	1	ϕA
5	VMM/V	2	VMM
10	ϕ_A/W	3	ϕB
9	ϕB/-	4	VMM
4	VMM/-	5	ϕ_A
15	ϕ_B/-	6	ϕ_B
8	LS+/BK+	7	LS+
14	LS-/BK-	8	LS-
12	-/A+	11	SA(mABS)
17	-/A-	12	SB(mABS)
1	A+/B+	13	A+
6	A-/B-	14	A-
11	B+/Z+	15	B+
16	B-/Z-	16	B-
20	BK+/LS+	9	BK+
2	BK-/LS-	10	BK-
21	LS_GND	17	VCC
7	VPS	19	GND
15	VCC	18	VPS
13	GND	20	LS_GND
19	—	22	—
22	BAT+	21	—(CFvcc)
23	—	23	—
24	FG	24	FG

Model: CB-CFA3-MPA□□□/ CB-CFA3-MPA□□□-RB

* Please indicate the cable length (L) in □□□,
e.g.) 080 = 8m, maximum 20m



* The robot cable is designed for flex-resistance:
Please use the robot cable if the cable needs to be installed through the cable track.

(Note 1) If the cable length is over 3m, ϕ9.1 cable diameter applies
for a non-robot cable and ϕ10 for a robot cable.

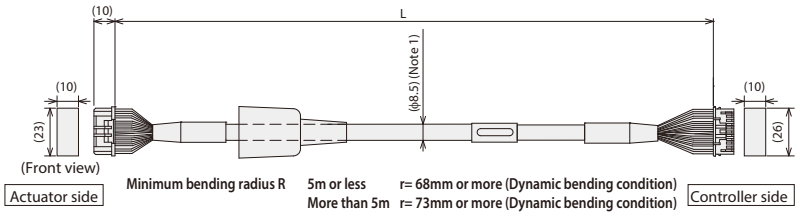
Actuator side
1-1827863-1
(AMP)

Controller side
PADP-24V-1-S
(J.S.T.MFG.CO.,LTD.)

Pin No.	Signal name	Pin No.	Signal name
A1	ϕA	1	ϕA
B1	VMM	2	VMM
A2	ϕ_A	5	ϕ_A
B2	ϕB	3	ϕB
A3	VMM	4	VMM
B3	ϕ_B	6	ϕ_B
A4	LS+	7	LS+
B4	LS-	8	LS-
A6	SA [mABS]	11	SA [mABS]
B6	SB [mABS]	12	SB [mABS]
A7	A+	13	A+
B7	A-	14	A-
A8	B+	15	B+
B8	B-	16	B-
A5	BK+	9	BK+
B5	BK-	10	BK-
A9	LS_GND	20	LS_GND
B9	VPS	18	VPS
A10	VCC	21	VCC
B10	GND	19	GND
A11	—	17	—
B11	FG	22	—
		23	—
		24	FG

Model: CB-CA-MPA□□□/CB-CA-MPA□□□-RB

* Please indicate the cable length (L) in □□□,
e.g.) 080 = 8m, maximum 20m



* The robot cable is designed for flex-resistance:
Please use the robot cable if the cable needs to be installed through the cable track.

(Note 1) If the cable length is 5m or more, ϕ9.1 cable diameter applies
for a non-robot cable and ϕ10 for a robot cable.

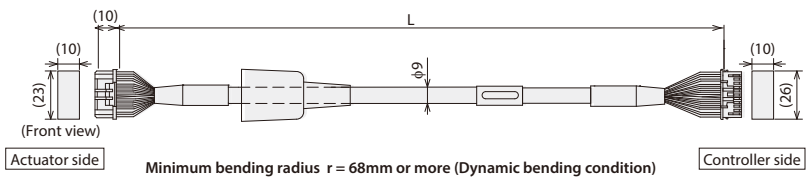
Actuator side
1-1827863-1
(AMP)

Controller side
PADP-24V-1-S
(J.S.T.MFG.CO.,LTD.)

Pin No.	Signal name	Pin No.	Signal name
A1	ϕA	1	ϕA
B1	VMM	2	VMM
A2	ϕ_A	5	ϕ_A
B2	ϕB	3	ϕB
A3	VMM	4	VMM
B3	ϕ_B	6	ϕ_B
A4	LS+	7	LS+
B4	LS-	8	LS-
A6	—	11	—
B6	—	12	—
A7	A+	13	A+
B7	A-	14	A-
A8	B+	15	B+
B8	B-	16	B-
A5	BK+	9	BK+
B5	BK-	10	BK-
A9	LS_GND	20	LS_GND
B9	VPS	18	VPS
A10	VCC	17	VCC
B10	GND	19	GND
A11	—	21	—
B11	FG	22	—
		23	—
		24	FG

Model: CB-CFA2-MPA□□□/CB-CFA2-MPA□□□-RB

* Please indicate the cable length (L) in □□□,
e.g.) 080 = 8m, maximum 20m



* The robot cable is designed for flex-resistance:
Please use the robot cable if the cable needs to be installed through the cable track.

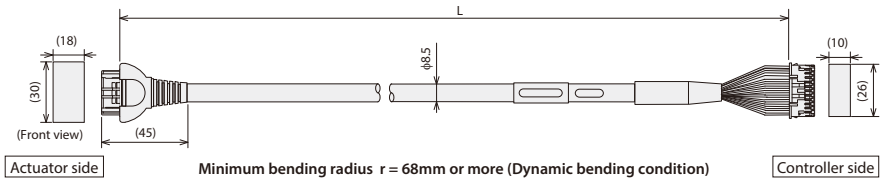
Actuator side
1-1827863-1(AMP)

Controller side
PADP-24V-1-S (J.S.T.MFG.CO.,LTD.)

Pin No.	Signal name	Pin No.	Signal name
A1	ϕA	1	ϕA
B1	VMM	2	VMM
A2	ϕ_A	5	ϕ_A
B2	ϕB	3	ϕB
A3	VMM	4	VMM
B3	ϕ_B	6	ϕ_B
A4	LS+	7	LS+
B4	LS-	8	LS-
A6	—	11	—
B6	—	12	—
A7	A+	13	A+
B7	A-	14	A-
A8	B+	15	B+
B8	B-	16	B-
A5	BK+	9	BK+
B5	BK-	10	BK-
A9	LS_GND	20	LS_GND
B9	VPS	18	VPS
A10	VCC	21	VCC
B10	GND	19	GND
A11	—	17	—
B11	FG	22	—
		23	—
		24	FG

Model: CB-APSEP-MPA□□□

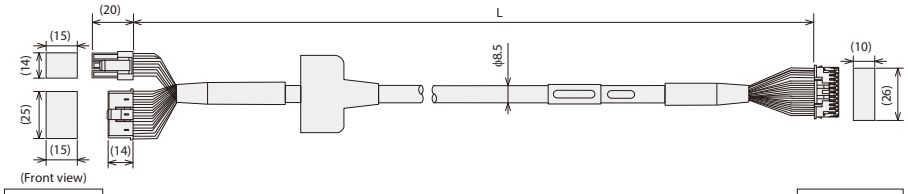
* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 20m



Actuator side Terminal number		Controller side Terminal number
A1	[PCON](ACON)	1
B1	[ϕA] (U)	2
A2	[VMM](V)	5
B2	[ϕ/A] (W)	3
A3	[ϕB] (-)	4
B3	[VMM](-)	6
A4	[ϕ/B] (-)	7
B4	[LS+](BK+)	8
A6	[LS-](BK-)	11
B6	[-](A+)	12
A7	[A+](B+)	13
B7	[A-](B-)	14
A8	[B+](Z+)	15
B8	[B-](Z-)	16
A5	[BK+](LS+)	9
B5	[BK-](LS-)	10
A9	GNDLS	20
B9	[VPS](VPS)	18
A10	[VCC](VCC)	17
B10	[GND](GND)	19
A11	NC	21
B11	Shield [FG] (FG)	24
	NC	22
	NC	23

Model: CB-PSEP-MPA□□□ * Only the robot cable is available for this model.

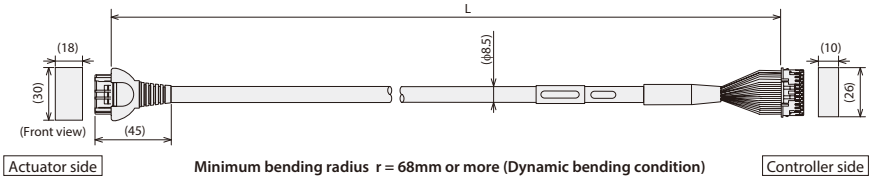
* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 20m



Actuator side Terminal number		Controller side Terminal number
1	[ϕA]	1
2	[VMM]	2
4	[ϕB]	3
5	[VMM]	4
3	[ϕ/A]	5
6	[ϕ/B]	6
16	[BK+]	9
17	[BK-]	10
5	NC	11
6	NC	12
13	[LS+]	7
14	[LS-]	8
1	[A+]	13
2	[A-]	14
3	[B+]	15
4	[B-]	16
10	[VCC]	17
11	[VPS]	18
9	[GND]	19
12	[Spare]	20
15	NC	21
7	NC	22
8	NC	23
18	Shield [FG]	24

Model: CB-RPSEP-MPA□□□ * Only the robot cable is available for this model.

* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 20m

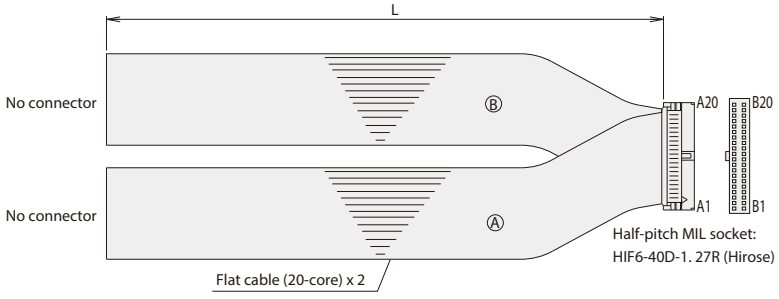


Actuator side Terminal number		Controller side Terminal number
A1	[ϕA]	1
B1	[VMM]	2
A2	[ϕ/A]	5
B2	[ϕB]	3
A3	[VMM]	4
B3	[ϕ/B]	6
A6	[LS+]	7
B6	[LS-]	8
A7	[A+]	13
B7	[A-]	14
A8	[B+]	15
B8	[B-]	16
A4	NC	-
B4	NC	-
A5	[BK+]	9
B5	[BK-]	10
A9	[GNDLS]	20
B9	[VPS]	18
A10	[VCC]	17
B10	[GND]	19
A11	NC	21
B11	Shield [FG] (FG)	24
	NC	22
	NC	23

MSEL/PCON-CA/MSEP-LC PIO flat cable

Model: CB-PAC-PIO□□□

* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 10m



HIF6-40D-1.27R

No.	Signal name	Cable color	Wiring
A1	24V	Brown-1	Flat cable Ⓐ (pressure-welded) AWG28
A2	24V	Red-1	
A3	—	Orange-1	
A4		Yellow-1	
A5	IN0	Green-1	
A6	IN1	Blue-1	
A7	IN2	Purple-1	
A8	IN3	Gray-1	
A9	IN4	White-1	
A10	IN5	Black-1	
A11	IN6	Brown-2	
A12	IN7	Red-2	
A13	IN8	Orange-2	
A14	IN9	Yellow-2	
A15	IN10	Green-2	
A16	IN11	Blue-2	
A17	IN12	Purple-2	
A18	IN13	Gray-2	
A19	IN14	White-2	
A20	IN15	Black-2	

No.	Signal name	Cable color	Wiring
B1	OUT0	Brown-3	Flat cable Ⓑ (pressure-welded) AWG28
B2	OUT1	Red-3	
B3	OUT2	Orange-3	
B4	OUT3	Yellow-3	
B5	OUT4	Green-3	
B6	OUT5	Blue-3	
B7	OUT6	Purple-3	
B8	OUT7	Gray-3	
B9	OUT8	White-3	
B10	OUT9	Black-3	
B11	OUT10	Brown-4	
B12	OUT11	Red-4	
B13	OUT12	Orange-4	
B14	OUT13	Yellow-4	
B15	OUT14	Green-4	
B16	OUT15	Blue-4	
B17	—	Purple-4	
B18		Gray-4	
B19	0V	White-4	
B20	0V	Black-4	

PCON-CB/CFB

Position Controller for RCP6/RCP5/
RCP4 (PowerCON Applicable) /RCP3/RCP2

Features

1 High-resolution battery-less absolute encoder compatible

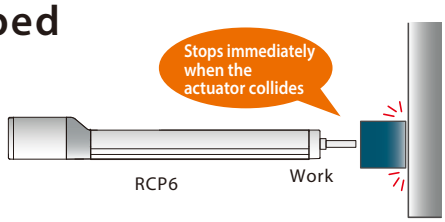
The RCP6 equipped with a high-resolution battery-less absolute encoder is supported. Since no battery is needed to retain position data, less space is required in the control panel, which in turn leads to lower cost of your equipment. The resolution is increased from 800 pulses /rev to 8,192 pulses/rev.

2 PowerCON Equipped

PowerCON (high-output driver) which can enable the stepper motor to perform at its maximum capacity is now installed. By using PowerCON, the output of the stepper motor is increased by 50%. It contributes to cycle time reduction and productivity improvement.

3 Collision Detection Function Equipped

This function stops the operation immediately when the actuator comes into contact with an object.
The actuator stops without crashing, so that damage to the actuator can be minimized.



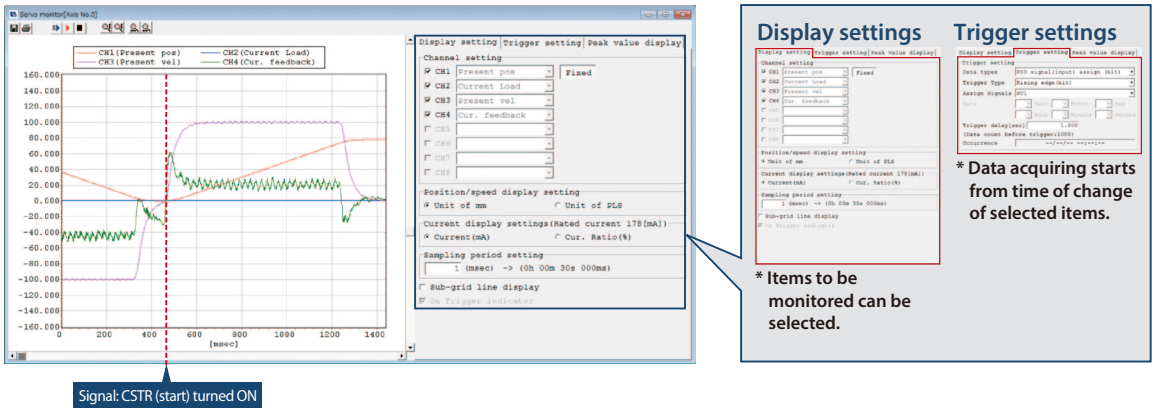
4 Enhanced Monitor Functions

The PC compatible software can display information about the actuator and controller in operation as waveforms.

*Information that can be displayed: Command current value, current speed/position, and PIO signals (start, positioning completion, alarm, etc.)

Using the trigger function, the end user can specify a particular moment, either a change in PIO signals or a designated moment during the actuator's operation time, to begin displaying the waveforms.

Monitor function screen (example)



List of Models

Model number			PCON-CB/CGB, CFB/CGFB								
External view											
I/O type			Positioner type	Pulse-train type	Field network type						
					DeviceNet	CC-Link	PROFIBUS-DP	CompoNet	MECHATROLINK I,II*1	MECHATROLINK III*1	EtherCAT	EtherNet/IP	PROFINET IO
I/O type model number			NP/PN	PLN/PLP	DV	CC	PR	CN	ML	ML3	EC	EP	PRT
PCON-CB/CGB	Battery-less absolute specification Incremental specification		○	○	○	○	○	○	○	○	○	○	○
	Simple absolute spec.	With absolute battery	○	○	○	○	○	○	○	○	○	○	○
		With absolute battery unit	○	○	○	○	○	○	○	○	○	○	○
		Without absolute battery	○	○	○	○	○	○	○	○	○	○	○
PCON-CFB/CGFB	Battery-less absolute specification Incremental specification		○	○	○	○	○	○	○	○	○	○	○

*1 MECHATROLINK I/II is treated as an Intelligent I/O and supports only asynchronous commands. MECHATROLINK III is compatible with standard servo profiles.

Model Specification Items

<Controller>

PCON — [Type] — [Motor Type] [Encoder Type] — [I/O Type] — [I/O Cable Length] — **0** — [Simple Absolute Specification] — [Controller Mounting Specification]

Series	Type	Motor Type	Encoder Type	I/O Type	I/O Cable Length	Power Supply Voltage	Simple Absolute Specification	Controller Mounting Specification

Type

CB	Standard
CGB	Safety category compliant type
CFB	56SP/60P/86P motor-compatible type
CGFB	Safety category compliant, 56SP/60P/86P motor-compliant type

Motor Type

20P	20□	42SP	42□
20SP	20□	56P	56□
28P	28□	56SP	56□
28SP	28□	60P	60□
35P	35□	86P	86□
42P	42□		

(E.g.) 20P: 20□ stepper motor supported

Note

While the motor type specified in the actuator model number and the controller model number usually matches, there are some models where the actuator and controller motor types do not match.
Be sure to check the corresponding models listed below during selection.
<28SP target actuator>

● Controller motor type "28SP"
RCP2-RA3C

Encoder Type

WAI	Battery-less absolute specification Incremental specification
SA	Simple absolute speficication

I/O Type

NP	PIO (NPN)
PLN	Pulse train (NPN)
PN	PIO (PNP)
PLP	Pulse train (PNP)
DV	DeviceNet
CC	CC-Link
PR	PROFIBUS-DP
CN	CompoNet
ML	MECHATROLINK-I/II (Note 1)
ML3	MECHATROLINK III (Note 1)
EC	EtherCAT
EP	EtherNet/IP
PRT	PROFINET IO

(Note 1) There are some restrictions of the functionality. Please contact IAI for more details.

I/O Cable Length

0	No cable
2	2m
3	3m
5	5m

* When a field network specification is selected, the I/O cable length is "O".

Power Supply Voltage

0	24VDC

Simple Absolute Specification

(Blank)	Battery-less absolute specification Incremental specification
AB	Simple absolute specification (With absolute battery. No battery unit included)
ABU	Simple absolute specification (With absolute battery and battery unit)
ABUN	Simple absolute specification (Without absolute battery and battery unit)

* PCON-CFB/CGFB does not support a simple absolute specification.

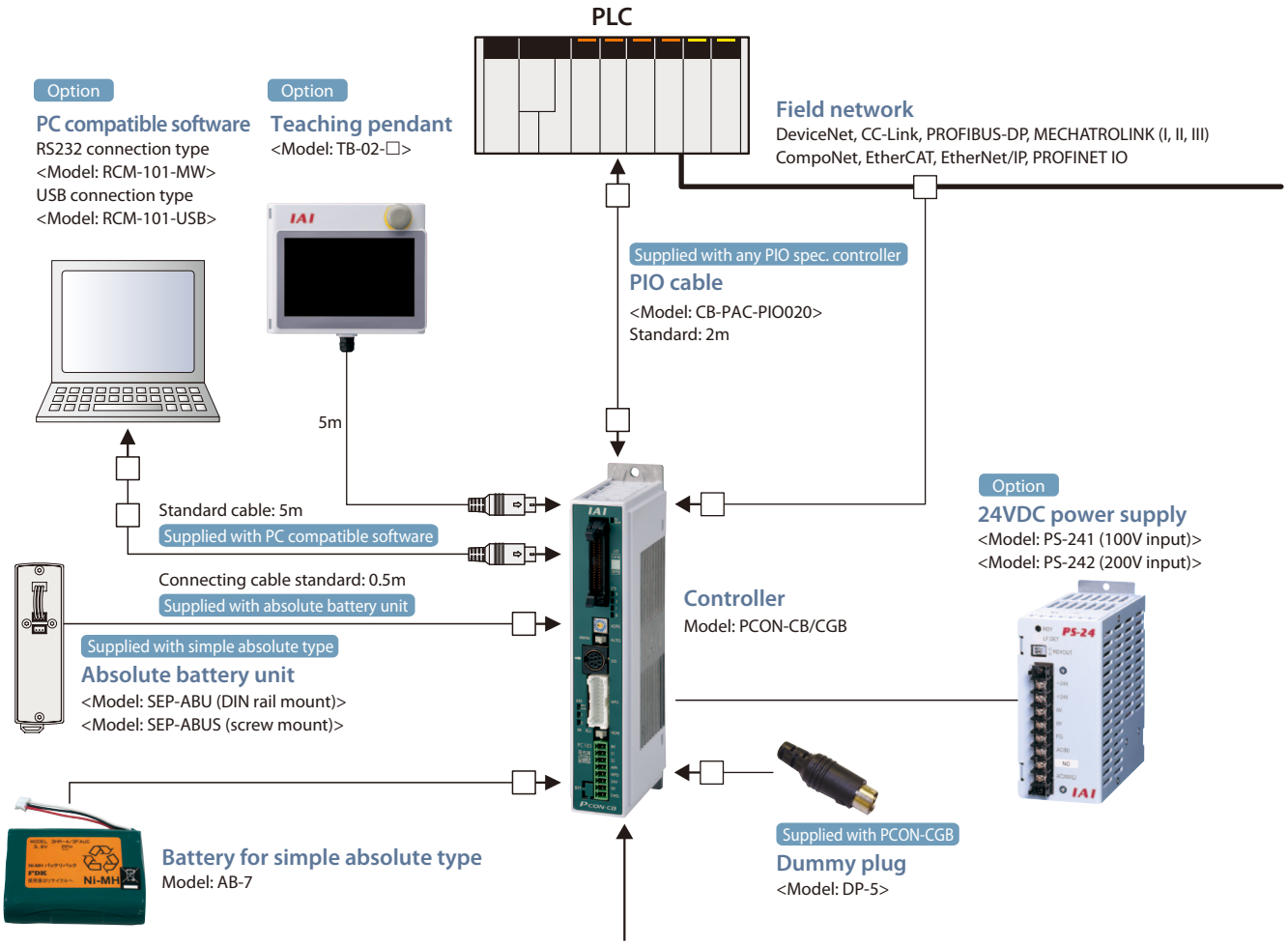
Controller Mounting Specification

(Blank)	Screw mounting specification
DN	DIN rail mounting specification

* The mounting type (screw or DIN rail) of the absolute battery unit and the controller must be the same.

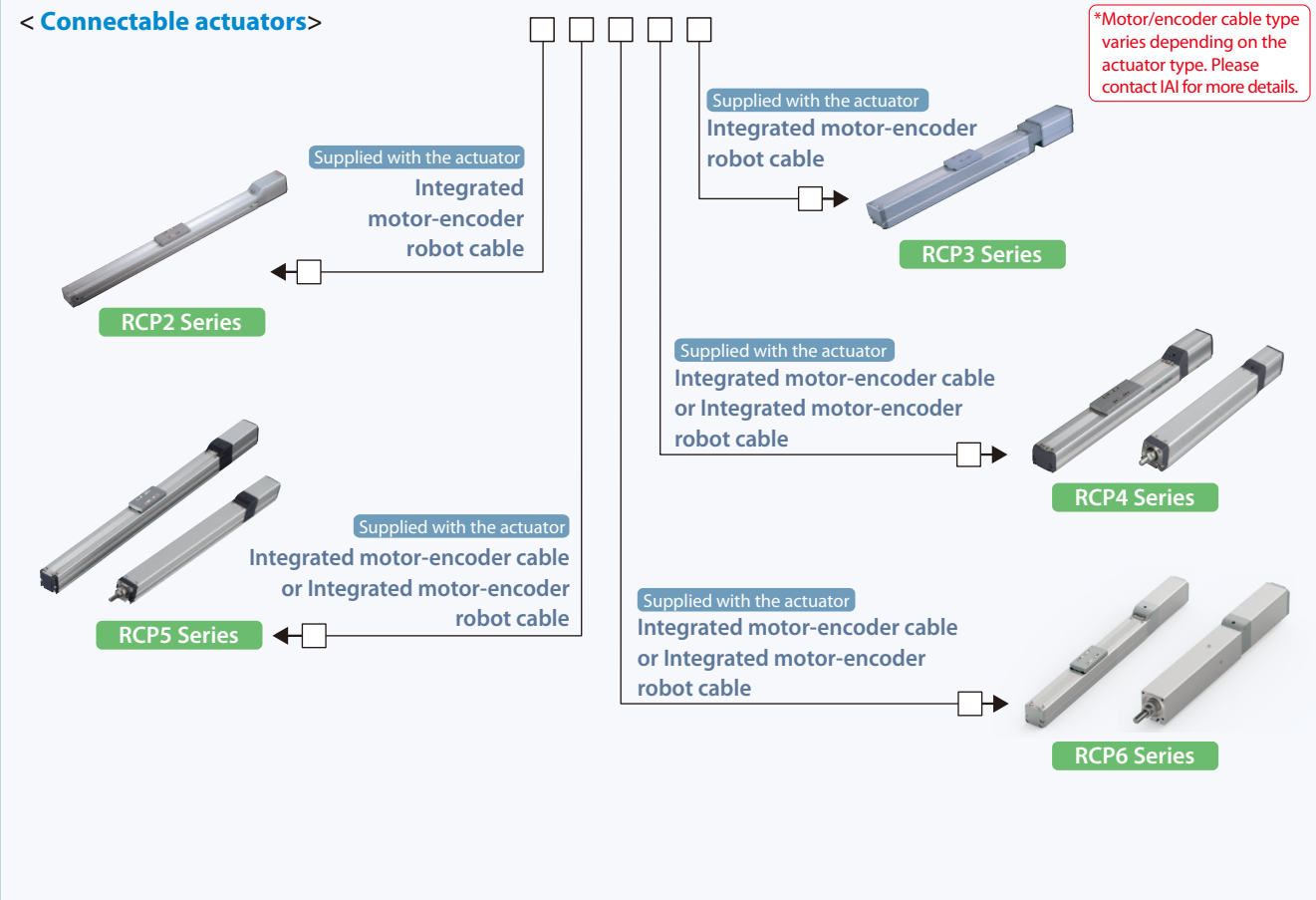
System Configuration

■ PowerCON150 <PCON-CB/CGB>

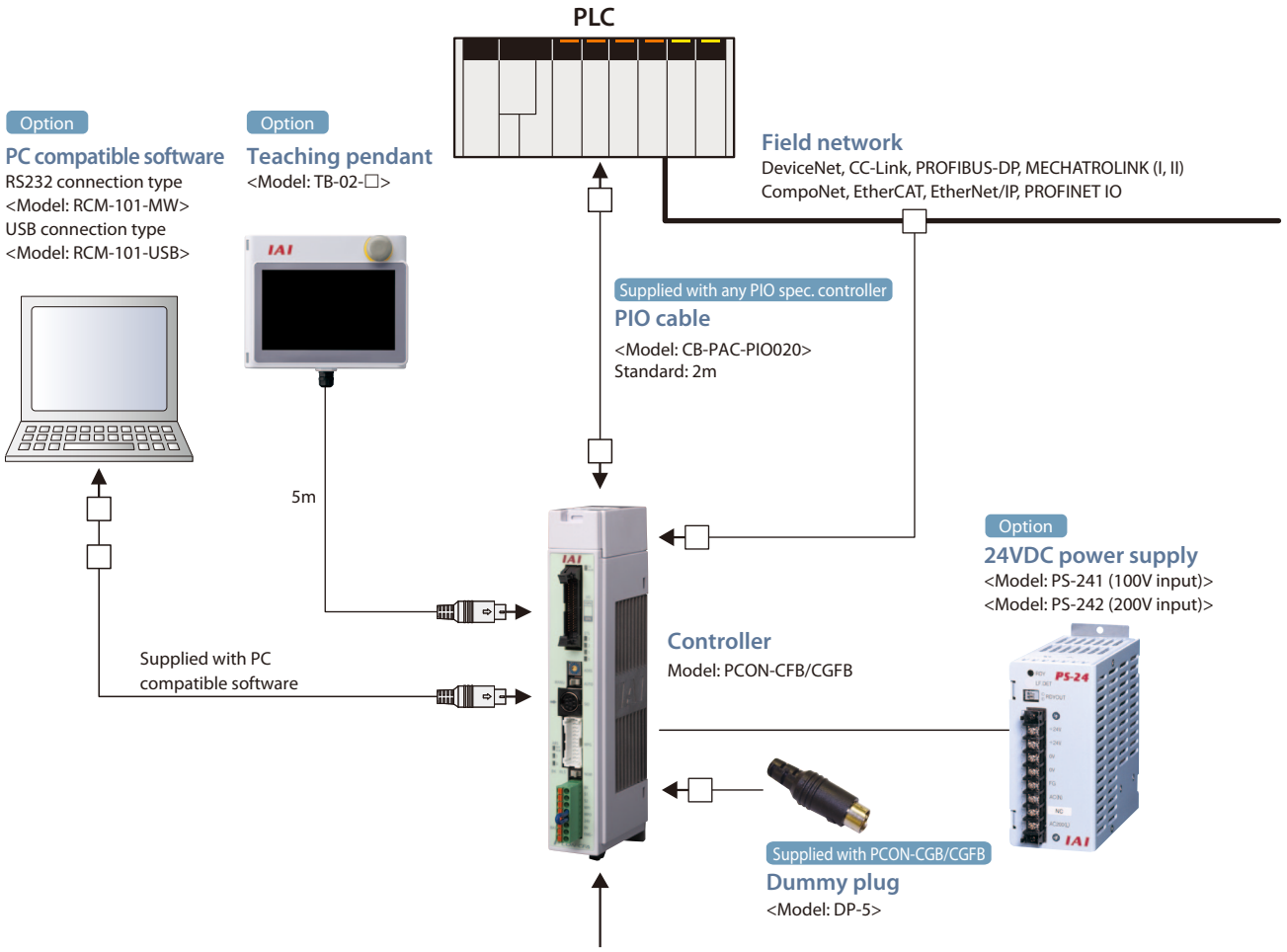


< Connectable actuators>

*Motor/encoder cable type varies depending on the actuator type. Please contact IAI for more details.



■ 56SP/60P/86P Motor Compatible <PCON-CFB/CGFB>



< Connectable actuators>

*Motor/encoder cable type varies depending on the actuator type. Please contact IAI for more details.

RCP2 Series	RCP4 Series	RCP5 Series	RCP6 Series
Supplied with the actuator Integrated motor-encoder cable or Integrated motor-encoder robot cable	Supplied with the actuator Integrated motor-encoder cable or Integrated motor-encoder robot cable	Supplied with the actuator Integrated motor-encoder cable or Integrated motor-encoder robot cable	Supplied with the actuator Integrated motor-encoder cable or Integrated motor-encoder robot cable

MCON-C/CG

CON Series
Position Controller
8-axis type

MCON-LC/LCG

CON Series
Position Controller
PLC function equipped type

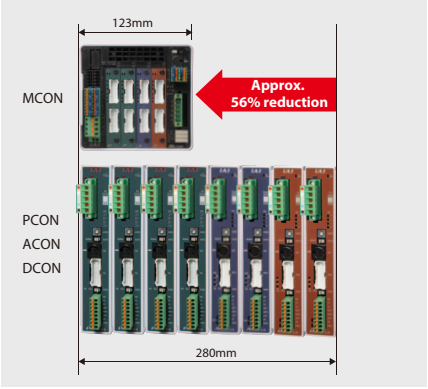
Features

MCON-C/CG, MCON-LC/LCG Common

1 Saves space and reduces cost

It saves space in the control panel and significantly reduces the total cost by combining 8* controllers into one.

* For MCON-C/CG

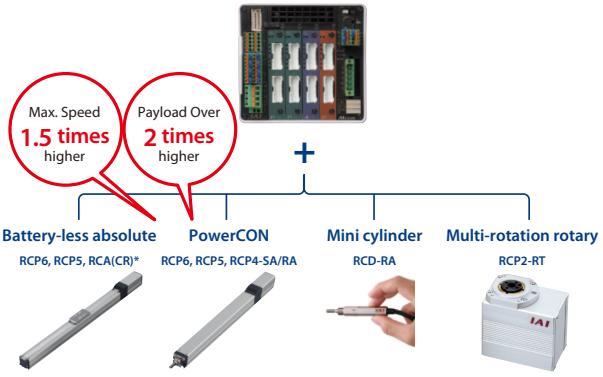


2 Accommodates a wide range of actuators

It corresponds to actuators with battery-less absolute encoders, ultra-compact mini-cylinders, multi-rotation rotaries and more, expanding the operable actuators from small to large.
In addition, it is equipped with the PowerCON (high-output driver), and achieves maximum speeds 1.5 times higher and maximum load capacities over 2 times higher than conventional models when used in combination with the RCP6/RCP5/RCP4 actuators.

Allows the installation of 7 types of driver boards

(1) Battery-less absolute/incremental driver boards for stepper motor
(2) Simple absolute driver board for stepper motor
(3) Battery-less absolute/incremental driver boards for PowerCON
(4) Simple absolute driver board for PowerCON
(5) Battery-less absolute/incremental driver boards for AC servo motor
(6) Simple absolute driver boards for AC servo motor
(7) Incremental driver boards for brush-less DC motor



* Some models are excluded.
Please refer to the catalog for details.

3 Many useful functions

Servo monitoring in AUTO mode function
· AUTO mode servo monitoring can now be performed using multi-axis controllers.
In addition, the monitoring can start from the moment that the condition of a selected signal changes. (Trigger function)

Calendar function
· With the addition of the clock function, the alarm history is displayed with the time of occurrence, making it easier for the alarm to be analyzed.

Smart tuning function
· The optimum acceleration and deceleration are set according to the payload to be carried.

Off-board tuning function (For AC servo motor)
· The optimum gain is set according to the payload.

Vibration control function (For AC servo motor)
· It reduces the shaking (vibration) of the workpiece attached to the slider.

Acceleration/deceleration mode specification
· The acceleration and deceleration patterns can be specified from the trapezoid pattern, first-order delay filter and S-shaped motion.

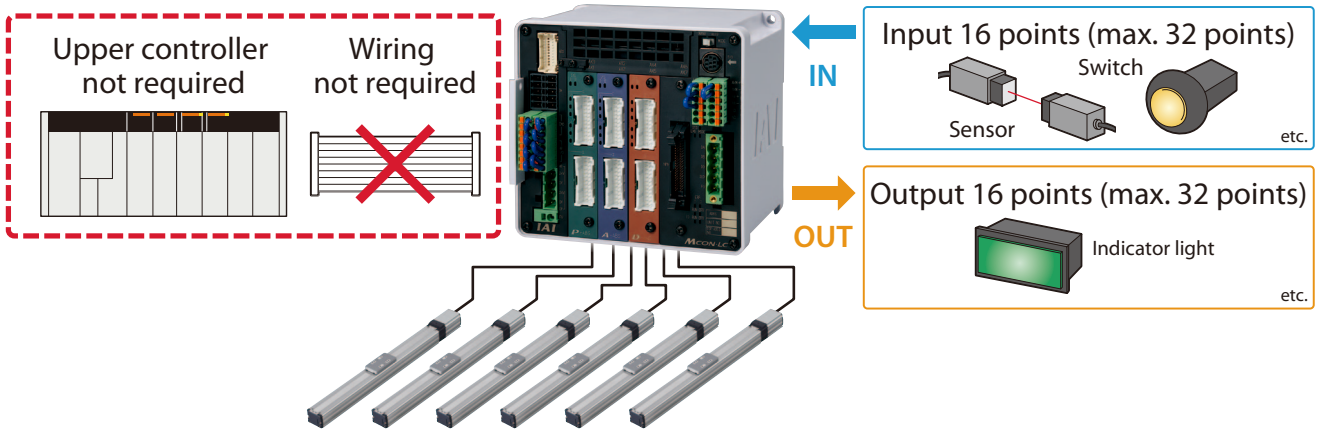
Axis name display function
· The axis name can be displayed in the PC compatible software and touch panel teaching box.

* Some functions cannot be used, depending on the network. Please refer to the instruction manual.

4 PLC function added

Capable of operating actuators by ladder programs and ON/OFF control of I/O (input and output) signals. Small-scale systems can be controlled by MCON-LC/LCG only. Load on the main PLC can be reduced by performing distributed control using MCON-LC/LCG for each procedure. In addition, it enables easier program simplification and troubleshooting.

* Please refer to the table below for more information about ladder programs.



LC-LADDER

● Features of ladder software

As MCON-LC/LCG can be controlled by ladder programs, those who are familiar with PLC can easily use it. In addition, "Dedicated Commands" for moving the actuator are available within the ladder program, making it even easier to control.

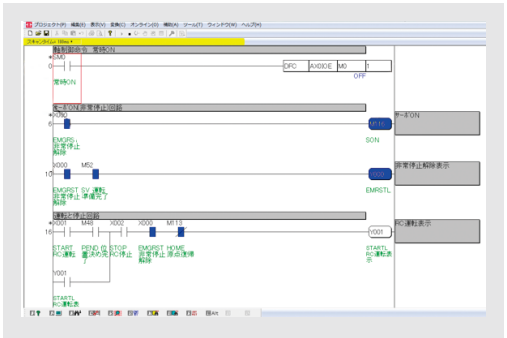
The editing software "LC-LADDER" can be used to easily write, monitor and debug ladder programs.

1 Program writing

Programs can be written using 27 types of basic command (contact command, output commands, etc.) and 53 types of application command (data comparison, arithmetic, logical, etc.).

3 Debug function

Run the program under the specified conditions to check the operation of the program.



2 Monitoring

The state when the program is run can be checked by respective functions.

4 Simulation

You can check the program on a PC (test run) without operating it on the controller.

Free of charge

* LC ladder can be downloaded for free here:

www.intelligentactuator.com/welcome-to-our-members-area/

Details of slot 0 (1st axis: Top connector) (2nd axis: Bottom connector)

Details of slots 1~3

MCON – Series – Type – Number of Axes – Motor Type – Encoder Type – Options – Motor Type – Encoder Type – Options – (Details of the 3rd~8th axis) – I/O Type – I/O Cable Length – Power Supply Voltage – Simple Absolute Compatible

Type

C	Standard type
CG	Safety category type

Number of Axes

1	1-axis specification
2	2-axis specification
3	3-axis specification
4	4-axis specification
5	5-axis specification
6	6-axis specification
7	7-axis specification
8	8-axis specification

Motor Type

Stepper motor		Servo motor		Brush-less DC motor type	
20P	20□	2	2W	3D	3W
20SP	20□	5	5W	D	Disabled axis
28P	28□	5S	5W	N *1	No connected axis
28SP	28□	10	10W		
35P	35□	20	20W		
42P	42□	20S	20W		
42SP	42□	30	30W		
56P	56□	A	Disabled axis		
P	Disabled axis	N *1	No connected axis		
N *1	No connected axis				

(*1) Please contact IAI for more information.

Encoder Type

WAI	Battery-less absolute/incremental (*1)
SA	Simple absolute (*1)
I	Incremental (*2)

(*1) Stepper motor/AC servo motor types only.
(*2) Brush-less DC motor type only.

Options

HA	Hi-accel./decel. supported
LA	Energy saver
T	High-output enabled specification

* HA/LA are for RCA only while T is for RCP6/RCP5/RCP4.
* RCP4-GR series and RCP4-ST series do not have a high-output enabled specification option (T).

I/O Type

DV	DeviceNet connection specification
CC	CC-Link connection specification
PR	PROFIBUS-DP connection specification
CN	CompoNet connection specification
EC	EtherCAT connection specification
EP	EtherNet/IP connection specification
PRT	PROFINET IO connection specification
SSN	SSCNET connection specification (Note 1)
ML3	MECHATROLINK III connection specification (Note 1)

(Note 1) There are some restrictions of the functionality. Please contact IAI for more details.

I/O Cable Length

0	No cable

Power Supply Voltage

0	24VDC

Simple Absolute Compatible

ABB	With absolute data backup battery box (Simple absolute specification)
ABBN	Without absolute data backup battery box (Simple absolute specification)
(Blank)	Battery-less Absolute Incremental

* RCD series does not support a simple absolute specification.

Notes

While the motor type specified in the actuator model number and the controller model number usually matches, there are some models where the actuator and controller motor types do not match.
Be sure to check the corresponding models listed below during selection.
<28SP/5S/20S target actuators>
- Motor Type "28SP" ··· RCP2-RA3C
- Motor Type "5S" ··· RCA2-RA2A□, RCA2-SA2A□
- Motor Type "20S" ··· RCA2-SA4□, RCA2-TA5□, RCA-RA3□, RCA-RG□3□, RCAW-RA3□

Details of slot 0 (1st axis: Top connector) (2nd axis: Bottom connector)

Details of slots 1~2

MCON – Series – Type – Number of Axes – Motor Type – Encoder Type – Options – Motor Type – Encoder Type – Options – (Details of the 3rd~6th axis) – I/O Type – I/O Cable Length – Power Supply Voltage – Simple Absolute Compatible – Expansion I/O Type

Type

LC	PLC function equipped type
LCG	Safety category type with PLC function

Number of Axes

1	1-axis specification
2	2-axis specification
3	3-axis specification
4	4-axis specification
5	5-axis specification
6	6-axis specification

Motor Type

Stepper motor		Servo motor		Brush-less DC motor type	
20P	20□	2	2W	3D	3W
20SP	20□	5	5W	D	Disabled axis
28P	28□	5S	5W	N *1	No connected axis
28SP	28□	10	10W		
35P	35□	20	20W		
42P	42□	20S	20W		
42SP	42□	30	30W		
56P	56□	A	Disabled axis		
P	Disabled axis	N *1	No connected axis		
N *1	No connected axis				

(*1) Please contact IAI for more information.

Encoder Type

WAI	Battery-less absolute/incremental (*1)
SA	Simple absolute (*1)
I	Incremental (*2)

(*1) Stepper motor/AC servo motor types only.
(*2) Brush-less DC motor type only.

Options

HA	Hi-accel./decel. supported
LA	Energy saver
T	High-output enabled specification

* HA/LA are for RCA only while T is for RCP6/RCP5/RCP4.
* RCP4-GR series and RCP4-ST series do not have a high-output enabled specification option (T).

I/O Type

NP	PIO specification (NPN type)

I/O Cable Length

0	No cable
2	2m (Standard)
3	3m
5	5m

Power Supply Voltage

0	24VDC

Simple Absolute Compatible

ABB	With absolute data backup battery box (Simple absolute specification)
ABBN	Without absolute data backup battery box (Simple absolute specification)
(Blank)	Battery-less Absolute Incremental

* RCD series does not support a simple absolute specification.

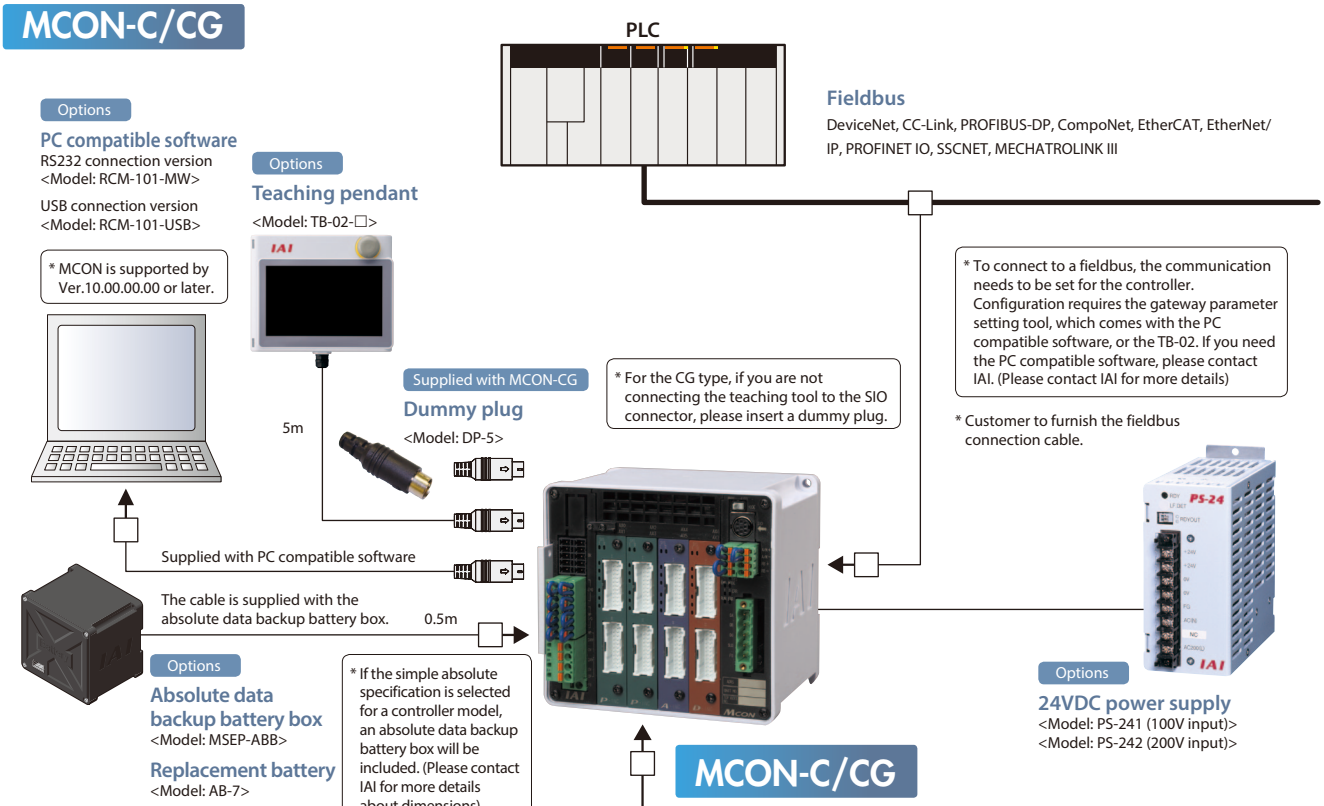
Expansion I/O Type

NP	PIO specification (NPN type)
DV	DeviceNet connection specification
CC	CC-Link connection specification
PR	PROFIBUS-DP connection specification
CN	CompoNet connection specification
EC	EtherCAT connection specification
EP	EtherNet/IP connection specification
PRT	PROFINET IO connection specification
(Blank)	No expansion I/O

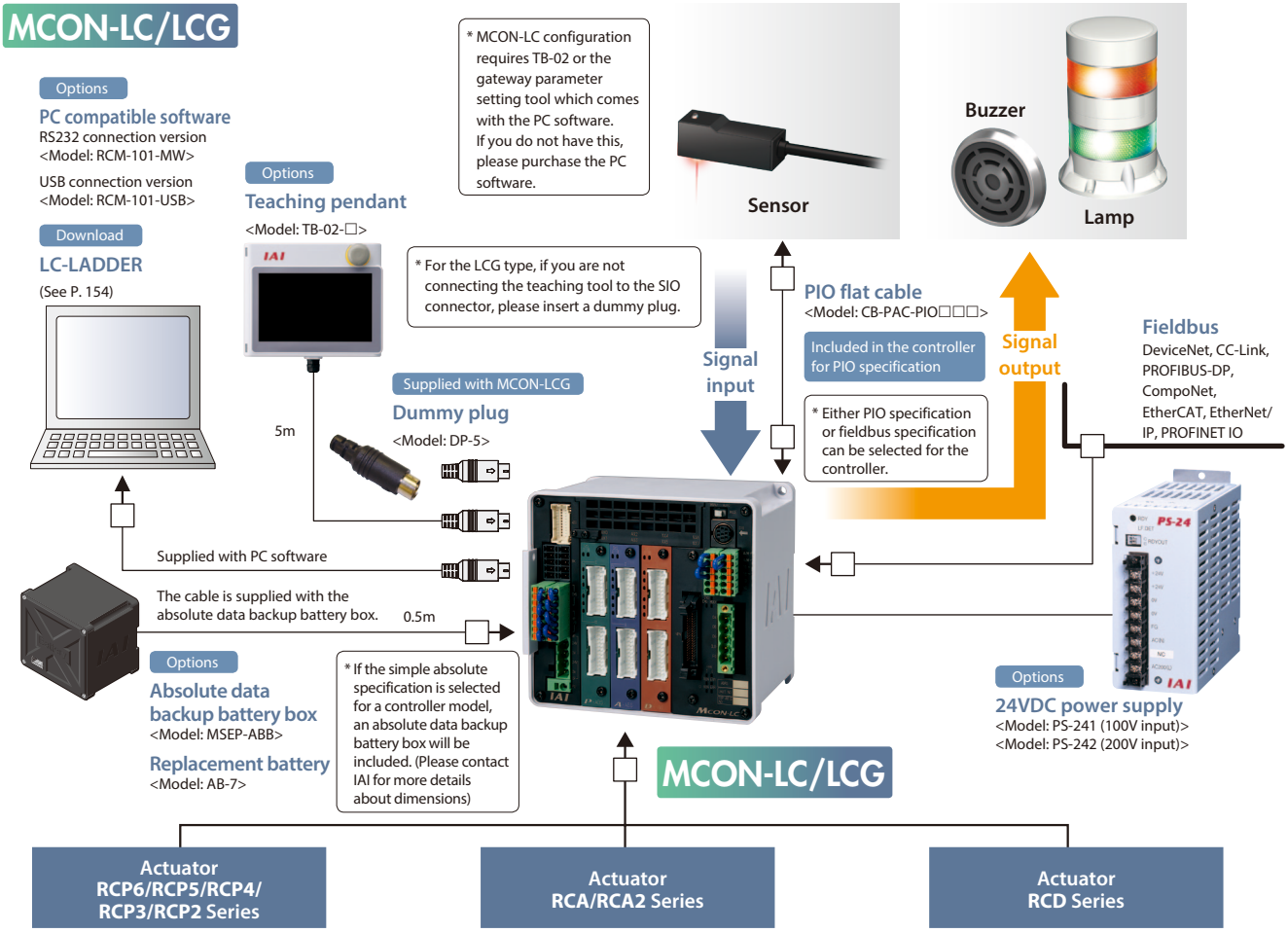
Notes

While the motor type specified in the actuator model number and the controller model number usually matches, there are some models where the actuator and controller motor types do not match.
Be sure to check the corresponding models listed below during selection.
<28SP/5S/20S target actuators>
- Motor Type "28SP" ··· RCP2-RA3C
- Motor Type "5S" ··· RCA2-RA2A□, RCA2-SA2A□
- Motor Type "20S" ··· RCA2-SA4□, RCA2-TA5□, RCA-RA3□, RCA-RG□3□, RCAW-RA3□

MCON-C/CG



MCON-LC/LCG



Standard Price Table

Calculate the standard price of the MCON controller based on 1 base price by type and add 2 slot model price, 3 quantity of simple absolute, 4 quantity of batteries for simple absolute, 5 I/O type, and 6 expansion I/O type.

1 Base price by type

Select a standard type controller (MCON-C/CG) or PLC function equipped type (MCON-LC/LCG).

+

2 Slot model price

Add the price of the slot models specified in the 0~3 slots.

+

3 Quantity of simple absolute encoders

Add the price of the number of axes to be operated by the simple absolute.

1

Base price by type

Description	Model Specification Items	Price
Standard type	MCON-C	○
Safety Category type	MCON-CG	○
PLC function equipped type	MCON-LC	○
Safety Category type with PLC function	MCON-LCG	○

+

2

Slot model price (Add the total amount of slots to be used)

Details of slot			Model Specification Items	Price
Stepper motor	1-axis	Battery-less Absolute/ Incremental (For PowerCON)	☐PWAIT-N	○
		Simple absolute (For PowerCON)	☐PSAT-N	○
		Battery-less Absolute/ Incremental (For standard)	☐PWAI-N	○
		Simple absolute (For standard)	☐PSA-N	○
	2-axis	Simple absolute (For standard) + Simple absolute (For standard)	☐PSA-☐PSA	○
		Battery-less absolute/ Incremental (For standard) + Battery-less abs./ Incremental (For standard)	☐PWAI-☐PWAI	○
AC servo motor	1-axis	Battery-less Absolute/ Incremental (For standard)	☐WAI-N	○
		Simple absolute (For standard)	☐SA-N	○
	2-axis	Battery-less absolute/ Incremental (For standard) + Battery-less abs./ Incremental (For standard)	☐WAI-☐WAI	○
		Simple absolute (For standard) + Simple absolute (For standard)	☐SA-☐SA	○
Brush-less DC motor	1-axis	Incremental (For standard)	3DI-N	○
	2-axis	Incremental (For standard) + Incremental (For standard)	3DI-3DI	○

+

3

Quantity of simple absolute encoders

Number of axes	Price
1-axis	○
2-axis	○
3-axis	○
4-axis	○
5-axis	○
6-axis	○
7-axis	○
8-axis	○

* ☐ indicates the motor size.

4 Quantity of batteries for simple absolute encoders

Add the total battery price of simple absolute (model: ABB) for applicable axes.

5 I/O type

Select the I/O type of the controller.

(PLC function equipped type "NP" is the only option.

6 Expansion I/O type

Select the expansion I/O type of the controller.

(Not required for standard type controllers)

4

Quantity of batteries for simple absolute encoders	
Number of axes	Price
1-axis	○
2-axis	○
3-axis	○
4-axis	○
5-axis	○
6-axis	○
7-axis	○
8-axis	○

5

I/O type (NP is only available for the PLC function equipped types.)		
Type	Model Specification Items	Price
PIO specification (NPN specification)	NP	○
DeviceNet connection specification	DV	○
CC-Link connection specification	CC	○
PROFIBUS-DP connection specification	PR	○
CompoNet connection specification	CN	○
EtherCAT connection specification	EC	○
EtherNet/IP connection specification	EP	○
PROFINET IO connection specification	PRT	○
SSCNET connection specification	SSN	○
MECHATROLINK III connection specification	ML3	○

6

Expansion I/O type (PLC function equipped type only)		
Type	Model Specification Items	Price
PIO specification (NPN specification)	NP	○
DeviceNet connection specification	DV	○
CC-Link connection specification	CC	○
PROFIBUS-DP connection specification	PR	○
CompoNet connection specification	CN	○
EtherCAT connection specification	EC	○
EtherNet/IP connection specification	EP	○
PROFINET IO connection specification	PRT	○

Price
Standard price by specification

* No need to add 3 and 4 for the battery-less absolute type.

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