IAI
Quality and Innovation

ATB Automation
Mechanics | Motion Control

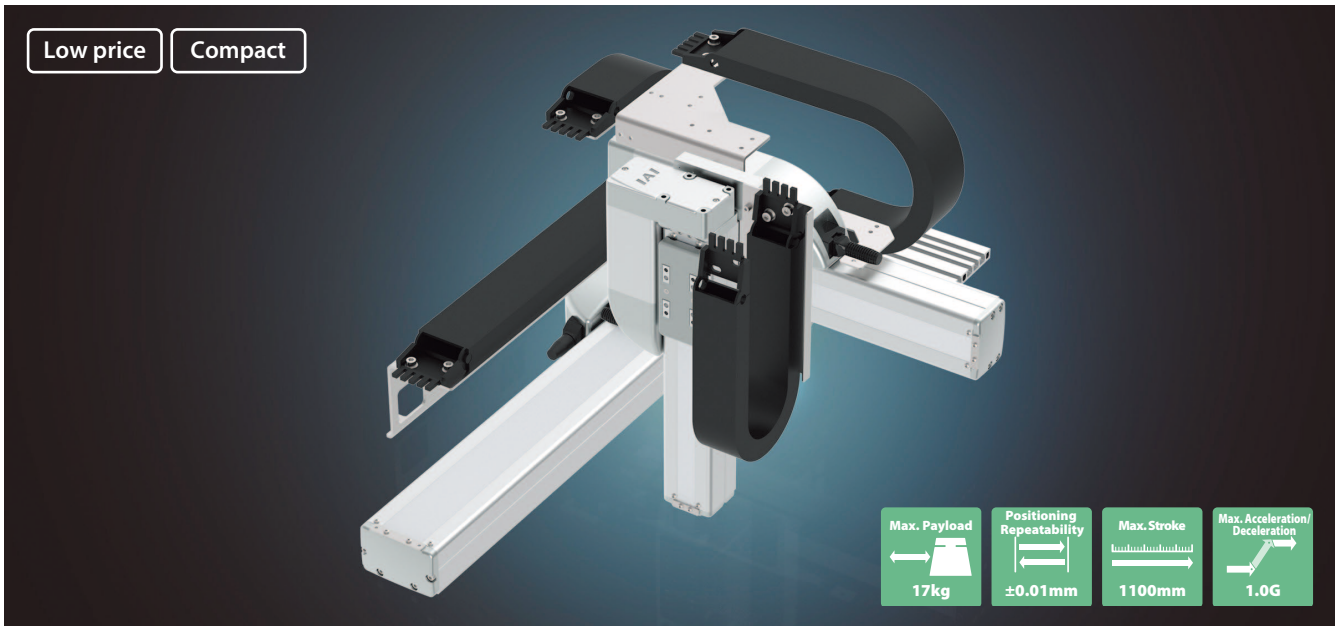
ROBO Cylinder® Configurations
3-Axis Cartesian Robot IK3-P6Series

www.intelligentactuator.com

Cartesian Robots have never been more affordable.

Low price & compact
ROBO Cylinder®
configuration

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.

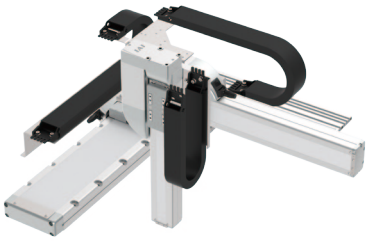


1 Diverse Configurations

The available configurations have been greatly expanded from the conventional models,
allowing the ideal selection to suit your needs from 396 options. (7,056 options including the cable track selection)
New configuration types using the RCP6 wide slider type (WSA) have been added.

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

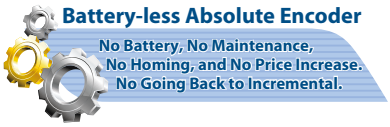
- SA8 + SA7 + SA6
- NEW SA7 + SA6 + SA4
- NEW WSA16 + SA8 + SA7
- NEW WSA14 + SA7 + SA6



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.

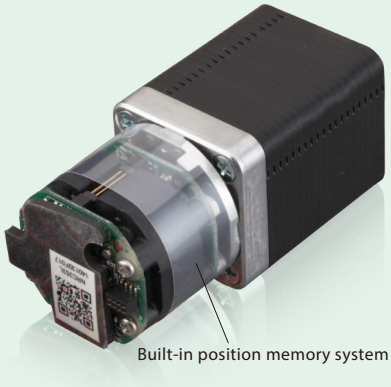
(3) Removal of workpieces is not necessary, even after an emergency stop.

(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.

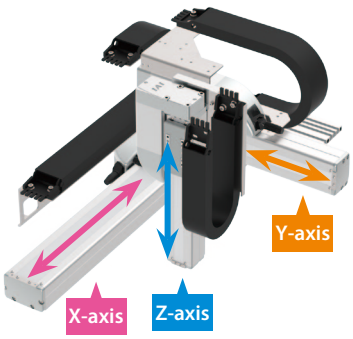
3-axis configurations

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) + Z-axis base mount type

→ 3-axis configurations IK3-P6BB: p53~82



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).

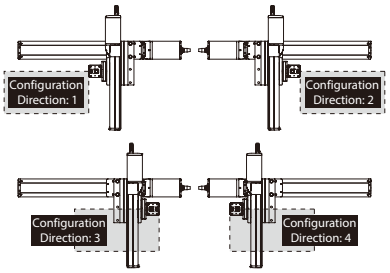
Point 1

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



Cartesian Robot

ROBO Cylinder 3-axis Configurations

IK3
Stepper Motor

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)

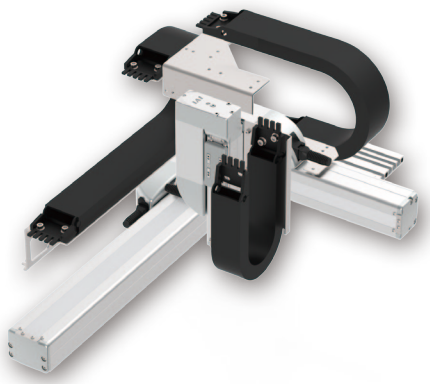
■ Model Specification Items

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 to (Every 50mm)
- 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.

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
■ HHM type: X high speed/Y high speed/Z medium speed
■ HHH type: X high speed/Y high speed/Z high speed
■ HHS type: X high speed/Y high speed/Z ultra high speed

(Unit: kg)

Speed Type / Acceleration/deceleration (G)	HHL	HHM	HHH	HHS
0.1	3	2	1	0.5
0.3	3	2	1	0.5
0.5	–	–	1	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	○	○	○	○	○	○	○	○	○	○	○	○

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 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.85	○	○	○
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 contact IAI for more information.

□ X-axis: SA7R, Y-axis: SA6R, Z-axis: SA4R

Type	Reference page in the General Catalog 2016
PCON-CB/CGB	See M-113
PCON-CYB/PLB/POB	See M-129
MCON-C/CG	See M-91
MCON-LC/LCG	
MSEL-PC/PG	See M-245

* 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 model		RCP6-SA7R	RCP6-SA6R	RCP6-SA4R
Stroke (Every 50mm)		50~800mm	50~200mm	50~150mm
Max. speed *	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)		

* 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.86.

Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.83	○	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.83	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.84	○	○	○
Slider section roller specification	**SR**	See P.84	○	○	○

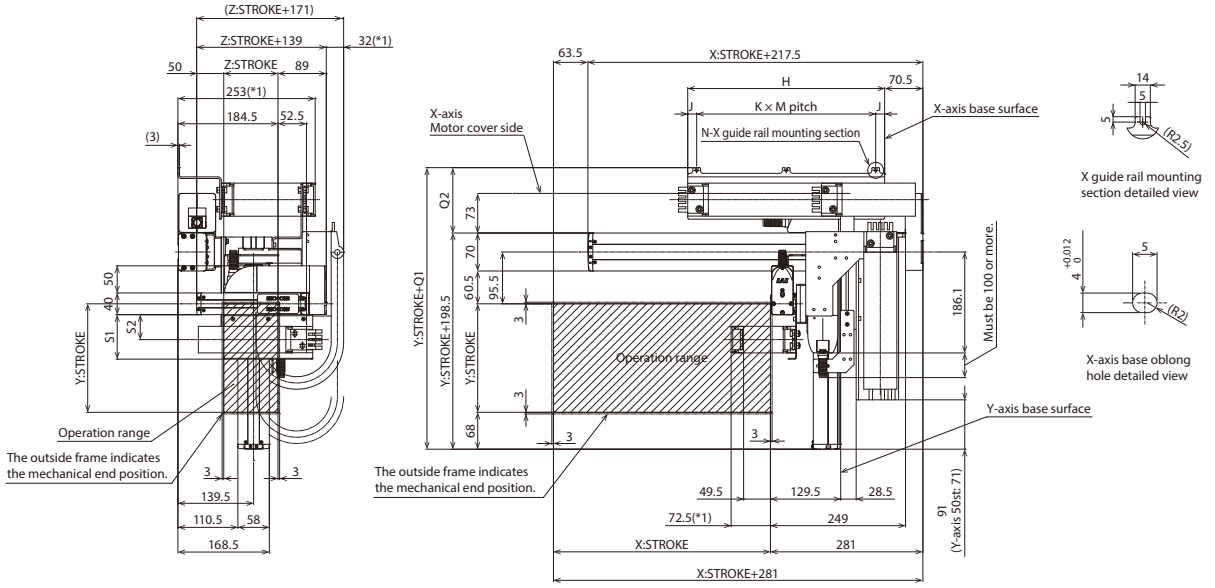
* Be sure to specify.

Dimensions

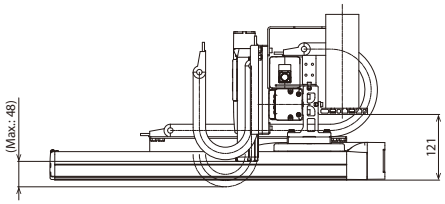
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

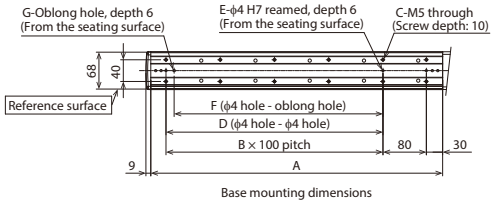
2D CAD 3D CAD

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.85.

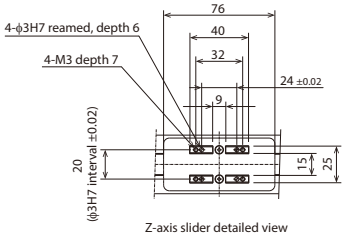


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





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

IK3 — P6BBC2□ □S — WA — □□ — □□ — □BCJO□ — PM1 — □ — □ — □ — □ — □

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 below.

Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

First Wiring

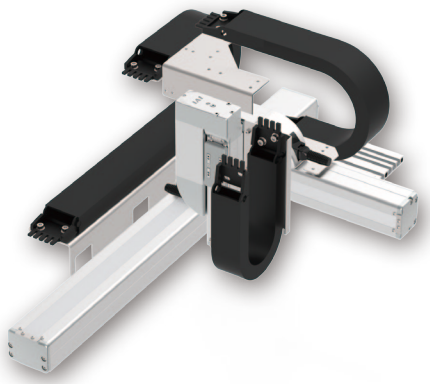
Second Wiring

Third Wiring

Refer to Cable Track table below.

Options
Refer to Options table (2) on the next page.

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
■ HHM type: X high speed/Y high speed/Z medium speed
■ HHH type: X high speed/Y high speed/Z high speed
■ HHS type: X high speed/Y high speed/Z ultra high speed

(Unit: kg)

Speed Type / Acceleration/deceleration (G)	HHL	HHM	HHH	HHS
0.1	3	2	1	0.5
0.3	3	2	1	0.5
0.5	–	–	1	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	○	○	○	○	○	○	○	○	○	○	○	○

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 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.85	○	○	○
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 contact IAI for more information.

□ X-axis: SA7C, Y-axis: SA6R, Z-axis: SA4R

Type	Reference page in the General Catalog 2016
PCON-CB/CGB	See M-113
PCON-CYB/PLB/POB	See M-129
MCON-C/CG	See M-91
MCON-LC/LCG	
MSEL-PC/PG	See M-245

* 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 model		RCP6-SA7C	RCP6-SA6R	RCP6-SA4R
Stroke (Every 50mm)		50~800mm	50~200mm	50~150mm
Max. speed *	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)		

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.83	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.83	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.83	○		
Cable exit direction (Left)	**CJL**	See P.83	○		
Cable exit direction (Bottom)	**CJB**	See P.83	○		
Cable exit direction (Outside)	**CJO**	See P.83	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.84	○	○	○
Slider section roller specification	**SR**	See P.84	○	○	○

* Be sure to specify.

Options (2)

Type	Option code	Reference page
Foot plate	**FTP**	See P.83

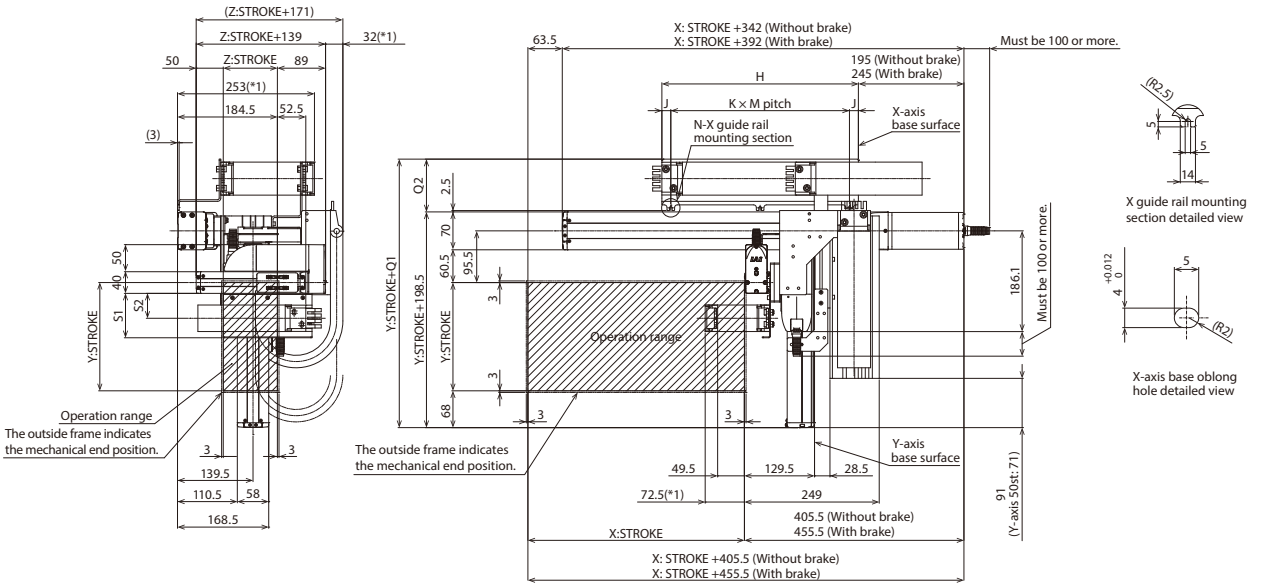
* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.86.

Dimensions

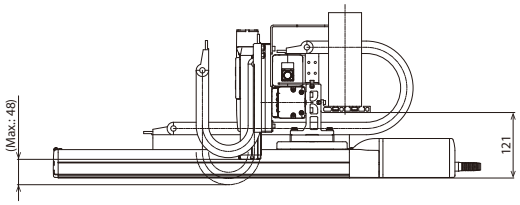
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

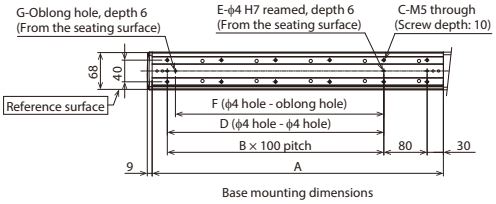
2D CAD 3D CAD

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.85.

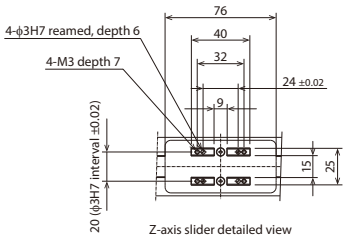


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





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.83)
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)

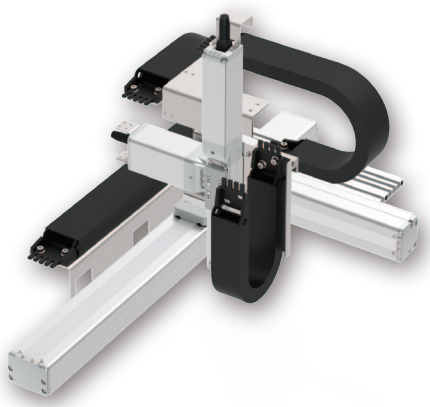
■ Model Specification Items

IK3 – P6BBC3□□S – WA – □□ – □□ – □B□ – PM1 – □ – □ – □ – □ – □

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 to (Every 50mm)
- **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.

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
■ HHM type: X high speed/Y high speed/Z medium speed
■ HHH type: X high speed/Y high speed/Z high speed
■ HHS type: X high speed/Y high speed/Z ultra high speed

(Unit: kg)

Speed Type / Acceleration/deceleration (G)	HHL	HHM	HHH	HHS
0.1	3	2	1	0.5
0.3	3	2	1	0.5
0.5	–	–	1	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	○	○	○	○	○	○	○	○	○	○	○	○

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 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 (Standard price)

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.85	○	○	○
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 contact IAI for more information.

□ X-axis: SA7C, Y-axis: SA6C, Z-axis: SA4C

Type	Reference page in the General Catalog 2016
PCON-CB/CGB	See M-113
PCON-CYB/PLB/POB	See M-129
MCON-C/CG	See M-91
MCON-LC/LCG	
MSEL-PC/PG	See M-245

* 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 model		RCP6-SA7C	RCP6-SA6C	RCP6-SA4C
Stroke (Every 50mm)		50~800mm	50~200mm	50~150mm
Max. speed *	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)		

* 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.86.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.83	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.83	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.83	○		
Cable exit direction (Left)	**CJL**	See P.83	○		
Cable exit direction (Bottom)	**CJB**	See P.83	○		
Non-motor end specification	**NM**	See P.84	○	○	○
Slider section roller specification	**SR**	See P.84	○	○	○

* Outside as standard. Be sure to specify.

Options (2)

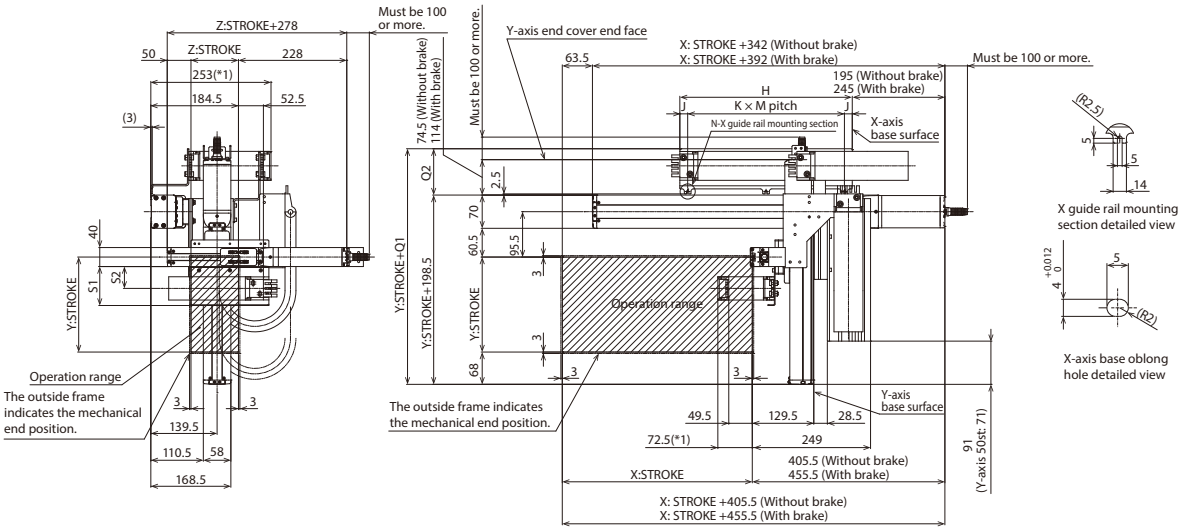
Type	Option code	Reference page
Foot plate	**FTP**	See P.83

Dimensions

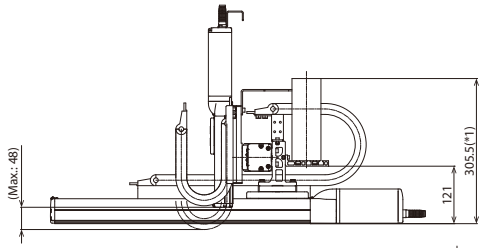
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

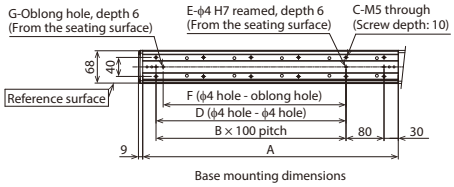
2D CAD 3D CAD

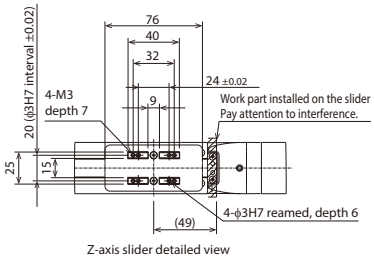
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.85.



*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.83)
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

IK3 — P6BBB1□□S — WA — □□ — □□ — □BCJO□ — PM1 — □ — □ — □ — □

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 below.

Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

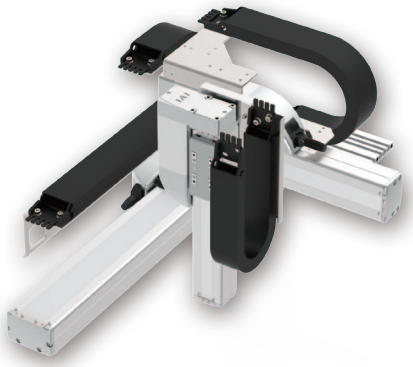
First Wiring

Second Wiring

Third 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

■ HSL type: X high speed/Y ultra high speed/Z low speed
■ HSM type: X high speed/Y ultra high speed/Z medium speed
■ HSH type: X high speed/Y ultra high speed/Z high speed
■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

(Unit: kg)

Speed Type / Acceleration/deceleration (G)	HSL	HSM	HSH	HSS
0.1	4	2	1	0.5
0.3	4	2	1	0.5
0.5	4	2	1	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			
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	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please contact IAI for more information.

□ X-axis: SA8R

Type	Reference page in the General Catalog 2016
PCON-CFB/CGFB	See M-113

□ Y-axis: SA7R, Z-axis: SA6R

Type	Reference page in the General Catalog 2016
PCON-CB/CGB	See M-113
PCON-CYB/PLB/POB	See M-129
MCON-C/CG	See M-91
MCON-LC/LCG	
MSEL-PC/PG	See M-245

* 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 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.85	○	○	○
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 model		RCP6-SA8R	RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~1100mm	50~250mm	50~200mm
Max. speed *	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)		

* 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.86.

Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.83	○	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.83	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.84	○	○	○
Slider section roller specification	**SR**	See P.84	○	○	○

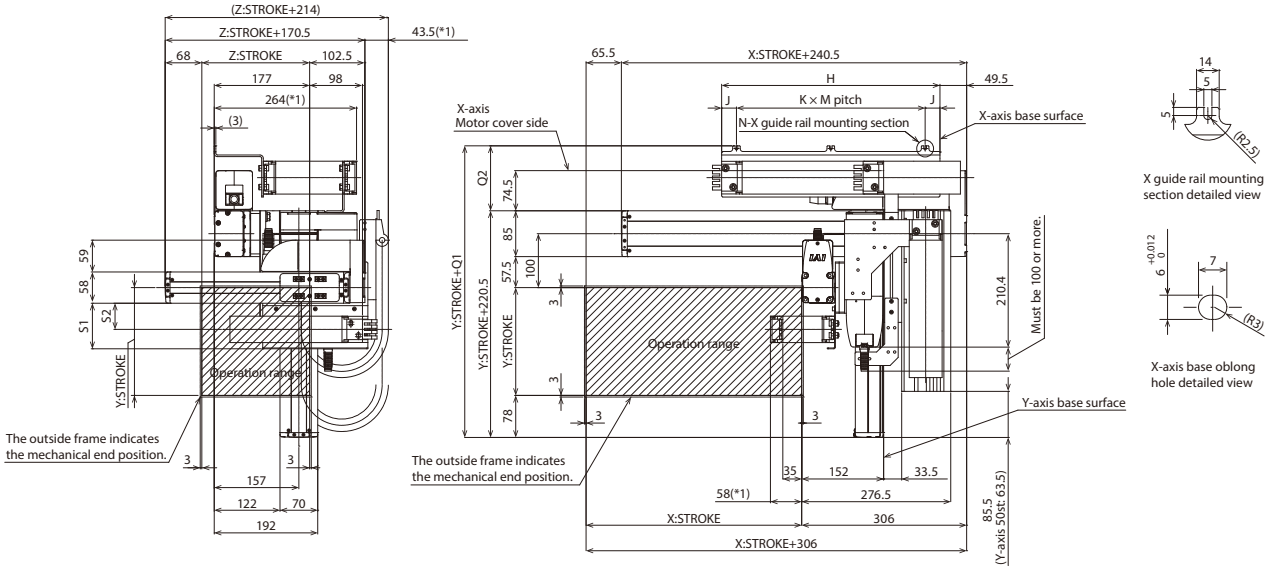
* Be sure to specify.

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.85.



*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

IK3 — P6BBB2□□S — WA — □□ — □□ — □BCJO□ — PM1 — □ — □ — □ — □ — □

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 below.

Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

First Wiring

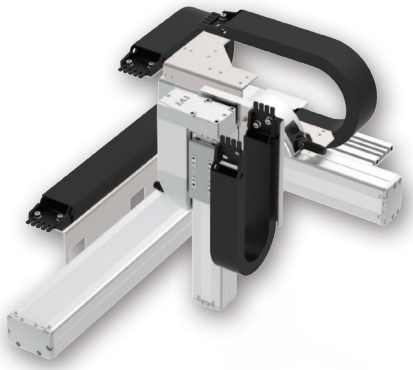
Second Wiring

Third Wiring

Refer to Cable Track table below.

Options
Refer to Options table (2) on the next page.

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
■ HSM type: X high speed/Y ultra high speed/Z medium speed
■ HSH type: X high speed/Y ultra high speed/Z high speed
■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

(Unit: kg)

Acceleration/deceleration (G) \ Speed Type	HSL	HSM	HSH	HSS
0.1	4	2	1	0.5
0.3	4	2	1	0.5
0.5	4	2	1	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

X-axis stroke (mm) \ Y-axis stroke (mm)	50				100				150			
Z-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	○	○	○	○	○	○	○	○	○	○	○	○

X-axis stroke (mm) \ Y-axis stroke (mm)	200				250			
Z-axis stroke (mm)	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	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please contact IAI for more information.

□ X-axis: SA8C

Type	Reference page in the General Catalog 2016
PCON-CFB/CGFB	See M-113

□ Y-axis: SA7R, Z-axis: SA6R

Type	Reference page in the General Catalog 2016
PCON-CB/CGB	See M-113
PCON-CYB/PLB/POB	See M-129
MCON-C/CG	See M-91
MCON-LC/LCG	
MSEL-PC/PG	See M-245

* 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 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.85	○	○	○
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 model		RCP6-SA8C	RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~1100mm	50~250mm	50~200mm
Max. speed *	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)		

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.83	–	–	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.83	–	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.83	–		
Cable exit direction (Left)	**CJL**	See P.83	–		
Cable exit direction (Bottom)	**CJB**	See P.83	–		
Cable exit direction (Outside)	**CJO**	See P.83	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.84	–	–	–
Slider section roller specification	**SR**	See P.84	–	–	–

* Be sure to specify.

Options (2)

Type	Option code	Reference page
Foot plate	**FTP**	See P.83

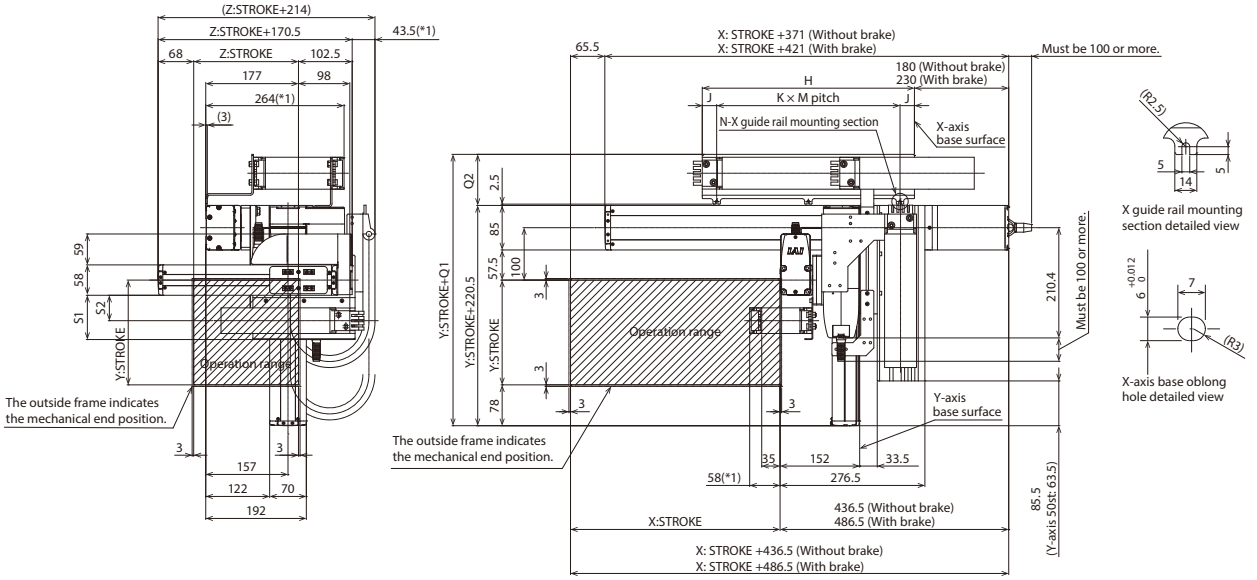
* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.86.

Dimensions

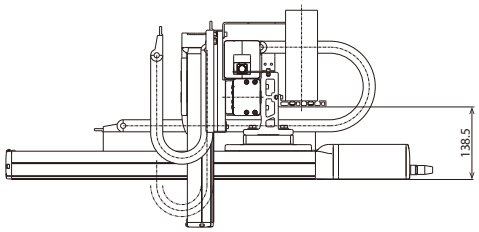
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

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.85.

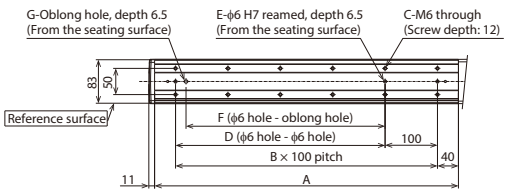


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

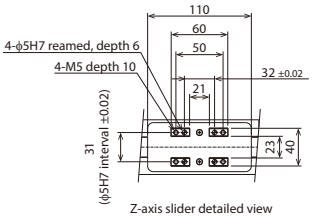


(*) Notes

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.83)
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.



Base mounting dimensions



Z-axis slider detailed view

■ 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

IK3 — P6BBB3□□S — WA — □□ — □□ — □B□ — PM1 — □ — □ — □ — □ — □

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 below.

Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

First Wiring

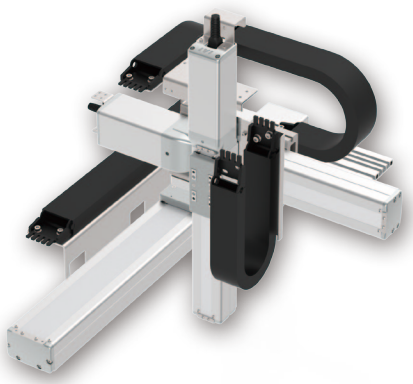
Second Wiring

Third Wiring

Refer to Cable Track table below.

Options
Refer to Options table (2) on the next page.

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
■ HSM type: X high speed/Y ultra high speed/Z medium speed
■ HSH type: X high speed/Y ultra high speed/Z high speed
■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

(Unit: kg)

Speed Type / Acceleration/deceleration (G)	HSL	HSM	HSH	HSS
0.1	4	2	1	0.5
0.3	4	2	1	0.5
0.5	4	2	1	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			
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	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please contact IAI for more information.

□ X-axis: SA8C

Type	Reference page in the General Catalog 2016
PCON-CFB/CGFB	See M-113

□ Y-axis: SA7C, Z-axis: SA6C

Type	Reference page in the General Catalog 2016
PCON-CB/CGB	See M-113
PCON-CYB/PLB/POB	See M-129
MCON-C/CG	See M-91
MCON-LC/LCG	
MSEL-PC/PG	See M-245

* 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 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.85	○	○	○
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 model		RCP6-SA8C	RCP6-SA7C	RCP6-SA6C
Stroke (Every 50mm)		50~1100mm	50~250mm	50~200mm
Max. speed *	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)		

* 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.86.

Options (1)

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.83	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.83	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.83	○		
Cable exit direction (Left)	**CJL**	See P.83	○		
Cable exit direction (Bottom)	**CJB**	See P.83	○		
Non-motor end specification	**NM**	See P.84	○	○	○
Slider section roller specification	**SR**	See P.84	○	○	○

* Outside as standard. Be sure to specify.

Options (2)

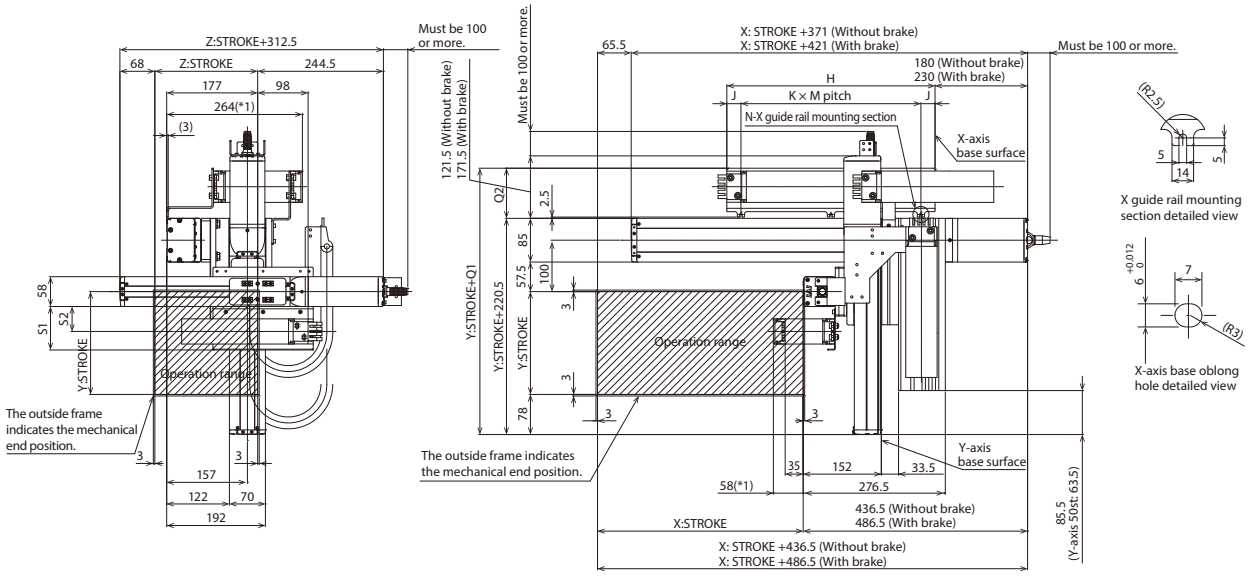
Type	Option code	Reference page
Foot plate	**FTP**	See P.83

Dimensions

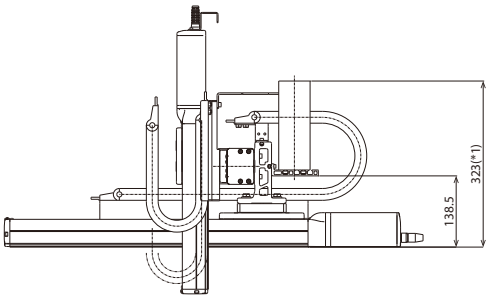
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

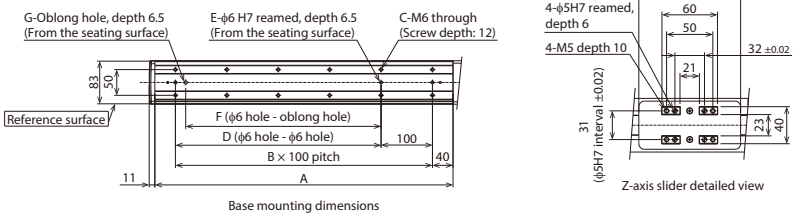
2D CAD 3D CAD

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.85.



*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.83)
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

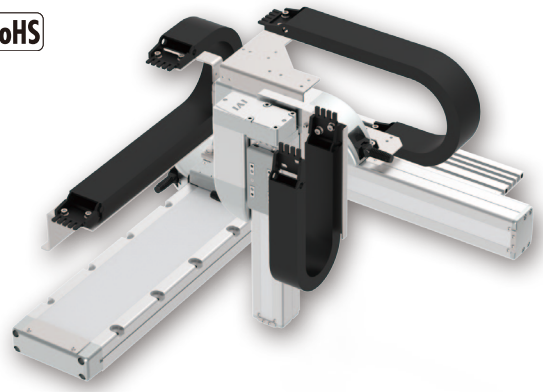
RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA14R (side-mounted)
Y-axis: SA7R (side-mounted) Z-axis: SA6R (side-mounted)

■ 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.

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
■ HSM type: X high speed/Y ultra high speed/Z medium speed
■ HSH type: X high speed/Y ultra high speed/Z high speed
■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

(Unit: kg)

Speed Type / Acceleration/deceleration (G)	HSL	HSM	HSH	HSS
0.1	4	2	1	0.5
0.3	–	2	1	0.5
0.5	–	2	1	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 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.85	○	○	○
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 contact IAI for more information.

□ X-axis: WSA14R, Y-axis: SA7R, Z-axis: SA6R

Type	Reference page in the General Catalog 2016
PCON-CB/CGB	See M-113
PCON-CYB/PLB/POB	See M-129
MCON-C/CG	See M-91
MCON-LC/LCG	
MSEL-PC/PG	See M-245

* 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 model		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.86.

Options

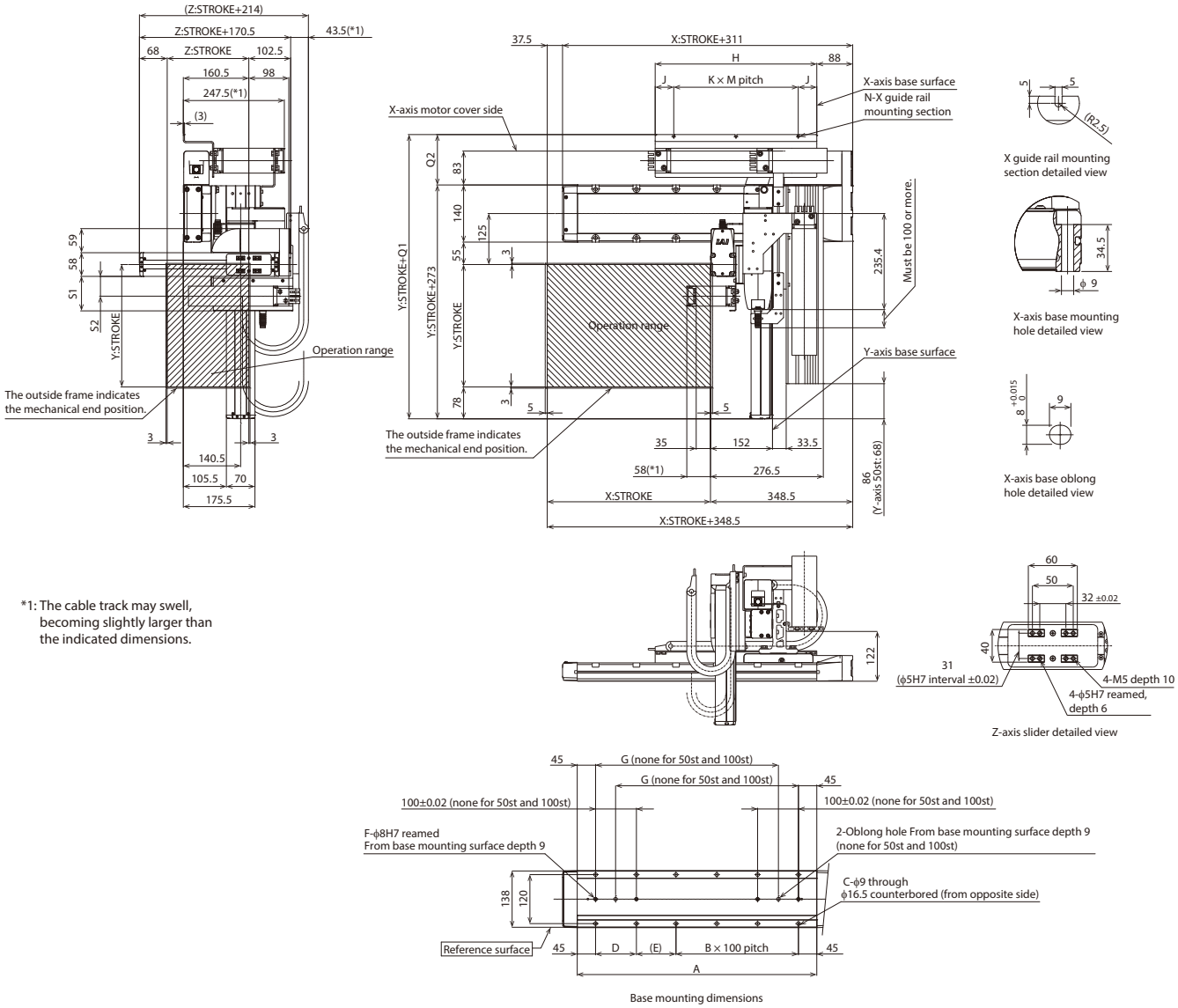
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.83	○	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.83	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.84	○	○	○
Slider section roller specification	**SR**	See P.84	○	○	○

* 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, 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.85.



*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

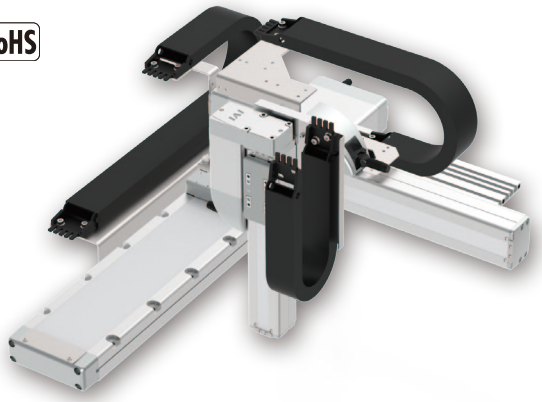
RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA14C (straight)
Y-axis: SA7R (side-mounted) Z-axis: SA6R (side-mounted)

■ Model Specification Items

IK3 — P6BBF2□ □S — WA — □ □ — □ □ — □BCJO□ — PM1 — □ — □ — □ — □

- Series: IK3
- Type: P6BBF2□ □S
  - 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
- First Axis (X-axis) / Second Axis (Y-axis): □ □ — □ □
  - Stroke: 5: 50mm ~ (Every 50mm)
  - Options: Refer to Options table on the next page.
- Third Axis (Z-axis): □BCJO□
- Controller: PM1
  - 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: Refer to Cable Track table on the next page.
  - 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

■ HSL type: X high speed/Y ultra high speed/Z low speed
■ HSM type: X high speed/Y ultra high speed/Z medium speed
■ HSH type: X high speed/Y ultra high speed/Z high speed
■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

(Unit: kg)

Speed Type / Acceleration/deceleration (G)	HSL	HSM	HSH	HSS
0.1	4	2	1	0.5
0.3	–	2	1	0.5
0.5	–	2	1	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 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.85	○	○	○
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 contact IAI for more information.

□ X-axis: WSA14C, Y-axis: SA7R, Z-axis: SA6R

Type	Reference page in the General Catalog 2016
PCON-CB/CGB	See M-113
PCON-CYB/PLB/POB	See M-129
MCON-C/CG	See M-91
MCON-LC/LCG	
MSEL-PC/PG	See M-245

* 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 model		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℃, 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.86.

Options

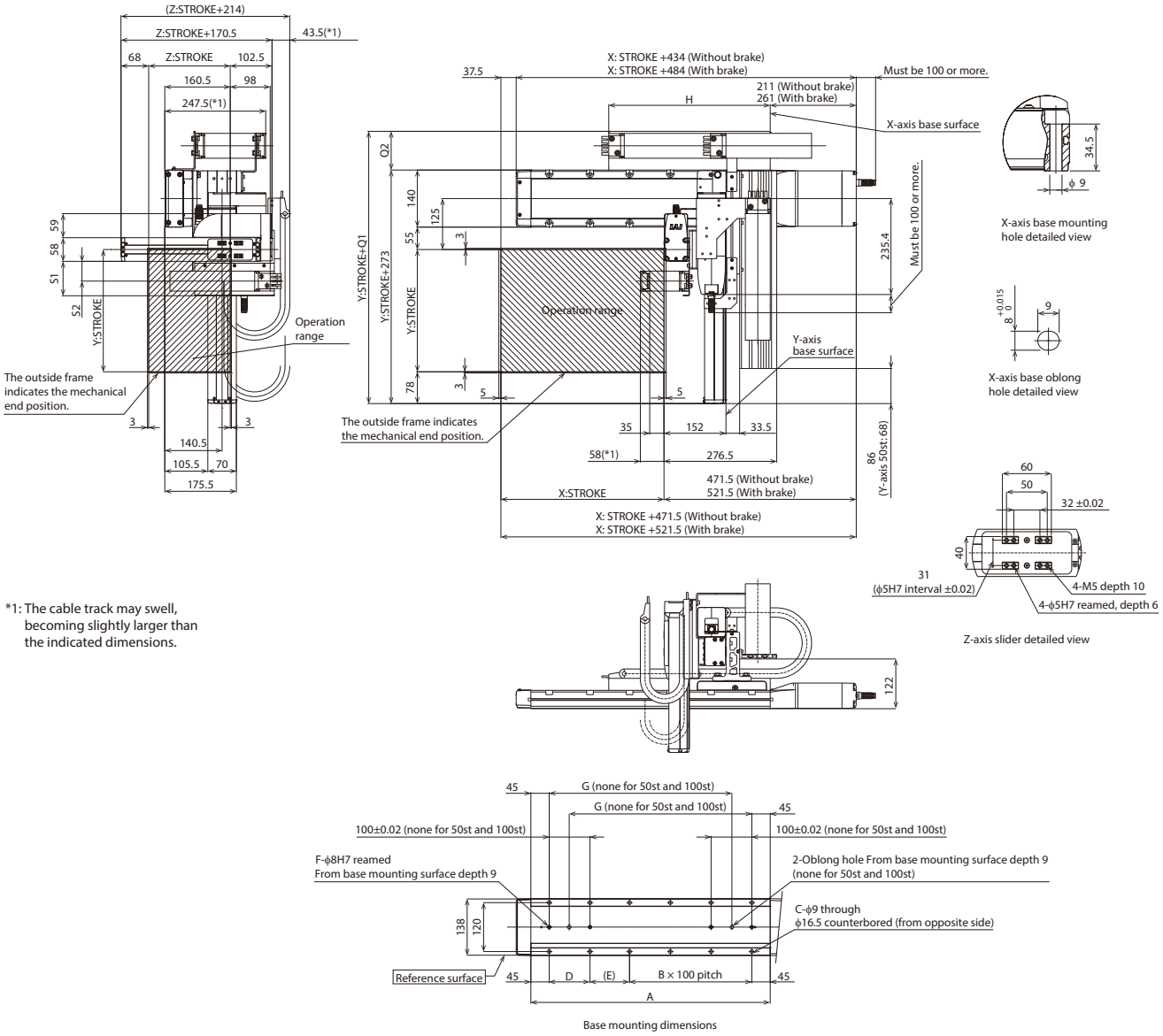
Type	Option code	Reference page	Standard Price X-axis	Y-axis	Z-axis
Brake	**B**	See P.83	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.83	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.83	○		
Cable exit direction (Left)	**CJL**	See P.83	○		
Cable exit direction (Bottom)	**CJB**	See P.83	○		
Cable exit direction (Outside)	**CJO**	See P.83	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.84	○	○	○
Slider section roller specification	**SR**	See P.84	○	○	○

* 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, 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.85.



*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

IK3 — P6BBF3□ □S — WA — □□ — □□ — □□ — □B□ — PM1 — □ — □ — □ — □

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

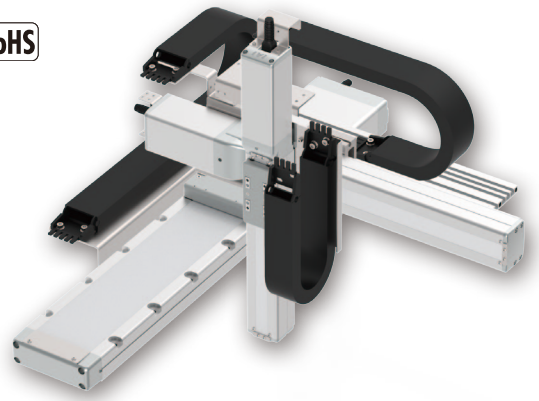
First Wiring

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
■ HSM type: X high speed/Y ultra high speed/Z medium speed
■ HSH type: X high speed/Y ultra high speed/Z high speed
■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

(Unit: kg)

Speed Type / Acceleration/deceleration (G)	HSL	HSM	HSH	HSS
0.1	4	2	1	0.5
0.3	–	2	1	0.5
0.5	–	2	1	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 (Standard price)

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 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.85	○	○	○
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 contact IAI for more information.

□ X-axis: WSA14C, Y-axis: SA7C, Z-axis: SA6C

Type	Reference page in the General Catalog 2016
PCON-CB/CGB	See M-113
PCON-CYB/PLB/POB	See M-129
MCON-C/CG	See M-91
MCON-LC/LCG	
MSEL-PC/PG	See M-245

* 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 model		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.86.

Options

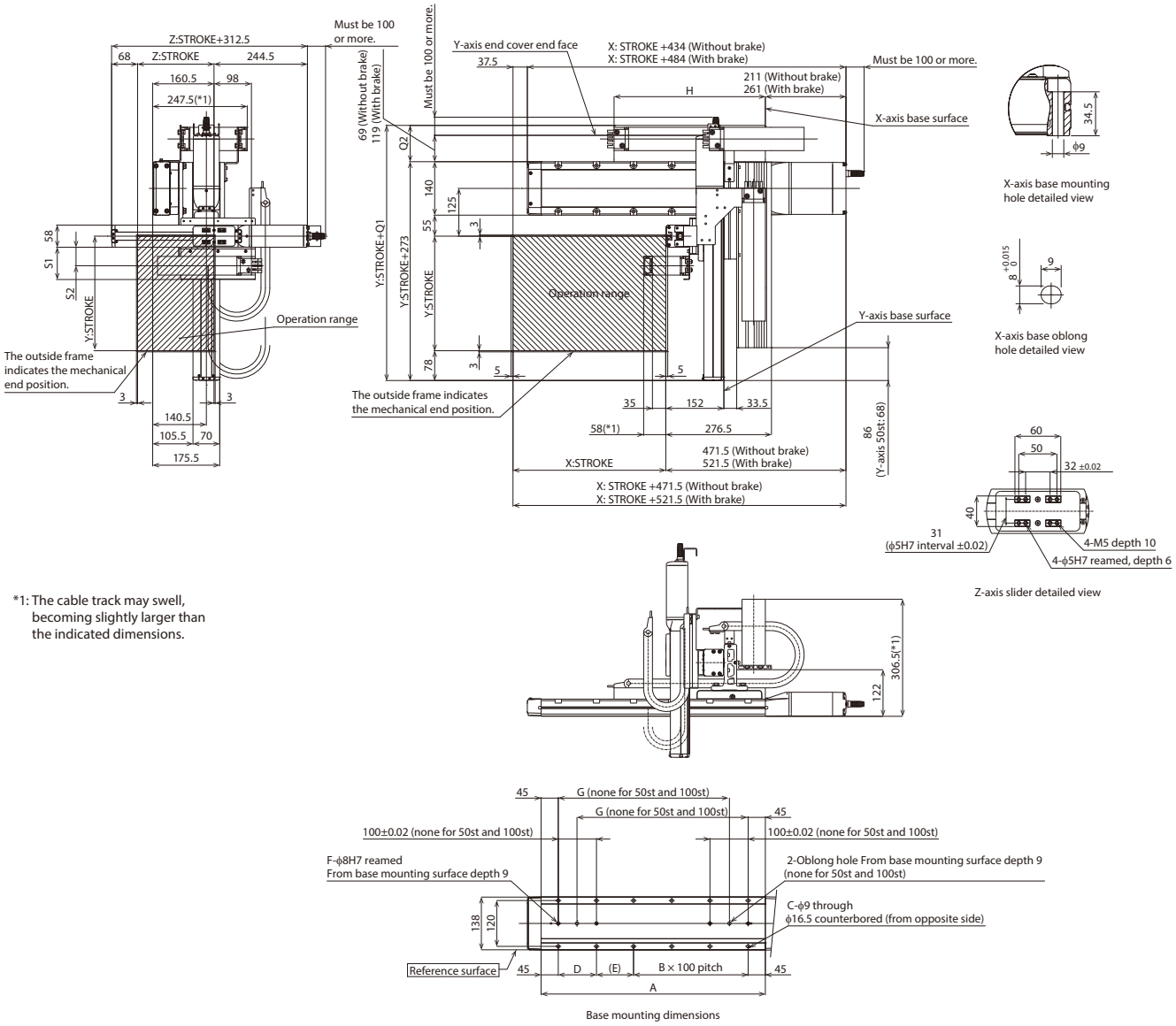
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.83	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.83	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.83	○		
Cable exit direction (Left)	**CJL**	See P.83	○		
Cable exit direction (Bottom)	**CJB**	See P.83	○		
Non-motor end specification	**NM**	See P.84	○	○	○
Slider section roller specification	**SR**	See P.84	○	○	○

* Outside as standard. 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, 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.85.



*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

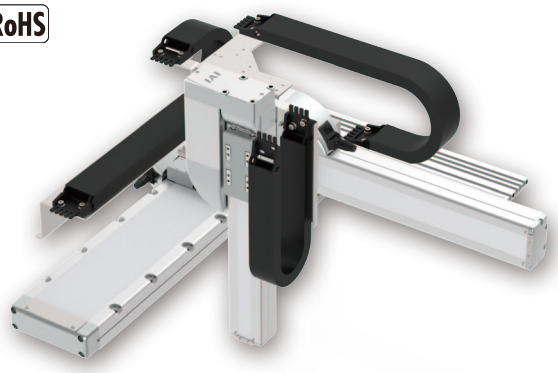
RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA16R (side-mounted)
Y-axis: SA8R (side-mounted) Z-axis: SA7R (side-mounted)

■ 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 76.
- **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.
- **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

■ MHL type: X medium speed/Y high speed/Z low speed
■ MHM type: X medium speed/Y high speed/Z medium speed
■ MHH type: X medium speed/Y high speed/Z high speed
■ MHS type: X medium speed/Y high speed/Z ultra high speed

(Unit: kg)

Y-axis stroke (mm)	50~400 (Every 50mm)				450~500 (Every 50mm)			
Speed Type / Acceleration/deceleration (G)	MHL	MHM	MHH	MHS	MHL	MHM	MHH	MHS
0.1	6	4	2	1	6	4	2	1
0.3	–	4	2	1	–	–	2	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 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.85	○	○	○
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 contact IAI for more information.

☐ X-axis: WSA16R, Y-axis: SA8R

Type	Reference page in the General Catalog 2016
PCON-CFB/CGFB	See M-113

☐ Z-axis: SA7R

Type	Reference page in the General Catalog 2016
PCON-CB/CGB	See M-113
PCON-CYB/PLB/POB	See M-129
MCON-C/CG	See M-91
MCON-LC/LCG	
MSEL-PC/PG	See M-245

* 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 model		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.86.

Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.83	–	–	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.83	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.84	–	–	–
Slider section roller specification	**SR**	See P.84	–	–	–

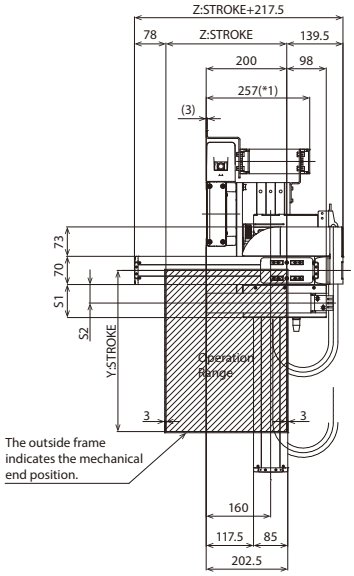
* Be sure to specify.

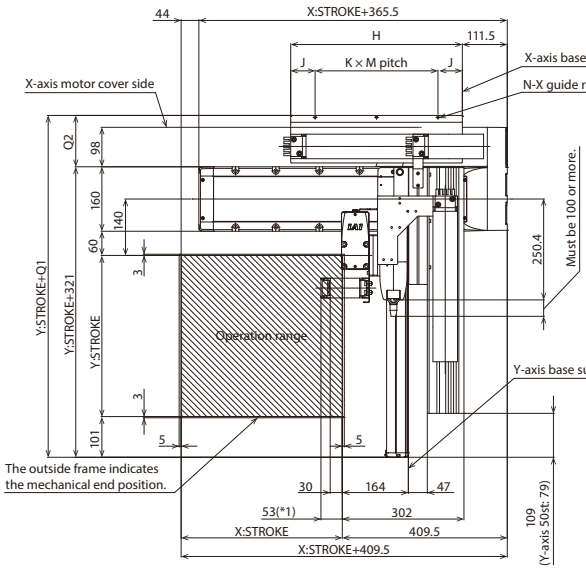
Dimensions

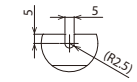
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD

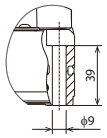
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.85.



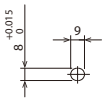




X guide rail mounting section detailed view

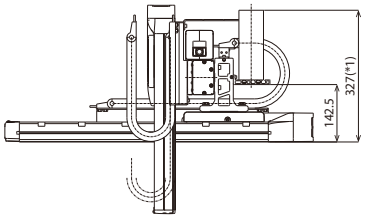


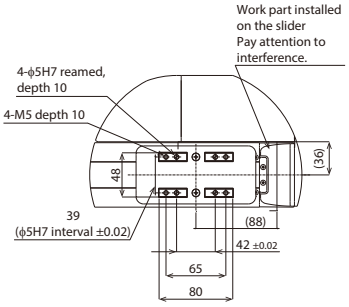
X-axis base mounting hole detailed view



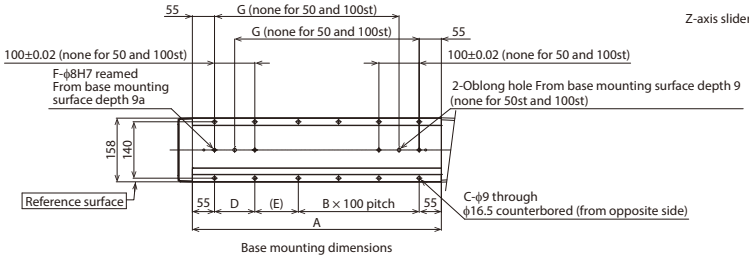
X-axis base oblong hole detailed view

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





Z-axis slider detailed view



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 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

IK3 — P6BBE2□ □S — WA — □ □ — □ □ — □BCJO□ — PM1 — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable			
IK3	P6BBE2□ □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 79.

Controller
Refer to Applicable Controllers table on the next page.

Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

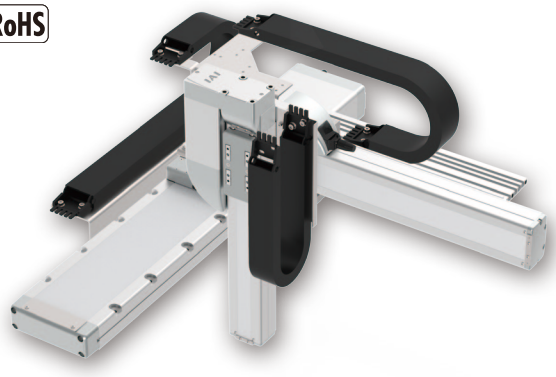
First Wiring

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
■ MHM type: X medium speed/Y high speed/Z medium speed
■ MHH type: X medium speed/Y high speed/Z high speed
■ MHS type: X medium speed/Y high speed/Z ultra high speed

(Unit: kg)

Y-axis stroke (mm)	50~400 (Every 50mm)				450~500 (Every 50mm)			
Speed Type / Acceleration/deceleration (G)	MHL	MHM	MHH	MHS	MHL	MHM	MHH	MHS
0.1	6	4	2	1	6	4	2	1
0.3	–	4	2	1	–	–	2	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) / X-axis stroke (mm)	50	100	150	200	250	300	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	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)	150						200					
Z-axis stroke (mm) / X-axis stroke (mm)	50	100	150	200	250	300	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	○	○	○	○	○	○	○	○	○	○	○	○

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 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.85	–	–	–
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 contact IAI for more information.

□ X-axis: WSA16C, Y-axis: SA8R

Type	Reference page in the General Catalog 2016
PCON-CFB/CGFB	See M-113

□ Z-axis: SA7R

Type	Reference page in the General Catalog 2016
PCON-CB/CGB	See M-113
PCON-CYB/PLB/POB	See M-129
MCON-C/CG	See M-91
MCON-LC/LCG	
MSEL-PC/PG	See M-245

* 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 model		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		0~40ºC, 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.86.

Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.83	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.83	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.83	○		
Cable exit direction (Left)	**CJL**	See P.83	○		
Cable exit direction (Bottom)	**CJB**	See P.83	○		
Cable exit direction (Outside)	**CJO**	See P.83	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.84	○	○	○
Slider section roller specification	**SR**	See P.84	○	○	○

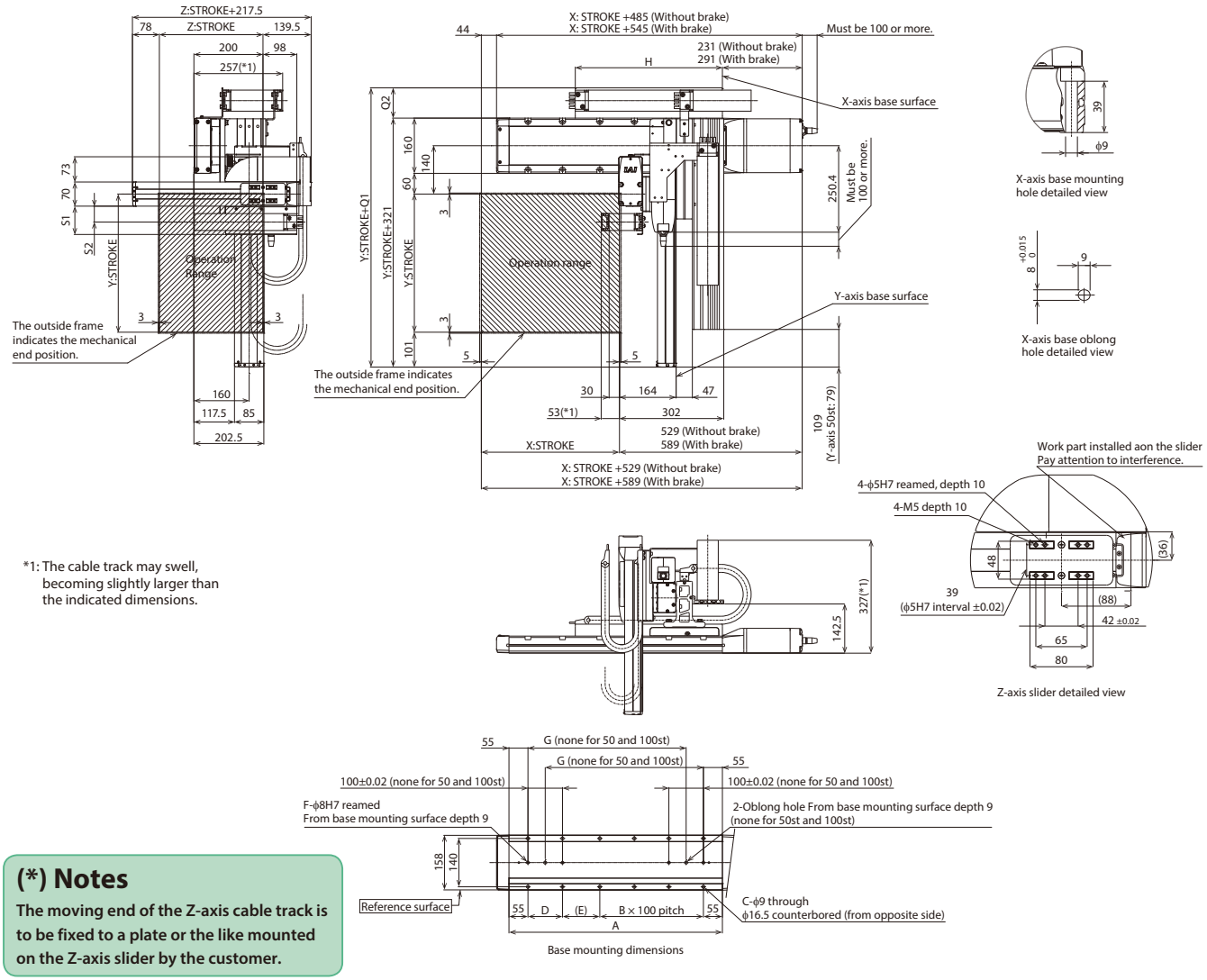
* Be sure to specify.

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.85.



*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

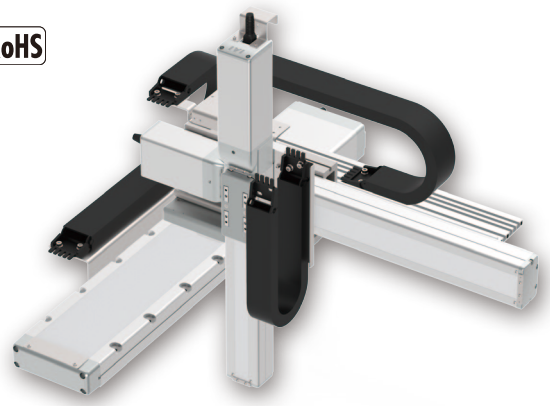
RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA16C (straight)
Y-axis: SA8C (straight) Z-axis: SA7C (straight)

■ 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 82.
- **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
■ MHM type: X medium speed/Y high speed/Z medium speed
■ MHH type: X medium speed/Y high speed/Z high speed
■ MHS type: X medium speed/Y high speed/Z ultra high speed

(Unit: kg)

Y-axis stroke (mm)	50~400 (Every 50mm)				450~500 (Every 50mm)			
Speed Type / Acceleration/deceleration (G)	MHL	MHM	MHH	MHS	MHL	MHM	MHH	MHS
0.1	6	4	2	1	6	4	2	1
0.3	–	4	2	1	–	–	2	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 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.85	○	○	○
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 contact IAI for more information.

□ X-axis: WSA16C, Y-axis: SA8C

Type	Reference page in the General Catalog 2016
PCON-CFB/CGFB	See M-113

□ Z-axis: SA7C

Type	Reference page in the General Catalog 2016
PCON-CB/CGB	See M-113
PCON-CYB/PLB/POB	See M-129
MCON-C/CG	See M-91
MCON-LC/LCG	
MSEL-PC/PG	See M-245

* 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 model		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.86.

Options

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.83	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.83	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.83	○		
Cable exit direction (Left)	**CJL**	See P.83	○		
Cable exit direction (Bottom)	**CJB**	See P.83	○		
Non-motor end specification	**NM**	See P.84	○	○	○
Slider section roller specification	**SR**	See P.84	○	○	○

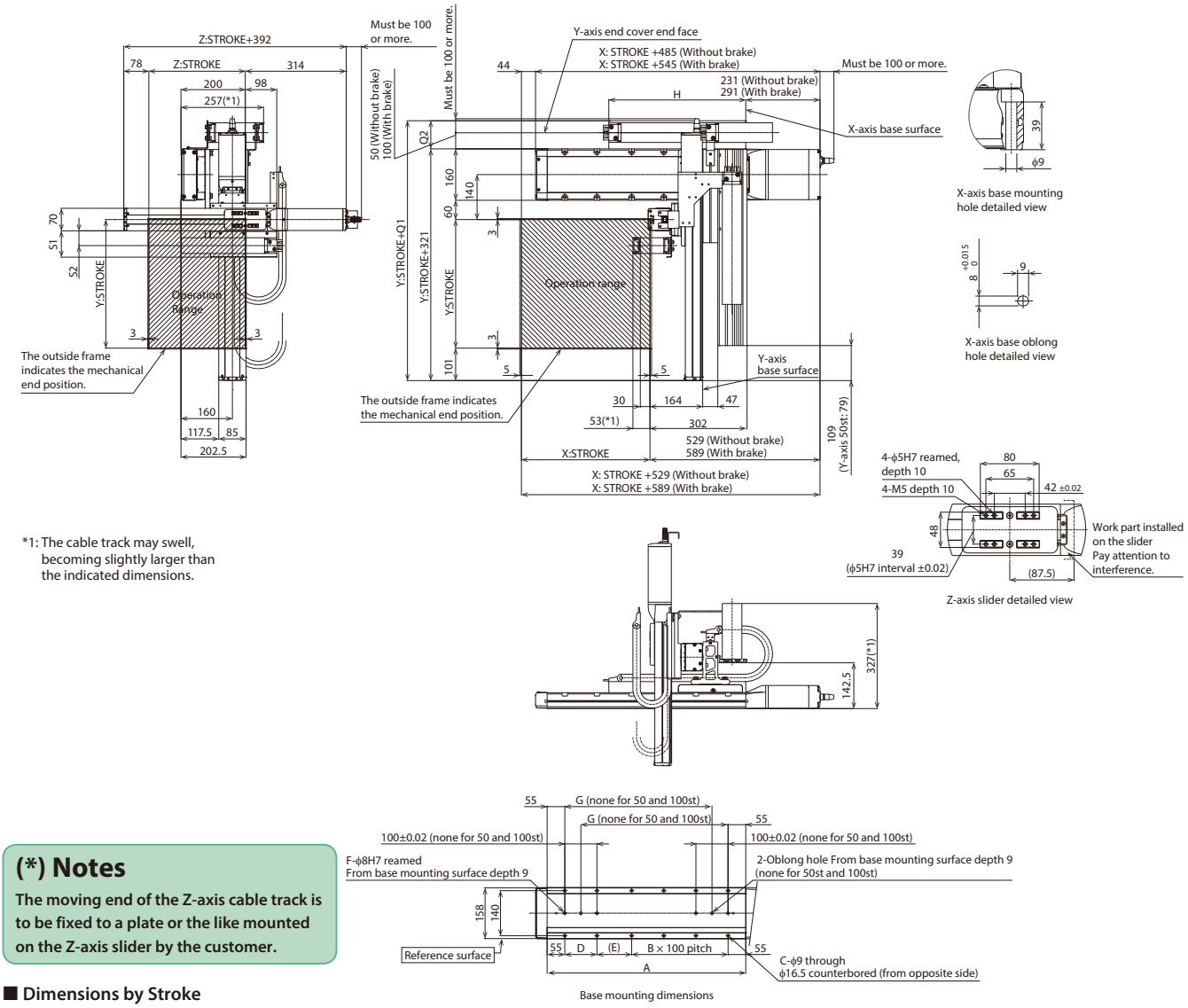
* Outside as standard. Be sure to specify.

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.85.



Base mounting dimensions

*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.

Cartesian Robot Options

Brake

Option Code **B**

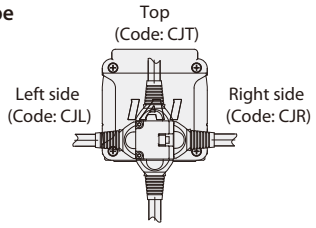
Description This is a holding mechanism that prevents the slider from falling and damaging any attached fittings when the power or servo is turned off.

Cable Exit Direction

Option Code **CJT / CJR / CJL / CJB / CJO**

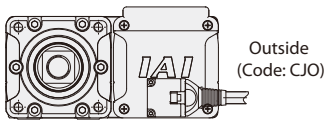
Description This option allows you to change the exit direction of the motor-encoder cable to top, bottom, left, or right.

Straight motor type



* When viewed from the actuator rear side (motor side).

Side-mounted motor type



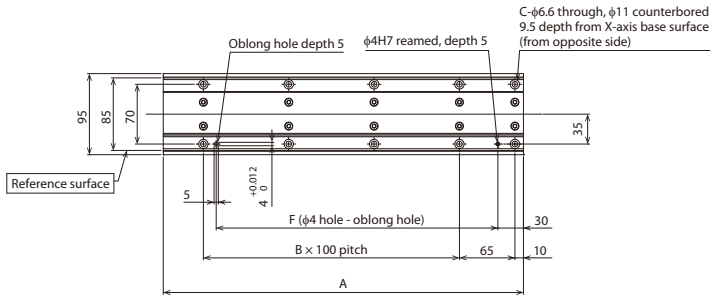
* When viewed from the actuator front side.

Foot Plate

Option Code **FTP**

Description X-axis can be installed from the top with this Foot Plate.

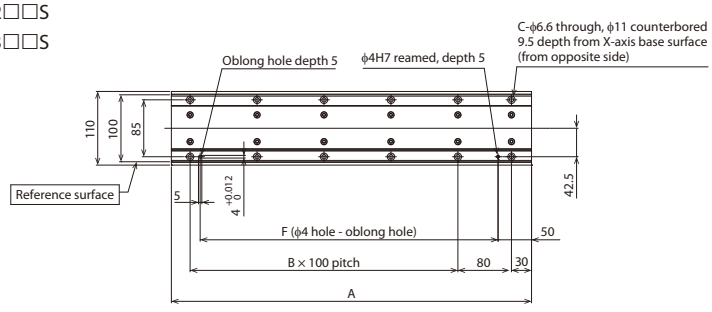
IK2-P6XBD2□□S
IK2-P6XBD3□□S



Foot Plate 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

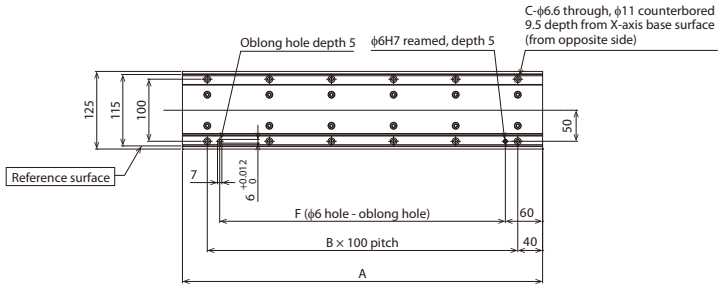
IK2-P6XBC2□□S
IK2-P6XBC3□□S
IK3-P6BBC2□□S
IK3-P6BBC3□□S



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

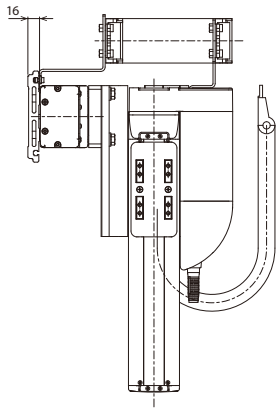


Foot Plate mounting dimensions

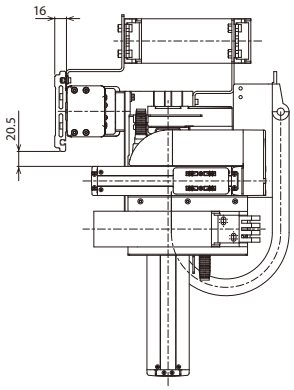
X-axis stroke	A	B	C	F
50	230	1	4	60
100	280	2	6	160
150	330	2	6	160
200	380	3	8	260
250	430	3	8	260
300	480	4	10	360
350	530	4	10	360
400	580	5	12	460
450	630	5	12	460
500	680	6	14	560
550	730	6	14	560
600	780	7	16	660
650	830	7	16	660
700	880	8	18	760
750	930	8	18	760
800	980	9	20	860
850	1030	9	20	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.

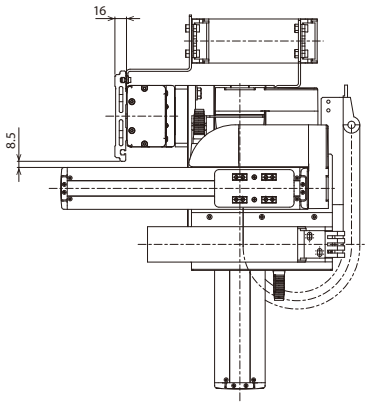
■IK2-P6XBD2□□S
IK2-P6XBD3□□S
IK2-P6XBC2□□S
IK2-P6XBC3□□S
IK2-P6XBB2□□S
IK2-P6XBB3□□S



■IK3-P6BBC2□□S
IK3-P6BBC3□□S



■IK3-P6BBB2□□S
IK3-P6BBB3□□S



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

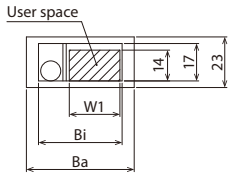
Option Code **SR**

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

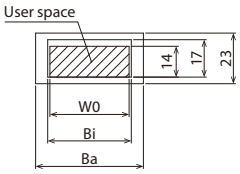
●Cable Track

2-axis configurations | Cable storage | Detailed view

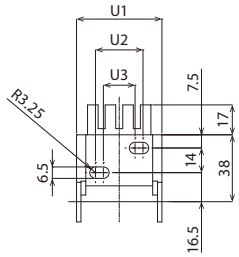


X-Y cable track sectional view

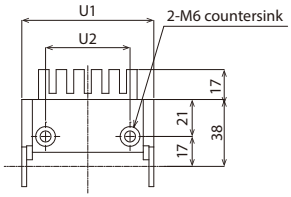
Cable track size	CT	CTM	CTL	CTXL
U1	48.5	60.5	75	–
U2	27	39.5	48	–
U3	18	30.5	–	–
Ba	49	61	76	94
Bi	38	50	63	80
W0	36	48	61	78
W1	23	35	48	65



Y-Y cable track sectional view

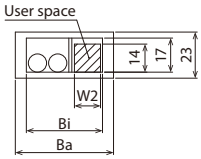


Y-Y cable track moving end detailed view (CT,CTM)



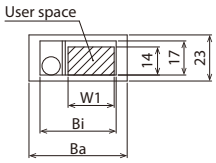
Y-Y cable track moving end detailed view (CTL)

3-axis configurations | Cable storage | Detailed view

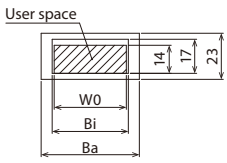


X-Y cable track sectional view

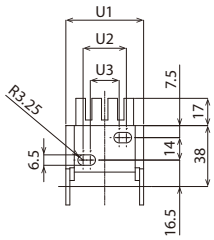
Cable track size	CT	CTM	CTL	CTXL
U1	48.5	60.5	–	–
U2	27	39.5	–	–
U3	18	30.5	–	–
Ba	49	61	76	94
Bi	38	50	63	80
W0	36	48	61	78
W1	23	35	48	65
W2	13	25	38	55



Y-Z cable track sectional view



Z-Z cable track sectional view



Z-Z cable track moving end detailed view

Bigger user space is available by ordering as a special specification, if it is insufficient. *Please contact IAI for more information.

●Cable Length

Cable code	Length	RCP6 2-axis IK2-P6	RCP6 3-axis IK3-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, the maximum speed is as stated on the product page for full stroke.

■ **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		

Catalog No. CE0248-1A (0117)

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