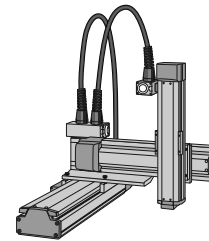


**ICSA3-BC**  **HB1**  Cartesian Robot: X-Y-Z 3-Axes Configuration  
Z-Axis Base Mount Type

**ICSPA3-BC**  **HB1**  Cartesian Robot: X-Y-Z 3-Axes Configuration  
Z-Axis Base Mount Type High-Precision Specification

Type XYB + Z-Axis Base Mount Type Stroke X-axis: 200-800mm Y-axis: 100-500mm Z-axis: 100-400mm Load capacity 14kg ~ 3kg

Model specification items Series Type Encoder type X-axis stroke + options Y-axis stroke + options Z-axis stroke + options Applicable controller Cable length Cable management  
(Example) ICSA3 (ICSPA3) - BC-HB1M - A - 70AQL - 40AQL - 30BL - T1 - 5L - SC - SC



\* Refer to page 51 for the details of model specification items.

**Models/Specifications** \* [ ] is for the high-precision specification.

Encoder Type	XY-axis configuration direction (*1)	Z-axis type (*2)	Model
Absolute	1	H	ICSA3 [ICSPA3] -BC1HB1H-A- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		M	ICSA3 [ICSPA3] -BC1HB1M-A- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		L	ICSA3 [ICSPA3] -BC1HB1L-A- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
	2	H	ICSA3 [ICSPA3] -BC2HB1H-A- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		M	ICSA3 [ICSPA3] -BC2HB1M-A- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		L	ICSA3 [ICSPA3] -BC2HB1L-A- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
	3	H	ICSA3 [ICSPA3] -BC3HB1H-A- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		M	ICSA3 [ICSPA3] -BC3HB1M-A- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		L	ICSA3 [ICSPA3] -BC3HB1L-A- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
	4	H	ICSA3 [ICSPA3] -BC4HB1H-A- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		M	ICSA3 [ICSPA3] -BC4HB1M-A- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		L	ICSA3 [ICSPA3] -BC4HB1L-A- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
Incremental	1	H	ICSA3 [ICSPA3] -BC1HB1H-I- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		M	ICSA3 [ICSPA3] -BC1HB1M-I- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		L	ICSA3 [ICSPA3] -BC1HB1L-I- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
	2	H	ICSA3 [ICSPA3] -BC2HB1H-I- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		M	ICSA3 [ICSPA3] -BC2HB1M-I- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		L	ICSA3 [ICSPA3] -BC2HB1L-I- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
	3	H	ICSA3 [ICSPA3] -BC3HB1H-I- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		M	ICSA3 [ICSPA3] -BC3HB1M-I- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		L	ICSA3 [ICSPA3] -BC3HB1L-I- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
	4	H	ICSA3 [ICSPA3] -BC4HB1H-I- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		M	ICSA3 [ICSPA3] -BC4HB1M-I- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>
		L	ICSA3 [ICSPA3] -BC4HB1L-I- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -B-T1- <input type="checkbox"/> - <input type="checkbox"/>

\*1: Refer to the figure below for XY-axis configuration direction.  
\*2: The load capacity and the maximum speed may vary depending on the type of Z-axis.  
Note: T1 in the above models will be T2 when operated with XSEL-P/Q type.

**Explanation of Model Code**

Number	Contents	Specification
①	X-axis stroke (Note 1)	20 : 200mm ~ 80 : 800mm
②	Y-axis stroke (Note 1)	10 : 100mm ~ 50 : 500mm
③	Z-axis stroke (Note 1)	10 : 100mm ~ 40 : 400mm
④	Cable length (Note 2)	3L : 3m 5L : 5m
⑤	Y-axis/ Z-axis cable management	SC-SC : Self-standing cable CT-CT : Cable track

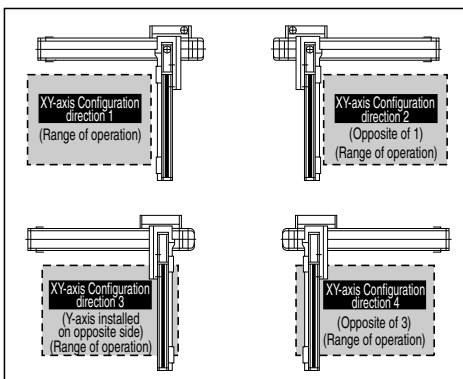
\* The above explains the Models/Specifications chart to the left.

**Options**

Please add the option codes at the end of each stroke of the axis.  
When adding multiple options, put together in alphabetic order.

Name	Code	Page
AQ seal	AQ	→P13
Brake	B	→P13
Creep sensor	C	→P13
Home limit switch	L	→P14
Reversed-home specification	NM	→P14
Guide with ball-retaining mechanism	RT	→P14

**Configuration Direction**



**Common Specifications** \* [ ] is for the high-precision specification.

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	±0.02mm [±0.01mm]
Backlash	0.05mm or less [0.02mm or less]
Guide	Integrated with base
Base	Material: Aluminum with white alumite treatment
X-axis motor output / lead	200W / 20mm
Y-axis motor output / lead	100W / 20mm
Z-axis motor output / lead	60W / 16mm (H), 8mm (M), 4mm (L)

**Applicable Controller Specifications**

Refer to page 65 for System Configuration.

**Axis Configuration** \* [ ] is for the high-precision specification.

Axis Type	Model	Page
X-axis	ISA[ISPA]-MXM- <input type="checkbox"/> -200-20-(Stroke)-T1	→P19
Y-axis	ISA[ISPA]-MYM- <input type="checkbox"/> -100-20-(Stroke)-T1	→P21
Z-axis	ISA[ISPA]-SXM- <input type="checkbox"/> -60-16/8/4-(Stroke)-T1-B	→P15

\*In the above model name,  indicates encoder type A (absolute) or I (incremental).

**Caution**

(Note 1) The stroke in the model is specified in cm (centimeters).  
(Note 2) The cable length measures from the X-axis connector box to the controller. The standard lengths are 3m and 5m, but other lengths can also be specified in meters. The maximum length is 20m.  
(Note 3) The rated acceleration is 0.3G. Increasing the acceleration will result in lower load capacity.  
(Note 4) Please note that a longer stroke will result in a lower maximum speed.

\* For other points to note, please refer to page 49.

ICSA3 [ICSPA3] -BC□HB1□

Load Capacity (kg) (Note3)

BC□HB1H

		Y-axis stroke				
		100	200	300	400	500
Z-axis stroke	100	3.0				
	200	3.0				
	300	3.0				
	400	3.0				

BC□HB1M

		Y-axis stroke				
		100	200	300	400	500
Z-axis stroke	100	6.0				
	200	6.0				
	300	6.0				
	400	6.0				

BC□HB1L

		Y-axis stroke				
		100	200	300	400	500
Z-axis stroke	100	14.0				13.5
	200	14.0				12.9
	300	14.0				12.3
	300	13.5				11.7

Maximum Speed by Stroke (mm/sec) (Note4)

BC□HB1H

	Stroke								
	100	200	300	400	500	600	700	800	
X-axis	-	1000						795	
Y-axis	1000				-	-	-	-	-
Z-axis	800		-	-	-	-	-	-	

BC□HB1M

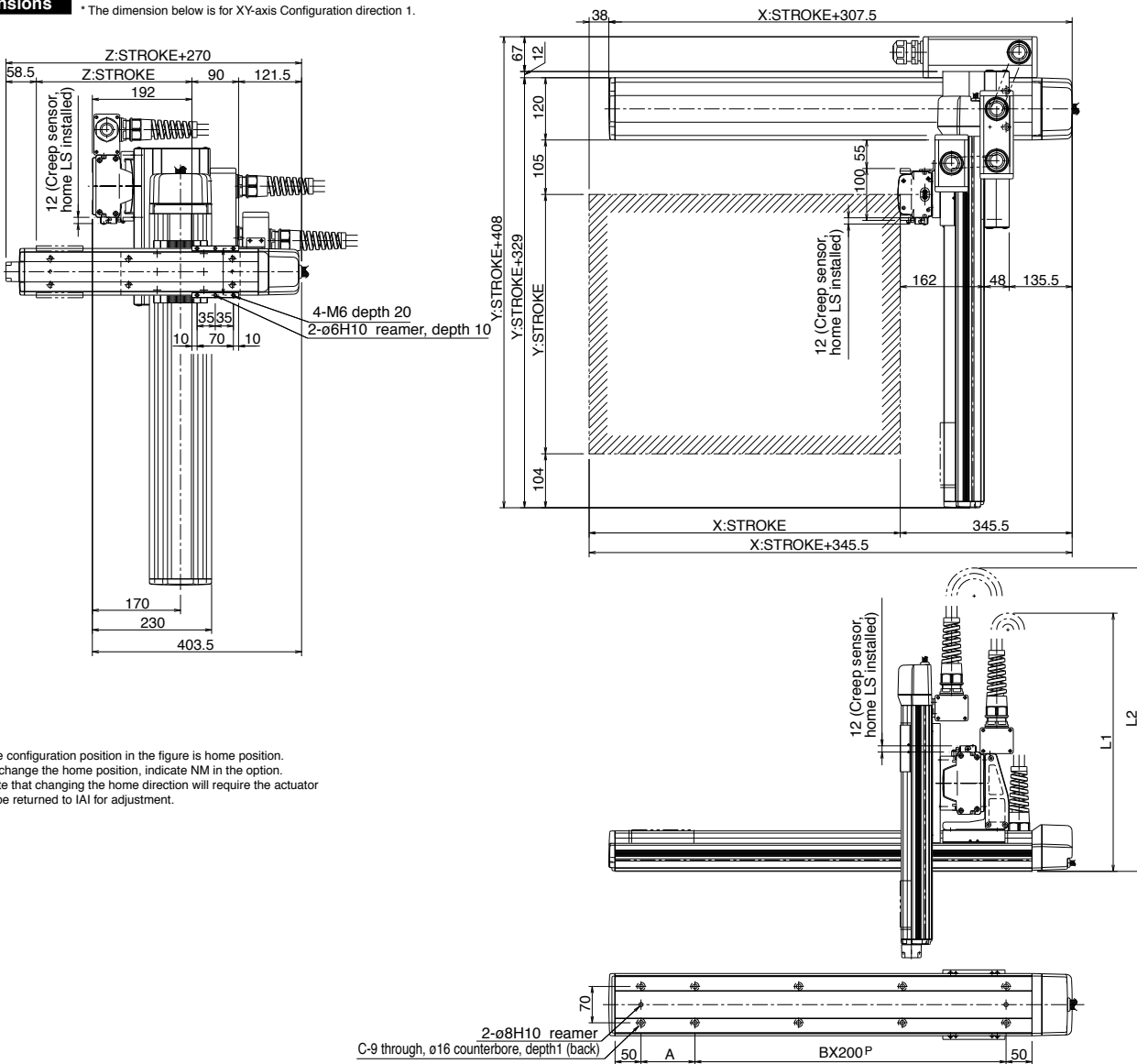
	Stroke								
	100	200	300	400	500	600	700	800	
X-axis	-	1000						795	
Y-axis	1000				-	-	-	-	
Z-axis	400		-	-	-	-	-	-	

BC□HB1L

	Stroke								
	100	200	300	400	500	600	700	800	
X-axis	-	1000						795	
Y-axis	1000				-	-	-	-	
Z-axis	200		-	-	-	-	-	-	

Dimensions

\* The dimension below is for XY-axis Configuration direction 1.



\* The configuration position in the figure is home position. To change the home position, indicate NM in the option. Note that changing the home direction will require the actuator to be returned to IA1 for adjustment.

X stroke	200	300	400	500	600	700	800
L1	(550)	(600)	(650)	(700)	(750)	(800)	(850)
A	104	204	104	204	104	204	104
B	1	1	2	2	3	3	4
C	6	6	8	8	10	10	12

Y stroke	100	200	300	400	500
L2	(630)	(680)	(730)	(780)	(830)