

# ICSB3-GE□HS3□

# ICSPB3-GE□HS3□

High-Precision Specification

±10μm  
Standard

±5μm  
High-Precision

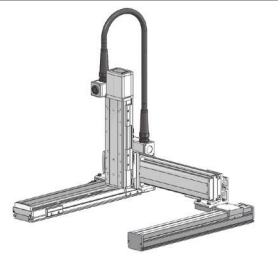
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

High Speed Type

X: Lg (400W)  
Y: Md (200W)  
Z: Md (200W)



### Model Specification Items

Series	Type	Encoder Type	X-axis Stroke/Option	Y-axis Stroke/Option	Z-axis Stroke/Option	Applicable Controllers	Cable Length	Y-axis - Z-axis Cable Management
ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification	Refer to Model Specification table below	WA: Battery-less Absolute	10: 100mm 100: 1000mm (Every 50mm)	30: 300mm 90: 900mm (Every 50mm)	10: 100mm 40: 400mm (Every 50mm)	T2: SCON XSEL-P/Q XSEL-RA/SA	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

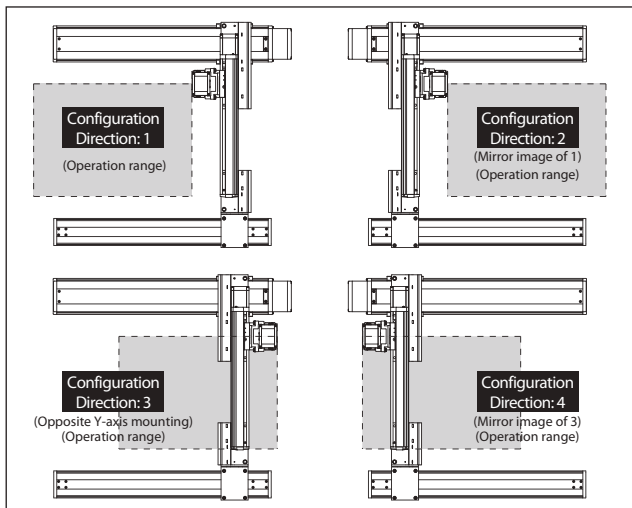
### Model Specification

\* Items in brackets [ ] are for the High-Precision Specification.

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-GE1HS3M-①-②③④⑤⑥⑦-T2-⑧⑨
	L	ICSB3[ICSPB3]-GE1HS3L-①-②③④⑤⑥⑦-T2-⑧⑨
2	M	ICSB3[ICSPB3]-GE2HS3M-①-②③④⑤⑥⑦-T2-⑧⑨
	L	ICSB3[ICSPB3]-GE2HS3L-①-②③④⑤⑥⑦-T2-⑧⑨
3	M	ICSB3[ICSPB3]-GE3HS3M-①-②③④⑤⑥⑦-T2-⑧⑨
	L	ICSB3[ICSPB3]-GE3HS3L-①-②③④⑤⑥⑦-T2-⑧⑨
4	M	ICSB3[ICSPB3]-GE4HS3M-①-②③④⑤⑥⑦-T2-⑧⑨
	L	ICSB3[ICSPB3]-GE4HS3L-①-②③④⑤⑥⑦-T2-⑧⑨

\*1 Please refer to the following diagram under XY Configuration Direction. Please refer to the table on the right for details of [①] through [⑨] in the model names above.  
\*2 The payload and the max speed may vary depending on the type of Z-axis.

### XY Configuration Direction



### Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	10: 100mm 100: 1000mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	30: 300mm 90: 900mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm 40: 400mm
⑦	Z-axis option	Refer to Options table below.
⑧	Cable length (Note 2)	3L: 3m 5L: 5m □L: □m
⑨	Y-axis - Z-axis Cable Management	SC-SC: Self-standing cable - Self-standing cable

### Options

The option codes should be entered after the stroke for each axis. Make sure to indicate the standard equipped option in the model number. When selecting multiple options, specify them in **alphabetical order**.

Type	Model	Reference page
X-axis cable exit direction	*	See P.11, P.369
AQ seal (standard equipment)	AQ	See P.369
Brake (equipped as standard on Z-axis) *1	B	See P.369
Creep sensor *2	C/CL	See P.369
Home limit switch *2	L/LL	See P.369
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.369
Guide with ball-retaining mechanism *4	RT	See P.370

\*1 Brake option for X and/or Y axes increases the length of the motor unit(s). Please contact IAI for details.  
\*2 When selecting the creep sensor and home limit switch, the mounting position differs according to the configuration direction, but the creep sensor is specified in the model name as "C" and the home limit switch as "L" regardless of the mounting position. Please refer to P.11 for more information.  
\*3 The configuration position in the figure is the home position. The normal setting for Z-axis is non-motor end (NM). To set the Z-axis descent position as home, remove the non-motor end (NM) designation. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
\*4 To set a different X-axis cable exit direction from the normal setting, indicate the cable exit direction symbol. Please refer to P.11 for the cable exit direction of each axis.

### Axis Configuration

\* Items in brackets [ ] are for the High-Precision Specification.

Name of axis	Model	Reference page
X-axis (Drive axis)	ISB[ISPB]-LXM-①-400-20-②-T2-③④	→ Please contact IAI for more details
X-axis (Driven axis)	ISB-SXM03-N-0-0-②	—
Y-axis	ISB[ISPB]-MXM-①-200-20-②-T2-③④	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-⑤⑥-T2-③④	→ Please contact IAI for more details

\* Refer to the symbols within the table Explanation of Model Designations at the upper right for [①] through [⑦] in the above model names. Note that the strokes are indicated in mm (millimeters).  
\* Lead is specified with [⑤] in the above model names. 10: For Z-axis Medium Speed type  
5: For Z-axis Low Speed type  
\* Cable exit direction is specified with [④] in the above model names. Please refer to P.11 for the exit directions.

### Common Specifications

\* Items in brackets [ ] are for the High-Precision Specification.

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	±0.01mm [±0.005mm]
Lost motion	0.05mm [0.02mm] or less
Guide	Integrated with base
Base	Material: Aluminum with white alumite treatment
X-axis motor output/lead	400W/20mm
Y-axis motor output/lead	200W/20mm
Z-axis motor output/lead	200W/10mm (M), 5mm (L)

### Applicable Controllers

Contact IAI. The controller for this system needs to be purchased/prepared separately.



Notes

- (Note 1) The strokes in the model names of the Cartesian Robots are specified in cm (centimeters).
- (Note 2) The cable length is the length between the X-axis connector box and the controller. The standard lengths are 3m and 5m, but other lengths can also be specified in meters. The maximum length is 15m.
- (Note 3) The rated acceleration is 0.2G for Z-axis lead 5, and 0.4G for all others. The payload is based on operation at the rated acceleration. When the acceleration is increased, the payload will be reduced.
- (Note 4) Please note that a longer stroke will result in a lower max speed.

Payload (kg) (Note 3)

Z-axis stroke	Y-axis stroke	
	300~900	300~900
100	14.3	
150	13.6	
200	13.0	
250	12.3	
300	11.7	
350	11.1	
400	10.5	

Z-axis stroke	Y-axis stroke												
	300	350	400	450	500	550	600	650	700	750	800	850	900
100	32.9	32.9	32.9	32.8	32.8	32.8	32.8	29.7	26.7	23.9	21.4	19.0	16.9
150	32.3	32.2	32.2	32.2	32.2	32.2	32.1	29.0	26.0	23.2	20.7	18.3	16.2
200	31.7	31.7	31.7	31.7	31.5	31.1	30.7	28.4	25.4	22.6	20.1	17.7	15.6
250	29.7	29.4	29.0	28.7	28.3	27.9	27.6	27.3	24.7	21.9	19.4	17.0	14.9
300	27.0	26.7	26.4	26.0	25.7	25.4	25.1	24.8	24.1	21.3	18.8	16.4	14.3
350	24.7	24.4	24.1	23.8	23.5	23.2	22.9	22.6	22.3	20.7	18.2	15.8	13.7
400	22.6	22.4	22.1	21.8	21.5	21.2	21.0	20.7	20.4	20.1	17.6	15.2	13.1

Maximum Speed by Stroke (mm/s) (Note 4)

GE□HS3M	100~300	300~400	450~700	750~800	850~900	950~1000
X-axis	1200					
Y-axis	—	1200	860	695	—	—
Z-axis	600					

GE□HS3L	100~300	300~400	450~700	750~800	850~900	950~1000
X-axis	1200					
Y-axis	—	1200	860	695	—	—
Z-axis	300					

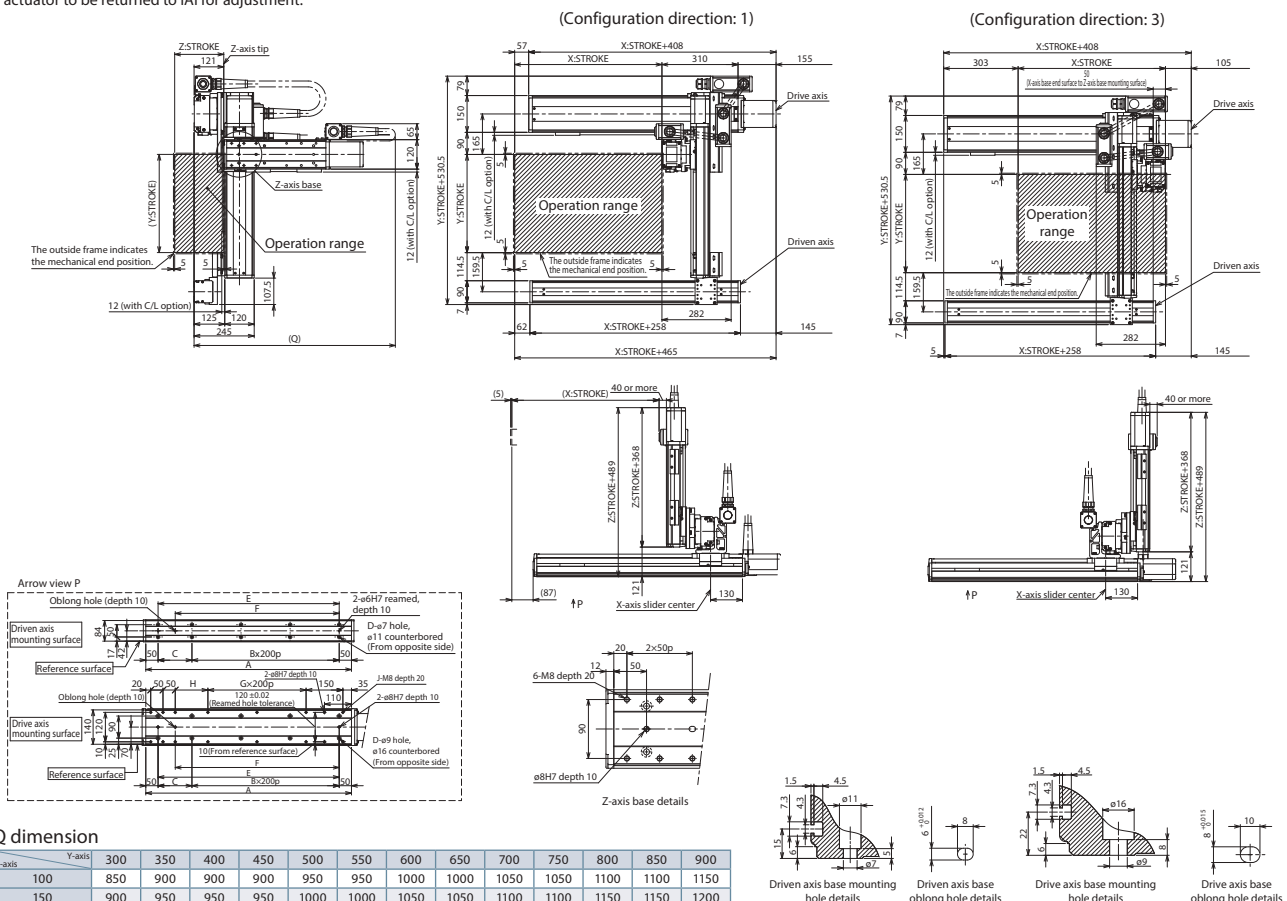
ICSB3 [ICSPB3]-GE□HS3□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



\* The position in the figure is the home position with normal settings. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



Q dimension

Z-axis	Y-axis	300	350	400	450	500	550	600	650	700	750	800	850	900
100	850	900	900	900	950	950	1000	1000	1000	1050	1050	1100	1100	1150
150	900	950	950	950	1000	1000	1050	1050	1050	1100	1100	1150	1150	1200
200	950	1000	1000	1000	1050	1050	1100	1100	1100	1150	1150	1200	1200	1250
250	1000	1050	1050	1050	1100	1100	1150	1150	1150	1200	1200	1250	1250	1300
300	1050	1100	1100	1100	1150	1150	1200	1200	1200	1250	1250	1300	1300	1350
350	1100	1150	1150	1150	1200	1200	1250	1250	1250	1300	1300	1350	1350	1400
400	1150	1200	1200	1200	1250	1250	1300	1300	1300	1350	1350	1400	1400	1450

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138
F	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	33	83	133	183	233	283	333	383	433	483	533	583	633	683	733	783	833	883	933
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18