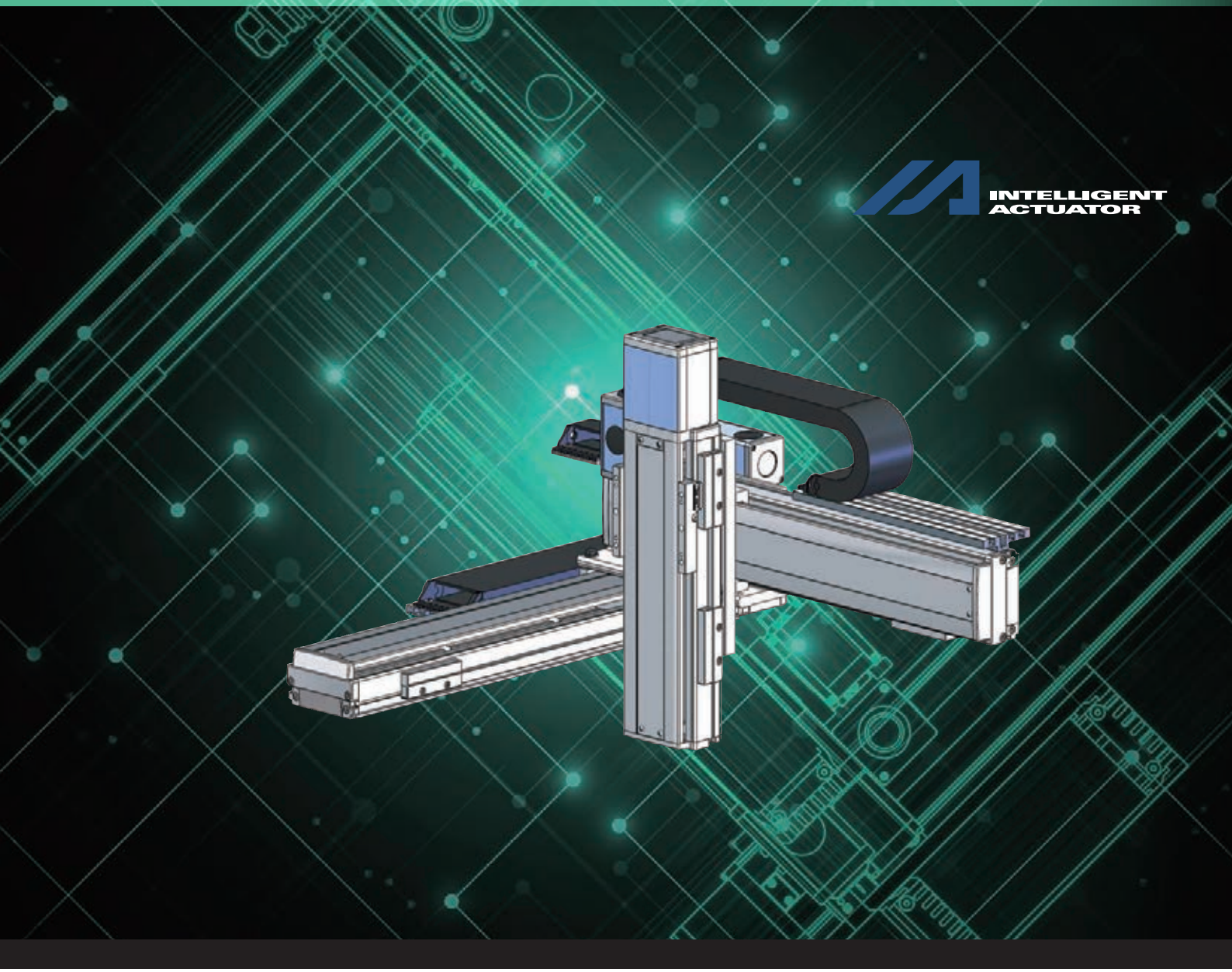
IAI
Quality and Innovation

GB

Cartesian Robot
3-Axis Combinations

ICSB/ICSPB3

IS(P)B configuration type with battery-less absolute encoder equipped as standard



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Industry first! Cartesian Robot with Battery-less Absolute Encoder

[MERIT] 1

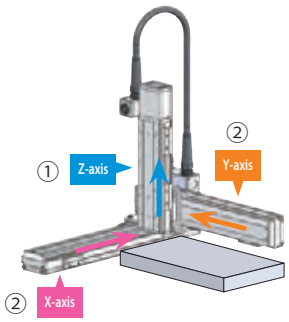
Now Equipped with a Battery-less Absolute Encoder as Standard

IS(P)B configuration type with battery-less absolute encoder equipped as standard.

The advantages of using an absolute encoder.

1. Home return is not necessary since the current position is always known.
2. No external home sensor is required since home return is not necessary.
3. Removal of current workpieces is not necessary even in an emergency stop.
4. The troublesome creation of home-return programs is not necessary even when stopping inside of a complex machine.

Battery-less Absolute Encoder
No Battery, No Maintenance,
No Homing, and No Price Increase.
No Going Back to Incremental.



Incremental specification	(1) Z-axis home return (2) X/Y-axis home return	Startup takes time as home return is performed while avoiding interference.
Battery-less Absolute Encoder specification	Moves to work home while avoiding interference, without home return.	Home return is eliminated, reducing startup time.

Furthermore, battery-related errors do not occur.

[MERIT] 2

Cost Reduction

The battery-less absolute encoder type costs the same as the incremental encoder type.
Without a battery, the price is less than the conventional absolute encoder specification.

Example ICSB3-BA+MSCON Controller

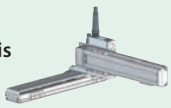
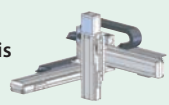
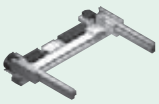
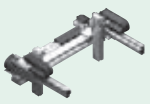
Absolute Encoder Specification → Reduction → Battery-less Absolute Encoder Specification

Furthermore, there is no need for regular battery replacement.

[MERIT] 3

Extensive Variations

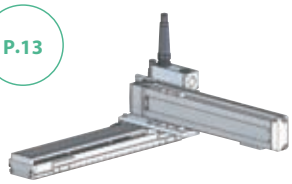
A wide range of configurations is available, from 2-axis to 6-axis specifications and small to large models.
Select a model suited to the payload, travel stroke and installation space.
926 variations are available, including 726 models compatible with the battery-less absolute encoder.

Encoder type	Configuration specifications			
	2-axis 	3-axis 	4-axis 	6-axis 
Battery-less Absolute Encoder	[7 types] 202 versions	[7 types] 524 versions		
Incremental Encoder/ Absolute Encoder	[1 type] 56 versions	[2 types] 136 versions	[1 type] 2 versions	[2 types] 6 versions

Variations

2-axis Combinations

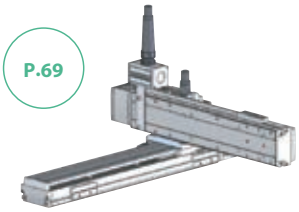
P.13



[Y-axis Base Mount]

XYB Type

P.69



[Y-axis Slider Mount]

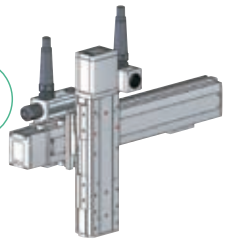
XYS Type

P.83

[Z-axis Upright Mount]

XZ Type

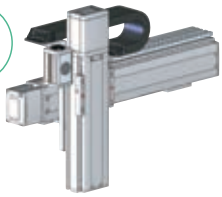
P.99



[Z-axis Slider Mount]

YZS Type

P.109



[Z-axis Base Mount]

YZB Type

P.121

[Y-axis Horizontal Gantry]

XYG Type

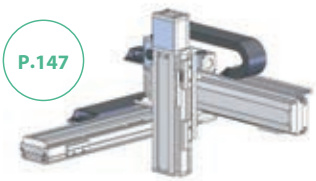
P.125

[Y-axis Side-mounted Gantry]

XYBG Type

3-axis Combinations

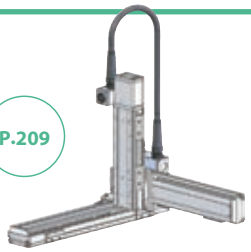
P.147



[Y-axis Base Mount]
[Z-axis Base Mount]

XYB+ZB Type

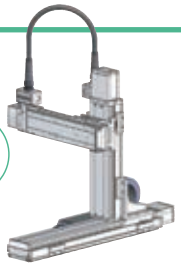
P.209



[Y-axis Base Mount]
[Z-axis Slider Mount]

XYB+ZS Type

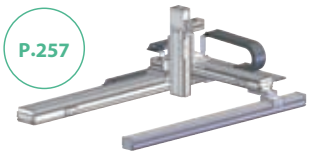
P.253



[Z-axis Upright Mount]
[Y-axis Slider Mount]

XZ+YS Type

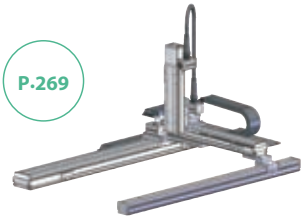
P.257



[Y-axis Horizontal Gantry]
[Z-axis Base Mount]

XYG+ZB Type

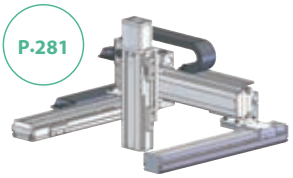
P.269



[Y-axis Horizontal Gantry]
[Z-axis Slider Mount]

XYG+ZS Type

P.281



[Y-axis Side-mounted Gantry]
[Z-axis Base Mount]

XYBG+ZB Type

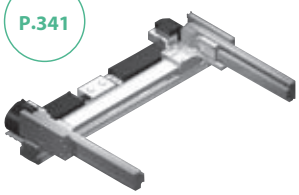
P.313

[Y-axis Side-mounted Gantry]
[Z-axis Slider Mount]

XYBG+ZS Type

4-axis Combinations

P.341

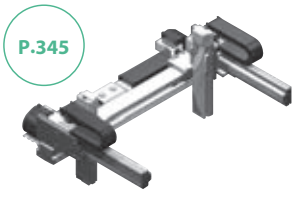


[X-axis Multi-Slider]
[Y-axis Base Mount]

XMYB Type

6-axis Combinations

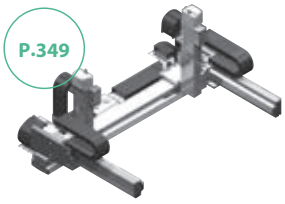
P.345



[X-axis Multi-Slider]
[Y-axis Side Base Mount]
[Z-axis Base Mount]

XMYB+ZB Type

P.349



[X-axis Multi-Slider]
[Y-axis Side Base Mount]
[Z-axis Slider Mount]

XMYB+ZS Type

Model Selection Tables | Select the optimal model for your working conditions from the model list below.

Cartesian Robot 2-axis Combinations

XYB Type (Y-axis Base Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B2 IS(P)B+IS(P)B 2-axis Combinations	BA ☐H	WA	900	400	—	6.1	960	960	—	P. 13
	BA ☐M	WA	900	400	—	19.4	480	480	—	P. 15
	BB ☐H	WA	1100	400	—	12	1200	960	—	P. 17
	BB ☐M	WA	1100	400	—	25	600	480	—	P. 19
	BC ☐H	WA	1100	500	—	20	1200	1200	—	P. 21
	BC ☐M	WA	1100	500	—	30	600	600	—	P. 23
	BD ☐H	WA	2000	500	—	20	1200	1200	—	P. 25
	BE ☐S	WA	1300	700	—	25.7	2400	1800	—	P. 27
	BE ☐H	WA	1300	700	—	45	1200	1200	—	P. 29
	BE ☐M	WA	1300	700	—	60	600	600	—	P. 31
	BF ☐S	WA	2500	700	—	25.7	2400	1800	—	P. 33
	BF ☐H	WA	2500	700	—	45	1200	1200	—	P. 35
	BG ☐S	WA	1300	700	—	20.9	2400	2400	—	P. 37
	BH ☐S	WA	2500	700	—	20.9	2400	2400	—	P. 39
ICS (P)B2 IS(P)A+IS(P)B 2-axis Combinations	BK ☐H	I/A	1300	700	—	36.6	2400	2400	—	P. 41
	BK ☐M	I/A	1300	700	—	65	1200	1200	—	P. 43
	BL ☐H	I/A	2500	700	—	36.6	2400	2400	—	P. 45
	BL ☐M	I/A	2500	700	—	65	1200	1200	—	P. 47
ICS (P)B2 SSPA+IS(P)B 2-axis Combinations	BM ☐H	I/A	1500	700	—	36.4	2500	2400	—	P. 49
	BM ☐M	I/A	1500	700	—	78.6	1250	1200	—	P. 51
ICS (P)A2 IS(P)A+IS(P)A 2-axis Combinations	BP ☐H	I/A	1300	700	—	31.7	2000	2400	—	P. 53
	BP ☐M	I/A	1300	700	—	62.3	1250	1200	—	P. 55
	BQ ☐H	I/A	2500	700	—	31.7	2000	2400	—	P. 57
	BQ ☐M	I/A	2500	700	—	62.3	1250	1200	—	P. 59
ICSPA2 NS+ISPA 2-axis Combinations	B1N ☐H	I/A	2200	700	—	21.2	2400	1200	—	P. 61
	B1N ☐M	I/A	2200	700	—	40	1300	1200	—	P. 63
	B2N ☐H	I/A	3000	700	—	21.2	2400	1200	—	P. 65
	B2N ☐M	I/A	3000	700	—	40	1300	1200	—	P. 67

* The payload shown is the maximum value for the rated acceleration.

XYS Type (Y-axis Slider Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B2 IS(P)B+IS(P)B 2-axis Combinations	SA ☐H	WA	600	400	—	6.6	960	960	—	P. 69
	SA ☐M	WA	600	400	—	19.9	480	480	—	P. 71
	S1C ☐H	WA	800	500	—	10	1200	1200	—	P. 73
	S1C ☐M	WA	800	500	—	30	600	600	—	P. 75
	S2C ☐H	WA	800	500	—	31.7	1200	1200	—	P. 77
	SG ☐S	WA	800	600	—	22.6	2400	2400	—	P. 79
	SG ☐H	WA	800	600	—	27.5	1200	1200	—	P. 81

* The payload shown is the maximum value for the rated acceleration.

XZ Type (Z-axis Upright Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B2 IS(P)B+IS(P)B 2-axis Combinations	ZA ☐H	WA	900	—	300	7.0	960	—	480	P. 83
	ZA ☐M	WA	900	—	300	13	480	—	240	P. 85
	Z1C ☐H	WA	1100	—	400	10	1200	—	600	P. 87
	Z1C ☐M	WA	1100	—	400	20	600	—	300	P. 89
	Z2C ☐H	WA	1100	—	400	18.3	1200	—	600	P. 91
	ZD ☐H	WA	2000	—	400	18.3	1200	—	600	P. 93
	ZG ☐S	WA	1300	—	500	20	2400	—	1200	P. 95
	ZH ☐S	WA	2500	—	500	20	2400	—	1200	P. 97

* The payload shown is the maximum value for the rated acceleration.

YZS Type (Z-axis Slider Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B2 IS(P)B+IS(P)B 2-axis Combinations	YSA ☐H	WA	—	500	400	3.9	—	960	480	P. 99
	YSA ☐M	WA	—	500	400	11	—	480	240	P. 101
	YSC ☐H	WA	—	700	500	13.6	—	1200	600	P. 103
	YSC ☐M	WA	—	700	500	13.3	—	600	300	P. 105
	YSG ☐H	WA	—	700	500	28.8	—	1200	600	P. 107

* The payload shown is the maximum value for the rated acceleration.

YZB Type (Z-axis Base Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B2 IS(P)B+IS(P)B 2-axis Combinations	YBA ☐H	WA	—	900	400	7.0	—	960	480	P. 109
	YBA ☐M	WA	—	900	400	14	—	480	240	P. 111
	YBC ☐H	WA	—	1100	500	20	—	1200	600	P. 113
	YBC ☐M	WA	—	1100	500	20	—	600	300	P. 115
	YBG ☐S	WA	—	1300	500	20	—	2400	1200	P. 117
	YBG ☐H	WA	—	1300	500	40	—	1200	600	P. 119

* The payload shown is the maximum value for the rated acceleration.

XYG Type (Y-axis Horizontal Gantry)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B2 IS(P)B+IS(P)B 2-axis Combinations	G1J ☐H	WA	2500	700	—	45	1200	1200	—	P. 121
	G2J ☐H	WA	2500	1200	—	45	1200	1200	—	P. 123

* The payload shown is the maximum value for the rated acceleration.

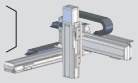
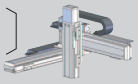
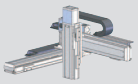
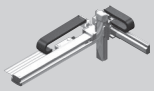
XYBG Type (Y-axis Side-mounted Gantry)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B2 IS(P)B+IS(P)B 2-axis Combinations	GB ☐H	WA	1100	600	—	12.9	1200	960	—	P. 125
	GB ☐M	WA	1100	600	—	27	600	480	—	P. 127
	GC ☐H	WA	1100	700	—	23	1200	1200	—	P. 129
	GC ☐M	WA	1100	700	—	26.6	600	600	—	P. 131
	GD ☐H	WA	2000	700	—	23	1200	1200	—	P. 133
	GE ☐H	WA	1300	900	—	45	1200	1200	—	P. 135
	GE ☐M	WA	1300	900	—	60	600	600	—	P. 137
	GF ☐H	WA	2500	900	—	45	1200	1200	—	P. 139
	GG ☐H	WA	1300	1100	—	34.5	1200	1200	—	P. 141
	GG ☐M	WA	1300	1100	—	34.5	600	600	—	P. 143
	GH ☐H	WA	2500	1100	—	34.5	1200	1200	—	P. 145

* The payload shown is the maximum value for the rated acceleration.

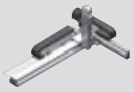
Cartesian Robot 3-axis Combinations

XYB+ZB Type (Y-axis Base Mount/Z-axis Base Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)*			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B3 IS(P)B+IS(P)B+IS(P)B 3-axis Combinations 	BA ☐MB1 ☐	WA	900	400	300	3.5/7.0/8.9	480	480	960/480/240	P. 147
	BB ☐HB1 ☐	WA	1100	400	300	3.5/7.0/7.7	1200	960	960/480/240	P. 149
	BB ☐MB1 ☐	WA	1100	400	300	3.5/7/14	600	480	960/480/240	P. 151
	BC ☐HB1 ☐	WA	1100	500	400	3.5/7/14	1200	1200	960/480/240	P. 153
	BC ☐HB2 ☐	WA	1100	500	400	5/10/13.1	1200	1200	1200/600/300	P. 155
	BC ☐HB3 ☐	WA	1100	500	400	10/12.6	1200	1200	1200/600	P. 157
	BC ☐MB2 ☐	WA	1100	500	400	5/10/19	600	600	1200/600/300	P. 159
	BC ☐MB3 ☐	WA	1100	500	400	10/18.5	600	600	1200/600	P. 161
	BD ☐HB1 ☐	WA	2000	500	400	3.5/7/14	1200	1200	960/480/240	P. 163
	BD ☐HB2 ☐	WA	2000	500	400	5/10/13.1	1200	1200	1200/600/300	P. 165
	BD ☐HB3 ☐	WA	2000	500	400	10/12.6	1200	1200	1200/600	P. 167
	BE ☐HB1 ☐	WA	1300	700	500	3.5/7/14	1200	1200	960/480/240	P. 169
	BE ☐HB2 ☐	WA	1300	700	500	5/10/20	1200	1200	1200/600/300	P. 171
	BE ☐HB3 ☐	WA	1300	700	500	10/20	1200	1200	1200/600	P. 173
	BF ☐HB1 ☐	WA	2500	700	500	3.5/7/14	1200	1200	960/480/240	P. 175
	BF ☐HB2 ☐	WA	2500	700	500	5/10/20	1200	1200	1200/600/300	P. 177
	BF ☐HB3 ☐	WA	2500	700	500	10/20	1200	1200	1200/600	P. 179
ICS(P)B3 IS(P)A+IS(P)B+IS(P)B 3-axis Combinations 	BK ☐HB3 ☐	I/A	1300	700	500	10/20	2400	2400	1200/600	P. 181
	BK ☐HB4H	I/A	1300	700	500	20	2400	2400	1200	P. 183
	BK ☐MB3M	I/A	1300	700	500	20	1200	1200	600	P. 185
	BK ☐MB4M	I/A	1300	700	500	36.4	1200	1200	600	P. 187
	BL ☐HB3 ☐	I/A	2500	700	500	10/20	2400	2400	1200/600	P. 189
	BL ☐HB4H	I/A	2500	700	500	20	2400	2400	1200	P. 191
	BL ☐MB3M	I/A	2500	700	500	20	1200	1200	600	P. 193
	BL ☐MB4M	I/A	2500	700	500	36.4	1200	1200	600	P. 195
ICS (P)B3 SSPA+IS(P)B+IS(P)B 3-axis Combination 	BM ☐HB4H	I/A	1500	700	500	20	2500	2400	1200	P. 197
	BM ☐MB4M	I/A	1500	700	500	33.1	1250	1200	600	P. 199
ICSPA3 NS+ISPA+ISPA 3-axis Combinations 	B1N ☐HB3 ☐	I/A	2200	700	500	9/11.2	2400	1200	1200/600	P. 201
	B1N ☐MB3 ☐	I/A	2200	700	500	9/19	1300	1200	1200/600	P. 203
	B2N ☐HB3 ☐	I/A	3000	700	500	9/11.2	2400	1200	1200/600	P. 205
	B2N ☐MB3 ☐	I/A	3000	700	500	9/19	1300	1200	1200/600	P. 207

* The payload shown is the maximum value for the rated acceleration. * For those with multiple lead types, the payload and maximum speed are listed in the order of high lead/medium lead/low lead.

XYB+ZS Type (Y-axis Base Mount/Z-axis Slider Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)*			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B3 IS(P)B+IS(P)B+IS(P)B 3-axis Combinations	BA ☐MS1 ☐	WA	700	400	300	4.3/11.3	480	480	480/240	P. 209
	BB ☐HS1 ☐	WA	1000	400	300	4.3/8.1	1200	960	480/240	P. 211
	BB ☐MS1 ☐	WA	1000	400	300	4.3/11.3	600	480	480/240	P. 213
	BC ☐HS1 ☐	WA	1000	500	400	4.3/11.3	1200	1200	480/240	P. 215
	BC ☐HS3M	WA	1000	500	400	13.2	1200	1200	600	P. 217
	BC ☐MS3M	WA	1000	500	400	14.3	600	600	600	P. 219
	BD ☐HS1 ☐	WA	2000	500	400	4.3/11.3	1200	1200	480/240	P. 221
	BD ☐HS3M	WA	2000	500	400	13.2	1200	1200	600	P. 223
	BE ☐HS1 ☐	WA	1000	700	400	4.3/11.3	1200	1200	480/240	P. 225
	BE ☐HS3M	WA	1000	700	400	14.3	1200	1200	600	P. 227
	BF ☐HS1 ☐	WA	2500	700	400	4.3/11.3	1200	1200	480/240	P. 229
	BF ☐HS3M	WA	2500	700	400	14.3	1200	1200	600	P. 231
ICS (P)B3 IS(P)A+IS(P)B+IS(P)B 3-axis Combinations	BK ☐HS4 ☐	I/A	1000	700	500	12/25.1	2400	2400	1200/600	P. 233
	BK ☐MS4 ☐	I/A	1000	700	500	12/32	1200	1200	1200/600	P. 235
	BL ☐HS4 ☐	I/A	2500	700	500	12/25.1	2400	2400	1200/600	P. 237
	BL ☐MS4 ☐	I/A	2500	700	500	12/32	1200	1200	1200/600	P. 239
ICS (P)B3 SSPA+IS(P)B+IS(P)B 3-axis Combinations	BM ☐HS4H	I/A	1000	700	500	12	2500	2400	1200	P. 241
	BM ☐MS4M	I/A	1000	700	500	32	1250	1200	600	P. 243
ICSPA3 NS+ISPA+ISPA 3-axis Combinations 	B1N ☐HS3M	I/A	2200	700	400	11.5	2400	1200	600	P. 245
	B1N ☐MS3M	I/A	2200	700	400	13	1300	1200	600	P. 247
	B2N ☐HS3M	I/A	3000	700	400	11.5	2400	1200	600	P. 249
	B2N ☐MS3M	I/A	3000	700	400	13	1300	1200	600	P. 251

* The payload shown is the maximum value for the rated acceleration. * For those with multiple lead types, the payload and maximum speed are listed in the order of high lead/medium lead/low lead.

XZ+YS Type (Z-axis Upright Mount/Y-axis Slider Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)	Max. speed (mm/s)			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B3 IS(P)B+IS(P)B+IS(P)B 3-axis Combinations	Z3C ☐HS1H	WA	1070	400	400	9.5	1200	960	600	P. 253
	Z3G ☐HS2H	WA	1270	500	500	16.5	2400	1200	600	P. 255

* The payload shown is the maximum value for the rated acceleration.

XYG+ZB Type (Y-axis Horizontal Gantry/Z-axis Base Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)*			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B3 IS(P)B+IS(P)B+ IS(P)B 3-axis Combinations	G1J ☐HB1 ☐	WA	2500	700	600	3.5/7/14	1200	1200	960/480/240	P. 257
	G1J ☐HB2 ☐	WA	2500	700	600	5/10/20	1200	1200	1200/600/300	P. 259
	G1J ☐HB3 ☐	WA	2500	700	600	10/20	1200	1200	1200/600	P. 261
	G2J ☐HB1 ☐	WA	2500	1200	600	3.5/7/14	1200	1200	960/480/240	P. 263
	G2J ☐HB2 ☐	WA	2500	1200	600	5/10/20	1200	1200	1200/600/300	P. 265
	G2J ☐HB3 ☐	WA	2500	1200	600	10/20	1200	1200	1200/600	P. 267

* The payload shown is the maximum value for the rated acceleration. * For those with multiple lead types, the payload and maximum speed are listed in the order of high lead/medium lead/low lead.

XYG+ZS Type (Y-axis Horizontal Gantry/Z-axis Slider Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)*			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B3 IS(P)B+IS(P)B+ IS(P)B 3-axis Combinations	G1J ☐HS1 ☐	WA	2500	700	400	4.3/11.3	1200	1200	480/240	P. 269
	G 1J ☐HS2L	WA	2500	700	500	14.8	1200	1200	300	P. 271
	G1J ☐HS3M	WA	2500	700	500	14.3	1200	1200	600	P. 273
	G2J ☐HS1 ☐	WA	2500	1200	400	4.3/11.3	1200	1200	480/240	P. 275
	G2J ☐HS2L	WA	2500	1200	500	14.8	1200	1200	300	P. 277
	G2J ☐HS3M	WA	2500	1200	500	14.3	1200	1200	600	P. 279

* The payload shown is the maximum value for the rated acceleration. * For those with multiple lead types, the payload and maximum speed are listed in the order of high lead/medium lead/low lead.

Cartesian Robot 3-axis Combinations

XYGB+ZB Type (Y-axis Side-mounted Gantry/Z-axis Base Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)*			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B3 IS(P)B+IS(P)B+IS(P)B 3-axis Combinations	GB ☐HB1 ☐	WA	1100	600	300	7/7.6	1200	960	480/240	P. 281
	GB ☐MB1 ☐	WA	1100	600	300	7/14	600	480	480/240	P. 283
	GC ☐HB1 ☐	WA	1100	700	400	7/14	1200	1200	480/240	P. 285
	GC ☐HB2 ☐	WA	1100	700	400	10/13	1200	1200	600/300	P. 287
	GC ☐HB3H	WA	1100	700	400	10	1200	1200	1200	P. 289
	GC ☐MB2L	WA	1100	700	400	17.6	600	600	300	P. 291
	GC ☐MB3M	WA	1100	700	400	17.1	600	600	600	P. 293
	GD ☐HB1 ☐	WA	2000	700	400	7/14	1200	1200	480/240	P. 295
	GD ☐HB2 ☐	WA	2000	700	400	10/13	1200	1200	600/300	P. 297
	GD ☐HB3H	WA	2000	700	400	10	1200	1200	1200	P. 299
	GE ☐HB1L	WA	1300	900	500	14	1200	1200	240	P. 301
	GE ☐HB2 ☐	WA	1300	900	500	10/20	1200	1200	600/300	P. 303
	GE ☐HB3 ☐	WA	1300	900	500	10/20/31.8	1200	1200	1200/600/300	P. 305
	GF ☐HB1L	WA	2500	900	500	14	1200	1200	240	P. 307
	GF ☐HB2 ☐	WA	2500	900	500	10/20	1200	1200	600/300	P. 309
	GF ☐HB3 ☐	WA	2500	900	500	10/20/31.8	1200	1200	1200/600/300	P. 311

* The payload shown is the maximum value for the rated acceleration. * For those with multiple lead types, the payload and maximum speed are listed in the order of high lead/medium lead/low lead.

XYGB+ZS Type (Y-axis Side-mounted Gantry/Z-axis Slider Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)*			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICS (P)B3 IS(P)B+IS(P)B+IS(P)B 3-axis Combinations	GB ☐HS1 ☐	WA	1000	600	300	4.3/8	1200	960	480/240	P. 313
	GB ☐MS1 ☐	WA	1000	600	300	4.3/11.3	600	480	480/240	P. 315
	GC ☐HS1 ☐	WA	1000	700	400	4.3/11.3	1200	1200	480/240	P. 317
	GC ☐HS3M	WA	1000	700	400	13.1	1200	1200	600	P. 319
	GC ☐MS1 ☐	WA	1000	700	400	4.3/11.3	600	600	480/240	P. 321
	GC ☐MS3M	WA	1000	700	400	14.3	600	600	600	P. 323
	GD ☐HS1 ☐	WA	2000	700	400	4.3/11.3	1200	1200	480/240	P. 325
	GD☐HS3M	WA	2000	700	400	13.1	1200	1200	600	P. 327
	GE ☐HS1 ☐	WA	1000	900	400	4.3/11.3	1200	1200	480/240	P. 329
	GE ☐HS3 ☐	WA	1000	900	400	14.3/32.9	1200	1200	600/300	P. 331
	GE ☐MS1 ☐	WA	1000	900	400	4.3/11.3	600	600	480/240	P. 333
	GE☐MS3L	WA	1000	900	400	34.3	600	600	300	P. 335
	GF ☐HS1 ☐	WA	2500	900	400	4.3/11.3	1200	1200	480/240	P. 337
	GF ☐HS3 ☐	WA	2500	900	400	14.3/32.9	1200	1200	600/300	P. 339

* The payload shown is the maximum value for the rated acceleration. * For those with multiple lead types, the payload and maximum speed are listed in the order of high lead/medium lead/low lead.

Cartesian Robot 4-axis Combinations

XMYB Type (X-axis Multi-Slider/Y-axis Base Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICSPA4 (NS+ISPA+ISPA 4-axis Combinations)	B3N1H	I/A	2250	700	—	21.2	2400	1200	—	P. 341
	B3N1M	I/A	2250	700	—	40	1300	1200	—	P. 343

* The payload shown is the maximum value for the rated acceleration.

Cartesian Robot 6-axis Combinations

XMYB+ZB Type (X-axis Multi-Slider/Y-axis Side Base Mount/Z-axis Base Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)*			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICSPA6 (NS+ISPA+ISPA+ISPA+ISPA 6-axis Combinations)	B3N1HB3□	I/A	2250	700	500	9/11.2	2400	1200	1200/600	P. 345
	B3N1MB3□	I/A	2250	700	500	9/19	1300	1200	1200/600	P. 347

* The payload shown is the maximum value for the rated acceleration. * For those with multiple lead types, the payload and maximum speed are listed in the order of high lead/medium lead/low lead.

XMYB+ZS Type (X-axis Multi-Slider/Y-axis Side Base Mount/Z-axis Slider Mount)

Series	Type	Encoder type	Stroke (mm)			Payload (kg)*	Max. speed (mm/s)			Reference page
			X-axis maximum	Y-axis maximum	Z-axis maximum		X-axis	Y-axis	Z-axis	
ICSPA6 (NS+ISPA+ISPA+ISPA+ISPA 6-axis Combinations)	B3N1HS3M	I/A	2250	700	400	11.5	2400	1200	600	P. 349
	B3N1MS3M	I/A	2250	700	400	13	1300	1200	600	P. 351

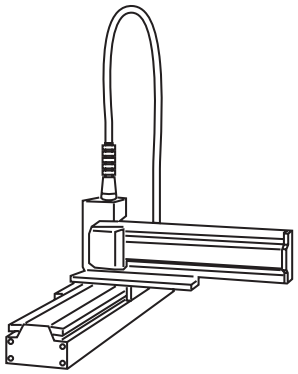
* The payload shown is the maximum value for the rated acceleration.

Cartesian Robot Selection Notes

Wiring Method Types and Features

The motor/encoder cable management method can be "Self-standing cable" or "Cable track".
(Please refer to product pages for selectable wiring methods.)

■ Self-standing Cable

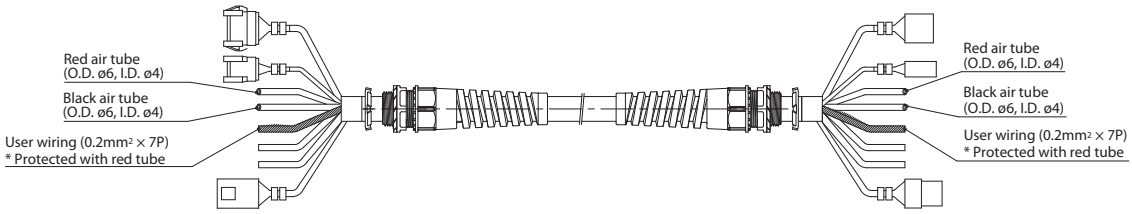


Cable Management Model: SC

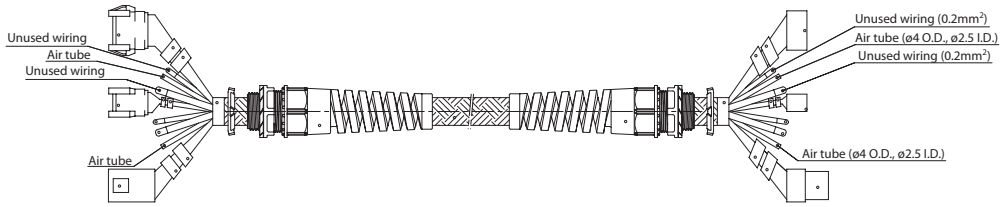
Features

- The flex radius is large, making disconnection less likely.
- Vertical space is required.
- The composite cable contains service wiring and tubing for users.

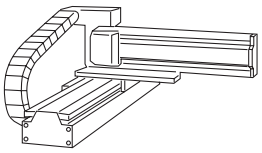
ICSB Series



ICSA Series



■ Cable Track



Cable Management Model: CT□□

Features

- Since height can be minimized, vertical space is not required.
- The wiring of equipment to be mounted on the Y-axis and Z-axis can be stored in the cable track.
- Four different track sizes can be selected according to the amount of cable to be stored. (ICSA Series exclusive)

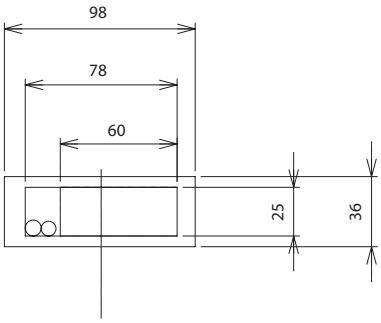
ICSB Series

Please refer to the dimensions on the product pages.

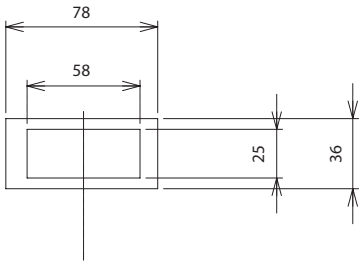
ICSA Series

● **ISA extra-large type 2-axis combinations**

Applicable models: BP□□/BQ□□



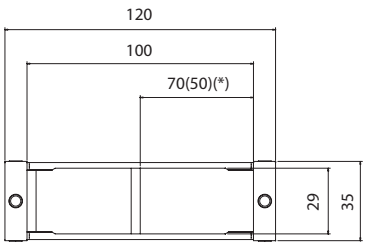
Cable track for Y-axis wiring



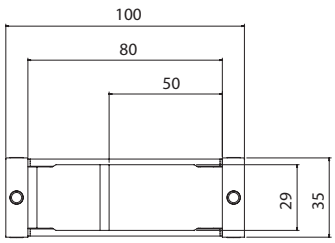
Cable track for Z-axis wiring (optional)

● **Nut rotation actuator 2-axis/3-axis/4-axis/6-axis combinations**

Applicable models: B1N□□□□/B2N□□□□/B3N□□□□/



Cable track for Y-axis wiring



Cable track for Z-axis wiring (optional)

(*) 70 for 2-axis combinations and
50 for 3-axis combinations and more.

Cable Exit Direction/Sensor Mounting Direction/Z-axis Wiring Option

Cable Exit Direction/Sensor Mounting Direction

The cable exit direction of the cartesian robot configured axis and mounting direction of the sensor (creep sensor/home limit switch) differ depending on the configuration type. Please refer to the table below for more information.

(1) Cable exit direction * Applies only to 2-axis/3-axis combinations.

The cable exit direction is set only when the configured axis is IS(P)B, SSPA or IS(P)A-W.
Only the cable exit direction of the first axis can be changed as an option.
(However, it cannot be changed for YZS/YZB type and ICS(P)A Series.)
To set a different direction from the normal setting, indicate the cable exit direction symbol in the X-axis Option.
If the configured axis is IS(P)A-W, indicate the exit direction symbol in the configuration model name even for the normal setting.

(2) Sensor (creep sensor/home limit switch) mounting direction

The sensor mounting direction cannot be changed.
Even if the mounting direction is opposite, the option code notation in the configuration type will be "C/L".
Also, if the configured axis is IS(P)A-W or NS, the sensor mounting position will be "C/L" regardless of the configuration direction.
Depending on the configured axis, the sensor may not be mountable. Please check the Options table on the product pages.

■ 2-axis Combinations

Configuration type	Configuration direction	First axis		Second axis		Second axis wiring
		Cable exit direction *1	Sensor mounting direction *2	Cable exit direction	Sensor mounting direction	
XYB XYBG	1	A3S[A3]	CL/LL[C/L]	A1S	C/L	SC CT
	2	A1S[A1]	C/L[C/L]	A3S	CL/LL	
	3	A3S[A3]	CL/LL[C/L]	A3S	CL/LL	
	4	A1S[A1]	C/L[C/L]	A1S	C/L	
XYS	1	A3S	CL/LL	A3S	C/L	SC
	2	A1S	C/L	A1S	CL/LL	
	3	A3S	CL/LL	A1S	CL/LL	
	4	A1S	C/L	A3S	C/L	
XZ	1	A3S	CL/LL	A3S	CL/LL	CT
	2	A1S	C/L	A1S	C/L	
	3	A3S	CL/LL	A1S	C/L	
	4	A1S	C/L	A3S	CL/LL	
	5	A3S	CL/LL	A1S	C/L	
	6	A1S	C/L	A3S	CL/LL	
YZS	1	A1E	C/L	A3E	CL/LL	SC
	2	A3E	CL/LL	A1E	C/L	
YZB	1	A1E	C/L	A3S	CL/LL	CT
				A1E	C/L	SC
	2	A3E	CL/LL	A1S	C/L	CT
				A3E	CL/LL	SC
XYG	1	A3S	CL/LL	A3E	C/L	CT
	2	A1S	C/L	A1E	CL/LL	

*1 Direction in the normal setting. Cable exit direction can be changed as an option (YZS/YZB cannot be changed).
[ ] is for IS(P)A-W.
*2 [ ] is for IS(P)A-W or NS axis configuration.

Table legend

● **Actuator cable exit direction**

Axis configuration	Code	Legend
IS(P)B SSPA	A1E	Exit direction: Back left
	A1S	Exit direction: Left
	A3E	Exit direction: Back right
	A3S	Exit direction: Right
IS(P)A-W	A1	Exit from left side
	A3	Exit from right side

● **Sensor (creep sensor/home limit switch) mounting direction**

Code	Legend
C/L	Mounting direction: Body right (standard)
CL/LL *	Mounting direction: Body left (opposite side)

* The option code notation in the configuration type will be "C/L".

● **Wiring**

Code	Legend
SC	Self-standing Cable
CT	Cable Track

■ 3-axis Combinations

Configuration type	Configuration direction	First axis		Second axis		Third axis		Third axis wiring
		Cable exit direction *1	Sensor mounting direction *2	Cable exit direction	Sensor mounting direction	Cable exit direction	Sensor mounting direction	
XYB + ZB	1	A3S[A3]	CL/LL[C/L]	A1S	C/L	A3S	CL/LL	CT
						A3E		SC
	2	A1S[A1]	C/L[C/L]	A3S	CL/LL	A1S	C/L	CT
						A1E		SC
	3	A3S[A3]	CL/LL[C/L]	A3S	CL/LL	A1S	C/L	CT
						A1E		SC
	4	A1S[A1]	C/L[C/L]	A1S	C/L	A3S	CL/LL	CT
						A3E		SC
XYB + ZS	1	A3S[A3]	CL/LL[C/L]	A1S	C/L	A1E	C/L	SC
	2	A1S[A1]	C/L[C/L]	A3S	CL/LL	A3E	CL/LL	
	3	A3S[A3]	CL/LL[C/L]	A3S	CL/LL	A3E	CL/LL	
	4	A1S[A1]	C/L[C/L]	A1S	C/L	A1E	C/L	
XZ+YS	1	A3S	CL/LL	A3E	CL/LL	A3S	C/L	SC
	2	A1S	C/L	A1E	C/L	A1S	CL/LL	
XYG+ZB	1	A3S	CL/LL	A3E	C/L	A1S	C/L	CT
	2	A1S	C/L	A1E	CL/LL	A3S	CL/LL	
XYG+ZS	1	A3S	CL/LL	A3E	C/L	A3E	CL/LL	SC
	2	A1S	C/L	A1E	CL/LL	A1E	C/L	
XYBG + ZB	1	A3S	CL/LL	A1S	C/L	A3S	CL/LL	CT
						A3E		SC
	2	A1S	C/L	A3S	CL/LL	A1S	C/L	CT
						A1E		SC
	3	A3S	CL/LL	A3S	CL/LL	A1S	C/L	CT
						A1E		SC
	4	A1S	C/L	A1S	C/L	A3S	CL/LL	CT
						A3E		SC
XYBG + ZS	1	A3S	CL/LL	A1S	C/L	A1E	C/L	SC
	2	A1S	C/L	A3S	CL/LL	A3E	CL/LL	
	3	A3S	CL/LL	A3S	CL/LL	A3E	CL/LL	
	4	A1S	C/L	A1S	C/L	A1E	C/L	

*1 Direction in the normal setting. Cable exit direction can be changed as an option.
[ ] is for IS(P)A-W.
*2 [ ] is for IS(P)A-W or NS axis configuration.

■ 4-axis Combinations

Configuration type	Configuration direction	Sensor mounting direction				Wiring
		First axis	Second axis	Third axis	Fourth axis	
XMYB	1	C/L	–	C/L	CL/LL	CT

■ 6-axis Combinations

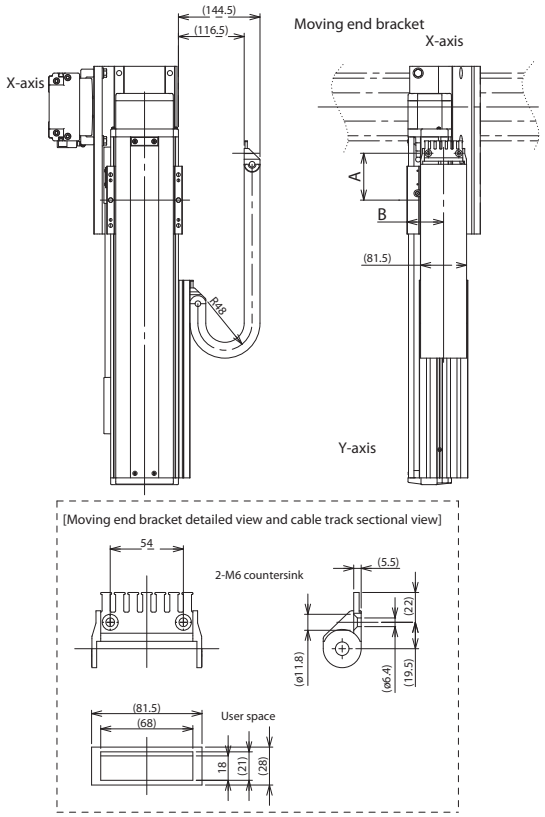
Configuration type	Configuration direction	Sensor mounting direction						Wiring
		First axis	Second axis	Third axis	Fourth axis	Fifth axis	Sixth axis	
XMYB + ZB	1	C/L	–	C/L	C/L	CL/LL	CL/LL	CT
XMYB + ZS	1	C/L	–	C/L	CL/LL	CL/LL	C/L	CT

Z-axis Wiring Option

* Only ICS(P)B2 can be selected

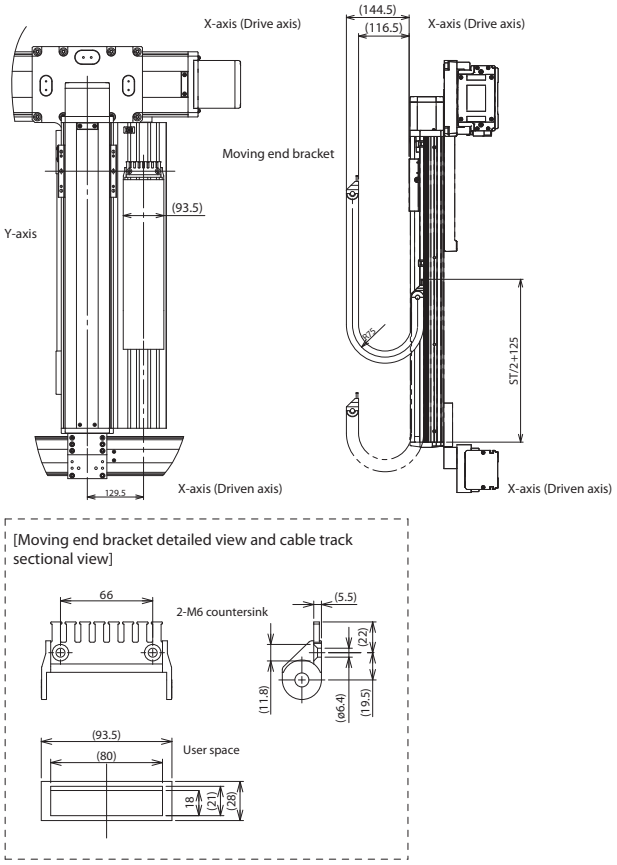
Cable track for wiring is set as an option on the Y-axis slider of XYB, XYBG and XYG for customer device mounting.

<Configuration type: XYB, XYBG>



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

<Configuration type: XYG-G1J/G2J>

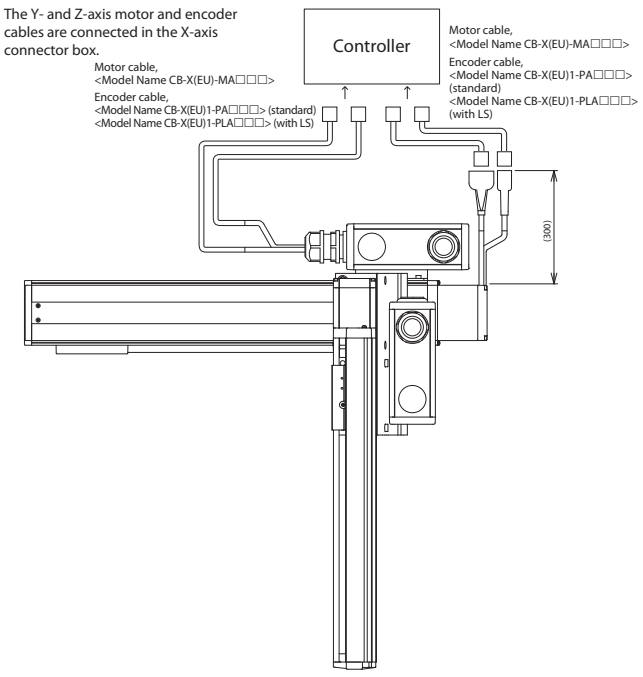


Cartesian Robot - Controller Connecting Cable

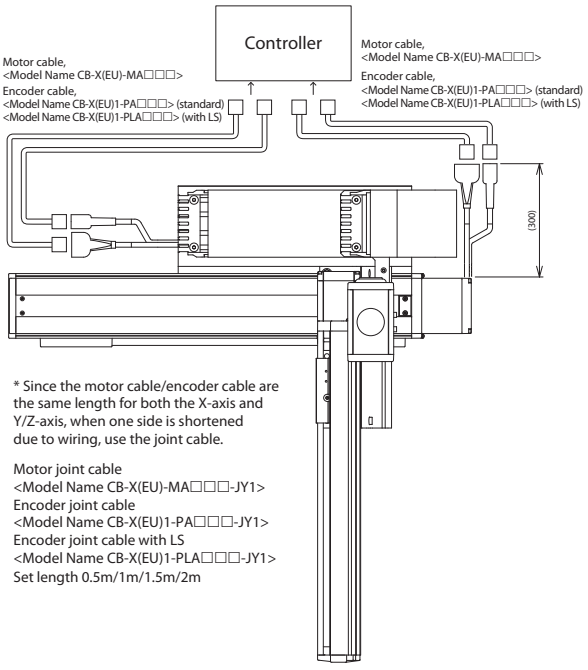
*ICS(P)B

Connect the cartesian robot - controller connecting cable using the single axis robot cable for each configured axis.
Please contact IAI for more details on the cables.

<Self-standing cable specification>



<Cable track specification>

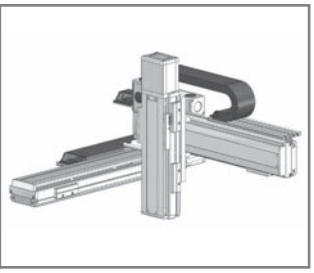


* Since the motor cable/encoder cable are the same length for both the X-axis and Y/Z-axis, when one side is shortened due to wiring, use the joint cable.

Motor joint cable
<Model Name CB-X(EU)-MA□□□-JY1>
Encoder joint cable
<Model Name CB-X(EU)1-PA□□□-JY1>
Encoder joint cable with LS
<Model Name CB-X(EU)1-PLA□□□-JY1>
Set length 0.5m/1m/1.5m/2m

ICSB3-BA□MB1□
ICSPB3-BA□MB1□ High-Precision Specification

±10μm (Standard) / ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | Medium Speed Type | X: 5m (60W) Y: 5m (60W) Z: 5m (60W)



■ Model Specification Items

□ — BA□MB1□ — WA — □□ — □□ — □□ — □□ — T2 — □ — □

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 ~ 90: 900mm <70: 700mm> * (Every 50mm) * For self-standing cable specification Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 30: 300mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

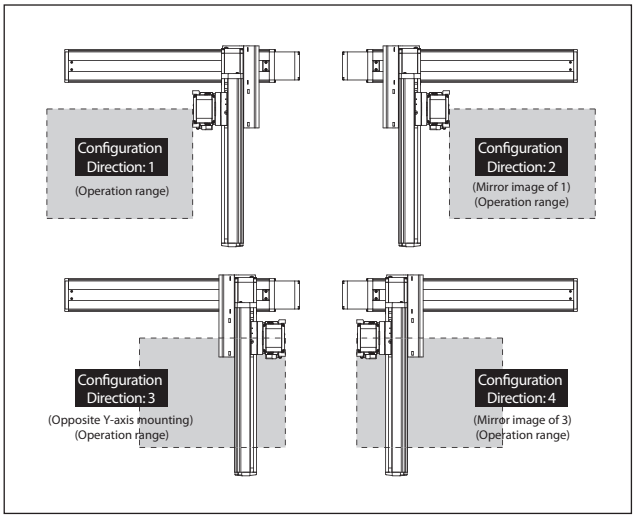
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BA1MB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BA1MB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BA1MB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BA2MB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BA2MB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BA2MB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BA3MB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BA3MB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BA3MB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BA4MB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BA4MB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BA4MB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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 ~ 90: 900mm (70: 700mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 40: 400mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 30: 300mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 700mm for the self-standing cable specification.

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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	ISB[ISPB]-SXM-①-60-8-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-SXM-①-60-8-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
16: For Z-axis High Speed type
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ 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	60W/8mm
Y-axis motor output/lead	60W/8mm
Z-axis motor output/lead	60W/16mm (H), 8mm (M), 4mm (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 4, 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)

* The payload is based on operation at the rated acceleration.

■BA□MB1H

Z-axis stroke	Y-axis stroke 100~400
100	3.5
150	
200	
250	
300	

■BA□MB1M

Z-axis stroke	Y-axis stroke 100~200	250	300	350	400
100	7.0	7.0	7.0	6.6	5.1
150		7.0	7.0	6.2	4.7
200		7.0	7.0	5.8	4.3
250		7.0	6.8	5.4	3.9
300		6.7	6.5	5.1	3.6

■BA□MB1L

Z-axis stroke	Y-axis stroke 100	150	200	250	300	350	400
100	8.9	8.7	8.5	8.2	8.0	6.6	5.1
150	8.5	8.3	8.1	7.8	7.6	6.2	4.7
200	8.1	7.9	7.7	7.4	7.2	5.8	4.3
250	7.7	7.5	7.3	7.0	6.8	5.4	3.9
300	7.4	7.2	7.0	6.7	6.5	5.1	3.6

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

■BA□MB1H

	100~300	350~400	450~600	650~700	750~800	850~900
X-axis	480			330	260	210
Y-axis	480		—			
Z-axis	960	—				

■BA□MB1M

	100~300	350~400	450~600	650~700	750~800	850~900
X-axis	480			330	260	210
Y-axis	480		—			
Z-axis	480	—				

■BA□MB1L

	100~300	350~400	450~600	650~700	750~800	850~900
X-axis	480			330	260	210
Y-axis	480		—			
Z-axis	240	—				

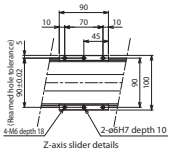
ICSB3 [ICSPB3]-BA□MB1□-SC-SC (Self-standing cable specification)

Dimensions

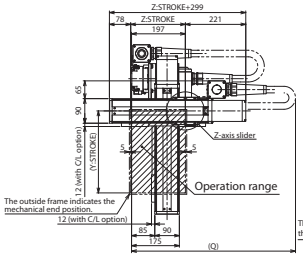
CAD drawings can be downloaded from our website.

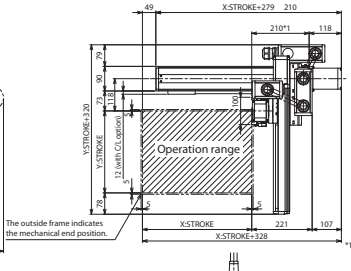
2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

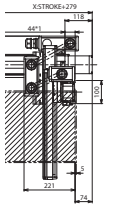


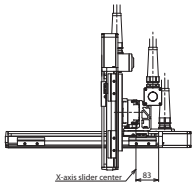
(Configuration direction: 1)





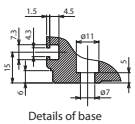
(Configuration direction: 3)

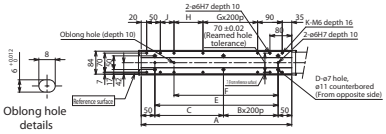




X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
A	251	301	351	401	451	501	551	601	651	701	751	801	851
B	0	0	0	1	1	1	1	2	2	2	2	3	3
C	151	201	251	101	151	201	251	101	151	201	251	101	151
D	4	4	4	6	6	6	6	8	8	8	8	10	10
E	151	201	251	301	351	401	451	501	551	601	651	701	751
F	131	131	181	231	281	331	381	431	481	531	581	631	681
G	0	0	0	0	0	0	1	1	1	1	2	2	2
H	56	56	106	156	206	256	106	156	206	256	106	156	206
J	0	50	50	50	50	50	50	50	50	50	50	50	50
K	8	10	10	10	10	10	12	12	12	12	14	14	14

Y-axis stroke	100	150	200	250	300	350	400
Q	600	650	650	650	700	700	750





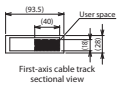
ICSB3 [ICSPB3]-BA□MB1□-CT-CT (Cable track specification)

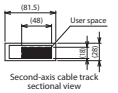
Dimensions

CAD drawings can be downloaded from our website.

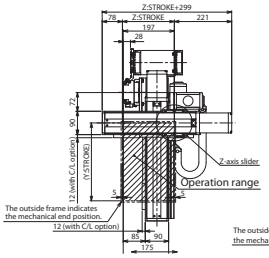
2D CAD 3D CAD RoHS

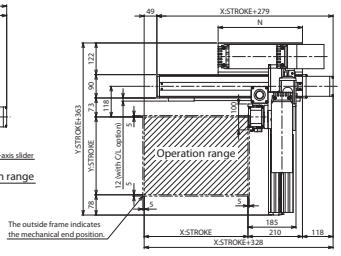
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



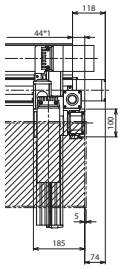


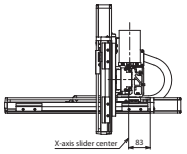
(Configuration direction: 1)

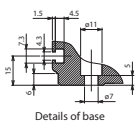


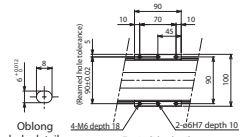


(Configuration direction: 3)

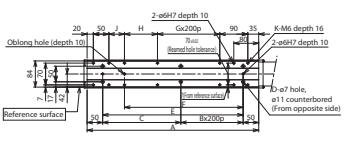






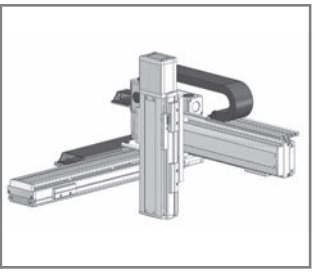


X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
A	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051
B	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4
C	151	201	251	101	151	201	251	101	151	201	251	101	151	201	251	101	151
D	4	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12
E	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951
F	131	131	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3
H	56	56	106	156	206	256	106	156	206	256	106	156	206	256	106	156	206
J	0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
K	8	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575



ICSB3-BB□HB1□
ICSPB3-BB□HB1□ High-Precision Specification

±10μm Standard / ±5μm High Precision | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Type | X: Md (100W) Y: Sm (60W) Z: Sm (60W)



■ Model Specification Items

□ — BB□HB1□ — WA — □□ — □□ — □□ — □□ — T2 — □ — □

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 ~ 110: 1100mm <100: 1000mm> (Every 50mm) Refer to Options table below. * For self-standing cable specification	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 30: 300mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

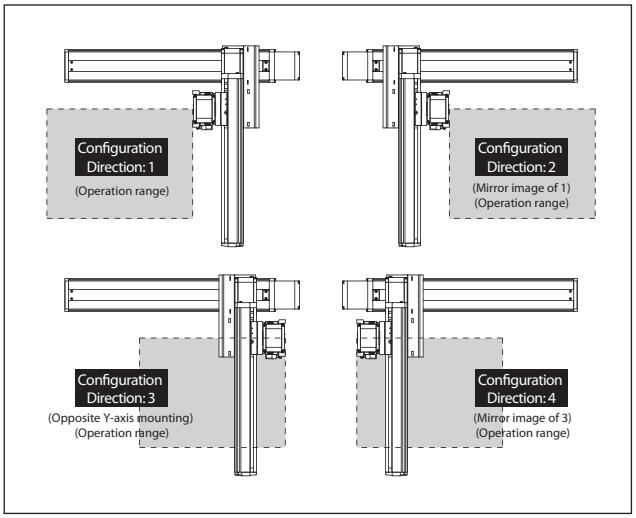
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BB1HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BB1HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB1HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BB2HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BB2HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB2HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BB3HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BB3HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB3HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BB4HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BB4HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB4HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]--MXM-①-100-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-SXM-①-60-16-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
16: For Z-axis High Speed type
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	10: 100mm ~ 110: 1100mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 40: 400mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 30: 300mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	100W/20mm
Y-axis motor output/lead	60W/16mm
Z-axis motor output/lead	60W/16mm (H), 8mm (M), 4mm (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 4, 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)

* The payload is based on operation at the rated acceleration.

■BB□HB1H

Z-axis stroke \ Y-axis stroke	100~400
100	3.5
150	
200	
250	
300	

■BB□HB1M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400
100	7.0	7.0	7.0	7.0	7.0	7.0	7.0
150	7.0	7.0	7.0	7.0	7.0	7.0	7.0
200	7.0	7.0	6.9	6.9	6.9	6.9	6.8
250	6.6	6.6	6.6	6.5	6.5	6.5	6.5
300	6.3	6.3	6.3	6.3	6.3	6.2	6.2

■BB□HB1L

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400
100	7.7	7.7	7.7	7.6	7.6	7.6	7.6
150	7.3	7.3	7.3	7.3	7.2	7.2	7.2
200	7.0	7.0	6.9	6.9	6.9	6.9	6.8
250	6.6	6.6	6.6	6.5	6.5	6.5	6.5
300	6.3	6.3	6.3	6.3	6.3	6.2	6.2

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

■BB□HB1H

	100~300	350~400	450~700	750~800	850~900	950~1000	1050~1100
X-axis	1200			860	695	570	460
Y-axis	960		—				
Z-axis	960	—					

■BB□HB1M

	100~300	350~400	450~700	750~800	850~900	950~1000	1050~1100
X-axis	1200			860	695	570	460
Y-axis	960		—				
Z-axis	480	—					

■BB□HB1L

	100~300	350~400	450~700	750~800	850~900	950~1000	1050~1100
X-axis	1200			860	695	570	460
Y-axis	960		—				
Z-axis	240	—					

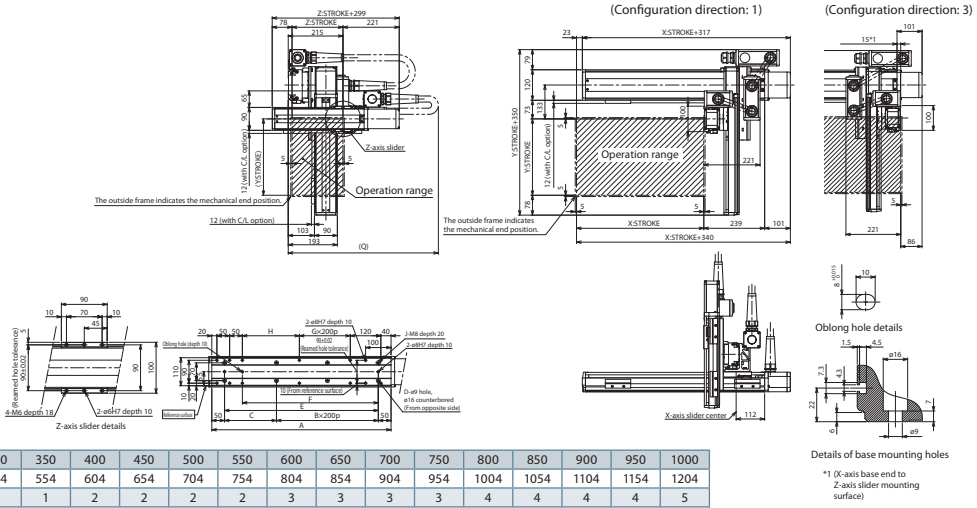
ICSB3 [ICSPB3]-BB□HB1□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



*1 (X-axis base end to Z-axis slider mounting surface)

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

Y-axis stroke	100	150	200	250	300	350	400
Q	600	650	650	700	700	750	750

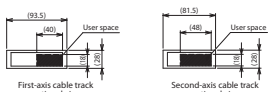
ICSB3 [ICSPB3]-BB□HB1□-CT-CT (Cable track specification)

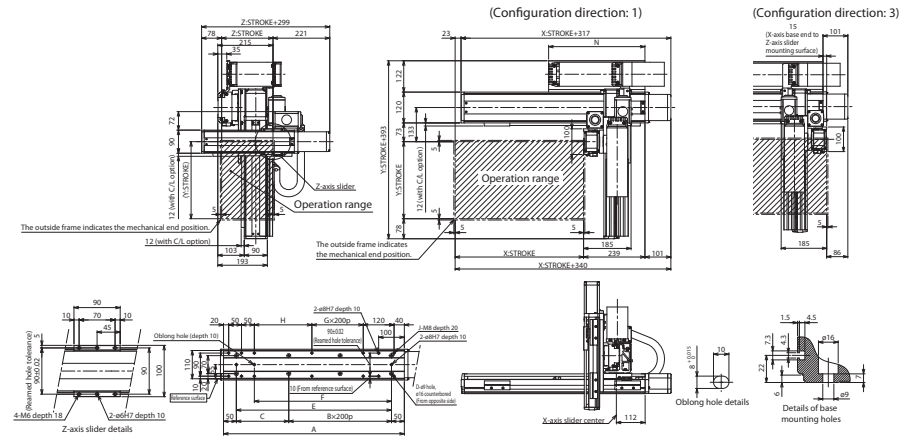
Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

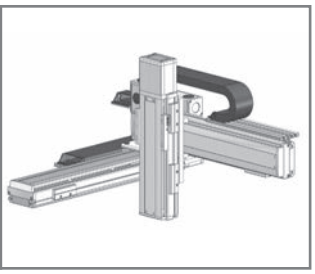




X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675

ICSB3-BB□MB1□
ICSPB3-BB□MB1□ High-Precision Specification

±10μm Standard / ±5μm High Precision | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | Medium Speed Type | X: Md (100W) Y: Sm (60W) Z: Sm (60W)



■ Model Specification Items

□ — BA□MB1□ — WA — □□ — □□ — □□ — □□ — T2 — □ — □

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 ~ 110: 1100mm <100: 1000mm> (Every 50mm) * Refer to Options table below. * For self-standing cable specification	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 30: 300mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

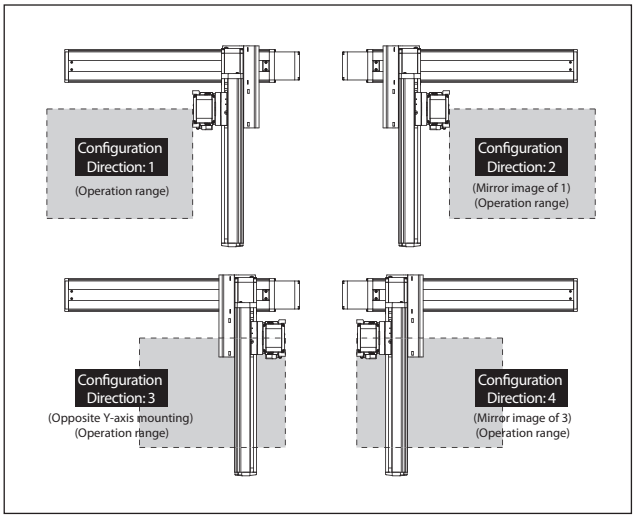
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BB1MB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BB1MB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB1MB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BB2MB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BB2MB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB2MB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BB3MB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BB3MB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB3MB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BB4MB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BB4MB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB4MB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXM-①-100-10-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-SXM-①-60-8-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
16: For Z-axis High Speed type
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	10: 100mm ~ 110: 1100mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 40: 400mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 30: 300mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	100W/10mm
Y-axis motor output/lead	60W/8mm
Z-axis motor output/lead	60W/16mm (H), 8mm (M), 4mm (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 4, 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)

* The payload is based on operation at the rated acceleration.

■BB□MB1H

Z-axis stroke	Y-axis stroke 100~400
100	3.5
150	
200	
250	
300	

■BB□MB1M

Z-axis stroke	Y-axis stroke 100~400
100	7.0
150	
200	
250	
300	

■BB□MB1L

Z-axis stroke	Y-axis stroke 100~400
100	14.0
150	
200	
250	
300	

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

■BB□MB1H

	100~300	350~400	450~700	750~800	850~900	950~1000	1050~1100
X-axis	600			430	345	280	230
Y-axis	480			—			
Z-axis	960	—					

■BB□MB1M

	100~300	350~400	450~700	750~800	850~900	950~1000	1050~1100
X-axis	600			430	345	280	230
Y-axis	480			—			
Z-axis	480	—					

■BB□MB1L

	100~300	350~400	450~700	750~800	850~900	950~1000	1050~1100
X-axis	600			430	345	280	230
Y-axis	480			—			
Z-axis	240	—					

ICSB3 [ICSPB3]-BB□MB1□-SC-SC (Self-standing cable specification)

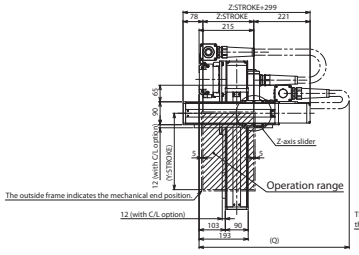
Dimensions

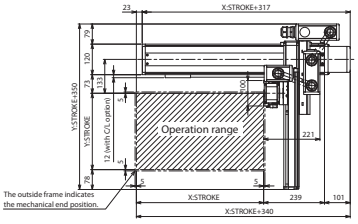
CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

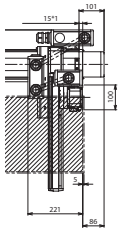
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

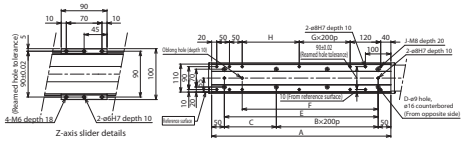
(Configuration direction: 1)

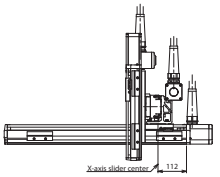


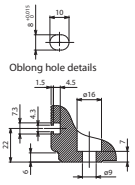


(Configuration direction: 3)









*1 (X-axis base end to Z-axis slider mounting surface)

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

Y-axis stroke	100	150	200	250	300	350	400
Q	600	650	650	700	700	750	750

ICSB3 [ICSPB3]-BB□MB1□-CT-CT (Cable track specification)

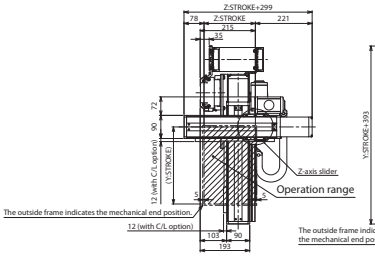
Dimensions

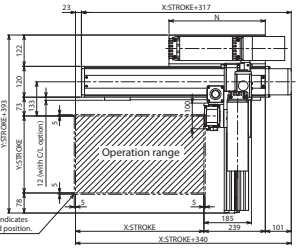
CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

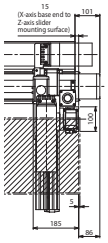
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

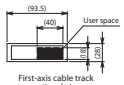
(Configuration direction: 1)

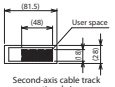


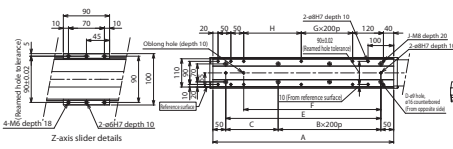


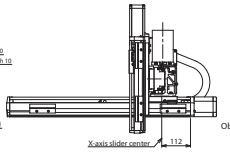
(Configuration direction: 3)

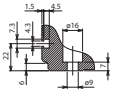








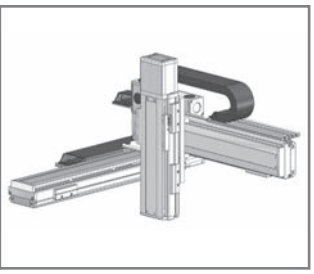




X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675

ICSB3-BC□HB1□
ICSPB3-BC□HB1□ High-Precision Specification

±10μm (Standard) / ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Type | X: Md (200W) Y: Md (100W) Z: Sm (60W)



■ Model Specification Items

□ — BC□HB1□ — WA — □□ — □□ — □□ — □□ — T2 — □ — □

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 ~ 110: 1100mm <100: 1000mm> * (Every 50mm) * For self-standing cable specification Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

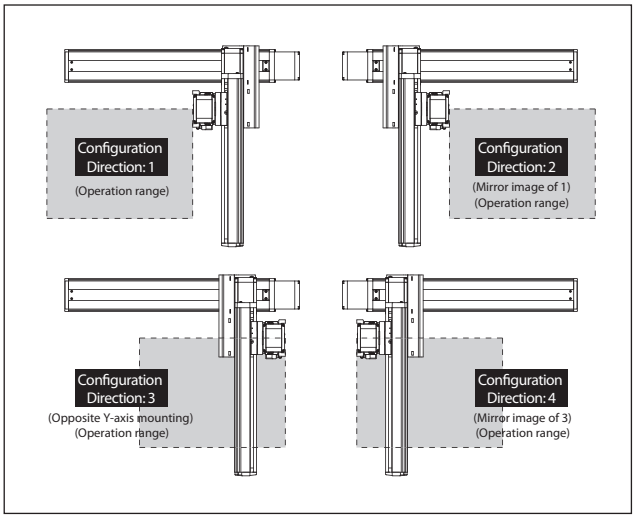
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BC1HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC1HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC1HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BC2HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC2HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC2HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BC3HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC3HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC3HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BC4HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC4HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC4HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXM-①-200-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
16: For Z-axis High Speed type
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	10: 100mm ~ 110: 1100mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	200W/20mm
Y-axis motor output/lead	100W/20mm
Z-axis motor output/lead	60W/16mm (H), 8mm (M), 4mm (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 4, 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)

* The payload is based on operation at the rated acceleration.

■BC□HB1H

Z-axis stroke	Y-axis stroke 100~500
100	3.5
150	
200	
250	
300	
350	
400	

■BC□HB1M

Z-axis stroke	Y-axis stroke 100~500
100	7.0
150	
200	
250	
300	
350	
400	

■BC□HB1L

Z-axis stroke	Y-axis stroke 100~400	450	500
100	14.0	14.0	13.2
150		14.0	12.8
200		14.0	12.4
250		14.0	12.0
300		14.0	11.7
350		13.6	11.3
400		13.3	11.0

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

■BC□HB1H

	100~400	450~500	550~700	750~800	850~900	950~1000	1050~1100
X-axis	1200			860	695	570	460
Y-axis	1200			—			
Z-axis	960	—					

■BC□HB1M

	100~400	450~500	550~700	750~800	850~900	950~1000	1050~1100
X-axis	1200			860	695	570	460
Y-axis	1200			—			
Z-axis	480	—					

■BC□HB1L

	100~400	450~500	550~700	750~800	850~900	950~1000	1050~1100
X-axis	1200			860	695	570	460
Y-axis	1200			—			
Z-axis	240	—					

ICSB3 [ICSPB3]-BC□HB1□-SC-SC (Self-standing cable specification)

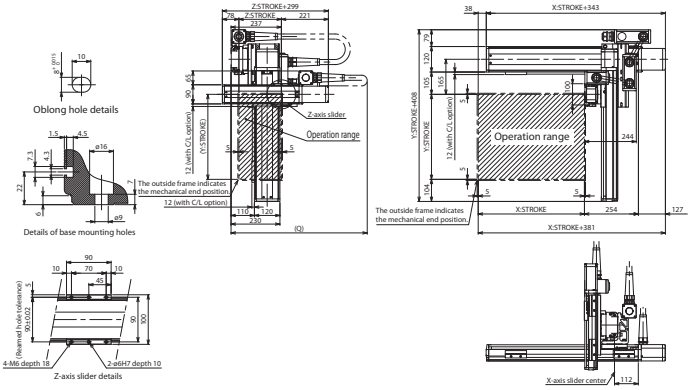
Dimensions

CAD drawings can be downloaded from our website.

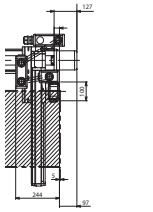
2D CAD 3D CAD RoHS

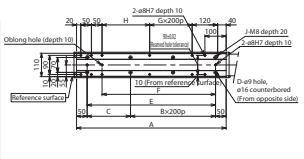
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)



(Configuration direction: 3)





X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

Y-axis stroke	100	150	200	250	300	350	400	450	500
Q	650	650	700	700	750	750	800	800	850

ICSB3 [ICSPB3]-BC□HB1□-CT-CT (Cable track specification)

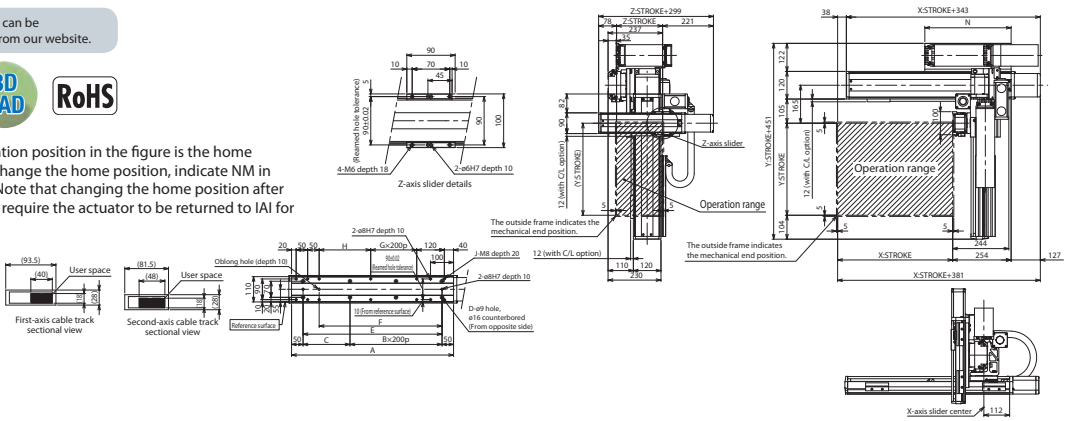
Dimensions

CAD drawings can be downloaded from our website.

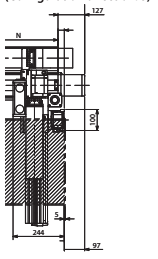
2D CAD 3D CAD RoHS

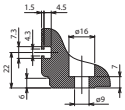
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)



(Configuration direction: 3)

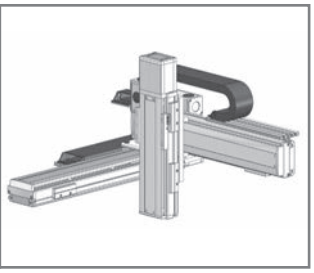




X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675

ICSB3-BC□HB2□
ICSPB3-BC□HB2□ High-Precision Specification

±10μm (Standard) / ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Type | X: Md (200W) Y: Md (100W) Z: Md (100W)



■ Model Specification Items

□ — BC□HB2□ — WA — □ □ — □ □ — □ □ — T2 — □ — □

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 ~ 110: 1100mm <100: 1000mm> * (Every 50mm) * For self-standing cable specification	10: 100mm ~ 50: 500mm (Every 50mm)	10: 100mm ~ 40: 400mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

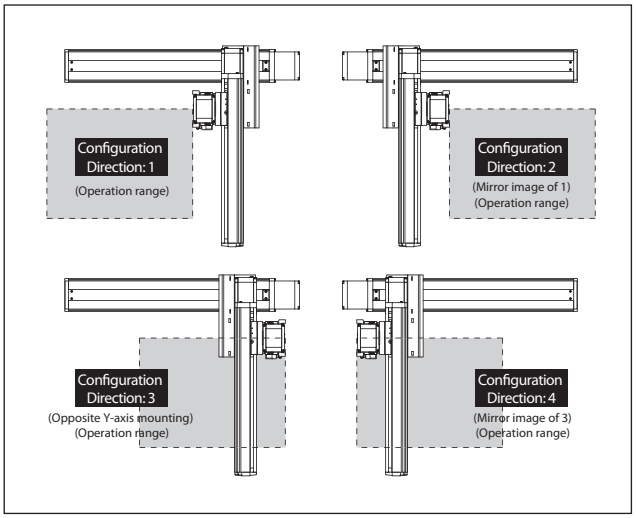
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BC1HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC1HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC1HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BC2HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC2HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC2HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BC3HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC3HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC3HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BC4HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC4HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC4HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXM-①-200-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-100-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
5: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	10: 100mm ~ 110: 1100mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	200W/20mm
Y-axis motor output/lead	100W/20mm
Z-axis motor output/lead	100W/20mm (H), 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)

* The payload is based on operation at the rated acceleration.

■BC□HB2H

Z-axis stroke \ Y-axis stroke	100~500
100	5.0
150	
200	
250	
300	
350	
400	

■BC□HB2M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500
100	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.2
150	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.6
200	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.0
250	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.6	7.3
300	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	6.7
350	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.3	6.0
400	9.7	9.7	9.6	9.6	9.6	9.6	9.5	7.7	5.4

■BC□HB2L

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500
100	13.1	13.1	13.1	13.0	13.0	13.0	13.0	11.5	9.2
150	12.6	12.5	12.5	12.5	12.5	12.4	12.4	10.9	8.6
200	12.0	12.0	12.0	11.9	11.9	11.9	11.9	10.3	8.0
250	11.4	11.4	11.3	11.3	11.3	11.3	11.3	9.6	7.3
300	10.8	10.8	10.8	10.8	10.8	10.7	10.7	9.0	6.7
350	10.2	10.2	10.2	10.1	10.1	10.1	10.1	8.3	6.0
400	9.7	9.7	9.6	9.6	9.6	9.6	9.5	7.7	5.4

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

■BC□HB2H

	100~400	450~500	550~700	750~800	850~900	950~1000	1050~1100
X-axis	1200			860	695	570	460
Y-axis	1200		—				
Z-axis	1200	—					

■BC□HB2L

	100~400	450~500	550~700	750~800	850~900	950~1000	1050~1100
X-axis	1200			860	695	570	460
Y-axis	1200		—				
Z-axis	300	—					

■BC□HB2M

	100~400	450~500	550~700	750~800	850~900	950~1000	1050~1100
X-axis	1200			860	695	570	460
Y-axis	1200		—				
Z-axis	600	—					

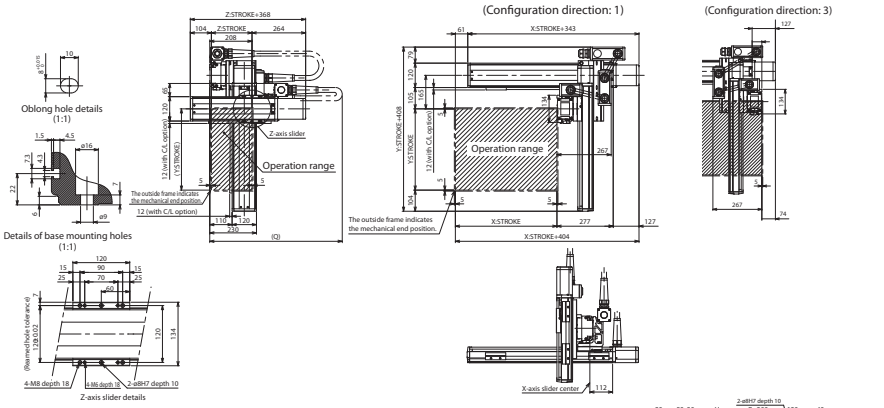
ICSB3 [ICSPB3]-BC□HB2□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

Y-axis stroke	100	150	200	250	300	350	400	450	500
Q	650	700	700	750	750	800	800	850	850

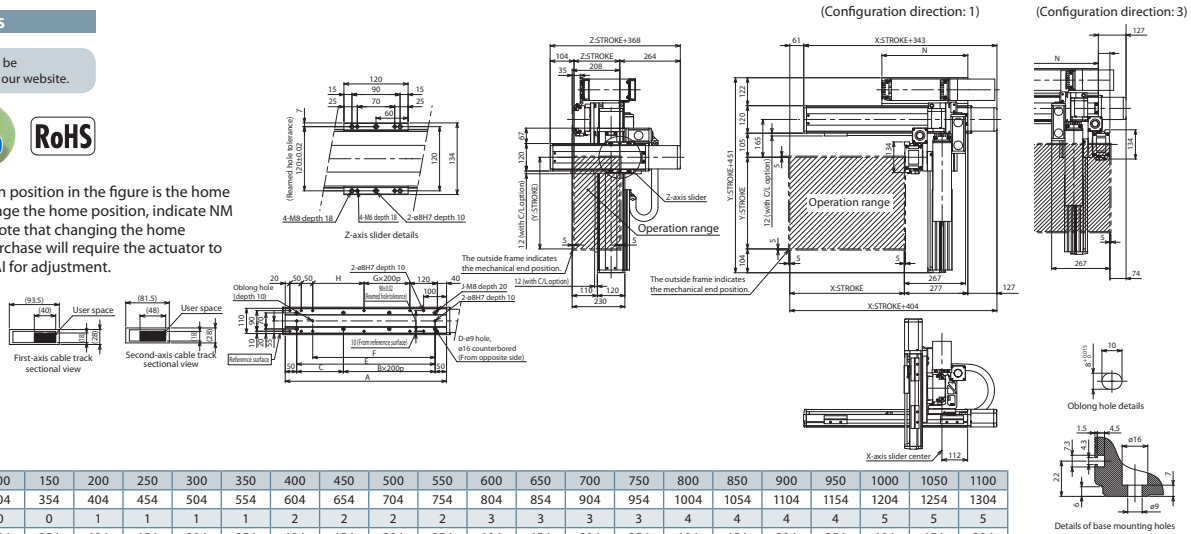
ICSB3 [ICSPB3]-BC□HB2□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

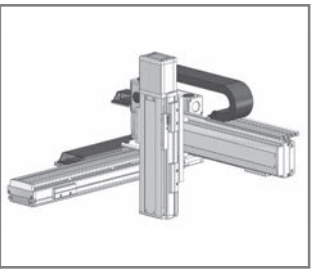
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675

ICSB3-BC□HB3□
ICSPB3-BC□HB3□ High-Precision Specification

±10μm (Standard) ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Type | X: Md (200W) Y: Md (100W) Z: Md (200W)



■ Model Specification Items

□ — BC□HB3□ — WA — □□ — □□ — □□ — T2 — □ — □

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 ~ 110: 1100mm <100: 1000mm> * (Every 50mm) * For self-standing cable specification Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

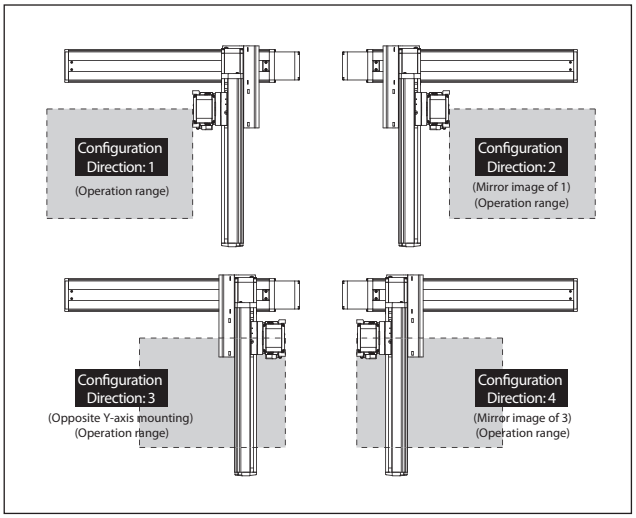
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BC1HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC1HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BC2HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC2HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BC3HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC3HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BC4HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC4HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXM-①-200-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	10: 100mm ~ 110: 1100mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	200W/20mm
Y-axis motor output/lead	100W/20mm
Z-axis motor output/lead	200W/20mm (H), 10mm (M)

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 0.4G. 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)

* The payload is based on operation at the rated acceleration.

■BC□HB3H

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500
100	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.7
150	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.0
200	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.7	7.4
250	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	6.7
300	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.4	6.1
350	9.8	9.7	9.7	9.7	9.7	9.7	9.6	7.8	5.5
400	9.2	9.2	9.2	9.2	9.1	9.1	9.1	7.2	4.9

■BC□HB3M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500
100	12.6	12.6	12.6	12.6	12.6	12.5	12.5	11.0	8.7
150	12.0	12.0	12.0	11.9	11.9	11.9	11.9	10.3	8.0
200	11.5	11.5	11.4	11.4	11.4	11.4	11.3	9.7	7.4
250	10.8	10.8	10.8	10.8	10.8	10.7	10.7	9.0	6.7
300	10.3	10.3	10.3	10.2	10.2	10.2	10.2	8.4	6.1
350	9.8	9.7	9.7	9.7	9.7	9.7	9.6	7.8	5.5
400	9.2	9.2	9.2	9.2	9.1	9.1	9.1	7.2	4.9

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

■BC□HB3H

	100~400	450~500	550~700	750~800	850~900	950~1000	1050~1100
X-axis	1200			860	695	570	460
Y-axis	1200			—			
Z-axis	1200	—					

■BC□HB3M

	100~400	450~500	550~700	750~800	850~900	950~1000	1050~1100
X-axis	1200			860	695	570	460
Y-axis	1200			—			
Z-axis	600	—					

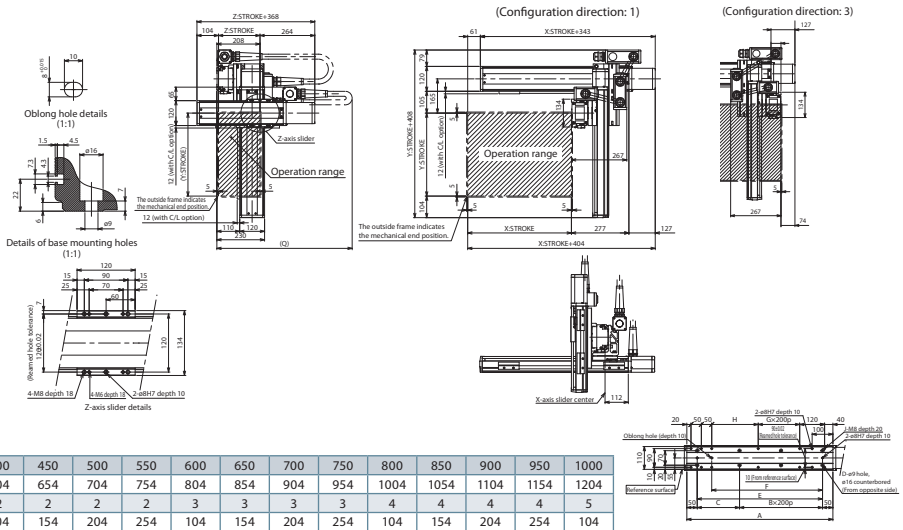
ICSB3 [ICSPB3]-BC□HB3□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

Y-axis stroke	100	150	200	250	300	350	400	450	500
Q	650	700	700	750	750	800	800	850	850

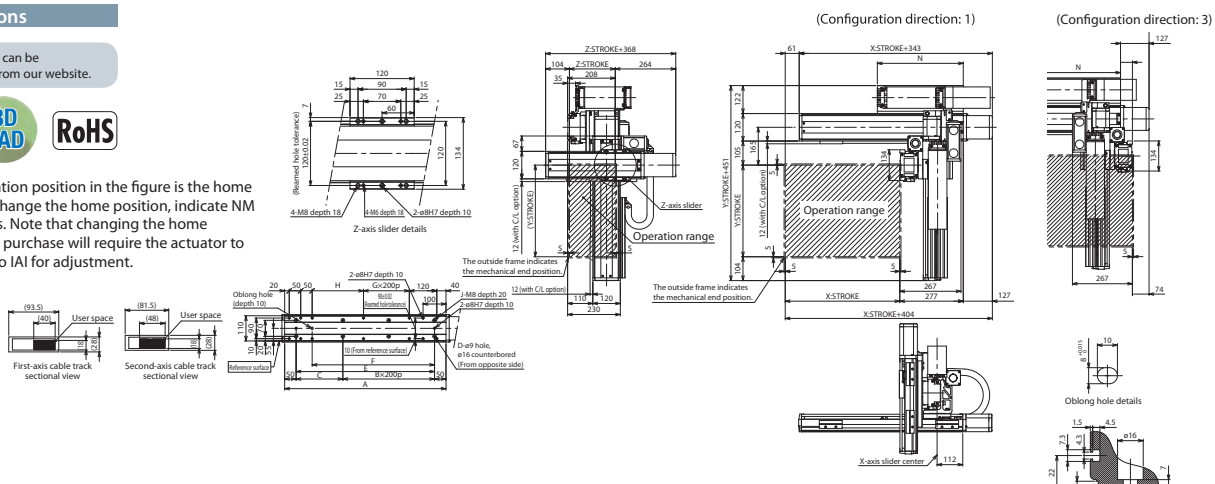
ICSB3 [ICSPB3]-BC□HB3□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

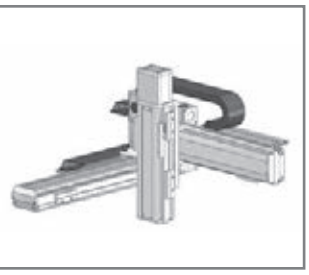
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675

ICSB3-BC□MB2□
ICSPB3-BC□MB2□ High-Precision Specification

±10μm (Standard) / ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | Medium Speed Type | X: Md (100W) Y: Md (100W) Z: Md (100W)



■ Model Specification Items

□ — BC□MB2□ — WA — □□ — □□ — □□ — □□ — T2 — □ — □

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 ~ 110: 1100mm <100: 1000mm> * (Every 50mm) * For self-standing cable specification / Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) / Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) / Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

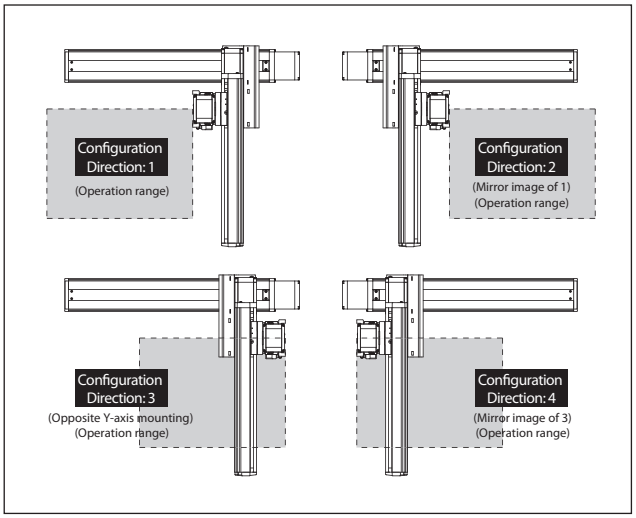
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BC1MB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC1MB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC1MB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BC2MB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC2MB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC2MB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BC3MB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC3MB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC3MB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BC4MB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC4MB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC4MB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXM-①-100-10-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-10-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-100-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
5: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	10: 100mm ~ 110: 1100mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	100W/10mm
Y-axis motor output/lead	100W/10mm
Z-axis motor output/lead	100W/20mm (H), 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)

* The payload is based on operation at the rated acceleration.

■BC□MB2H

Z-axis stroke \ Y-axis stroke	100~500
100	5.0
150	
200	
250	
300	
350	
400	

■BC□MB2M

Z-axis stroke \ Y-axis stroke	100~400	450	500
100	10.0	10.0	9.2
150		10.0	8.6
200		10.0	8.0
250		9.6	7.3
300		9.0	6.7
350		8.3	6.0
400		7.7	5.4

■BC□MB2L

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500
100	19.0	18.7	18.3	17.9	17.6	17.2	14.2	11.5	9.2
150	18.4	18.1	17.7	17.3	17.0	16.6	13.6	10.9	8.6
200	17.8	17.5	17.1	16.7	16.4	16.0	13.0	10.3	8.0
250	17.1	16.8	16.4	16.0	15.7	15.3	12.3	9.6	7.3
300	16.5	16.2	15.8	15.4	15.1	14.7	11.7	9.0	6.7
350	15.8	15.5	15.1	14.7	14.4	14.0	11.0	8.3	6.0
400	15.2	14.9	14.5	14.1	13.8	13.4	10.4	7.7	5.4

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

■BC□MB2H

	100~400	450~500	550~700	750~800	850~900	950~1000	1050~1100
X-axis	600			430	345	280	230
Y-axis	600		—				
Z-axis	1200	—					

■BC□MB2L

	100~400	450~500	550~700	750~800	850~900	950~1000	1050~1100
X-axis	600			430	345	280	230
Y-axis	600		—				
Z-axis	300	—					

■BC□MB2M

	100~400	450~500	550~700	750~800	850~900	950~1000	1050~1100
X-axis	600			430	345	280	230
Y-axis	600		—				
Z-axis	600	—					

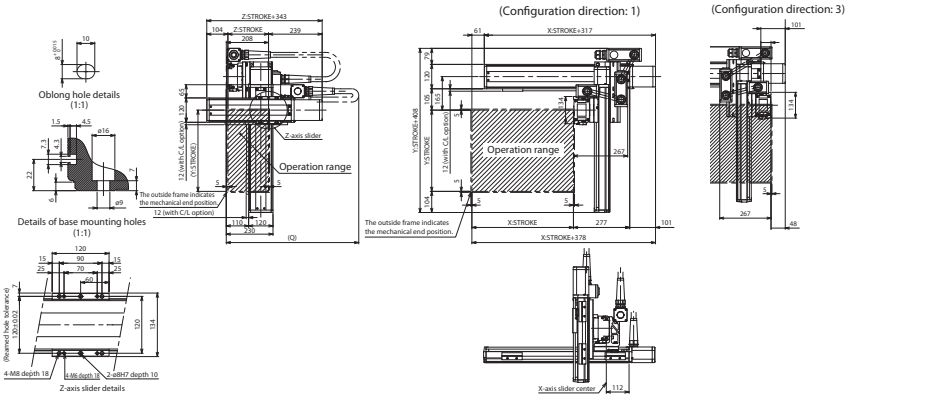
ICSB3 [ICSPB3]-BC□MB2□-SC-SC (Self-standing cable specification)

Dimensions

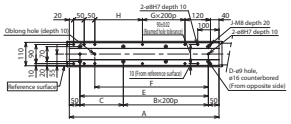
CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18



Y-axis stroke	100	150	200	250	300	350	400	450	500
Q	650	700	700	750	750	800	800	850	850

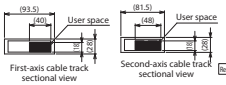
ICSB3 [ICSPB3]-BC□MB2□-CT-CT (Cable track specification)

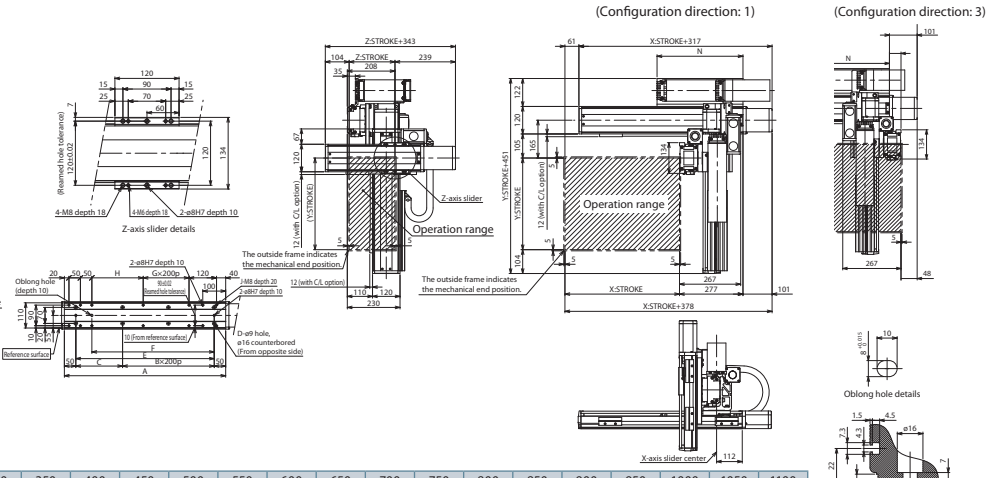
Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

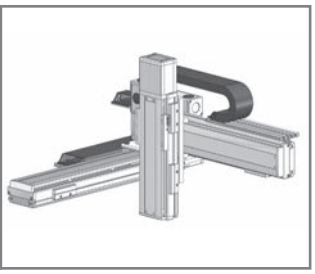




X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675

ICSB3-BC□MB3□
ICSPB3-BC□MB3□ High-Precision Specification

±10μm (Standard) / ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | Medium Speed Type | X: Md (100W) Y: Md (100W) Z: Md (200W)



■ Model Specification Items

□ — BC□MB3□ — WA — □□ — □□ — □□ — □□ — T2 — □ — □

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 ~ 110: 1100mm <100: 1000mm> * (Every 50mm) * For self-standing cable specification / Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) / Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) / Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

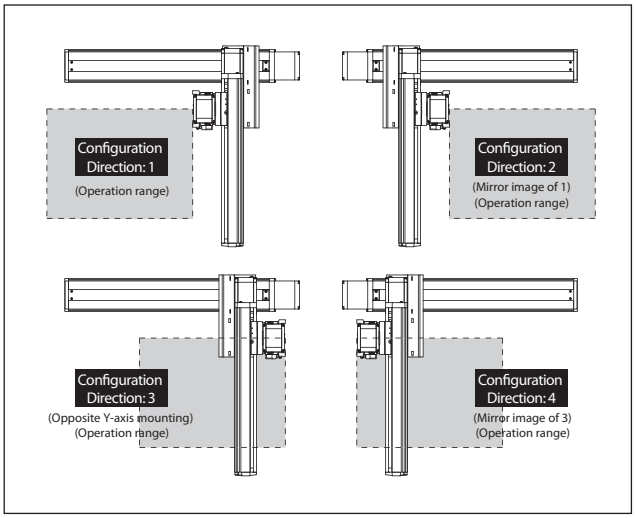
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BC1MB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC1MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BC2MB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC2MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BC3MB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC3MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BC4MB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BC4MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXM-①-100-10-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-10-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	10: 100mm ~ 110: 1100mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	100W/10mm
Y-axis motor output/lead	100W/10mm
Z-axis motor output/lead	200W/20mm (H), 10mm (M)

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 0.4G. 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)

* The payload is based on operation at the rated acceleration.

■BC□MB3H

Z-axis stroke \ Y-axis stroke	100~350	400	450	500
100	10.0	10.0	10.0	8.7
150		10.0	10.0	8.0
200		10.0	9.7	7.4
250		10.0	9.0	6.7
300		10.0	8.4	6.1
350		10.0	7.8	5.5
400		9.9	7.2	4.9

■BC□MB3M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500
100	18.5	18.2	17.8	17.4	17.1	16.7	13.7	11.0	8.7
150	17.8	17.5	17.1	16.7	16.4	16.0	13.0	10.3	8.0
200	17.2	16.9	16.5	16.1	15.8	15.4	12.4	9.7	7.4
250	16.5	16.2	15.8	15.4	15.1	14.7	11.7	9.0	6.7
300	15.9	15.6	15.2	14.8	14.5	14.1	11.1	8.4	6.1
350	15.3	15.0	14.6	14.2	13.9	13.5	10.5	7.8	5.5
400	14.7	14.4	14.0	13.6	13.3	12.9	9.9	7.2	4.9

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

■BC□MB3H

	100~400	450~500	550~700	750~800	850~900	950~1000	1050~1100
X-axis	600			430	345	280	230
Y-axis	600		—				
Z-axis	1200	—					

■BC□MB3M

	100~400	450~500	500~700	750~800	850~900	950~1000	1050~1100
X-axis	600			430	345	280	230
Y-axis	600		—				
Z-axis	600	—					

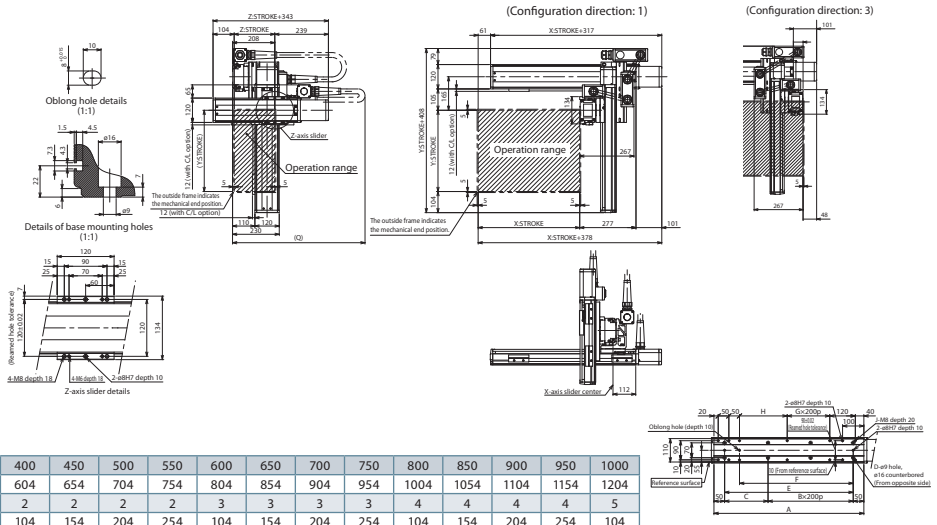
ICSB3 [ICSPB3]-BC□MB3□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

Y-axis stroke	100	150	200	250	300	350	400	450	500
Q	650	700	700	750	750	800	800	850	850

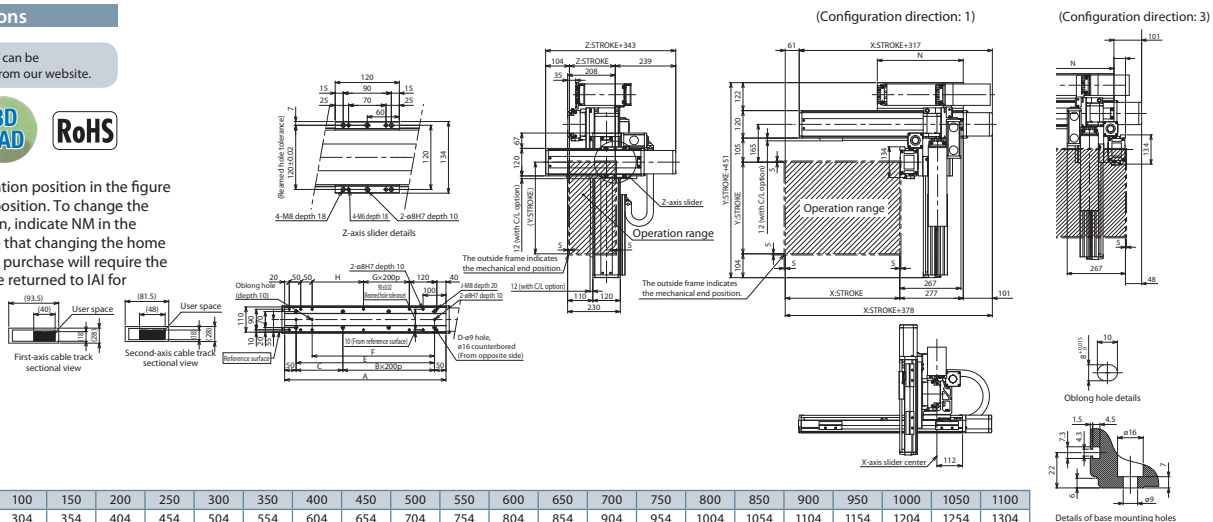
ICSB3 [ICSPB3]-BC□MB3□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

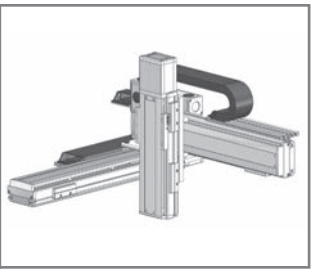
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675

ICSB3-BD□HB1□
ICSPB3-BD□HB1□ High-Precision Specification

±10μm Standard / ±5μm High-Precision | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Long Type | X: Md (200W) Y: Md (100W) Z: Sm (60W)



■ Model Specification Items

□ — BD□HB1□ — WA — □□ — □□ — □□ — T2 — □ — □

- Series: ICSB3: Standard 3-axis specification; ICSPB3: High precision 3-axis specification
- Type: Refer to Model Specification table below
- Encoder Type: WA: Battery-less Absolute
- X-axis Stroke/Option: 80: 800mm ~ 200: 2000mm (Every 100mm); Refer to Options table below.
- Y-axis Stroke/Option: 10: 100mm ~ 50: 500mm (Every 50mm); Refer to Options table below.
- Z-axis Stroke/Option: 10: 100mm ~ 40: 400mm (Every 50mm); Refer to Options table below.
- Applicable Controllers: T2: SCON, SSEL, XSEL-P/Q, XSEL-RA/SA* (* Coming soon)
- Cable Length: 3L: 3m, 5L: 5m, □L: Specified length
- Y-axis - Z-axis Cable Management: Refer to Explanation of Model Designations below

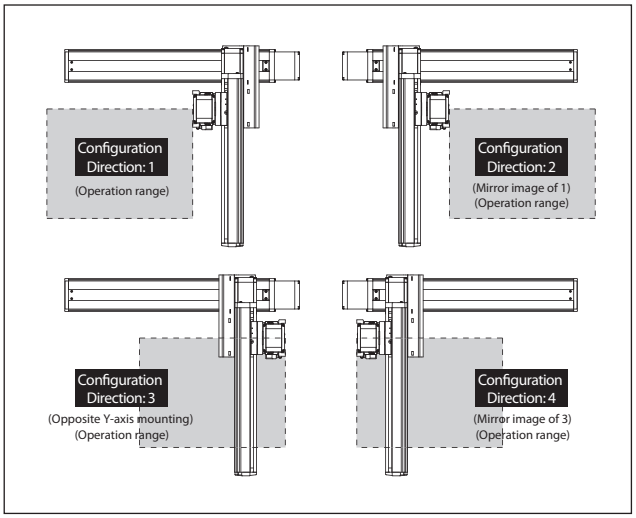
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BD1HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BD1HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BD1HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BD2HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BD2HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BD2HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BD3HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BD3HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BD3HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BD4HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BD4HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BD4HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXMX-①-200-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
16: For Z-axis High Speed type
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	80: 800mm ~ 200: 2000mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-CT: Cable track - Cable track

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	200W/20mm
Y-axis motor output/lead	100W/20mm
Z-axis motor output/lead	60W/16mm (H), 8mm (M), 4mm (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 4, 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)

* The payload is based on operation at the rated acceleration.

■BD□HB1H

Z-axis stroke	Y-axis stroke 100~500
100	3.5
150	
200	
250	
300	
350	
400	

■BD□HB1M

Z-axis stroke	Y-axis stroke 100~500
100	7.0
150	
200	
250	
300	
350	
400	

■BD□HB1L

Z-axis stroke	Y-axis stroke 100~400	450	500
100	14.0	14.0	13.2
150		14.0	12.8
200		14.0	12.4
250		14.0	12.0
300		14.0	11.7
350		13.6	11.3
400		13.3	11.0

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

■BD□HB1H

	100~400	450~500	800~1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
X-axis	—		1200	1100	1000	950	800	700	600	550	500	450
Y-axis	1200		—									
Z-axis	960		—									

■BD□HB1L

	100~400	450~500	800~1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
X-axis	—		1200	1100	1000	950	800	700	600	550	500	450
Y-axis	1200		—									
Z-axis	240		—									

■BD□HB1M

	100~400	450~500	800~1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
X-axis	—		1200	1100	1000	950	800	700	600	550	500	450
Y-axis	1200		—									
Z-axis	480		—									

ICSB3 [ICSPB3]-BD□HB1□-CT-CT (Cable track specification)

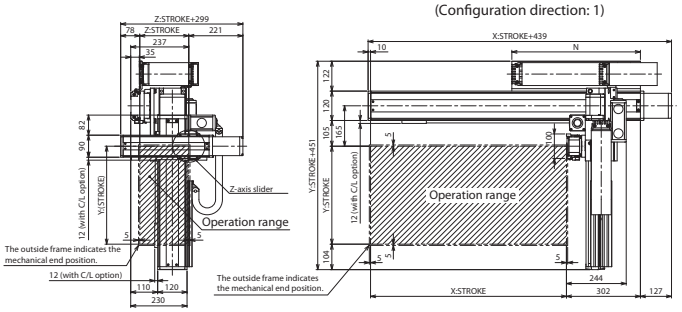
Dimensions

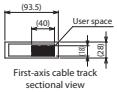
CAD drawings can be downloaded from our website.

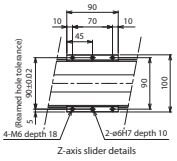
2D CAD 3D CAD RoHS

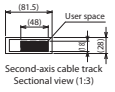
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

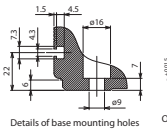
(Configuration direction: 1)

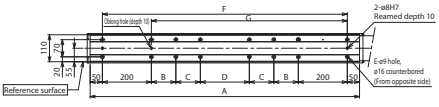


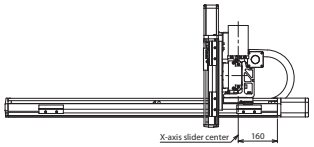




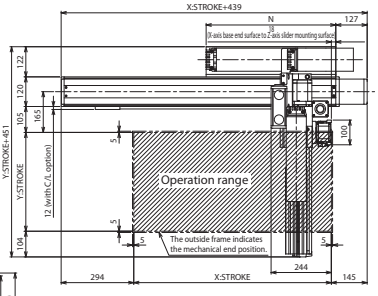


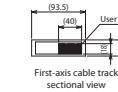


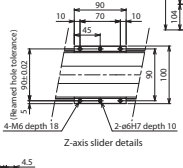


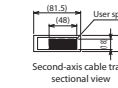


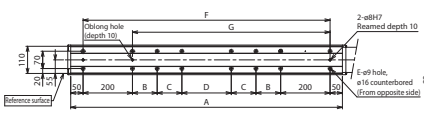
(Configuration direction: 3)

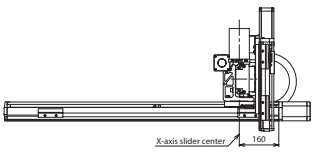








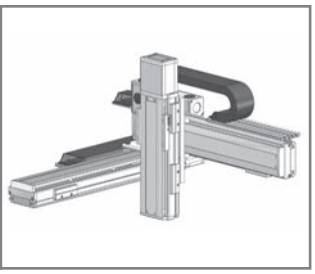




X-axis stroke	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
A	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
B	200	200	200	250	300	350	400	450	500	550	200	200	200
C	0	0	0	0	0	0	0	0	0	0	400	450	500
D	200	300	400	400	400	400	400	400	400	400	400	400	400
E	12	12	12	12	12	12	12	12	12	12	16	16	16
F	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
G	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
N	525	575	625	675	725	775	825	875	925	975	1025	1075	1125

ICSB3-BD□HB2□
ICSPB3-BD□HB2□ High-Precision Specification

±10μm Standard / ±5μm High Precision | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Long Type | X: Md (200W) Y: Md (100W) Z: Md (100W)



■ Model Specification Items

□ — BD□HB2□ — WA — □□ — □□ — □□ — T2 — □ — □

- Series: ICSB3: Standard 3-axis specification; ICSPB3: High precision 3-axis specification
- Type: Refer to Model Specification table below
- Encoder Type: WA: Battery-less Absolute
- X-axis Stroke/Option: 80: 800mm ~ 200: 2000mm (Every 100mm); Refer to Options table below.
- Y-axis Stroke/Option: 10: 100mm ~ 50: 500mm (Every 50mm); Refer to Options table below.
- Z-axis Stroke/Option: 10: 100mm ~ 40: 400mm (Every 50mm); Refer to Options table below.
- Applicable Controllers: T2: SCON, SSEL, XSEL-P/Q, XSEL-RA/SA* (* Coming soon)
- Cable Length: 3L: 3m, 5L: 5m, □L: Specified length
- Y-axis - Z-axis Cable Management: Refer to Explanation of Model Designations below

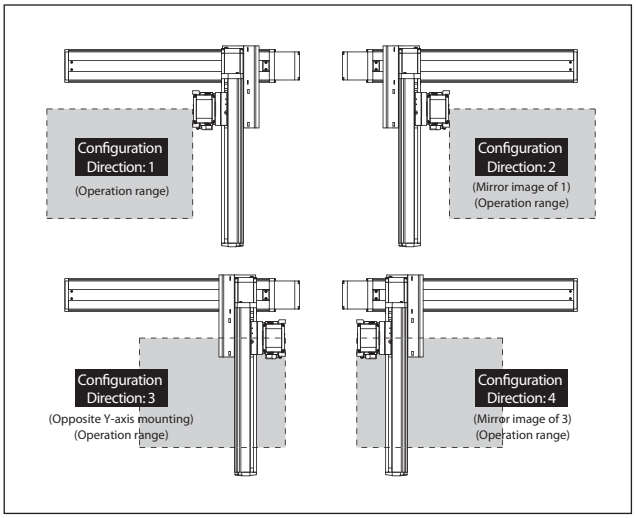
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BD1HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BD1HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BD1HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BD2HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BD2HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BD2HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BD3HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BD3HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BD3HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BD4HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BD4HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BD4HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXMX-①-200-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-100-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
5: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	80: 800mm ~ 200: 2000mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-CT: Cable track - Cable track

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	200W/20mm
Y-axis motor output/lead	100W/20mm
Z-axis motor output/lead	100W/20mm (H), 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)

* The payload is based on operation at the rated acceleration.

■BD□HB2H

Z-axis stroke \ Y-axis stroke	100~500
100	5.0
150	
200	
250	
300	
350	
400	

■BD□HB2M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500
100	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.2
150	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.6
200	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.0
250	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.6	7.3
300	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	6.7
350	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.3	6.0
400	9.7	9.7	9.6	9.6	9.6	9.6	9.5	7.7	5.4

■BD□HB2L

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500
100	13.1	13.1	13.1	13.0	13.0	13.0	13.0	11.5	9.2
150	12.6	12.5	12.5	12.5	12.5	12.4	12.4	10.9	8.6
200	12.0	12.0	12.0	11.9	11.9	11.9	11.9	10.3	8.0
250	11.4	11.4	11.3	11.3	11.3	11.3	11.3	9.6	7.3
300	10.8	10.8	10.8	10.8	10.8	10.7	10.7	9.0	6.7
350	10.2	10.2	10.2	10.1	10.1	10.1	10.1	8.3	6.0
400	9.7	9.7	9.6	9.6	9.6	9.6	9.5	7.7	5.4

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

■BD□HB2H

	100~400	450~500	800~1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
X-axis	—		1200	1100	1000	950	800	700	600	550	500	450
Y-axis	1200		—									
Z-axis	1200	—										

■BD□HB2M

	100~400	450~500	800~1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
X-axis	—		1200	1100	1000	950	800	700	600	550	500	450
Y-axis	1200		—									
Z-axis	600	—										

■BD□HB2L

	100~400	450~500	800~1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
X-axis	—		1200	1100	1000	950	800	700	600	550	500	450
Y-axis	1200		—									
Z-axis	300	—										

ICSB3 [ICSPB3]-BD□HB2□-CT-CT (Cable track specification)

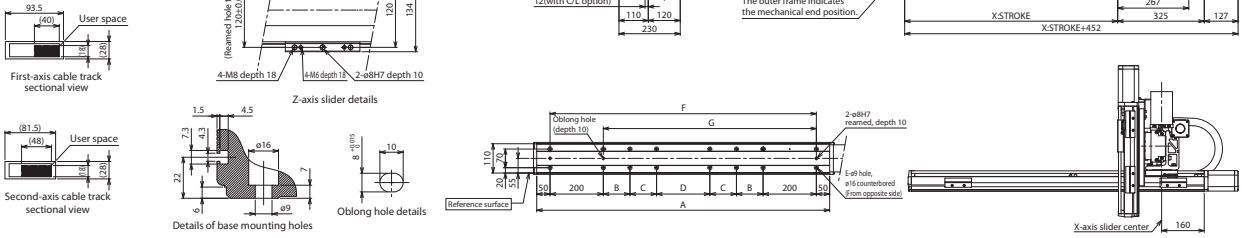
Dimensions

CAD drawings can be downloaded from our website.

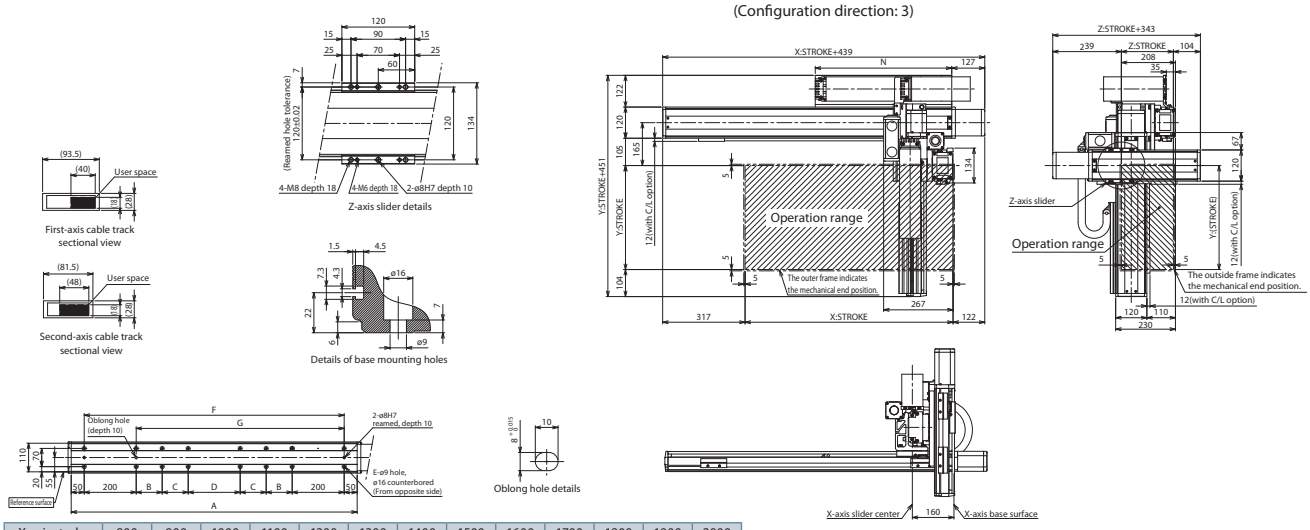
2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)



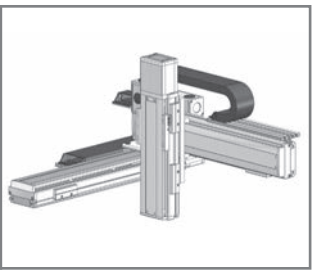
(Configuration direction: 3)



X-axis stroke	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
A	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
B	200	200	200	250	300	350	400	450	500	550	200	200	200
C	0	0	0	0	0	0	0	0	0	0	400	450	500
D	200	300	400	400	400	400	400	400	400	400	400	400	400
E	12	12	12	12	12	12	12	12	12	12	16	16	16
F	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
G	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
N	525	575	625	675	725	775	825	875	925	975	1025	1075	1125

ICSB3-BD□HB3□
ICSPB3-BD□HB3□ High-Precision Specification

±10μm Standard / ±5μm High Precision | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Long Type | X: Md (200W) Y: Md (100W) Z: Md (200W)



■ Model Specification Items

□ — BD□HB3□ — WA — □□ — □□ — □□ — T2 — □ — □

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	80: 800mm ~ 200: 2000mm (Every 100mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

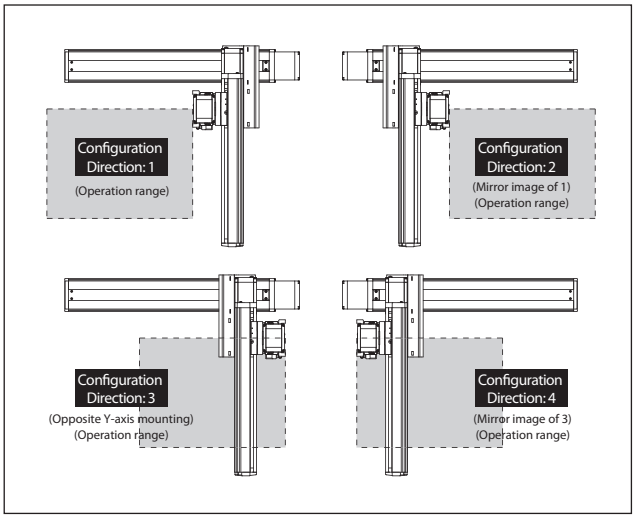
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BD1HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BD1HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BD2HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BD2HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BD3HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BD3HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BD4HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BD4HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXMX-①-200-20-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-20-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	80: 800mm ~ 200: 2000mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-CT: Cable track - Cable track

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	200W/20mm
Y-axis motor output/lead	100W/20mm
Z-axis motor output/lead	200W/20mm (H), 10mm (M)

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 0.4G. 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)

* The payload is based on operation at the rated acceleration.

■BD□HB3H

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500
100	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.7
150	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.0
200	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.7	7.4
250	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	6.7
300	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.4	6.1
350	9.8	9.7	9.7	9.7	9.7	9.7	9.6	7.8	5.5
400	9.2	9.2	9.2	9.2	9.1	9.1	9.1	7.2	4.9

■BD□HB3M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500
100	12.6	12.6	12.6	12.6	12.6	12.5	12.5	11.0	8.7
150	12.0	12.0	12.0	11.9	11.9	11.9	11.9	10.3	8.0
200	11.5	11.5	11.4	11.4	11.4	11.4	11.3	9.7	7.4
250	10.8	10.8	10.8	10.8	10.8	10.7	10.7	9.0	6.7
300	10.3	10.3	10.3	10.2	10.2	10.2	10.2	8.4	6.1
350	9.8	9.7	9.7	9.7	9.7	9.7	9.6	7.8	5.5
400	9.2	9.2	9.2	9.2	9.1	9.1	9.1	7.2	4.9

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

■BD□HB3H

	100~400	450~500	800~1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
X-axis	—		1200	1100	1000	950	800	700	600	550	500	450
Y-axis	1200		—									
Z-axis	1200	—										

■BD□HB3M

	100~400	450~500	800~1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
X-axis	—		1200	1100	1000	950	800	700	600	550	500	450
Y-axis	1200											
Z-axis	600	—										

ICSB3 [ICSPB3]-BD□HB3□-CT-CT (Cable track specification)

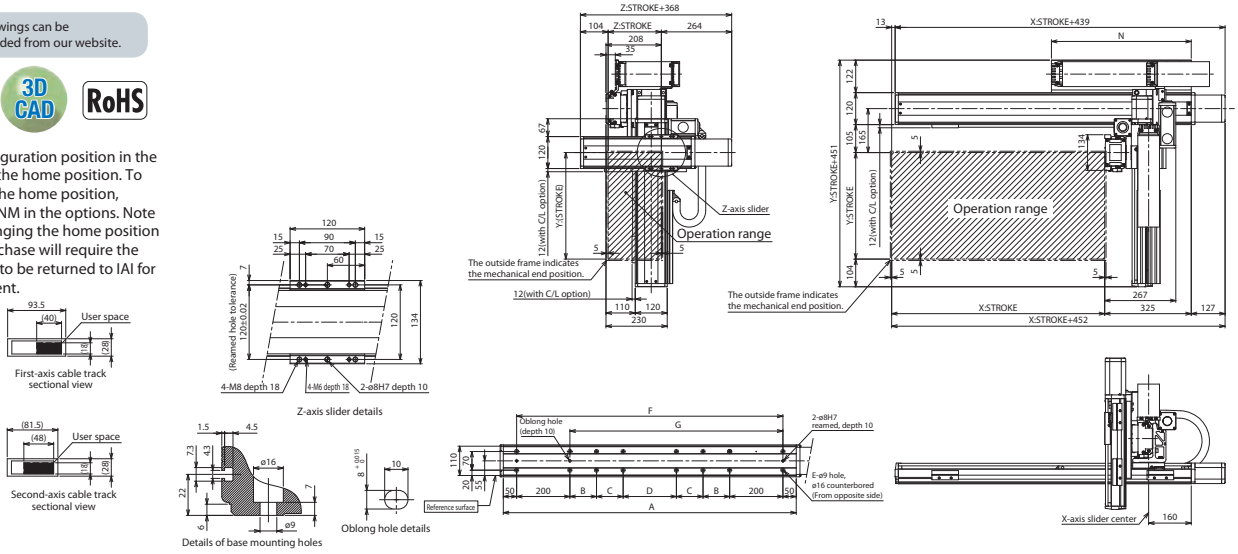
Dimensions

CAD drawings can be downloaded from our website.

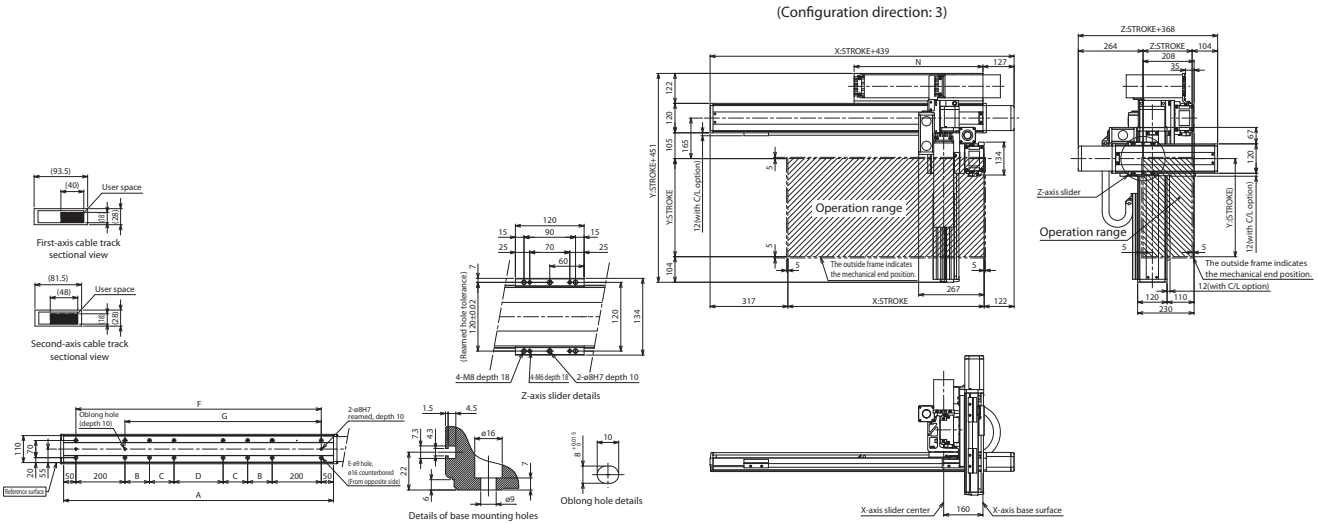
2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)



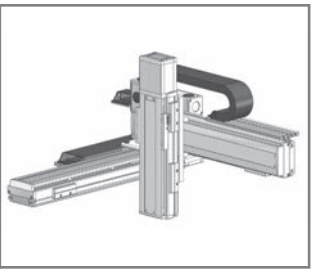
(Configuration direction: 3)



X-axis stroke	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
A	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
B	200	200	200	250	300	350	400	450	500	550	200	200	200
C	0	0	0	0	0	0	0	0	0	0	400	450	500
D	200	300	400	400	400	400	400	400	400	400	400	400	400
E	12	12	12	12	12	12	12	12	12	12	16	16	16
F	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
G	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
N	525	575	625	675	725	775	825	875	925	975	1025	1075	1125

ICSB3-BE□HB1□
ICSPB3-BE□HB1□ High-Precision Specification

±10μm (Standard) ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Type | X: Lg (400W) Y: Md (200W) Z: Sm (60W)



■ Model Specification Items

□ — BE□HB1□ — WA — □□ — □□ — □□ — □□ — T2 — □ — □

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 ~ 130: 1300mm <100: 1000mm> (Every 50mm) * Refer to Options table below. * For self-standing cable specification	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

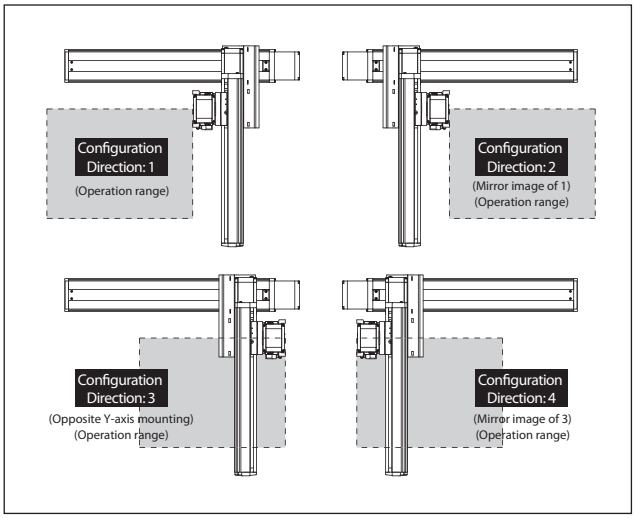
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BE1HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BE1HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BE1HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BE2HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BE2HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BE2HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BE3HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BE3HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BE3HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BE4HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BE4HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BE4HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-LXM-①-400-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-200-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
16: For Z-axis High Speed type
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	10: 100mm ~ 130: 1300mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	60W/16mm (H), 8mm (M), 4mm (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 4, 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)

* The payload is based on operation at the rated acceleration.

■BE□HB1H

Z-axis stroke	Y-axis stroke 100~700
100	3.5
150	
200	
250	
300	
350	
400	
450	
500	

■BE□HB1M

Z-axis stroke	Y-axis stroke 100~700
100	7.0
150	
200	
250	
300	
350	
400	
450	
500	

■BE□HB1L

Z-axis stroke	Y-axis stroke 100~700
100	14.0
150	
200	
250	
300	
350	
400	
450	
500	

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

■BE□HB1H

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	1200			920	765	645	550	440
Y-axis	1200			—				
Z-axis	960	—						

■BE□HB1M

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	1200			920	765	645	550	440
Y-axis	1200			—				
Z-axis	480	—						

■BE□HB1L

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	1200			920	765	645	550	440
Y-axis	1200			—				
Z-axis	240	—						

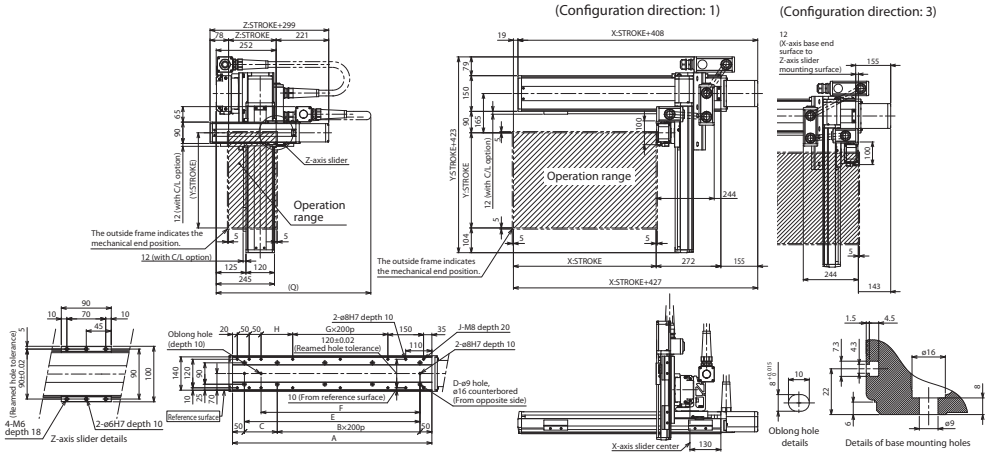
ICSB3 [ICSPB3]-BE□HB1□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



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	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138
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	133	183	233	283	133	183	233	283	133	183	233	283	133
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
Q	650	700	700	750	750	800	800	800	850	850	900	900	950

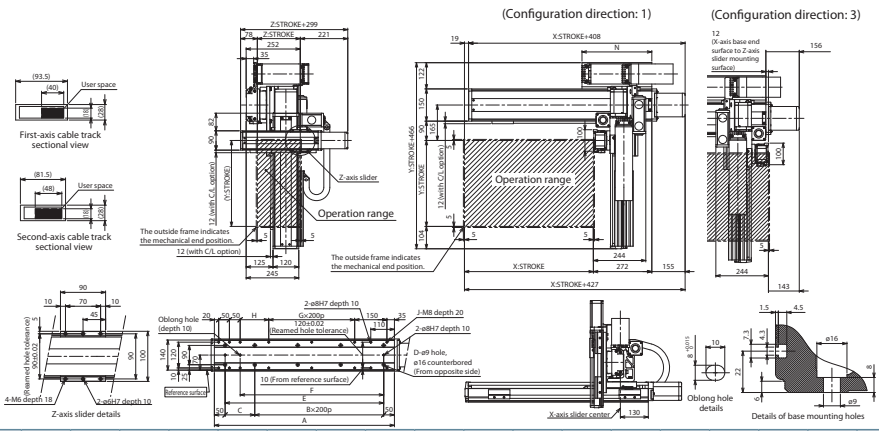
ICSB3 [ICSPB3]-BE□HB1□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

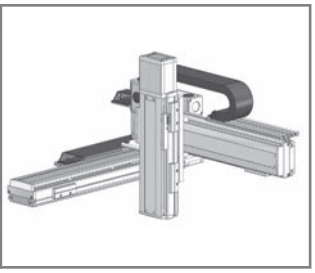
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
A	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	1488	1538
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6
C	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16
E	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438
F	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
H	33	83	133	183	233	283	133	183	233	283	133	183	233	283	133	183	233	283	133	183	233	283	133	183	233
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775

ICSB3-BE□HB2□
ICSPB3-BE□HB2□ High-Precision Specification

±10μm Standard / ±5μm High Precision | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Type | X: Lg (400W) Y: Md (200W) Z: Md (100W)



■ Model Specification Items

□ — BE□HB2□ — WA — □□ — □□ — □□ — □□ — T2 — □ — □

- Series: ICSB3: Standard 3-axis specification; ICSPB3: High precision 3-axis specification
- Type: Refer to Model Specification table below
- Encoder Type: WA: Battery-less Absolute
- X-axis Stroke/Option: 10: 100mm ~ 130: 1300mm <100: 1000mm> (Every 50mm) * For self-standing cable specification; Refer to Options table below.
- Y-axis Stroke/Option: 10: 100mm ~ 70: 700mm (Every 50mm); Refer to Options table below.
- Z-axis Stroke/Option: 10: 100mm ~ 50: 500mm (Every 50mm); Refer to Options table below.
- Applicable Controllers: T2: SCON, SSEL, XSEL-P/Q, XSEL-RA/SA** ** Coming soon
- Cable Length: 3L: 3m, 5L: 5m, □L: Specified length
- Y-axis - Z-axis Cable Management: Refer to Explanation of Model Designations below

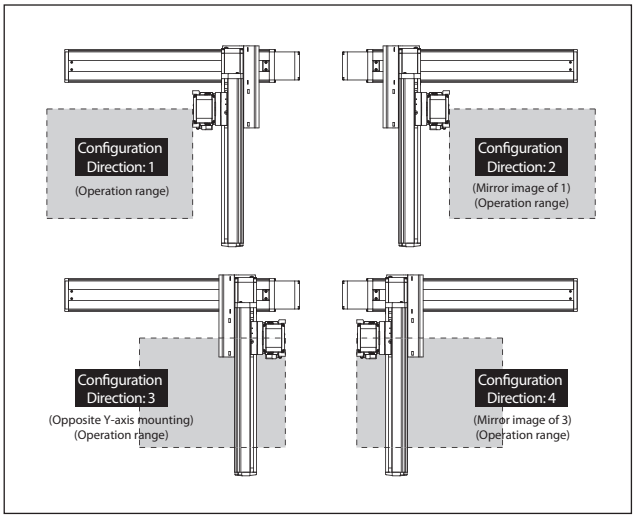
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BE1HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BE1HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BE1HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BE2HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BE2HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BE2HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BE3HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BE3HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BE3HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BE4HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BE4HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BE4HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-LXM-①-400-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-200-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-100-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
5: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	10: 100mm ~ 130: 1300mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	100W/20mm (H), 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)

* The payload is based on operation at the rated acceleration.

■BE□HB2H

Z-axis stroke \ Y-axis stroke	100~700
100	5.0
150	
200	
250	
300	
350	
400	
450	
500	

■BE□HB2M

Z-axis stroke \ Y-axis stroke	100~600	650	700
100	10.0	10.0	10.0
150		10.0	10.0
200		10.0	10.0
250		10.0	10.0
300		10.0	9.7
350		10.0	9.0
400		10.0	8.4
450		9.9	7.8
500		9.3	7.2

■BE□HB2L

Z-axis stroke \ Y-axis stroke	100~450	500	550	600	650	700
100	20.0	20.0	19.2	16.6	14.3	12.2
150		20.0	18.6	16.0	13.7	11.6
200		20.0	18.0	15.4	13.1	11.0
250		20.0	17.3	14.7	12.4	10.3
300		19.8	16.7	14.1	11.8	9.7
350		19.1	16.0	13.4	11.1	9.0
400		18.5	15.4	12.8	10.5	8.4
450		17.9	14.8	12.2	9.9	7.8
500		17.3	14.2	11.8	9.3	7.2

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

■BE□HB2H

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	1200			920	765	645	550	440
Y-axis	1200		—					
Z-axis	1200	—						

■BE□HB2L

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	1200			920	765	645	550	440
Y-axis	1200		—					
Z-axis	300	—						

■BE□HB2M

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	1200			920	765	645	550	440
Y-axis	1200		—					
Z-axis	600	—						

ICSB3 [ICSPB3]-BE□HB2□-SC-SC (Self-standing cable specification)

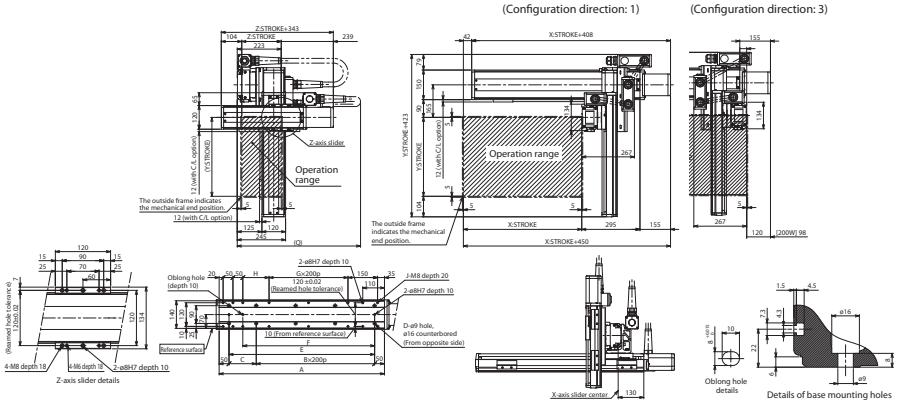
Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1) (Configuration direction: 3)



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	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138
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	133	183	233	283	133	183	233	283	133	183	233	283	133
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
Q	700	700	750	750	800	800	800	850	850	900	900	950	950

ICSB3 [ICSPB3]-BE□HB2□-CT-CT (Cable track specification)

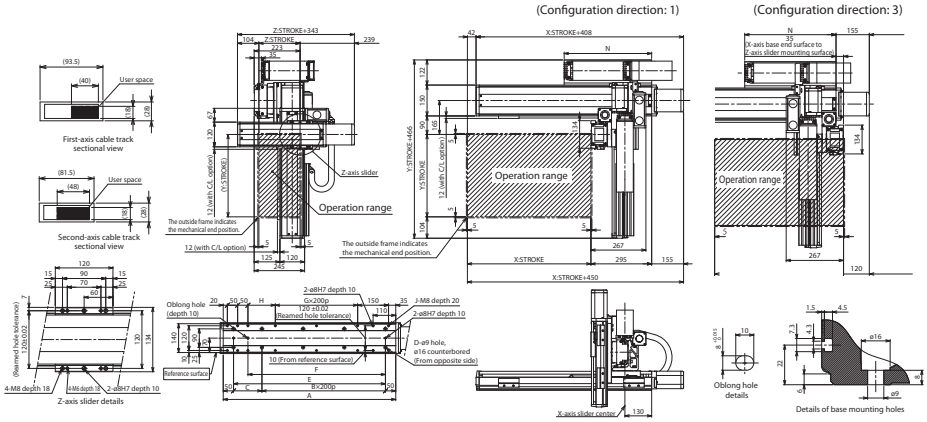
Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

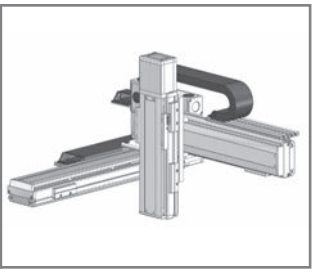
(Configuration direction: 1) (Configuration direction: 3)



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
A	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	1388	1538
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6
C	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16
E	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438
F	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
H	33	83	133	183	233	283	133	183	233	283	133	183	233	283	133	183	233	283	133	183	233	283	133	183	233
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775

ICSB3-BE□HB3□
ICSPB3-BE□HB3□ High-Precision Specification

±10μm Standard / ±5μm High Precision | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Type | X: Lg (400W) Y: Md (200W) Z: Md (200W)



■ Model Specification Items

□ — BE□HB3□ — WA — □□ — □□ — □□ — □□ — T2 — □ — □

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 ~ 130: 1300mm <100: 1000mm> (Every 50mm) * For self-standing cable specification / Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) / Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) / Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

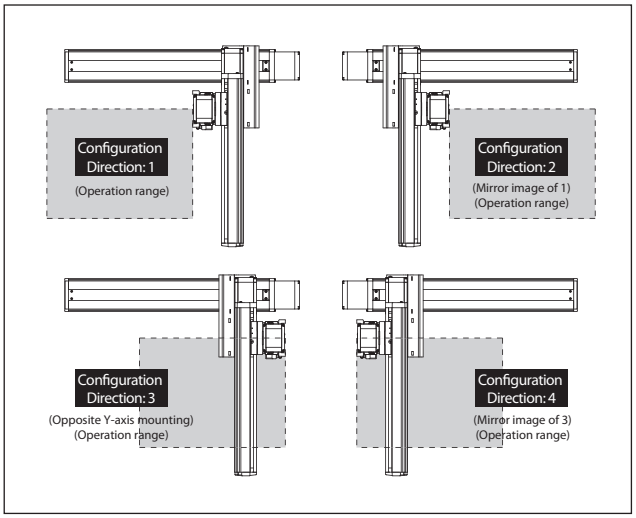
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BE1HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BE1HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BE2HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BE2HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BE3HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BE3HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BE4HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BE4HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-LXM-①-400-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①200-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	10: 100mm ~ 130: 1300mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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/20mm (H), 10mm (M)

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 0.4G. 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)

* The payload is based on operation at the rated acceleration.

■BE□HB3H

Z-axis stroke	Y-axis stroke 100~600	650	700
100	10.0	10.0	10.0
150		10.0	10.0
200		10.0	10.0
250		10.0	9.7
300		10.0	9.1
350		10.0	8.5
400		10.0	7.9
450		9.3	7.2
500		8.7	6.6

■BE□HB3M

Z-axis stroke	Y-axis stroke 100~450	500	550	600	650	700
100	20.0	20.0	18.7	16.1	13.8	11.7
150		20.0	18.0	15.4	13.1	11.0
200		20.0	17.4	14.8	12.5	10.4
250		19.8	16.7	14.1	11.8	9.7
300		19.2	16.1	13.5	11.2	9.1
350		18.6	15.5	12.9	10.6	8.5
400		18.0	14.9	12.3	10.0	7.9
450		17.3	14.2	11.6	9.3	7.2
500		16.7	13.6	11.0	8.7	6.6

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

■BE□HB3H

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	1200			920	765	645	550	440
Y-axis	1200			—				
Z-axis	1200	—						

■BE□HB3M

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	1200			920	765	645	550	440
Y-axis	1200			—				
Z-axis	600	—						

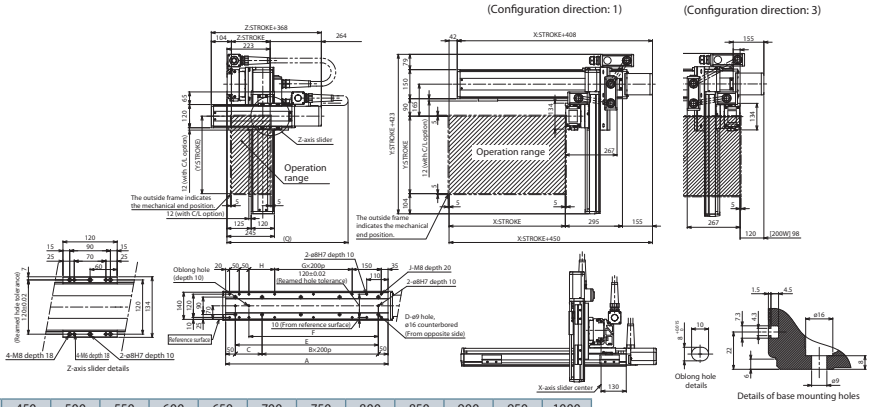
ICSB3 [ICSPB3]-BE□HB3□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



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	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138
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	133	183	233	283	133	183	233	283	133	183	233	283	133
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
Q	700	700	750	750	800	800	800	850	850	900	900	950	950

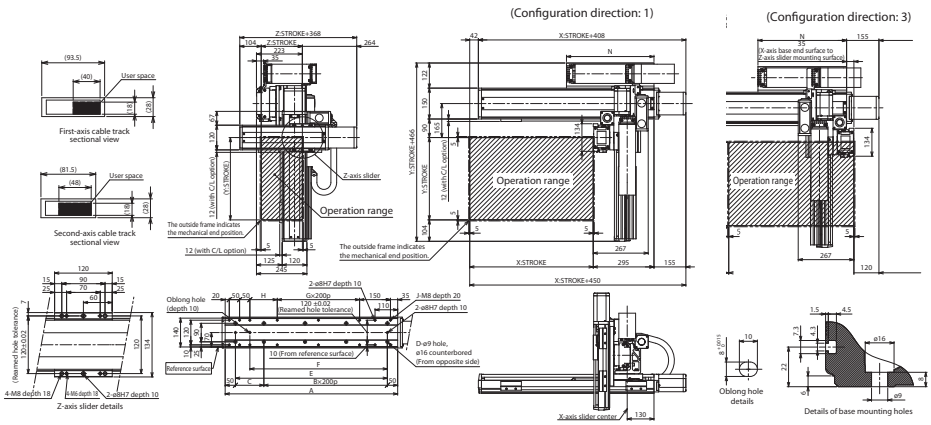
ICSB3 [ICSPB3]-BE□HB3□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

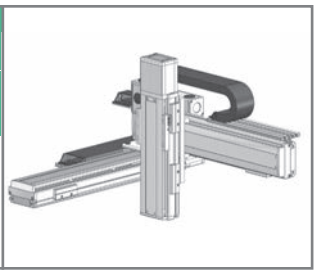


X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
A	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	1388	1538
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6
C	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16
E	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438
F	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
H	33	83	133	183	233	283	133	183	233	283	133	183	233	283	133	183	233	283	133	183	233	283	133	183	233
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775

ICSB3-BF□HB1□
ICSPB3-BF□HB1□ High-Precision Specification

±10μm Standard / ±5μm High Precision

Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Long Type | X: Lg (400W) Y: Md (200W) Z: Sm (60W)



■ Model Specification Items

□ — BF□HB1□ — WA — □□ — □□ — □□ — T2 — □ — □

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	100: 1000mm 〜 250: 2500mm (Every 100mm) Refer to Options table below.	10: 100mm 〜 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm 〜 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

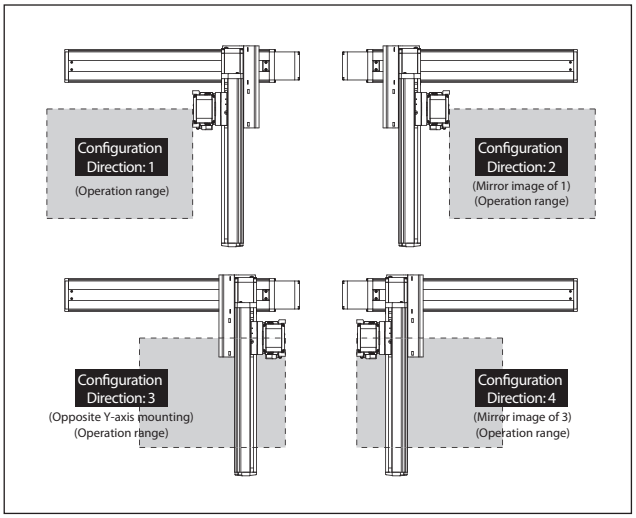
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BF1HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BF1HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BF1HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BF2HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BF2HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BF2HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BF3HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BF3HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BF3HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BF4HB1H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BF4HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BF4HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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)	100: 1000mm 〜 250: 2500mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm 〜 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm 〜 50: 500mm
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	CT-CT: Cable track - Cable track

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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	ISB[ISPB]-LXMX-①-400-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-200-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
16: For Z-axis High Speed type
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ 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	60W/16mm (H), 8mm (M), 4mm (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 4, 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)

* The payload is based on operation at the rated acceleration.

■BF□HB1H

Z-axis stroke	Y-axis stroke 100~700
100	3.5
150	
200	
250	
300	
350	
400	
450	
500	

■BF□HB1M

Z-axis stroke	Y-axis stroke 100~700
100	7.0
150	
200	
250	
300	
350	
400	
450	
500	

■BF□HB1L

Z-axis stroke	Y-axis stroke 100~700
100	14.0
150	
200	
250	
300	
350	
400	
450	
500	

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

■BF□HB1H

	100~500	550~700	1000~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1150	1000	950	830	740	650	590	540	490	440	410	370	340
Y-axis	1200		—													
Z-axis	960		—													

■BF□HB1M

	100~500	550~700	1000~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1150	1000	950	830	740	650	590	540	490	440	410	370	340
Y-axis	1200		—													
Z-axis	480		—													

■BF□HB2L

	100~500	550~700	1000~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1150	1000	950	830	740	650	590	540	490	440	410	370	340
Y-axis	1200		—													
Z-axis	240		—													

ICSB3 [ICSPB3]-BF□HB1□-CT-CT (Cable track specification)

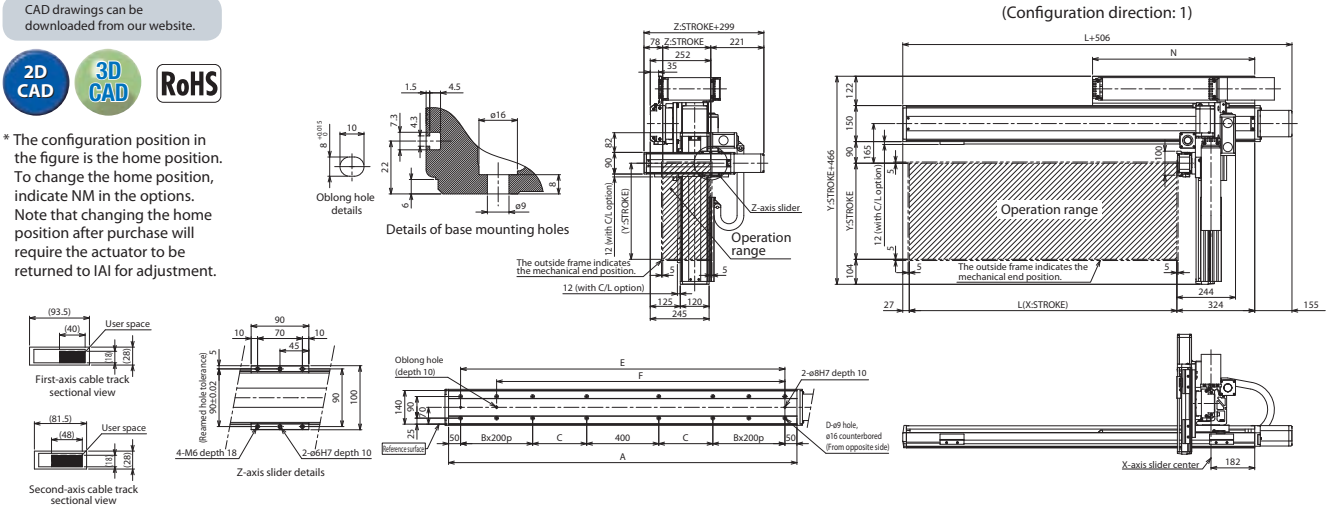
Dimensions

CAD drawings can be downloaded from our website.

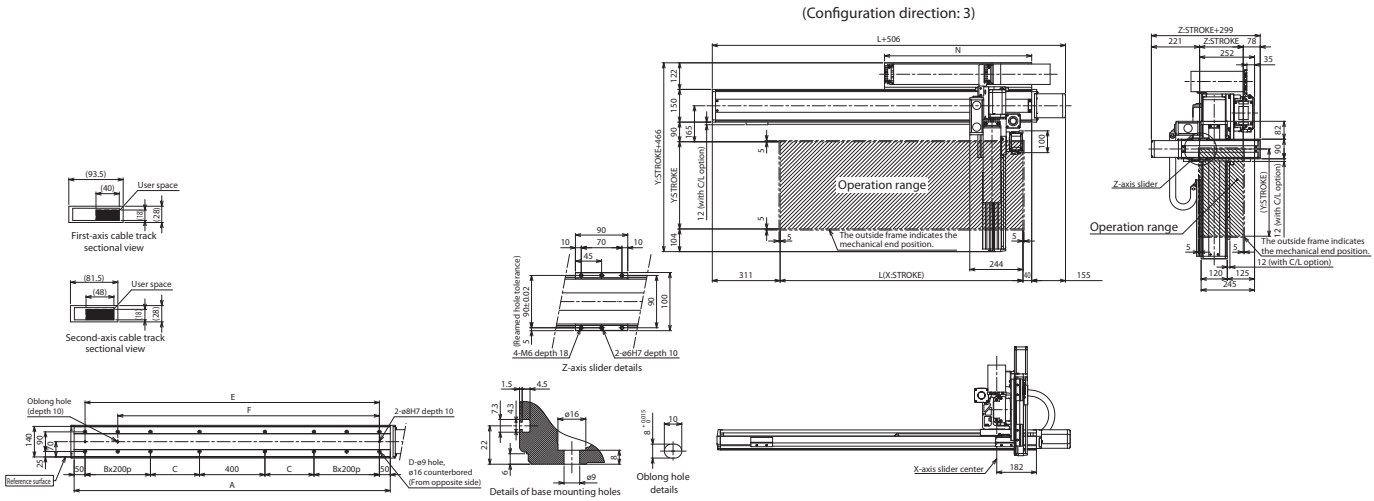
2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)



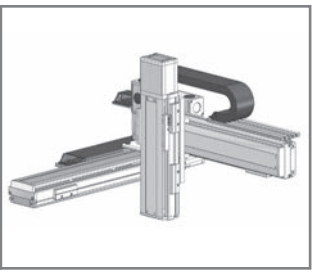
(Configuration direction: 3)



X-axis stroke	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
L	1014	1114	1214	1314	1414	1514	1614	1714	1814	1914	2014	2114	2214	2314	2414	2514
A	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850
B	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3
C	225	275	325	375	425	475	525	575	425	475	525	575	425	475	525	575
D	12	12	12	12	12	12	12	12	16	16	16	16	20	20	20	20
E	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750
F	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550
N	625	675	725	775	825	875	925	975	1025	1075	1125	1175	1225	1275	1325	1375

ICSB3-BF□HB2□
ICSPB3-BF□HB2□ High-Precision Specification

±10μm (Standard) / ±5μm (High-Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Long Type | X: Lg (400W) Y: Md (200W) Z: Md (100W)



■ Model Specification Items

□ — BF□HB2□ — WA — □□ — □□ — □□ — T2 — □ — □

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	100: 1000mm ~ 250: 2500mm (Every 100mm) Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

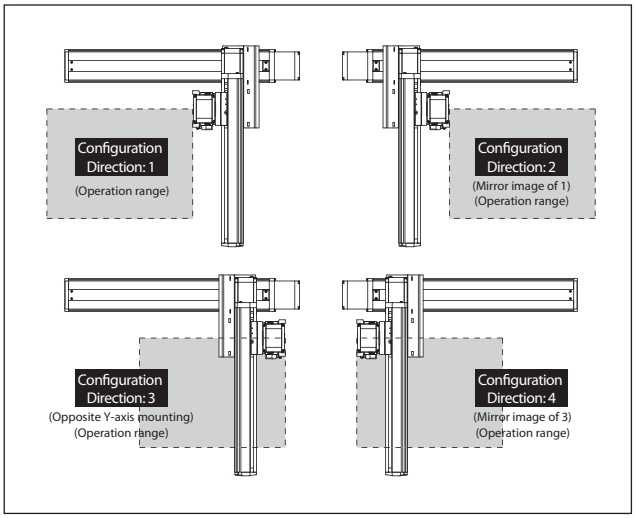
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BF1HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BF1HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BF1HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BF2HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BF2HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BF2HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BF3HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BF3HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BF3HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BF4HB2H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BF4HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BF4HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-LXMX-①-400-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-200-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-100-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
5: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	100: 1000mm ~ 250: 2500mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-CT: Cable track - Cable track

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	100W/20mm (H), 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)

* The payload is based on operation at the rated acceleration.

■BF□HB2H

Z-axis stroke \ Y-axis stroke	100~700
100	5.0
150	
200	
250	
300	
350	
400	
450	
500	

■BF□HB2M

Z-axis stroke \ Y-axis stroke	100~600	650	700
100	10.0	10.0	10.0
150		10.0	10.0
200		10.0	10.0
250		10.0	10.0
300		10.0	9.7
350		10.0	9.0
400		10.0	8.4
450		9.9	7.8
500		9.3	7.2

■BF□HB2L

Z-axis stroke \ Y-axis stroke	100~450	500	550	600	650	700
100	20.0	20.0	19.2	16.6	14.3	12.2
150		20.0	18.6	16.0	13.7	11.6
200		20.0	18.0	15.4	13.1	11.0
250		20.0	17.3	14.7	12.4	10.3
300		19.8	16.7	14.1	11.8	9.7
350		19.1	16.0	13.4	11.1	9.0
400		18.5	15.4	12.8	10.5	8.4
450		17.9	14.8	12.2	9.9	7.8
500		17.3	14.2	11.6	9.3	7.2

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

■BF□HB2H

	100~500	550~700	1000~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1150	1000	950	830	740	650	590	540	490	440	410	370	340
Y-axis	1200		—													
Z-axis	1200	—														

■BF□HB2M

	100~500	550~700	1000~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1150	1000	950	830	740	650	590	540	490	440	410	370	340
Y-axis	1200		—													
Z-axis	600	—														

■BF□HB2L

	100~500	550~700	1000~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1150	1000	950	830	740	650	590	540	490	440	410	370	340
Y-axis	1200		—													
Z-axis	300	—														

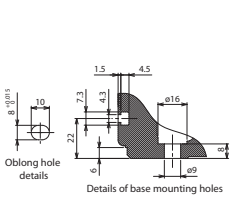
ICSB3 [ICSPB3]-BF□HB2□-CT-CT (Cable track specification)

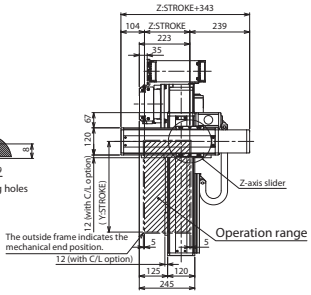
Dimensions

CAD drawings can be downloaded from our website.

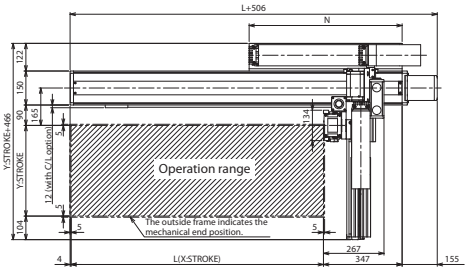
2D CAD 3D CAD RoHS

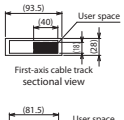
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

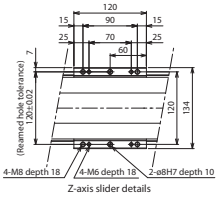


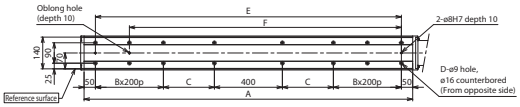


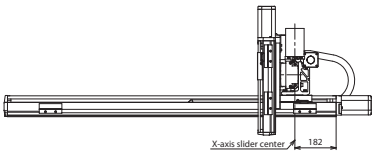
(Configuration direction: 1)



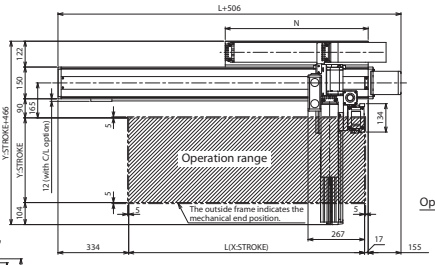


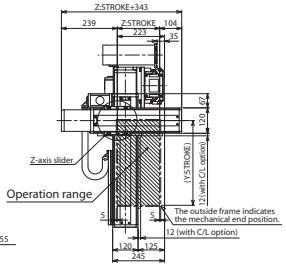


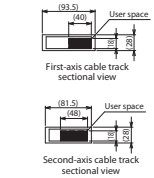


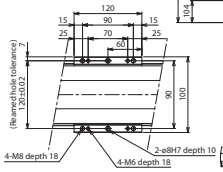


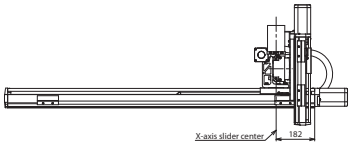
(Configuration direction: 3)

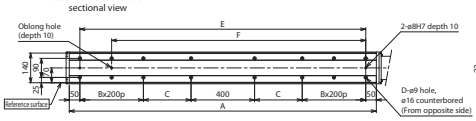


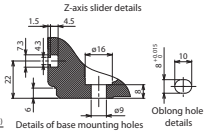








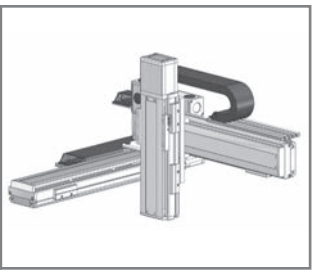




X-axis stroke	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
L	1014	1114	1214	1314	1414	1514	1614	1714	1814	1914	2014	2114	2214	2314	2414	2514
A	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850
B	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3
C	225	275	325	375	425	475	525	575	425	475	525	575	425	475	525	575
D	12	12	12	12	12	12	12	12	16	16	16	16	20	20	20	20
E	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750
F	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550
N	625	675	725	775	825	875	925	975	1025	1075	1125	1175	1225	1275	1325	1375

ICSB3-BF□HB3□
ICSPB3-BF□HB3□ High-Precision Specification

±10μm (Standard) / ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Long Type | X: Lg (400W) Y: Md (200W) Z: Md (200W)



■ Model Specification Items

□ — BF□HB3□ — WA — □□ — □□ — □□ — T2 — □ — □

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	100: 1000mm ~ 250: 2500mm (Every 100mm)	10: 100mm ~ 70: 700mm (Every 50mm)	10: 100mm ~ 50: 500mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

Refer to Options table below.

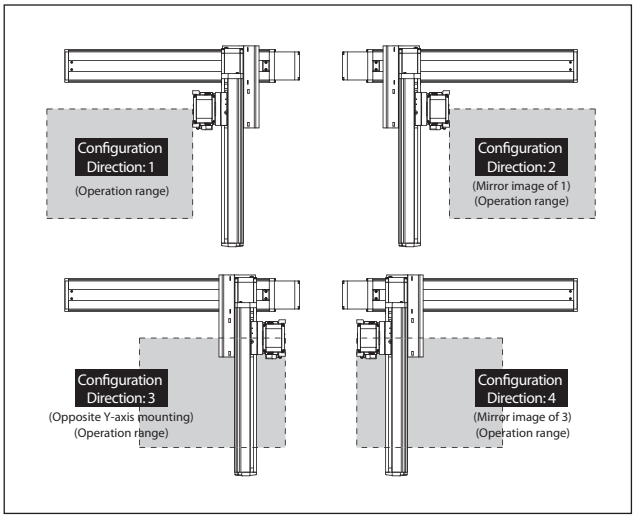
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BF1HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BF1HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BF2HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BF2HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BF3HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BF3HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BF4HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BF4HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-LXMX-①-400-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-200-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	100: 1000mm ~ 250: 2500mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-CT: Cable track - Cable track

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism *3	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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/20mm (H), 10mm (M)

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 0.4G. 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)

* The payload is based on operation at the rated acceleration.

■BF□HB3H

Z-axis stroke	Y-axis stroke 100~600	650	700
100	10.0	10.0	10.0
150		10.0	10.0
200		10.0	10.0
250		10.0	9.7
300		10.0	9.1
350		10.0	8.5
400		10.0	7.9
450		9.3	7.2
500		8.7	6.6

■BE□HB3M

Z-axis stroke	Y-axis stroke 100~450	500	550	600	650	700
100	20.0	20.0	18.7	16.1	13.8	11.7
150		20.0	18.0	15.4	13.1	11.0
200		20.0	17.4	14.8	12.5	10.4
250		19.8	16.7	14.1	11.8	9.7
300		19.2	16.1	13.5	11.2	9.1
350		18.6	15.5	12.9	10.6	8.5
400		18.0	14.9	12.3	10.0	7.9
450		17.3	14.2	11.6	9.3	7.2
500		16.7	13.6	11.0	8.7	6.6

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

■BF□HB3H

	100~500	550~700	1000~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1150	1000	950	830	740	650	590	540	490	440	410	370	340
Y-axis	1200			—												
Z-axis	1200	—														

■BF□HB3M

	100~500	550~700	1000~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1150	1000	950	830	740	650	590	540	490	440	410	370	340
Y-axis	1200			—												
Z-axis	600	—														

ICSB3 [ICSPB3]-BF□HB3□-CT-CT (Cable track specification)

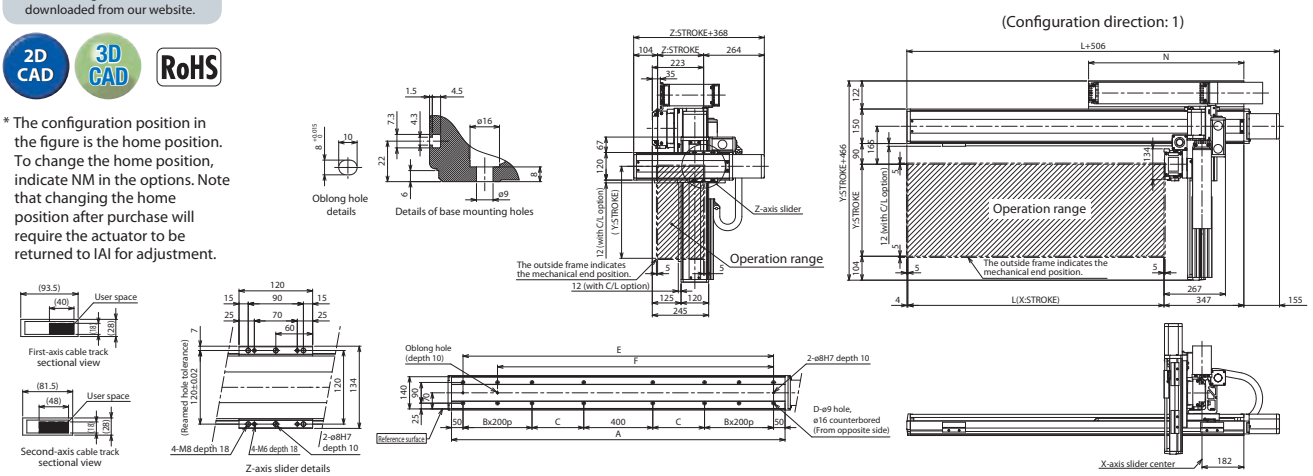
Dimensions

CAD drawings can be downloaded from our website.

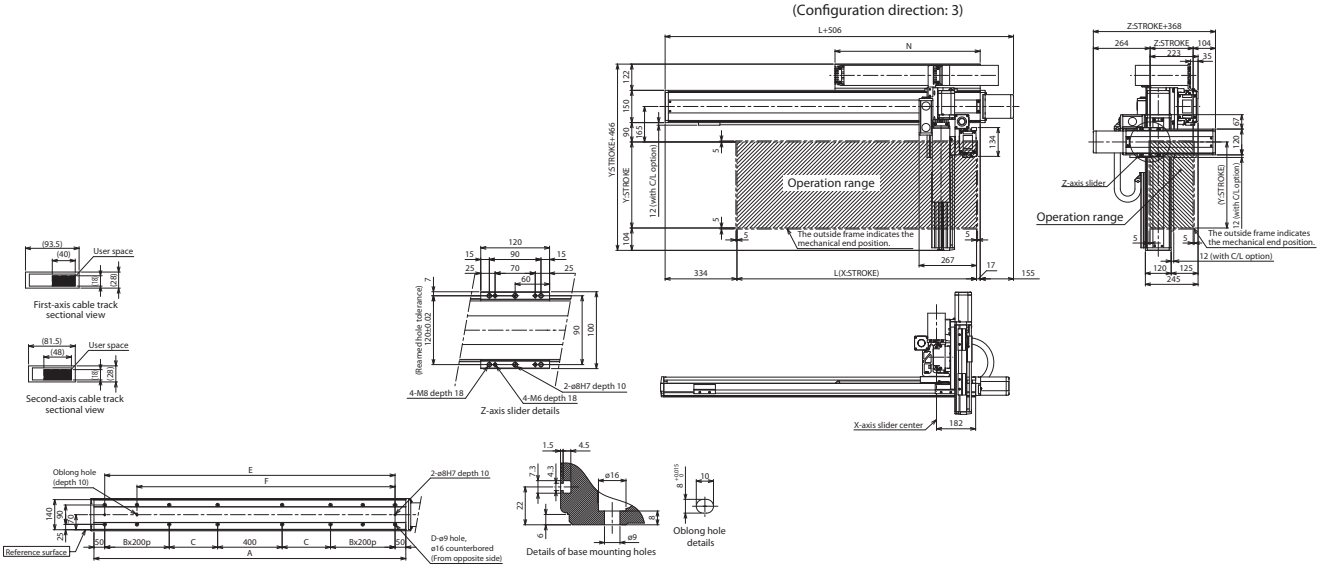
2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)



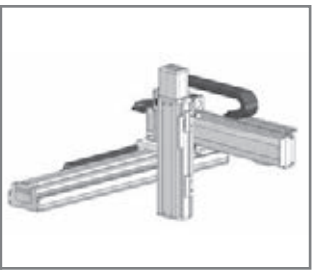
(Configuration direction: 3)



X-axis stroke	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
L	1014	1114	1214	1314	1414	1514	1614	1714	1814	1914	2014	2114	2214	2314	2414	2514
A	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850
B	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3
C	225	275	325	375	425	475	525	575	425	475	525	575	425	475	525	575
D	12	12	12	12	12	12	12	12	16	16	16	16	20	20	20	20
E	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750
F	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550
N	625	675	725	775	825	875	925	975	1025	1075	1125	1175	1225	1275	1325	1375

ICSB3-BK□HB3□
ICSPB3-BK□HB3□ High-Precision Specification

X ±20μm Y/Z ±10μm (Standard) / X ±10μm Y/Z ±5μm (High Precision) | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Type | X: XL (600W) Y: Lg (400W) Z: Md (200W)



■ Model Specification Items

□ — BK□HB3□ — □ — □ □ — □ □ — □ □ — □ □ — T2 — □ — □

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	A: Absolute I : Incremental	10: 100mm 〜 130: 1300mm <100: 1000mm> (Every 50mm) Refer to Options table below. * For self-standing cable specification	10: 100mm 〜 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm 〜 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

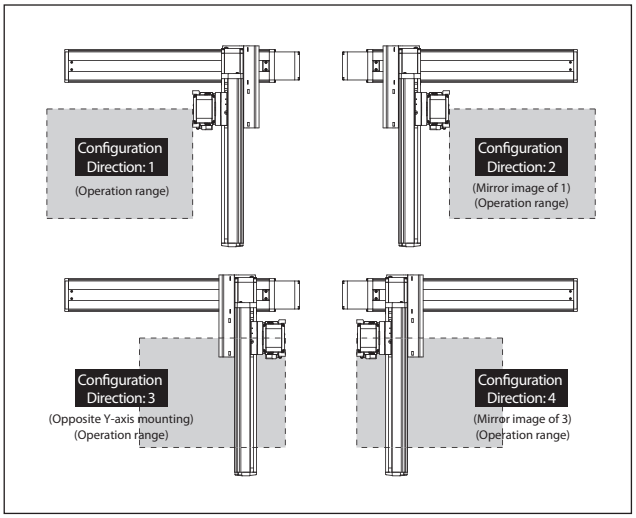
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BK1HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BK1HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BK2HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BK2HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BK3HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BK3HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BK4HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BK4HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISA[ISPA]-WXM-①-600-40-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-40-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	10: 100mm 〜 130: 1300mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm 〜 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm 〜 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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 *	A1/A3	See P.11, P.353
AQ seal (equipped as standard on Y/Z-axis)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2 (equipped as standard on X-axis)	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only)	RT	See P.354

*1 Brake option for Y-axis increases the length of the motor unit. 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.
* Please refer to P.11 for the X-axis cable exit direction.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.02mm, Y/Z-axis ±0.01mm [X-axis ±0.01mm, Y/Z-axis ±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	600W/40mm
Y-axis motor output/lead	400W/40mm
Z-axis motor output/lead	200W/20mm (H), 10mm (M)

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 20m.
(Note 3) The rated acceleration is 0.3G for X-axis and 0.4G for Y/Z-axis. 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)

* The payload is based on operation at the rated acceleration.

■BK□HB3H

Z-axis stroke \ Y-axis stroke	100~700
100	10.0
150	
200	
250	
300	
350	
400	
450	
500	

■BK□HB3M

Z-axis stroke \ Y-axis stroke	100~300	350	400	450	500	550	600	650	700
100	20.0	20.0	20.0	20.0	20.0	20.0	19.8	19.0	18.2
150		20.0	20.0	20.0	20.0	20.0	19.2	18.4	17.6
200		20.0	20.0	20.0	20.0	19.4	18.7	17.8	17.1
250		20.0	20.0	20.0	19.7	18.8	18.0	17.2	16.4
300		20.0	20.0	20.0	19.1	18.3	17.5	16.7	15.9
350		20.0	20.0	19.4	18.6	17.7	17.0	16.1	15.3
400		20.0	19.8	18.9	18.0	17.2	16.4	15.6	14.8
450		19.9	19.1	18.3	17.4	16.6	15.8	14.9	14.2
500		19.4	18.6	17.7	16.9	16.0	15.3	14.4	13.6

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

■BK□HB3H

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	2400			1840	1530	1290	1100	880
Y-axis	2400			—				
Z-axis	1200	—						

■BK□HB3M

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	2400			1840	1530	1290	1100	880
Y-axis	2400			—				
Z-axis	600	—						

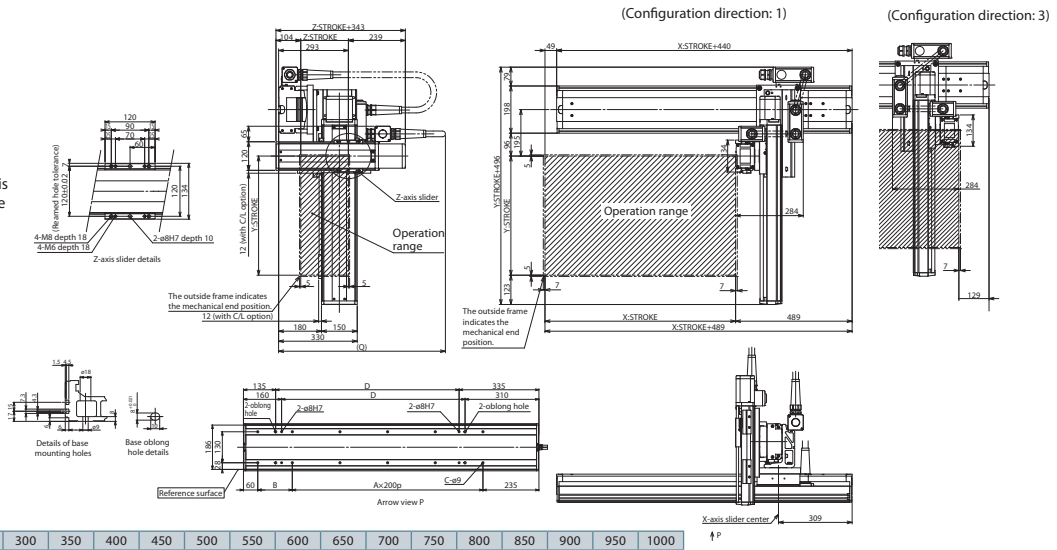
ICSB3 [ICSPB3]-BK□HB3□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	-	-	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
B	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145
C	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
D	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970

Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
Q	750	800	800	850	850	900	900	900	950	950	1000	1000	1050

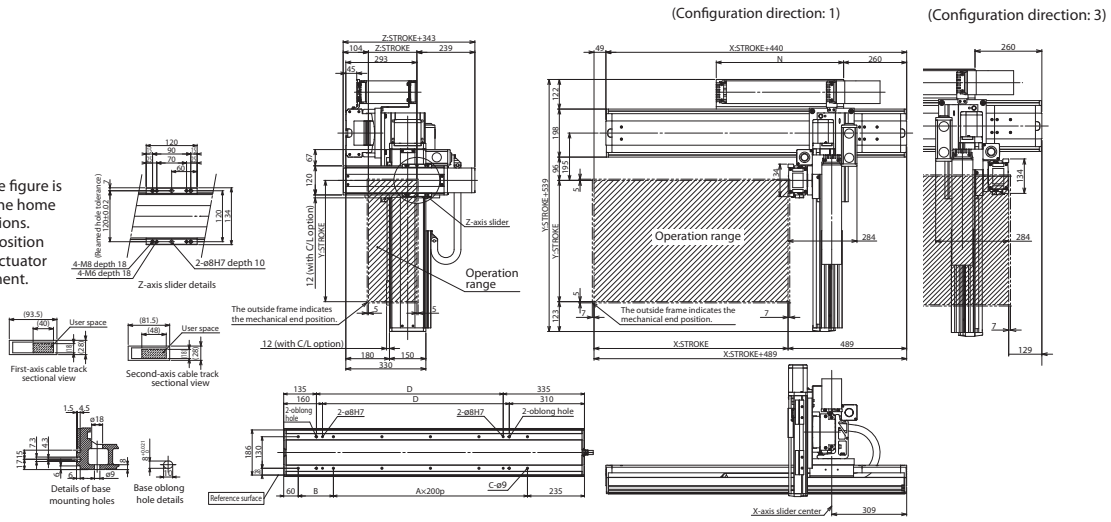
ICSB3 [ICSPB3]-BK□HB3□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

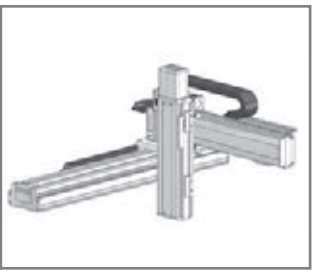


X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
A	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6
B	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245
C	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16
D	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775

ICSB3-BK□HB4H
ICSPB3-BK□HB4H High-Precision Specification

X ±20μm Y/Z ±10μm Standard
X ±10μm Y/Z ±5μm High Precision

X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Type | X: XL (600W) Y: Lg (400W) Z: Lg (400W)



Model Specification Items

□ — BK□HB4H — □ — □ — □□ — □□ — □□ — □□ — T2 — □ — □

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	A: Absolute I : Incremental	10: 100mm ~ 130: 1300mm <100: 1000mm> * (Every 50mm) Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

* For self-standing cable specification

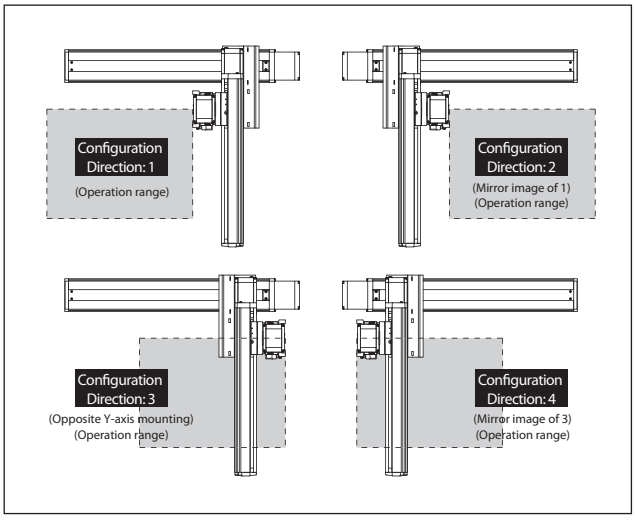
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BK1HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BK2HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BK3HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BK4HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISA[ISPA]-WXM-①-600-40-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-40-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-20-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	10: 100mm ~ 130: 1300mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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 *	A1/A3	See P.11, P.353
AQ seal (equipped as standard on Y/Z-axis)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2 (equipped as standard on X-axis)	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only)	RT	See P.354

*1 Brake option for Y-axis increases the length of the motor unit. 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.
* Please refer to P.11 for the X-axis cable exit direction.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.02mm, Y/Z-axis ±0.01mm [X-axis ±0.01mm, Y/Z-axis ±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	600W/40mm
Y-axis motor output/lead	400W/40mm
Z-axis motor output/lead	400W/20mm

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 20m.
(Note 3) The rated acceleration is 0.3G for X-axis and 0.4G for Y/Z-axis. 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)

* The payload is based on operation at the rated acceleration.

■BK□HB4H

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
100	20.0	20.0	20.0	20.0	20.0	20.0	19.8	19.0	18.1	17.3	16.5	15.7	14.9
150	20.0	20.0	20.0	20.0	20.0	19.8	19.0	18.2	17.3	16.5	15.7	14.9	14.1
200	20.0	20.0	20.0	20.0	19.8	19.0	18.2	17.4	16.5	15.7	14.9	14.0	13.3
250	20.0	20.0	20.0	19.8	19.0	18.2	17.4	16.6	15.7	14.9	14.1	13.2	12.5
300	20.0	20.0	19.9	19.1	18.3	17.5	16.7	15.8	15.0	14.1	13.4	12.5	11.7
350	20.0	20.0	19.1	18.3	17.5	16.7	15.9	15.0	14.2	13.3	12.6	11.7	10.9
400	19.9	19.3	18.4	17.6	16.8	15.9	15.2	14.3	13.5	12.6	11.8	11.0	10.2
450	19.1	18.5	17.6	16.7	16.0	15.1	14.4	13.5	12.6	11.8	11.0	10.2	9.4
500	18.3	17.6	16.8	15,9	15.2	14.3	13.5	12.7	11.8	11.0	10.2	9.4	8.6

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

■BK□HB4H

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	2400			1840	1530	1290	1100	880
Y-axis	2400		—					
Z-axis	1200	—						

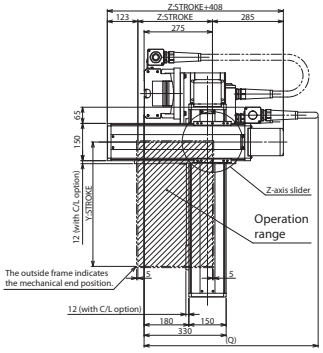
ICSB3 [ICSPB3]-BK□HB4H□-SC-SC (Self-standing cable specification)

Dimensions

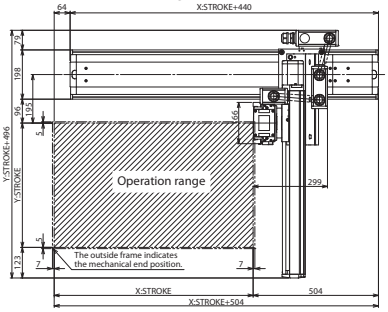
CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

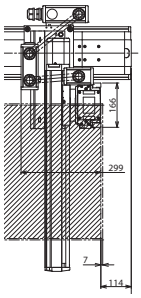
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

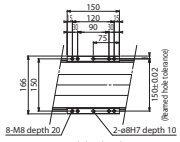


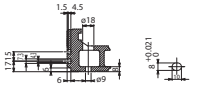
(Configuration direction: 1)

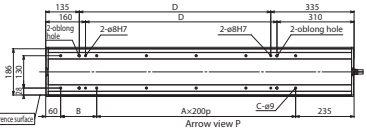


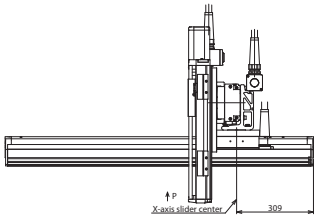
(Configuration direction: 3)











X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	-	-	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
B	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145
C	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
D	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970

Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
Q	750	800	800	850	850	900	900	900	950	950	1000	1000	1050

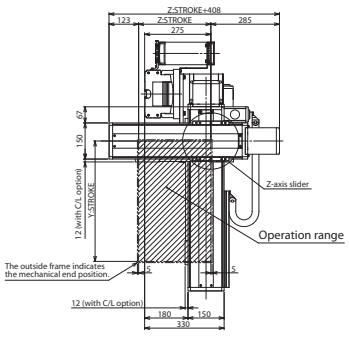
ICSB3 [ICSPB3]-BK□HB4H□-CT-CT (Cable track specification)

Dimensions

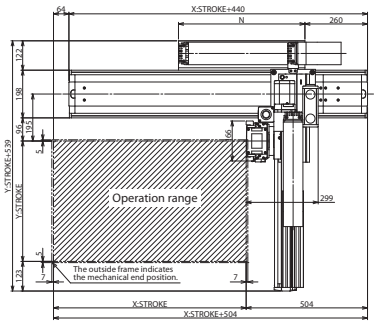
CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

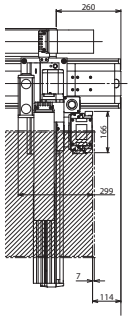
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

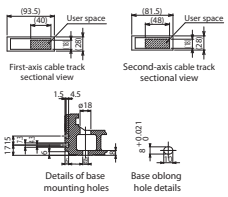


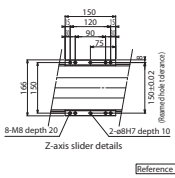
(Configuration direction: 1)

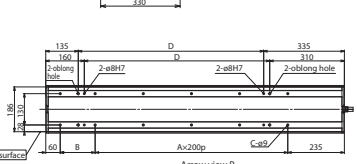


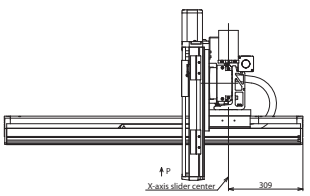
(Configuration direction: 3)







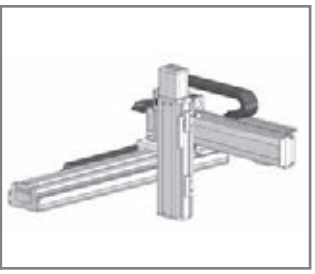




X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
A	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6
B	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245
C	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16
D	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775

ICSB3-BK□MB3M
ICSPB3-BK□MB3M High-Precision Specification

X ±20μm Y/Z ±10μm (Standard) / X ±10μm Y/Z ±5μm (High-Precision) | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | Medium Speed Type | X: XL (600W) Y: Lg (400W) Z: Md (200W)



■ Model Specification Items

□ — BK□MB3M — □ — □□ — □□ — □□ — □□ — T2 — □ — □

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	A: Absolute I: Incremental	10: 100mm ~ 130: 1300mm <100: 1000mm> (Every 50mm) * For self-standing cable specification Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

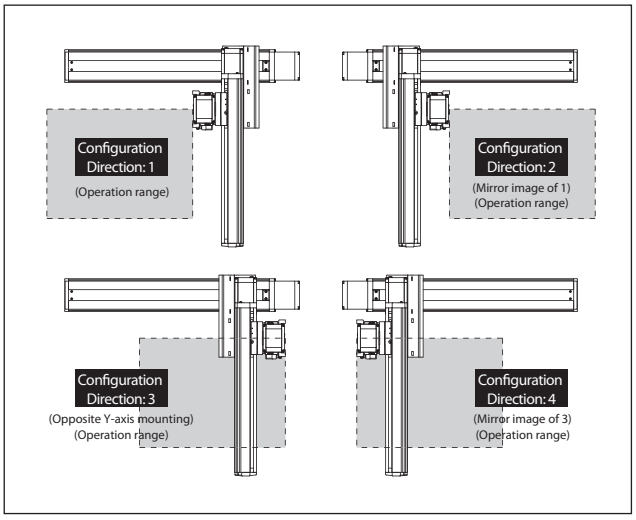
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BK1MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BK2MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BK3MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BK4MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISA[ISPA]-WXM-①-600-20-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-20-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-10-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	10: 100mm ~ 130: 1300mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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 *	A1/A3	See P.11, P.353
AQ seal (equipped as standard on Y/Z-axis)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2 (equipped as standard on X-axis)	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only)	RT	See P.354

*1 Brake option for Y-axis increases the length of the motor unit. 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.
* Please refer to P.11 for the X-axis cable exit direction.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.02mm, Y/Z-axis ±0.01mm [X-axis ±0.01mm, Y/Z-axis ±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	600W/20mm
Y-axis motor output/lead	400W/20mm
Z-axis motor output/lead	200W/10mm

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 20m.
(Note 3) The rated acceleration is 0.3G for X-axis and 0.4G for Y/Z-axis. 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)

* The payload is based on operation at the rated acceleration.

■BK□MB3M

Z-axis stroke	Y-axis stroke 100~650	Y-axis stroke 700
100	20.0	20.0
150		20.0
200		20.0
250		20.0
300		20.0
350		19.4
400		18.8
450		18.1
500		17.5

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

■BK□MB3M

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	1200			920	765	645	550	475
Y-axis	1200			—				
Z-axis	600	—						

ICSB3 [ICSPB3]-BK□MB3M□-SC-SC (Self-standing cable specification)

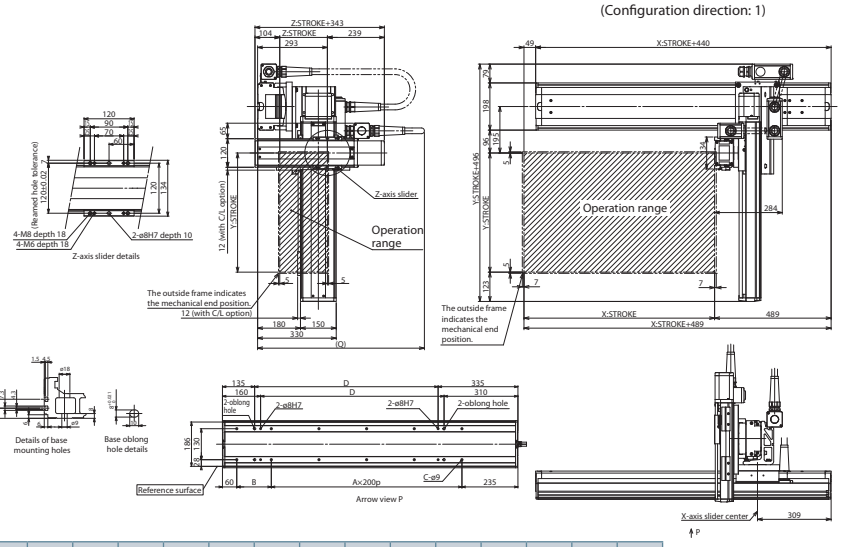
Dimensions

CAD drawings can be downloaded from our website.

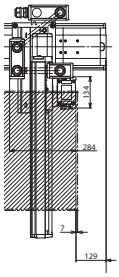
2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)



(Configuration direction: 3)



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	-	-	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
B	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145
C	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
D	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970

Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
Q	750	800	800	850	850	900	900	900	950	950	1000	1000	1050

ICSB3 [ICSPB3]-BK□MB3M□-CT-CT (Cable track specification)

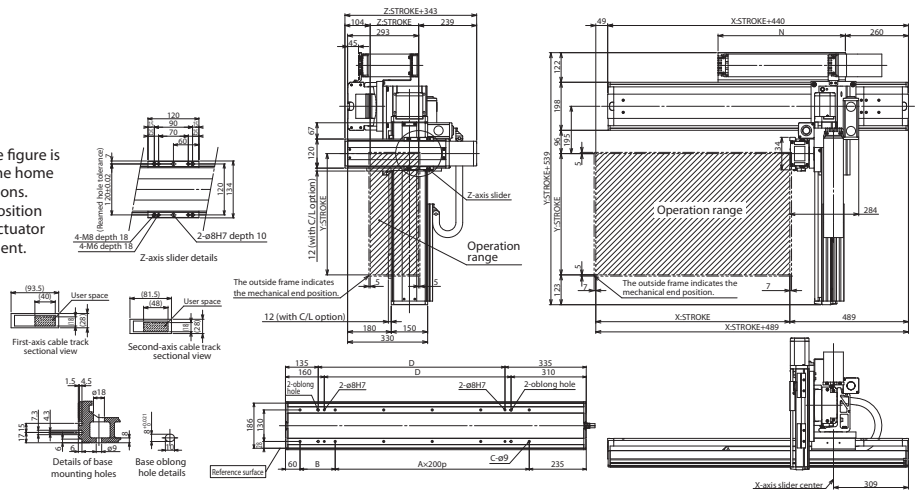
Dimensions

CAD drawings can be downloaded from our website.

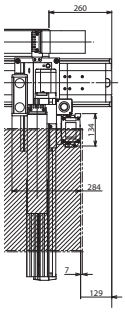
2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)



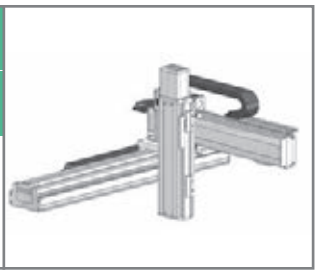
(Configuration direction: 3)



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
A	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6
B	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245
C	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16
D	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775

ICSB3-BK□MB4M
ICSPB3-BK□MB4M High-Precision Specification

X ±20μm Y/Z ±10μm (Standard)
X ±10μm Y/Z ±5μm (High-precision)
X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | Medium Speed Type | X: XL (600W) Y: Lg (400W) Z: Lg (400W)



■ Model Specification Items

□ — BK□MB4M — □ — □ □ — □ □ — □ □ — □ □ — T2 — □ — □

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	A: Absolute I : Incremental	10: 100mm ~ 130: 1300mm <100: 1000mm> (Every 50mm) * For self-standing cable specification	Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm)	Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm)	Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

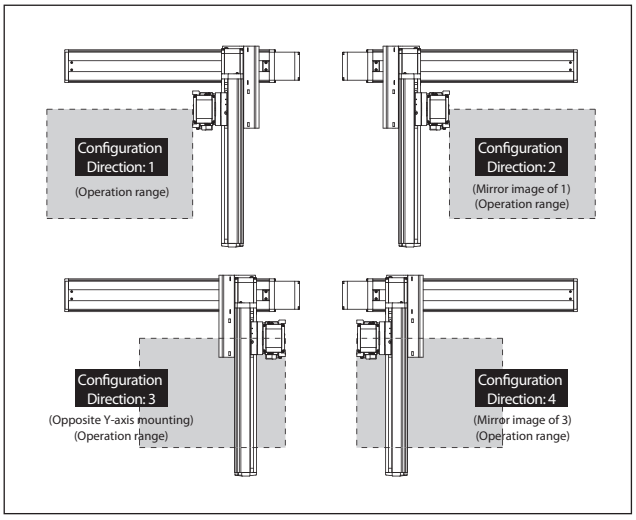
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BK1MB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BK2MB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BK3MB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BK4MB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISA[ISPA]-WXM-①-600-20-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-20-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-10-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	10: 100mm ~ 130: 1300mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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 *	A1/A3	See P.11, P.353
AQ seal (equipped as standard on Y/Z-axis)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2 (equipped as standard on X-axis)	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only)	RT	See P.354

*1 Brake option for Y-axis increases the length of the motor unit. 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.
* Please refer to P.11 for the X-axis cable exit direction.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.02mm, Y/Z-axis ±0.01mm [X-axis ±0.01mm, Y/Z-axis ±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	600W/20mm
Y-axis motor output/lead	400W/20mm
Z-axis motor output/lead	400W/10mm

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 20m.
(Note 3) The rated acceleration is 0.3G for X-axis and 0.4G for Y/Z-axis. 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)

* The payload is based on operation at the rated acceleration.

■BK□MB4M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
100	36.4	35.8	35.3	34.8	34.3	33.8	33.3	32.7	32.2	28.6	24.9	21.6	18.6
150	35.5	34.9	34.4	33.9	33.4	32.9	32.4	31.8	31.3	27.7	24.0	20.7	17.7
200	34.6	34.0	33.5	33.0	32.5	32.0	31.5	30.9	30.4	26.8	23.1	19.8	16.8
250	33.7	33.1	32.6	32.1	31.6	31.1	30.6	30.0	29.5	25.9	22.2	18.9	15.9
300	32.9	32.3	31.8	31.3	30.8	30.3	29.8	29.2	28.7	25.1	21.4	18.1	15.1
350	32.0	31.4	30.9	30.4	29.9	29.4	28.9	28.3	27.8	24.2	20.5	17.2	14.2
400	31.2	30.6	30.1	29.6	29.1	28.6	28.1	27.5	27.0	23.4	19.7	16.4	13.4
450	30.3	29.7	29.2	28.7	28.2	27.7	27.2	26.6	26.1	22.5	18.8	15.5	12.5
500	29.4	28.8	28.3	27.8	27.3	26.8	26.3	25.7	25.2	21.6	17.9	14.6	11.6

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

■BK□MB4M

	100~500	550~700	750~800	850~900	950~1000	1050~1100	1150~1200	1250~1300
X-axis	1200			920	765	645	550	475
Y-axis	1200		—					
Z-axis	600	—						

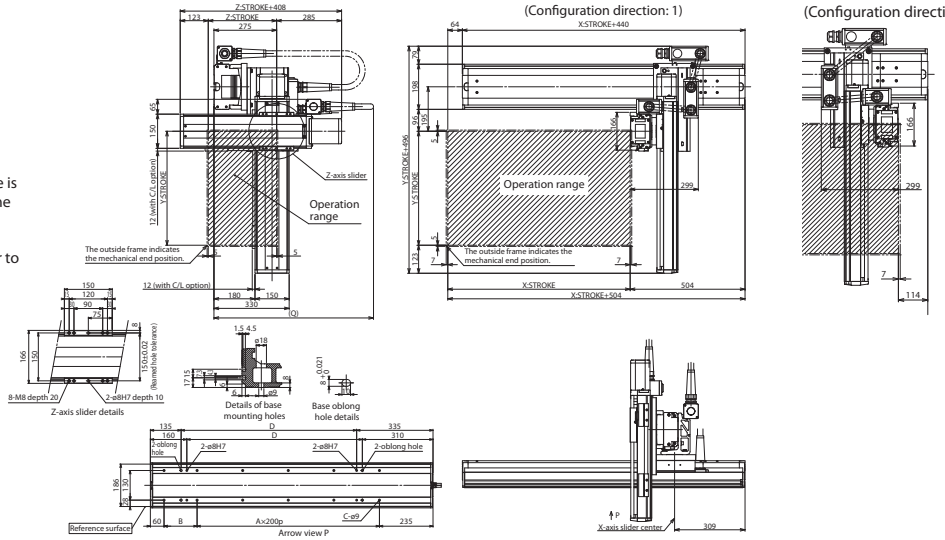
ICSB3 [ICSPB3]-BK□MB4M□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	-	-	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
B	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145
C	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
D	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970

Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
Q	750	800	800	850	850	900	900	900	950	950	1000	1000	1050

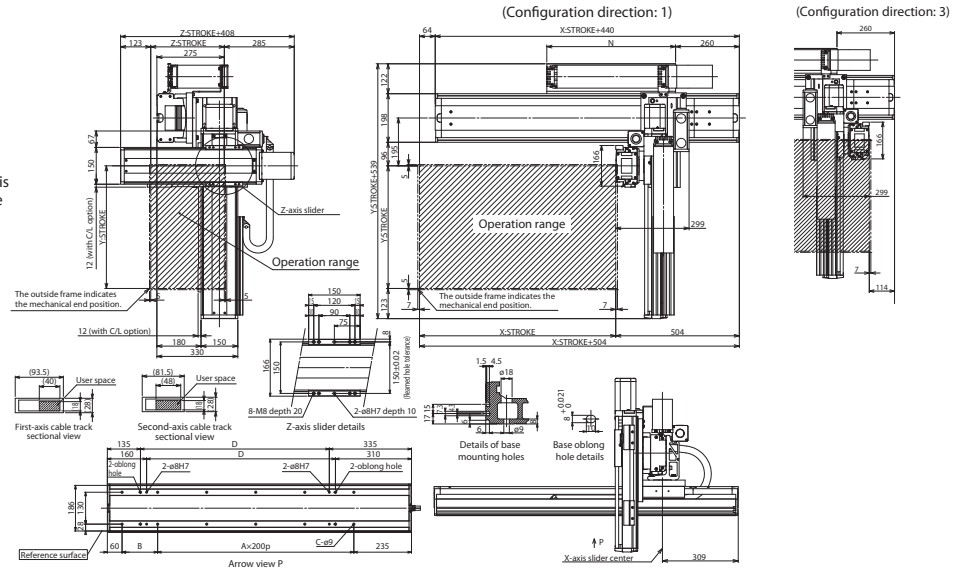
ICSB3 [ICSPB3]-BK□MB4M□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

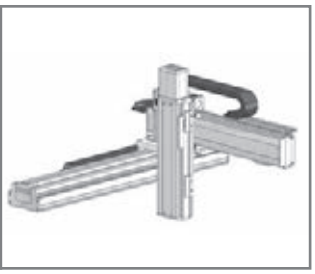
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
A	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6
B	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245
C	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16
D	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775

ICSB3-BL□HB3□
ICSPB3-BL□HB3□ High-Precision Specification

X ±20μm Y/Z ±10μm (Standard) / X ±10μm Y/Z ±5μm (High) | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Long Type | X: XL (600W) Y: Lg (400W) Z: Md (200W)



■ Model Specification Items

□ — BL□HB3□ — □ — □ □ — □ □ — □ □ — □ □ — T2 — □ — □

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	A: Absolute I: Incremental	90: 900mm ~ 250: 2500mm (Every 100mm) Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

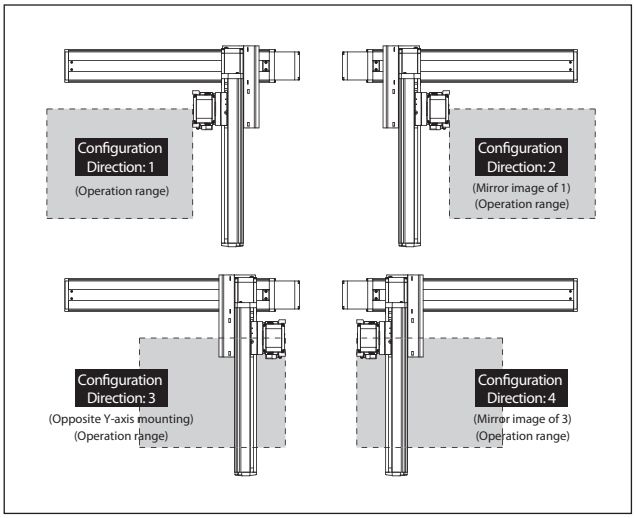
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BL1HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BL1HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BL2HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BL2HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BL3HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BL3HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BL4HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BL4HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISA[ISPA]-WXMX-①-600-40-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-40-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	90: 900mm ~ 250: 2500mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-CT: Cable track - Cable track

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 *	A1/A3	See P.11, P.353
AQ seal (equipped as standard on Y/Z-axis)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2 (equipped as standard on X-axis)	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only)	RT	See P.354

*1 Brake option for Y-axis increases the length of the motor unit. 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.
* Please refer to P.11 for the X-axis cable exit direction.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.02mm, Y/Z-axis ±0.01mm [X-axis ±0.01mm, Y/Z-axis ±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	600W/40mm
Y-axis motor output/lead	400W/40mm
Z-axis motor output/lead	200W/20mm (H), 10mm (M)

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 20m.
(Note 3) The rated acceleration is 0.3G for X-axis and 0.4G for Y/Z-axis. 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)

* The payload is based on operation at the rated acceleration.

■BL□HB3H

Z-axis stroke	Y-axis stroke 100~700
100	10.0
150	
200	
250	
300	
350	
400	
450	
500	

■BL□HB3M

Z-axis stroke	Y-axis stroke 100~300	350	400	450	500	550	600	650	700
100	20.0	20.0	20.0	20.0	20.0	20.0	19.8	19.0	18.2
150		20.0	20.0	20.0	20.0	20.0	19.2	18.4	17.6
200		20.0	20.0	20.0	20.0	19.4	18.7	17.8	17.1
250		20.0	20.0	20.0	19.7	18.8	18.0	17.2	16.4
300		20.0	20.0	20.0	19.1	18.3	17.5	16.7	15.9
350		20.0	20.0	19.4	18.6	17.7	17.0	16.1	15.3
400		20.0	19.8	18.9	18.0	17.2	16.4	15.6	14.8
450		19.9	19.1	18.3	17.4	16.6	15.8	14.9	14.2
500		19.4	18.6	17.7	16.9	16.0	15.3	14.4	13.6

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

■BL□HB3H

	100~500	550~700	900~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		2400	2200	1965	1725	1530	1365	1225	1110	1005	915	840	770	710	655
Y-axis	2400		—													
Z-axis	1200		—													

■BL□HB3M

	100~500	550~700	900~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		2400	2200	1965	1725	1530	1365	1225	1110	1005	915	840	770	710	655
Y-axis	2400		—													
Z-axis	600		—													

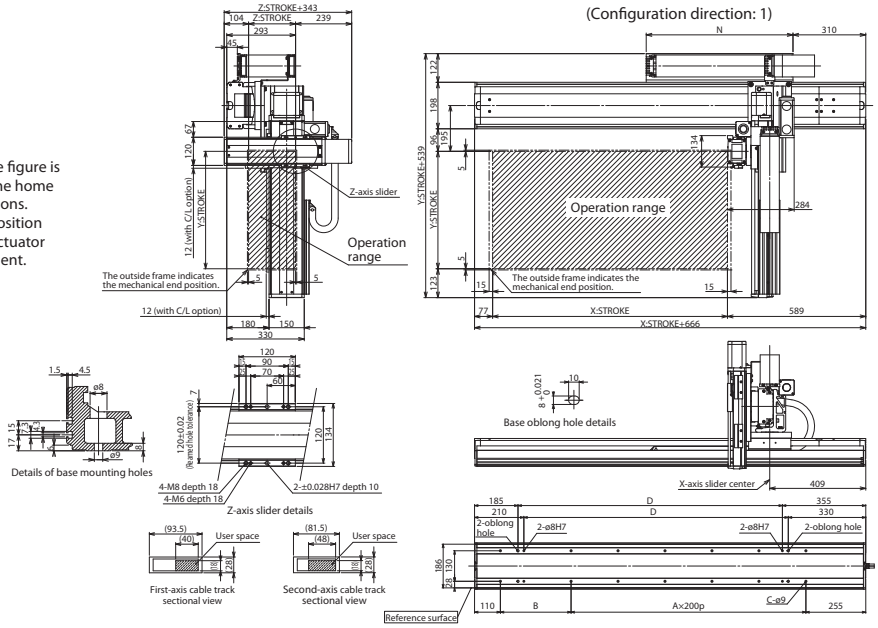
ICSB3 [ICSPB3]-BL□HB3□-CT-CT (Cable track specification)

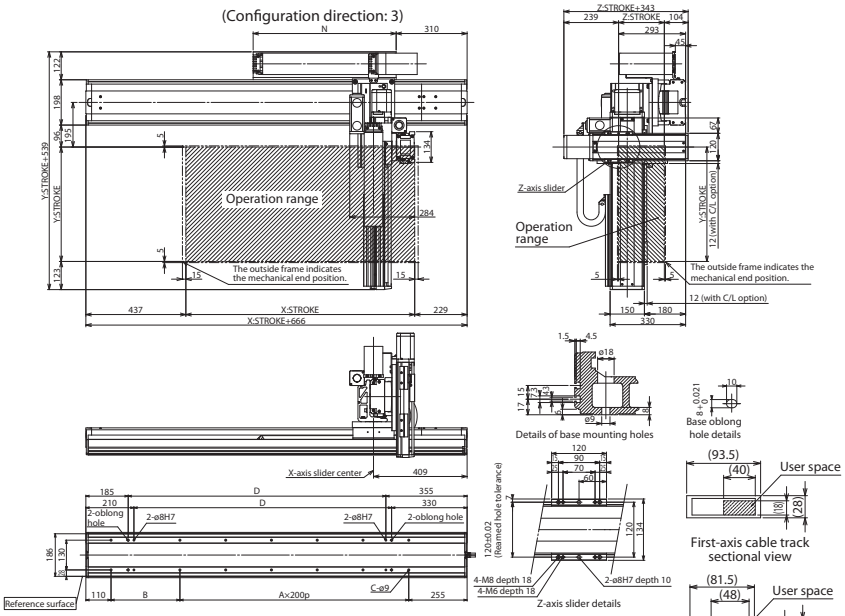
Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

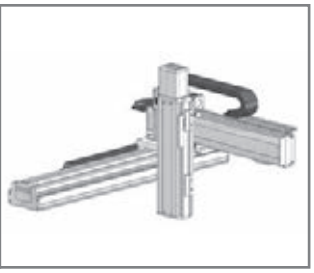




X-axis stroke	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
A	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
B	201	301	201	301	201	301	201	301	201	301	201	301	201	301	201	301	201
C	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30
D	1026	1126	1226	1326	1426	1526	1626	1726	1826	1926	2026	2126	2226	2326	2426	2526	2626
N	575	625	675	725	775	825	875	925	975	1025	1075	1125	1175	1225	1275	1325	1375

ICSB3-BL□HB4H
ICSPB3-BL□HB4H High-Precision Specification

X ±20μm Y/Z ±10μm (Standard) / X ±10μm Y/Z ±5μm (High Precision) | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | High Speed Long Type | X: XL (600W) Y: Lg (400W) Z: Lg (400W)



■ **Model Specification Items**

□ — BK□HB4H — □ — □□ — □□ — □□ — □□ — **T2** — □ — □

- **Series**: ICSB3: Standard 3-axis specification; ICSPB3: High precision 3-axis specification
- **Type**: Refer to Model Specification table below
- **Encoder Type**: A: Absolute; I: Incremental
- **X-axis Stroke/Option**: 90: 900mm ~ 250: 2500mm (Every 100mm); Refer to Options table below.
- **Y-axis Stroke/Option**: 10: 100mm ~ 70: 700mm (Every 50mm); Refer to Options table below.
- **Z-axis Stroke/Option**: 10: 100mm ~ 50: 500mm (Every 50mm); Refer to Options table below.
- **Applicable Controllers**: T2: SCON, SSEL, XSEL-P/Q, XSEL-RA/SA* (*Coming soon)
- **Cable Length**: 3L: 3m; 5L: 5m; □L: Specified length
- **Y-axis - Z-axis Cable Management**: Refer to Explanation of Model Designations below

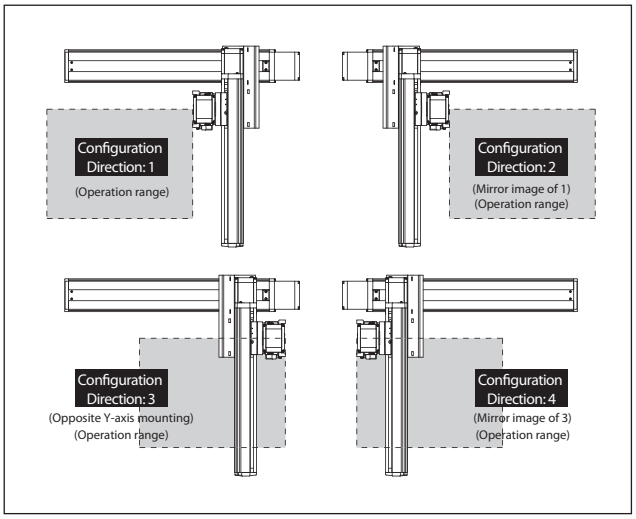
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BL1HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BL2HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BL3HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BL4HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISA[ISPA]-WXMX-①-600-40-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-40-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-20-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	90: 900mm ~ 250: 2500mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-CT: Cable track - Cable track

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 *	A1/A3	See P.11, P.353
AQ seal (equipped as standard on Y/Z-axis)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2 (equipped as standard on X-axis)	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only)	RT	See P.354

*1 Brake option for Y-axis increases the length of the motor unit. 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.
* Please refer to P.11 for the X-axis cable exit direction.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.02mm, Y/Z-axis ±0.01mm [X-axis ±0.01mm, Y/Z-axis ±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	600W/40mm
Y-axis motor output/lead	400W/40mm
Z-axis motor output/lead	400W/20mm

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 20m.
(Note 3) The rated acceleration is 0.3G for X-axis and 0.4G for Y/Z-axis. 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)

* The payload is based on operation at the rated acceleration.

■BL□HB4H

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
100	20.0	20.0	20.0	20.0	20.0	20.0	19.8	19.0	18.1	17.3	16.5	15.7	14.9
150	20.0	20.0	20.0	20.0	20.0	19.8	19.0	18.2	17.3	16.5	15.7	14.9	14.1
200	20.0	20.0	20.0	20.0	19.8	19.0	18.2	17.4	16.5	15.7	14.9	14.0	13.3
250	20.0	20.0	20.0	19.8	19.0	18.2	17.4	16.6	15.7	14.9	14.1	13.2	12.5
300	20.0	20.0	19.9	19.1	18.3	17.5	16.7	15.8	15.0	14.1	13.4	12.5	11.7
350	20.0	20.0	19.1	18.3	17.5	16.7	15.9	15.0	14.2	13.3	12.6	11.7	10.9
400	19.9	19.3	18.4	17.6	16.8	15.9	15.2	14.3	13.5	12.6	11.8	11.0	10.2
450	19.1	18.5	17.6	16.7	16.0	15.1	14.4	13.5	12.6	11.8	11.0	10.2	9.4
500	18.3	17.6	16.8	15.9	15.2	14.3	13.5	12.7	11.8	11.0	10.2	9.4	8.6

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

■BL□HB4H

	100~500	550~700	900~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		2400	2200	1965	1725	1530	1365	1225	1110	1005	915	840	770	710	655
Y-axis	2400		—													
Z-axis	1200	—														

ICSB3 [ICSPB3]-BL□HB4H-CT-CT (Cable track specification)

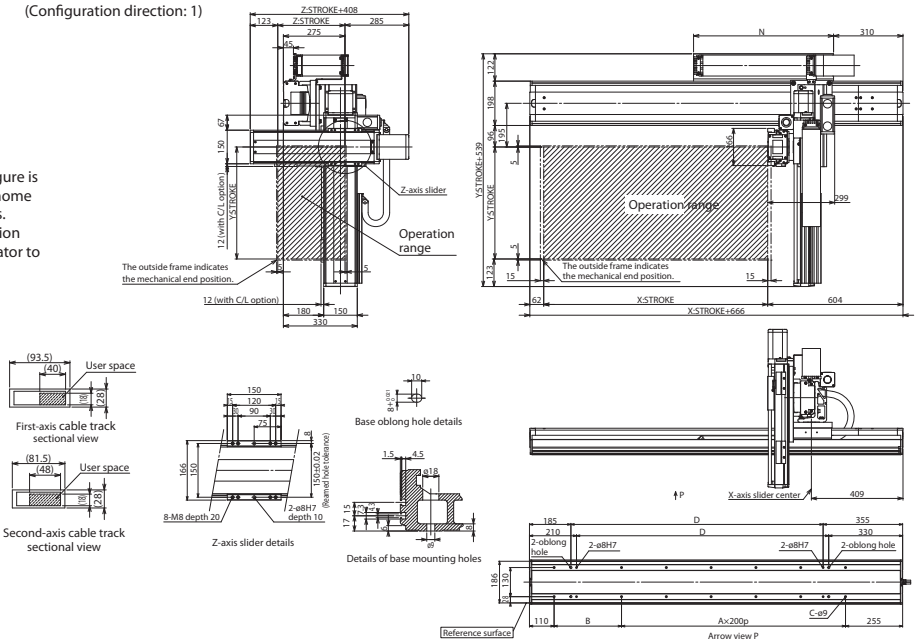
Dimensions

CAD drawings can be downloaded from our website.

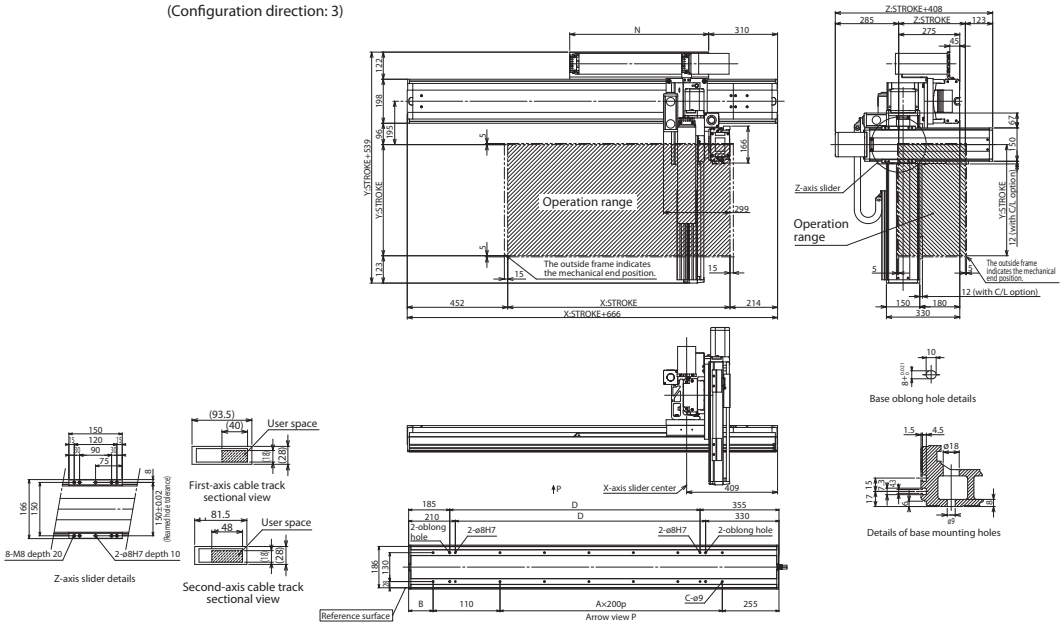
2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)



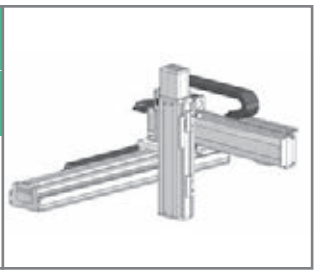
(Configuration direction: 3)



X-axis stroke	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
A	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
B	201	301	201	301	201	301	201	301	201	301	201	301	201	301	201	301	201
C	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30
D	1026	1126	1226	1326	1426	1526	1626	1726	1826	1926	2026	2126	2226	2326	2426	2526	2626
N	575	625	675	725	775	825	875	925	975	1025	1075	1125	1175	1225	1275	1325	1375

ICSB3-BL□MB3M
ICSPB3-BL□MB3M High-Precision Specification

X ±20μm Y/Z ±10μm (Standard) / X ±10μm Y/Z ±5μm (High-Precision) | X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | Medium Speed Long Type | X: XL (600W) Y: Lg (400W) Z: Md (200W)



■ Model Specification Items

□ — BL□MB3M — □ — □ □ — □ □ — □ □ — □ □ — T2 — □ — □

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	A: Absolute I : Incremental	90: 900mm ~ 250: 2500mm (Every 100mm) Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

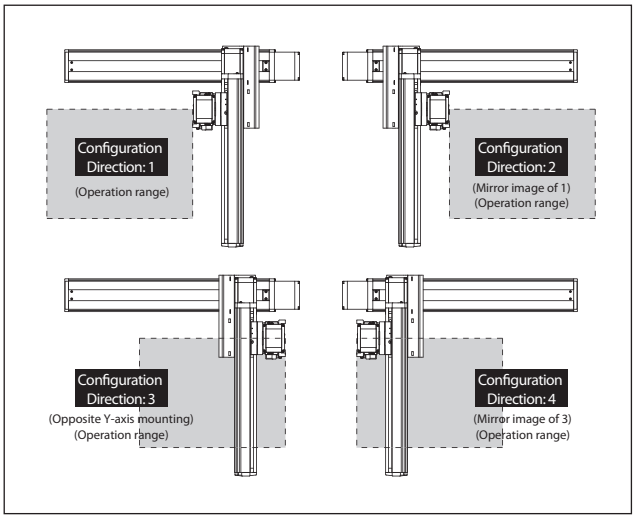
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BL1MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BL2MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BL3MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BL4MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISA[ISPA]-WXMX-①-600-20-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-20-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-10-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	90: 900mm ~ 250: 2500mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-CT: Cable track - Cable track

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 *	A1/A3	See P.11, P.353
AQ seal (equipped as standard on Y/Z-axis)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2 (equipped as standard on X-axis)	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only)	RT	See P.354

*1 Brake option for Y-axis increases the length of the motor unit. 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.
* Please refer to P.11 for the X-axis cable exit direction.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.02mm, Y/Z-axis ±0.01mm [X-axis ±0.01mm, Y/Z-axis ±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	600W/20mm
Y-axis motor output/lead	400W/20mm
Z-axis motor output/lead	200W/10mm

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 20m.
(Note 3) The rated acceleration is 0.3G for X-axis and 0.4G for Y/Z-axis. 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)

* The payload is based on operation at the rated acceleration.

■BL□MB3M

Z-axis stroke	Y-axis stroke 100~650	Y-axis stroke 700
100	20.0	20.0
150		20.0
200		20.0
250		20.0
300		20.0
350		19.4
400		18.8
450		18.1
500		17.5

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

■BL□MB3M

	100~500	550~700	900~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1100	980	860	765	680	610	555	500	455	420	385	355	325
Y-axis	1200		—													
Z-axis	600	—														

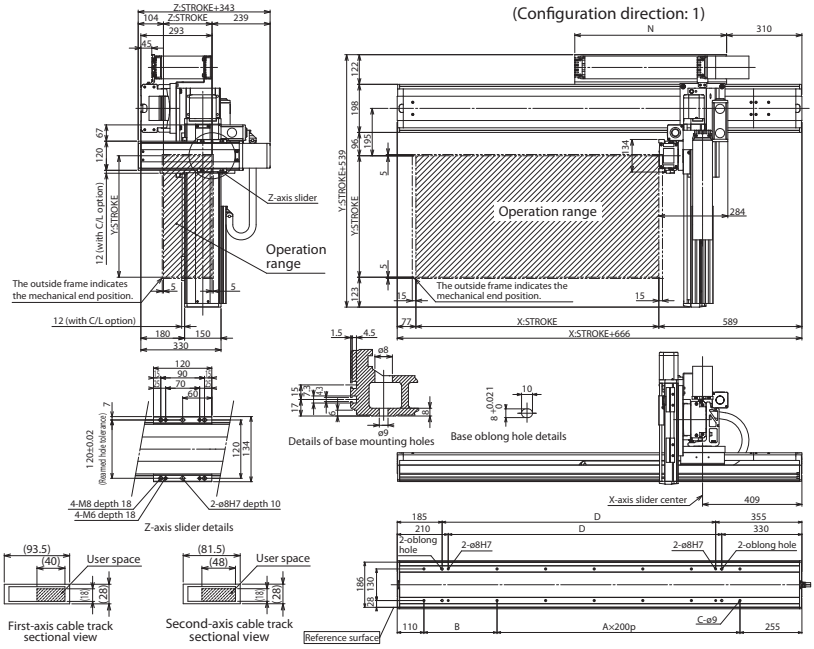
ICSB3 [ICSPB3]-BL□MB3M-CT-CT (Cable track specification)

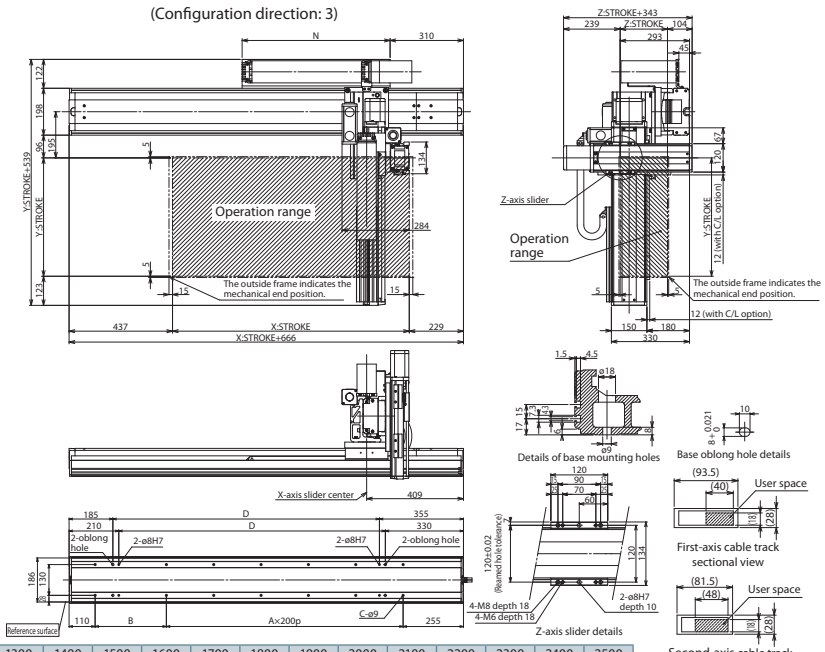
Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

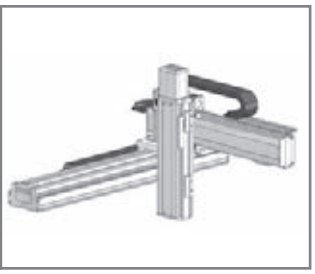




X-axis stroke	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
A	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
B	201	301	201	301	201	301	201	301	201	301	201	301	201	301	201	301	201
C	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30
D	1026	1126	1226	1326	1426	1526	1626	1726	1826	1926	2026	2126	2226	2326	2426	2526	2626
N	575	625	675	725	775	825	875	925	975	1025	1075	1125	1175	1225	1275	1325	1375

ICSB3-BL□MB4M
ICSPB3-BL□MB4M High-Precision Specification

X ±20μm Y/Z ±10μm (Standard)
X ±10μm Y/Z ±5μm (High-precision)
X-Y-Z 3-axis | XYB+ZB (Y, Z Base Mount) | Medium Speed Long Type | X: XL (600W) Y: Lg (400W) Z: Lg (400W)



■ Model Specification Items

□ — BL□MB4M — □ — □ □ — □ □ — □ □ — □ □ — T2 — □ — □

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	A: Absolute I: Incremental	90: 900mm ~ 250: 2500mm (Every 100mm)	10: 100mm ~ 70: 700mm (Every 50mm)	10: 100mm ~ 50: 500mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

Refer to Options table below. (X-axis, Y-axis, Z-axis)

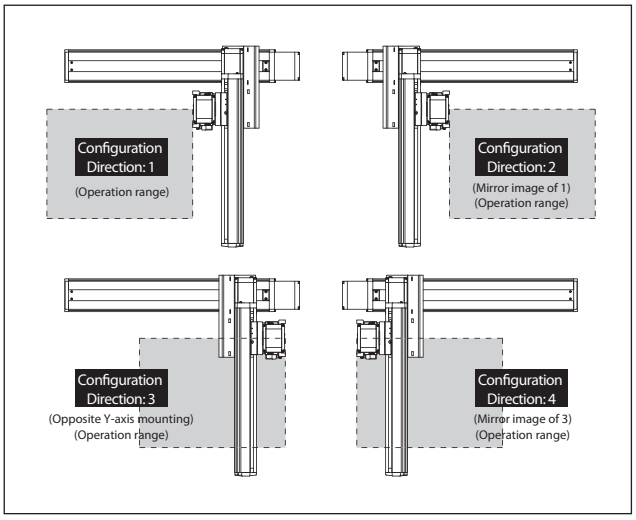
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BL1MB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BL2MB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BL3MB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BL4MB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISA[ISPA]-WXMX-①-600-20-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-20-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-10-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	90: 900mm ~ 250: 2500mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-CT: Cable track - Cable track

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 *	A1/A3	See P.11, P.353
AQ seal (equipped as standard on Y/Z-axis)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2 (equipped as standard on X-axis)	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only)	RT	See P.354

*1 Brake option for Y-axis increases the length of the motor unit. 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.
* Please refer to P.11 for the X-axis cable exit direction.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.02mm, Y/Z-axis ±0.01mm [X-axis ±0.01mm, Y/Z-axis ±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	600W/20mm
Y-axis motor output/lead	400W/20mm
Z-axis motor output/lead	400W/10mm

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 20m.
(Note 3) The rated acceleration is 0.3G for X-axis and 0.4G for Y/Z-axis. 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)

* The payload is based on operation at the rated acceleration.

■BL□MB4M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
100	36.4	35.8	35.3	34.8	34.3	33.8	33.3	32.7	32.2	28.6	24.9	21.6	18.6
150	35.5	34.9	34.4	33.9	33.4	32.9	32.4	31.8	31.3	27.7	24.0	20.7	17.7
200	34.6	34.0	33.5	33.0	32.5	32.0	31.5	30.9	30.4	26.8	23.1	19.8	16.8
250	33.7	33.1	32.6	32.1	31.6	31.1	30.6	30.0	29.5	25.9	22.2	18.9	15.9
300	32.9	32.3	31.8	31.3	30.8	30.3	29.8	29.2	28.7	25.1	21.4	18.1	15.1
350	32.0	31.4	30.9	30.4	29.9	29.4	28.9	28.3	27.8	24.2	20.5	17.2	14.2
400	31.2	30.6	30.1	29.6	29.1	28.6	28.1	27.5	27.0	23.4	19.7	16.4	13.4
450	30.3	29.7	29.2	28.7	28.2	27.7	27.2	26.6	26.1	22.5	18.8	15.5	12.5
500	29.4	28.8	28.3	27.8	27.3	26.8	26.3	25.7	25.2	21.6	17.9	14.6	11.6

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

■BL□MB4M

	100~500	550~700	900~1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1100	980	860	765	680	610	555	500	455	420	385	355	325
Y-axis	1200		—													
Z-axis	600	—														

ICSB3 [ICSPB3]-BL□MB4M-CT-CT (Cable track specification)

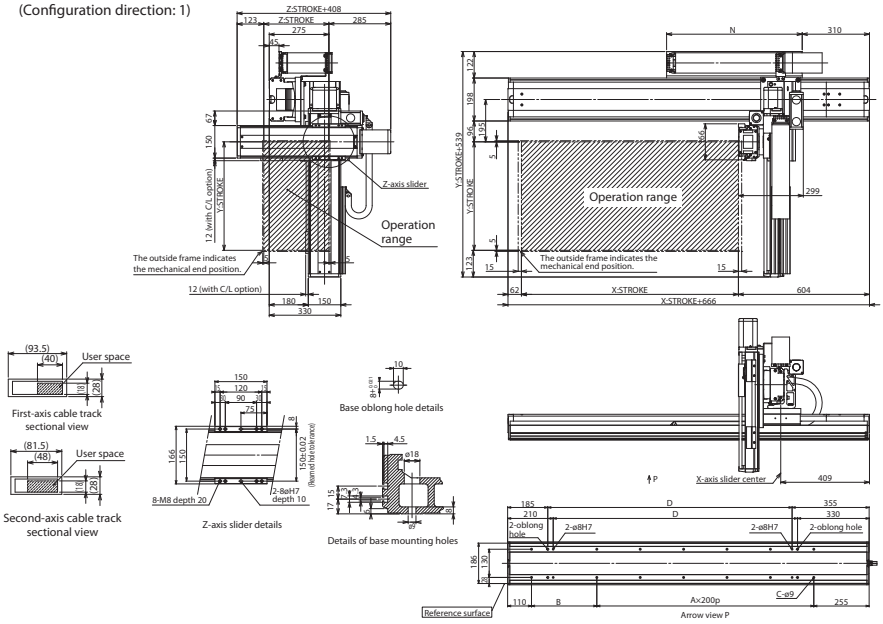
Dimensions

CAD drawings can be downloaded from our website.

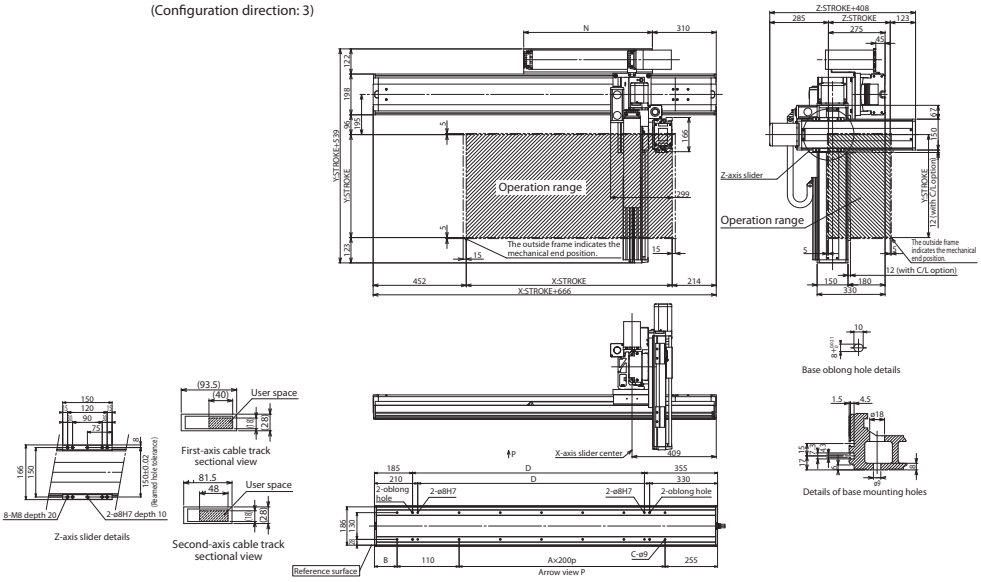
2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)



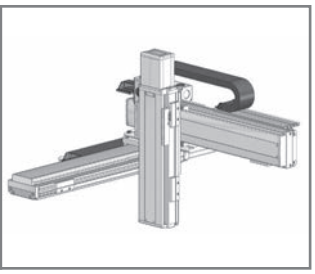
(Configuration direction: 3)



X-axis stroke	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
A	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
B	201	301	201	301	201	301	201	301	201	301	201	301	201	301	201	301	201
C	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30
D	1026	1126	1226	1326	1426	1526	1626	1726	1826	1926	2026	2126	2226	2326	2426	2526	2626
N	575	625	675	725	775	825	875	925	975	1025	1075	1125	1175	1225	1275	1325	1375

ICSB3-BM□HB4H
ICSPB3-BM□HB4H High-Precision Specification

X ±5μm Y/Z ±10μm
±5μm (High-Precision)
X-Y-Z 3-axis
XYB+ZB (Y, Z Base Mount)
High Speed Type
X: Lg (750W) Y: Lg (400W) Z: Lg (400W)



■ Model Specification Items

□ — BM□HB4H — □ — □ □ — □ □ — □ □ — □ □ — T2 — □ — □

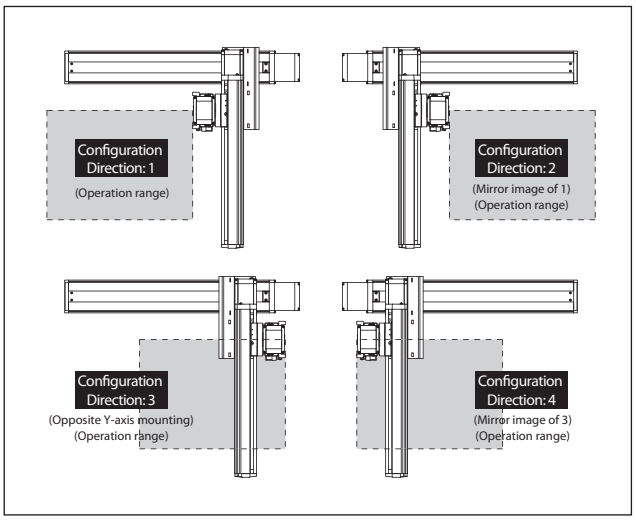
Series	Type	Encoder Type	X-axis Stroke/Option	Y-axis Stroke/Option	Z-axis Stroke/Option	Applicable Controllers	Cable Length	Y-axis - Z-axis Cable Management
ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification	Refer to Model Specification table below	A: Absolute I : Incremental	10: 100mm ~ 150: 1500mm <100: 1000mm> (Every 50mm) Refer to Options table below. * For self-standing cable specification	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	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	H	ICSB3[ICSPB3]-BM1HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BM2HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BM3HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BM4HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



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

Name of axis	Model	Reference page
X-axis	SSPA-LXM-①-750-50-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-40-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-20-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	10: 100mm ~ 150: 1500mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism	RT	See P.354

*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.
* 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.

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.005mm, Y/Z-axis ±0.01mm [X-axis ±0.005mm, Y/Z-axis ±0.005mm]
Lost motion	X-axis ±0.02mm or less, Y/Z-axis ±0.05mm or less [X-axis ±0.02mm or less, Y/Z-axis ±0.02mm or less]
Guide	Integrated with base
Base	Material: Aluminum with white alumite treatment
X-axis motor output/lead	750W/50mm
Y-axis motor output/lead	400W/40mm
Z-axis motor output/lead	400W/20mm

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 20m.
(Note 3) The rated acceleration is 0.4G. 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)

* The payload is based on operation at the rated acceleration.

■BM□HB4H

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
100	20.0	20.0	20.0	20.0	20.0	20.0	19.8	19.0	18.1	17.3	16.5	15.7	13.0
150	20.0	20.0	20.0	20.0	20.0	19.8	19.0	18.2	17.3	16.5	15.7	14.8	12.1
200	20.0	20.0	20.0	20.0	19.8	19.0	18.2	17.4	16.5	15.7	14.9	13.9	11.2
250	20.0	20.0	20.0	19.8	19.0	18.2	17.4	16.6	15.7	14.9	14.1	13.0	10.3
300	20.0	20.0	19.9	19.1	18.3	17.5	16.7	15.8	15.0	14.1	13.4	12.2	9.5
350	20.0	20.0	19.1	18.3	17.5	16.7	15.9	15.0	14.2	13.3	12.6	11.3	8.6
400	19.9	19.3	18.4	17.6	16.8	15.9	15.2	14.3	13.5	12.6	11.8	10.5	7.8
450	19.1	18.5	17.6	16.7	16.0	15.1	14.4	13.5	12.6	11.8	11.0	9..6	6.9
500	18.3	17.6	16.8	15,9	15.2	14.3	13.5	12.7	11.8	11.0	10.2	8.7	6.0

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

■BM□HB4H

	100~500	550~700	750~900	950~1000	1050~1100	1150~1200	1250~1300	1400	1500
X-axis	2500			2320	1950	1660	1440	1250	1100
Y-axis	2400			—					
Z-axis	1200	—							

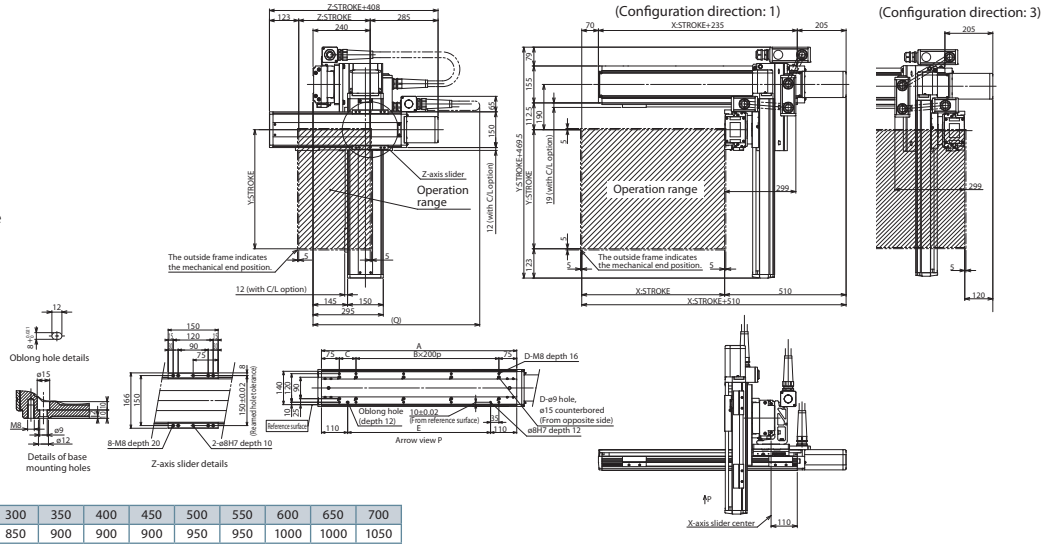
ICSB3 [ICSPB3]-BM□HB4H-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
Q	750	800	800	850	850	900	900	900	950	950	1000	1000	1050

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000

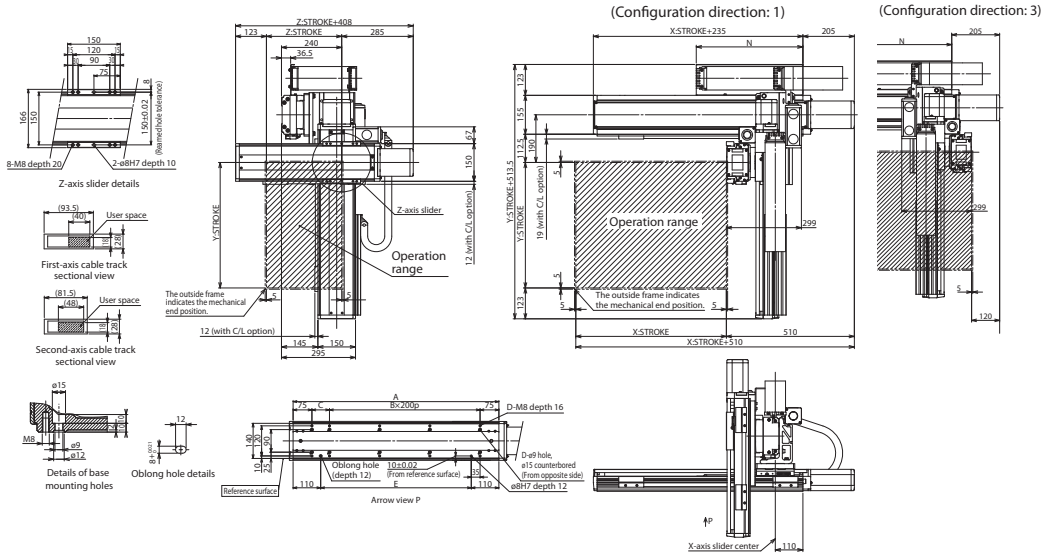
ICSB3 [ICSPB3]-BM□HB4H-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

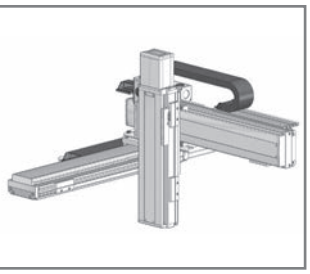
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
A	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	1320	1370	1420	1470	1520	1570	1620	1670	1720
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7
C	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
E	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775	800	825	850	875

ICSB3-BM□MB4M
ICSPB3-BM□MB4M High-Precision Specification

X ±5μm Y/Z ±10μm
±5μm (High-Precision)
X-Y-Z 3-axis
XYB+ZB (Y, Z Base Mount)
Medium Speed Type
X: Lg (750W) Y: Lg (400W) Z: Lg (400W)



■ Model Specification Items

□ — BM□MB4M — □ — □□ — □□ — □□ — □□ — T2 — □ — □

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	A: Absolute I: Incremental	10: 100mm ~ 150: 1500mm <100: 1000mm> (Every 50mm) Refer to Options table below. * For self-standing cable specification	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** ** Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

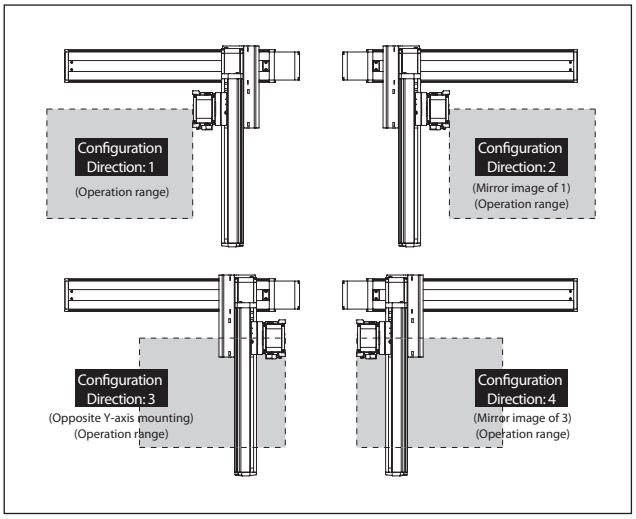
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BM1MB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BM2MB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BM3MB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BM4MB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	SSPA-LXM-①-750-25-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-20-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-10-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	10: 100mm ~ 150: 1500mm (100: 1000mm) *1
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 CT-CT: Cable track - Cable track

*1 The maximum X-axis stroke is 1000mm for the self-standing cable specification.

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.353
AQ seal (Standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification	NM	See P.353
Guide with ball-retaining mechanism (Y/X-axis only)	RT	See P.354

*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.
* 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.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.005mm, Y/Z-axis ±0.01mm [X-axis ±0.005mm, Y/Z-axis ±0.005mm]
Lost motion	X-axis ±0.02mm or less, Y/Z-axis ±0.05mm or less [X-axis ±0.02mm or less, Y/Z-axis ±0.02mm or less]
Guide	Integrated with base
Base	Material: Aluminum with white alumite treatment
X-axis motor output/lead	750W/25mm
Y-axis motor output/lead	400W/20mm
Z-axis motor output/lead	400W/10mm

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 20m.
(Note 3) The rated acceleration is 0.4G. 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)

* The payload is based on operation at the rated acceleration.

■BM□MB4M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
100	33.1	32.6	32.0	31.5	31.0	30.5	30.0	29.4	25.8	22.0	18.7	15.7	13.0
150	32.2	31.7	31.1	30.6	30.1	29.6	29.1	28.5	24.9	21.1	17.8	14.8	12.1
200	31.3	30.8	30.2	29.7	29.2	28.7	28.2	27.6	24.0	20.2	16.9	13.9	11.2
250	30.4	29.9	29.3	28.8	28.3	27.8	27.3	26.7	23.1	19.3	16.0	13.0	10.3
300	29.6	29.1	28.5	28.0	27.5	27.0	26.5	25.9	22.3	18.5	15.2	12.2	9.5
350	28.7	28.2	27.6	27.1	26.6	26.1	25.6	25.0	21.4	17.6	14.3	11.3	8.6
400	27.9	27.4	26.8	26.3	25.8	25.3	24.8	24.2	20.6	16.8	13.5	10.5	7.8
450	27.0	26.5	25.9	25.4	24.9	24.4	23.9	23.3	19.7	15.9	12.6	9.6	6.9
500	26.1	25.6	25.0	24.5	24.0	23.5	23.0	22.4	18.8	15.0	11.7	8.7	6.0

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

■BM□MB4M

	100~500	550~700	750~900	950~1000	1050~1100	1150~1200	1250~1300	1400	1500
X-axis	1250			1160	970	830	720	620	550
Y-axis	1200			—					
Z-axis	600	—							

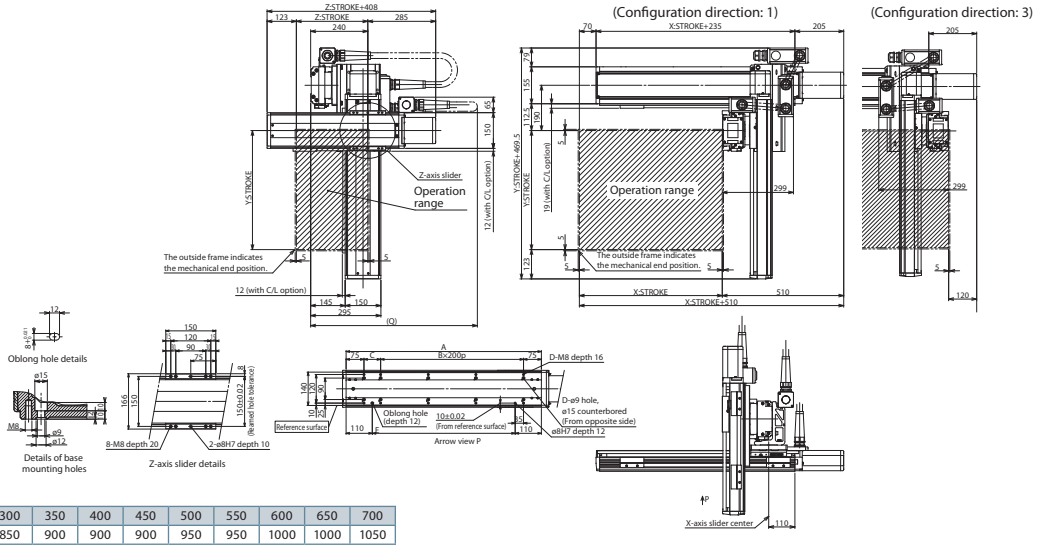
ICSB3 [ICSPB3]-BM□MB4M-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
Q	750	800	800	850	850	900	900	900	950	950	1000	1000	1050

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000

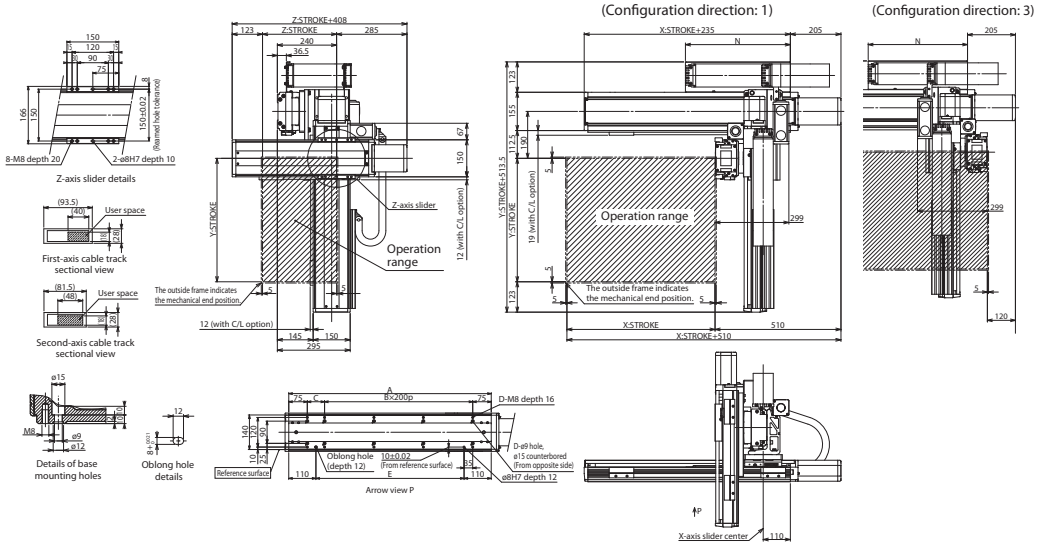
ICSB3 [ICSPB3]-BM□MB4M-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

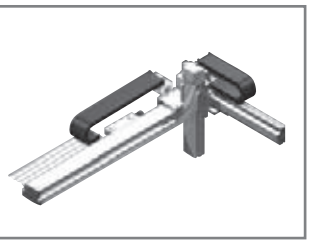
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
A	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	1320	1370	1420	1470	1520	1570	1620	1670	1720
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7
C	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
E	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
N	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775	800	825	850	875

ICSPA3-B1N□HB3□

High-Precision Specification | ±10μm | X-Y-Z 3-axis (NS+ISPA) | XYB+ZB (Y, Z Base Mount) | High Speed Type | X: Lg (400W) Y: Md (200W) Z: Md (200W)



Model Specification Items

ICSPA3 — B1N□HB3□ — [Encoder Type] — [X-axis Stroke/Option] [Y-axis Stroke/Option] [Z-axis Stroke/Option] — T2 — [Cable Length] — [Y-axis - Z-axis Cable Management]

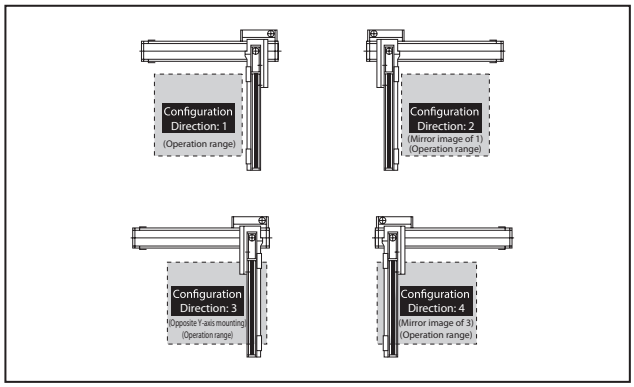
Series	Type	Encoder Type	X-axis Stroke/Option	Y-axis Stroke/Option	Z-axis Stroke/Option	Applicable Controllers	Cable Length	Y-axis - Z-axis Cable Management
ICSPA3: High precision 3-axis specification	Refer to Model Specification table below	A: Absolute I: Incremental	50: 500mm ↕ 220: 2200mm (Every 50mm) Refer to Options table below.	20: 200mm ↕ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ↕ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

Model Specification

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSPA3-B1N1HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B1N1HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSPA3-B1N2HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B1N2HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSPA3-B1N3HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B1N3HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSPA3-B1N4HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B1N4HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

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

XY Configuration Direction



Axis Configuration

Axis configuration	Model	Reference page
X-axis	NS-LXMS-①-400-40-②-T2-③-⑩	→ Please contact IAI for more details
Y-axis	ISPA-MYM-①-200-20-④-T2-⑤	→ Please contact IAI for more details
Z-axis	ISPA-MXM-①-200-⑪-⑥-T2-⑦	→ Please contact IAI for more details

* Refer to the symbols within the table Explanation of Model Designations at upper right for ① through ⑦ in the above model names.
Note that the strokes are indicated in mm (millimeters).
* The following symbols are specified with ⑩ in the above model names.
NT1: For cartesian configuration directions 1 and 3
NT2: For cartesian configuration directions 2 and 4
Note: Although the rotating nut types and linear servo types are equipped with cable tracks even for individual axes, a different cable track is used when it is assembled in a Cartesian system, so replacement actuators should specify the no-cable track specification (NT1 or NT2).
* Lead is specified with ⑪ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	50:500mm ↕ 220:2200mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	20:200mm ↕ 70:700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10:100mm ↕ 50:500mm
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	CT-CT: Cable track

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
AQ seal (standard equipment)	AQ	See P.353
Brake (Y/Z-axis only (equipped as standard on Z-axis)) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification (Y/Z-axis only)	NM	See P.353
Guide with ball-retaining mechanism	RT	See P.354

*1 Brake option for Y-axis increases the length of the non-motor side.
*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.

Common Specifications

Drive system	Ball screw, equivalent to rolled C5
Positioning repeatability	±0.01mm
Lost motion	0.02mm or less
Guide	Integrated with base
Base	Material: Aluminum with white alumite treatment
X-axis motor output/lead	400W/40mm
Y-axis motor output/lead	200W/20mm
Z-axis motor output/lead	200W/20mm <H>, 10mm <M>

* < > indicates the Z-axis medium speed specification.

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 20m.
(Note 3) The rated acceleration is 0.3G. Although it is operable up to 1G, increasing the acceleration will reduce the payload.

Payload (kg)

■B1N□HB3H

Z-axis stroke \ Y-axis stroke	200	300	400	500	600	700
100	9.0			8.2	7.2	6.2
~ 200	9.0		8.3	7.2	6.2	5.2
~ 300	9.0	8.3	7.3	6.2	5.2	4.2
~ 400	8.2	7.3	6.3	5.2	4.2	3.2
~ 500	7.1	6.2	5.2	4.1	3.1	2.1

■B1N□HB3M

Z-axis stroke \ Y-axis stroke	200	300	400	500	600	700
100	11.2	10.2	9.2	8.2	7.2	6.2
~ 200	10.2	9.3	8.3	7.2	6.2	5.2
~ 300	9.0	8.3	7.3	6.2	5.2	4.2
~ 400	8.2	7.3	6.3	5.2	4.2	3.2
~ 500	7.1	6.2	5.2	4.1	3.1	2.1

Maximum Speed by Stroke (mm/s)

■B1N□HB3H

	Stroke							
	100	200	300	400	500	600	700	800~2200
X-axis	—	—	—	—	2400			
Y-axis	—	1200						—
Z-axis	1200				—	—	—	—

■B1N□HB3M

	Stroke							
	100	200	300	400	500	600	700	800~2200
X-axis	—	—	—	—	2400			
Y-axis	—	1200						—
Z-axis	600				—	—	—	—

ICSPA3-B1N□HB3□-CT-CT (Cable track specification)

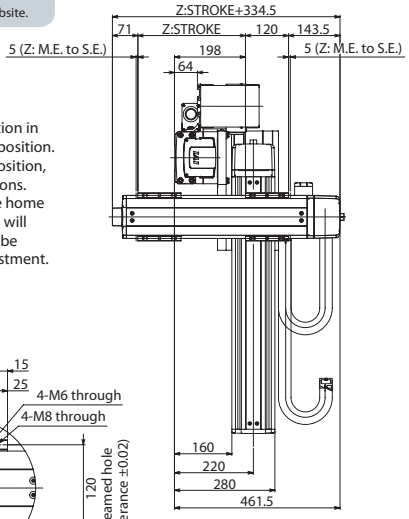
Dimensions

CAD drawings can be downloaded from our website.

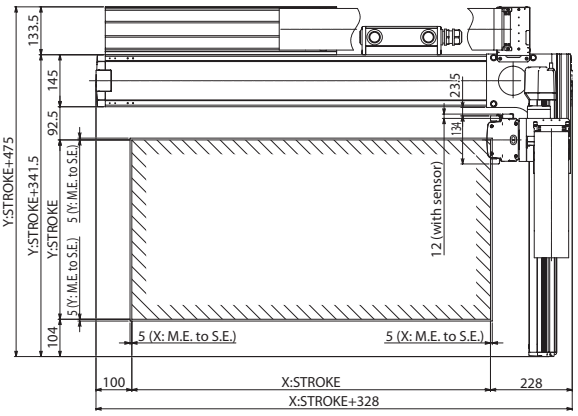
2D CAD RoHS

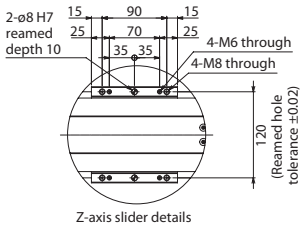
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction 1)

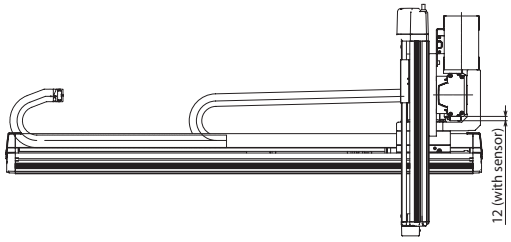


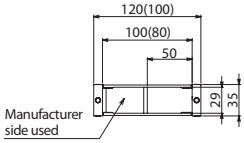
M.E: Mechanical end
S.E: Stroke end



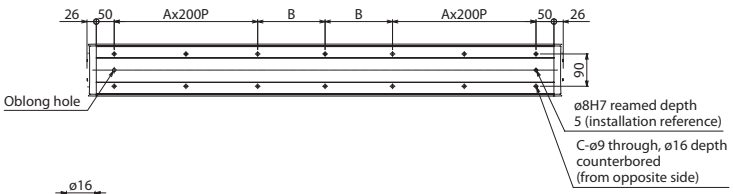


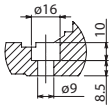
Z-axis slider details



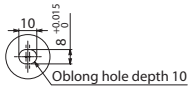


Cable track sectional view
* ( ) dimensions indicate Y-Z cable track





X-axis base mounting hole details



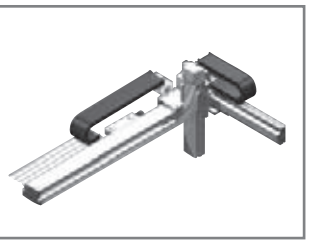
X-axis base bottom oblong hole details

X stroke	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350
A	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3
B	138	163	188	213	238	263	288	113	138	163	188	213	238	263	288	313	138	163
C	10	10	10	10	10	10	10	14	14	14	14	14	14	14	14	14	18	18

X stroke	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200
A	3	3	3	3	3	3	4	4	4	4	4	4	4	4	5	5	5
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188
C	18	18	18	18	18	18	22	22	22	22	22	22	22	22	26	26	26

ICSPA3-B1N□MB3□

High-Precision Specification | ±10μm | X-Y-Z 3-axis (NS+ISPA) | XYB+ZB (Y, Z Base Mount) | Medium Speed Type | X: Lg (400W) Y: Md (200W) Z: Md (200W)



■ Model Specification Items

ICSPA3 — B1N□MB3□ — [Encoder Type] — [X-axis Stroke/Option] [Refer to Options table below.] — [Y-axis Stroke/Option] [Refer to Options table below.] — [Z-axis Stroke/Option] [Refer to Options table below.] — T2 — [Cable Length] — [Y-axis - Z-axis Cable Management]

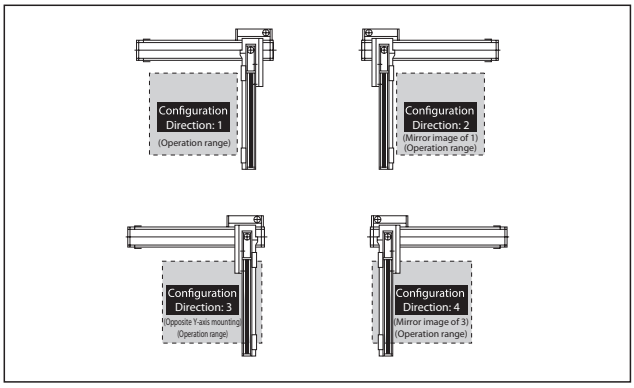
Series	Type	Encoder Type	X-axis Stroke/Option	Y-axis Stroke/Option	Z-axis Stroke/Option	Applicable Controllers	Cable Length	Y-axis - Z-axis Cable Management
ICSPA3: High precision 3-axis specification	Refer to Model Specification table below	A: Absolute I: Incremental	50: 500mm ⁓ 220: 2200mm (Every 50mm)	20: 200mm ⁓ 70: 700mm (Every 50mm)	10: 100mm ⁓ 50: 500mm (Every 50mm)	T2: SCON XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

Model Specification

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSPA3-B1N1MB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B1N1MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSPA3-B1N2MB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B1N2MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSPA3-B1N3MB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B1N3MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSPA3-B1N4MB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B1N4MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

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

XY Configuration Direction



Axis Configuration

Axis configuration	Model	Reference page
X-axis	NS-LXMS-①-400-20-②-T2-③-⑩	→ Please contact IAI for more details
Y-axis	ISPA-MYM-①-200-20-④-T2-⑤	→ Please contact IAI for more details
Z-axis	ISPA-MXM-①-200-⑪-⑥-T2-⑦	→ Please contact IAI for more details

* Refer to the symbols within the table Explanation of Model Designations at upper right for ① through ⑦ in the above model names.
Note that the strokes are indicated in mm (millimeters).

* The following symbols are specified with ⑩ in the above model names.
NT1: For cartesian configuration directions 1 and 3
NT2: For cartesian configuration directions 2 and 4

Note: Although the rotating nut types and linear servo types are equipped with cable tracks even for individual axes, a different cable track is used when it is assembled in a Cartesian system, so replacement actuators should specify the no-cable track specification (NT1 or NT2).

* Lead is specified with ⑪ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	50:500mm ⁓ 220:2200mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	20:200mm ⁓ 70:700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10:100mm ⁓ 50:500mm
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	CT-CT: Cable track

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
AQ seal (standard equipment)	AQ	See P.353
Brake (Y/Z-axis only (equipped as standard on Z-axis)) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification (Y/Z-axis only)	NM	See P.353
Guide with ball-retaining mechanism	RT	See P.354

*1 Brake option for Y-axis increases the length of the non-motor side.
*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.

Common Specifications

Drive system	Ball screw, equivalent to rolled C5
Positioning repeatability	±0.01mm
Lost motion	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/20mm <H>, 10mm <M>

* < > indicates the Z-axis medium speed specification.

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 20m.
(Note 3) The rated acceleration is 0.3G. Although it is operable up to 1G, increasing the acceleration will reduce the payload.

Payload (kg)

■B1N□MB3H

Z-axis stroke	Y-axis stroke 200	300	400	500	600	700
100	9.0					8.9
~ 200	9.0					7.9
~ 300	9.0					6.9
~ 400	9.0					5.9
~ 500	9.0				8.5	4.8

■B1N□MB3M

Z-axis stroke	Y-axis stroke 200	300	400	500	600	700
100	19.0			17.0	12.6	8.9
~ 200	19.0			16.1	11.6	7.9
~ 300	19.0			15.1	10.6	6.9
~ 400	19.0			14.1	9.6	5.9
~ 500	19.0		18.8	13.0	8.5	4.8

Maximum Speed by Stroke (mm/s)

■B1N□MB3H

	Stroke 100	200	300	400	500	600	700	800~2200
X-axis	—	—	—	—	1300			
Y-axis	—	1200						—
Z-axis	1200				—	—	—	—

■B1N□MB3M

	Stroke 100	200	300	400	500	600	700	800~2200
X-axis	—	—	—	—	1300			
Y-axis	—	1200						—
Z-axis	600					—	—	—

ICSPA3-B1N□MB3□-CT-CT (Cable track specification)

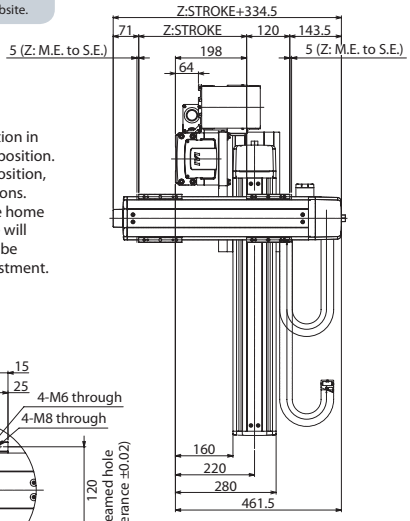
Dimensions

CAD drawings can be downloaded from our website.

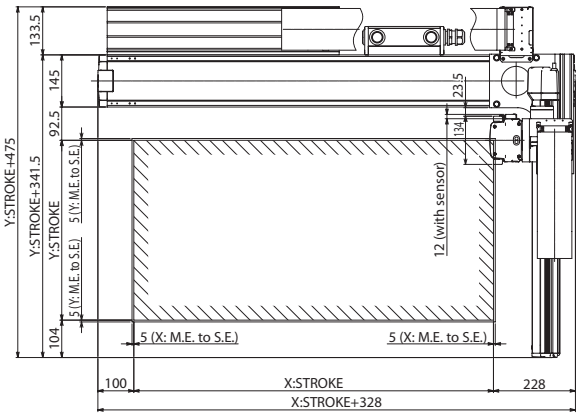
2D CAD RoHS

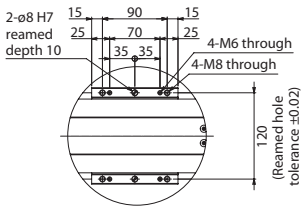
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction 1)

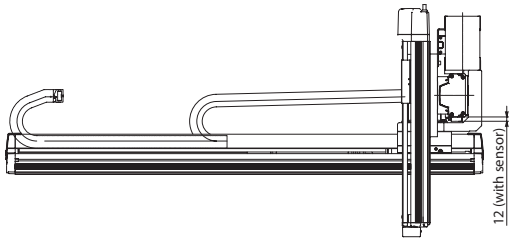


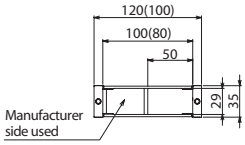
M.E: Mechanical end
S.E: Stroke end



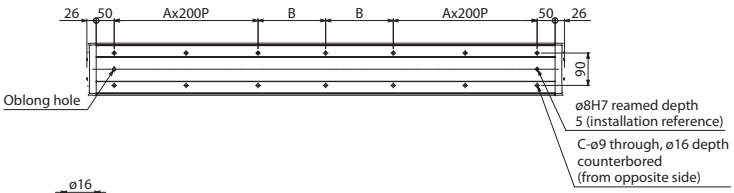


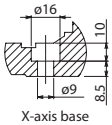
Z-axis slider details



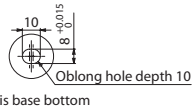


Cable track sectional view
* ( ) dimensions indicate Y-Z cable track





X-axis base mounting hole details



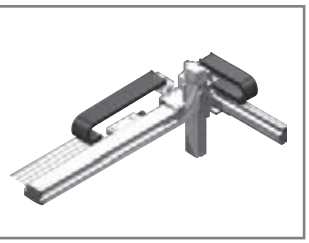
X-axis base bottom oblong hole details

X stroke	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350
A	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3
B	138	163	188	213	238	263	288	113	138	163	188	213	238	263	288	313	138	163
C	10	10	10	10	10	10	10	14	14	14	14	14	14	14	14	14	18	18

X stroke	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200
A	3	3	3	3	3	3	4	4	4	4	4	4	4	4	5	5	5
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188
C	18	18	18	18	18	18	22	22	22	22	22	22	22	22	26	26	26

ICSPA3-B2N□HB3□

High-Precision Specification | ±10μm | X-Y-Z 3-axis (NS+ISPA) | XYB+ZB (Y, Z Base Mount) | High Speed Long Type | X: Lg (400W) Y: Md (200W) Z: Md (200W)



■ Model Specification Items

ICSPA3 — B2N□HB3□ — [Encoder Type] — [X-axis Stroke/Option] [Y-axis Stroke/Option] [Z-axis Stroke/Option] — T2 — [Cable Length] — [Y-axis - Z-axis Cable Management]

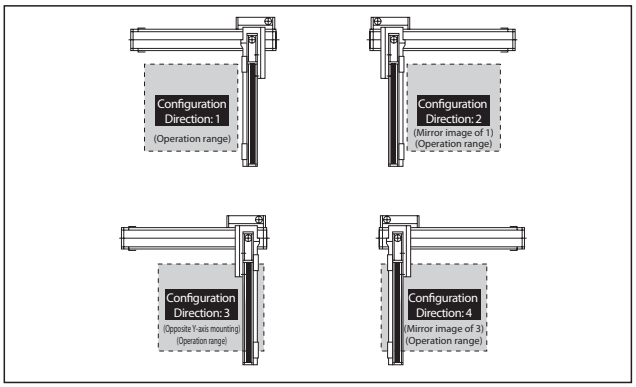
Series	Type	Encoder Type	X-axis Stroke/Option	Y-axis Stroke/Option	Z-axis Stroke/Option	Applicable Controllers	Cable Length	Y-axis - Z-axis Cable Management
ICSPA3: High precision 3-axis specification	Refer to Model Specification table below	A: Absolute I: Incremental	225: 2250mm ↓ 300: 3000mm (Every 50mm) Refer to Options table below.	20: 200mm ↓ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ↓ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

Model Specification

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSPA3-B2N1HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B2N1HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSPA3-B2N2HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B2N2HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSPA3-B2N3HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B2N3HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSPA3-B2N4HB4H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B2N4HB4M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

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

XY Configuration Direction



Axis Configuration

Axis configuration	Model	Reference page
X-axis	NS-LXMXS-①-400-40-②-T2-③-⑩	→ Please contact IAI for more details
Y-axis	ISPA-MYM-①-200-20-④-T2-⑤	→ Please contact IAI for more details
Z-axis	ISPA-MXM-①-200-⑪-⑥-T2-⑦	→ Please contact IAI for more details

* Refer to the symbols within the table Explanation of Model Designations at upper right for ① through ⑦ in the above model names.
Note that the strokes are indicated in mm (millimeters).
* The following symbols are specified with ⑩ in the above model names.
NT1: For cartesian configuration directions 1 and 3
NT2: For cartesian configuration directions 2 and 4
Note: Although the rotating nut types and linear servo types are equipped with cable tracks even for individual axes, a different cable track is used when it is assembled in a Cartesian system, so replacement actuators should specify the no-cable track specification (NT1 or NT2).
* Lead is specified with ⑪ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	225:2250mm ↓ 300:3000mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	20:200mm ↓ 70:700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10:100mm ↓ 50:500mm
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	CT-CT: Cable track

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
AQ seal (standard equipment)	AQ	See P.353
Brake (Y/Z-axis only (equipped as standard on Z-axis)) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification (Y/Z-axis only)	NM	See P.353
Guide with ball-retaining mechanism	RT	See P.354

*1 Brake option for Y-axis increases the length of the non-motor side.
*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.

Common Specifications

Drive system	Ball screw, equivalent to rolled C5
Positioning repeatability	±0.01mm
Lost motion	0.02mm or less
Guide	Integrated with base
Base	Material: Aluminum with white alumite treatment
X-axis motor output/lead	400W/40mm
Y-axis motor output/lead	200W/20mm
Z-axis motor output/lead	200W/20mm <H>, 10mm <M>

* < > indicates the Z-axis medium speed specification.

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 20m.
(Note 3) The rated acceleration is 0.3G. Y-axis is operable up to 1G, but the upper limit for the X-axis is 0.3G.

Payload (kg)

■B2N□HB3H

Z-axis stroke \ Y-axis stroke	200	300	400	500	600	700
100	9.0			8.2	7.2	6.2
~ 200	9.0		8.3	7.2	6.2	5.2
~ 300	9.0	8.3	7.3	6.2	5.2	4.2
~ 400	8.2	7.3	6.3	5.2	4.2	3.2
~ 500	7.1	6.2	5.2	4.1	3.1	2.1

■B2N□HB3M

Z-axis stroke \ Y-axis stroke	200	300	400	500	600	700
100	11.2	10.2	9.2	8.2	7.2	6.2
~ 200	10.2	9.3	8.3	7.2	6.2	5.2
~ 300	9.0	8.3	7.3	6.2	5.2	4.2
~ 400	8.2	7.3	6.3	5.2	4.2	3.2
~ 500	7.1	6.2	5.2	4.1	3.1	2.1

Maximum Speed by Stroke (mm/s)

■B2N□HB3H

	Stroke							
	100	200	300	400	500	600	700	2250~3000
X-axis	—	—	—	—	—	—	—	2400
Y-axis	—	1200						—
Z-axis	1200				—	—	—	—

■B2N□HB3M

	Stroke							
	100	200	300	400	500	600	700	2250~3000
X-axis	—	—	—	—	—	—	—	2400
Y-axis	—	1200						—
Z-axis	600					—	—	—

ICSPA3-B2N□HB3□-CT-CT (Cable track specification)

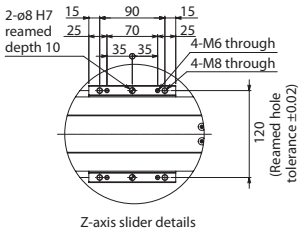
Dimensions

(Configuration direction 1)

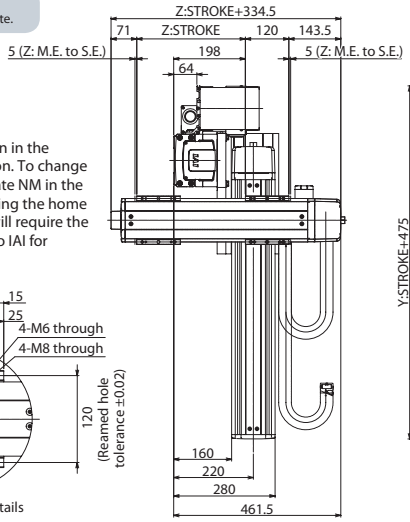
CAD drawings can be downloaded from our website.

2D CAD RoHS

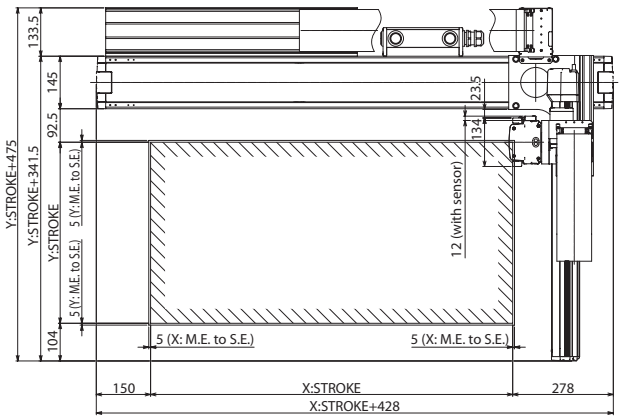
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

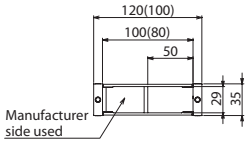


Z-axis slider details

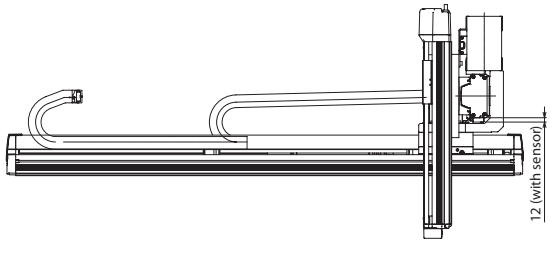


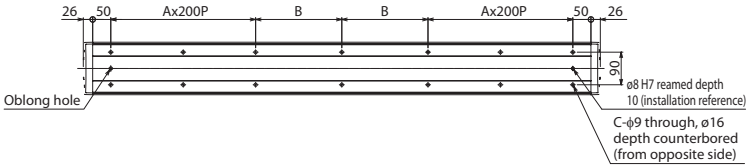
M.E: Mechanical end
S.E: Stroke end

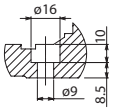




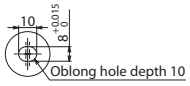
Cable track sectional view
* ( ) dimensions indicate Y-Z cable track







X-axis base mounting hole details

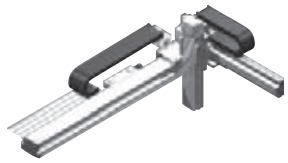


X-axis base bottom oblong hole details

X stroke	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
A	5	5	5	6	6	6	6	6	6	6	6	7	7	7	7	7
B	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238
C	26	26	26	30	30	30	30	30	30	30	30	34	34	34	34	34

ICSPA3-B2N□MB3□ High-Precision Specification

±10μm | X-Y-Z 3-axis (NS+ISPA) | XYB+ZB (Y, Z Base Mount) | Medium Speed Long Type | X: Lg (400W) Y: Md (200W) Z: Md (200W)



■ Model Specification Items

ICSPA3 — B2N□MB3□ — [Encoder Type] — [X-axis Stroke/Option] — [Y-axis Stroke/Option] — [Z-axis Stroke/Option] — T2 — [Cable Length] — [Y-axis - Z-axis Cable Management]

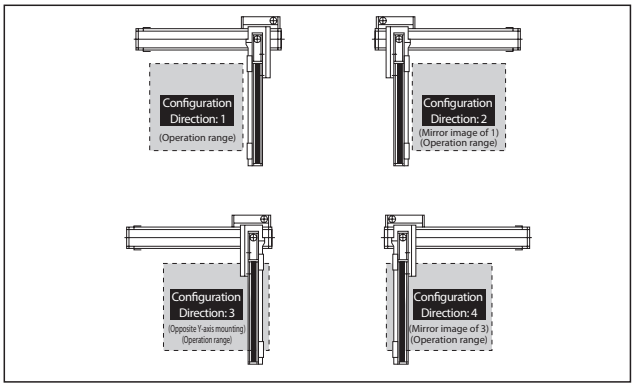
Series	Type	Encoder Type	X-axis Stroke/Option	Y-axis Stroke/Option	Z-axis Stroke/Option	Applicable Controllers	Cable Length	Y-axis - Z-axis Cable Management
ICSPA3: High precision 3-axis specification	Refer to Model Specification table below	A: Absolute I: Incremental	225: 2250mm ↓ 300: 3000mm (Every 50mm) Refer to Options table below.	20: 200mm ↓ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ↓ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

Model Specification

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSPA3-B2N1MB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B2N1MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	H	ICSPA3-B2N2MB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B2N2MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	H	ICSPA3-B2N3MB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B2N3MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	H	ICSPA3-B2N4MB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
	M	ICSPA3-B2N4MB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

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

XY Configuration Direction



Axis Configuration

Axis configuration	Model	Reference page
X-axis	NS-LXMXS-①-400-20-②-T2-③-⑩	→ Please contact IAI for more details
Y-axis	ISPA-MYM-①-200-20-④-T2-⑤	→ Please contact IAI for more details
Z-axis	ISPA-MXM-①-200-⑪-⑥-T2-⑦	→ Please contact IAI for more details

* Refer to the symbols within the table Explanation of Model Designations at upper right for ① through ⑦ in the above model names.
Note that the strokes are indicated in mm (millimeters).

* The following symbols are specified with ⑩ in the above model names.
NT1: For cartesian configuration directions 1 and 3
NT2: For cartesian configuration directions 2 and 4

Note: Although the rotating nut types and linear servo types are equipped with cable tracks even for individual axes, a different cable track is used when it is assembled in a Cartesian system, so replacement actuators should specify the no-cable track specification (NT1 or NT2).

* Lead is specified with ⑪ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	225:2250mm ↓ 300:3000mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	20:200mm ↓ 70:700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10:100mm ↓ 50:500mm
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	CT-CT: Cable track

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
AQ seal (standard equipment)	AQ	See P.353
Brake (Y/Z-axis only (equipped as standard on Z-axis)) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification (Y/Z-axis only)	NM	See P.353
Guide with ball-retaining mechanism	RT	See P.354

*1 Brake option for Y-axis increases the length of the non-motor side.
*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.

Common Specifications

Drive system	Ball screw, equivalent to rolled C5
Positioning repeatability	±0.01mm
Lost motion	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/20mm <H>, 10mm <M>

* < > indicates the Z-axis medium speed specification.

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 20m.

(Note 3) The rated acceleration is 0.3G. Y-axis is operable up to 1G, but the upper limit for the X-axis is 0.3G.

Payload (kg)

■B2N□MB3H

Z-axis stroke	Y-axis stroke 200	300	400	500	600	700
100	9.0					8.9
~ 200	9.0					7.9
~ 300	9.0					6.9
~ 400	9.0					5.9
~ 500	9.0				8.5	4.8

■B2N□MB3M

Z-axis stroke	Y-axis stroke 200	300	400	500	600	700
100	19.0			17.0	12.6	8.9
~ 200	19.0			16.1	11.6	7.9
~ 300	19.0			15.1	10.6	6.9
~ 400	19.0			14.1	9.6	5.9
~ 500	19.0		18.8	13.0	8.5	4.8

Maximum Speed by Stroke (mm/s)

■B2N□MB3H

	Stroke 100	200	300	400	500	600	700	2250~3000
X-axis	—	—	—	—	—	—	—	1300
Y-axis	—	1200						—
Z-axis	1200					—	—	— —

■B2N□MB3M

	Stroke 100	200	300	400	500	600	700	2250~3000
X-axis	—	—	—	—	—	—	—	1300
Y-axis	—	1200						—
Z-axis	600					—	—	— —

ICSPA3-B2N□MB3□-CT-CT (Cable track specification)

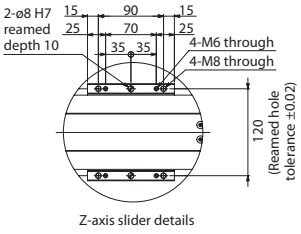
Dimensions

(Configuration direction 1)

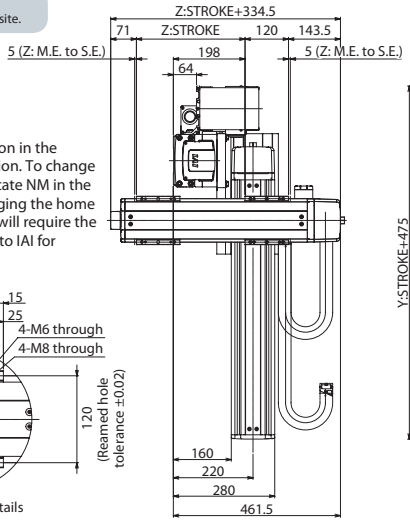
CAD drawings can be downloaded from our website.

2D CAD RoHS

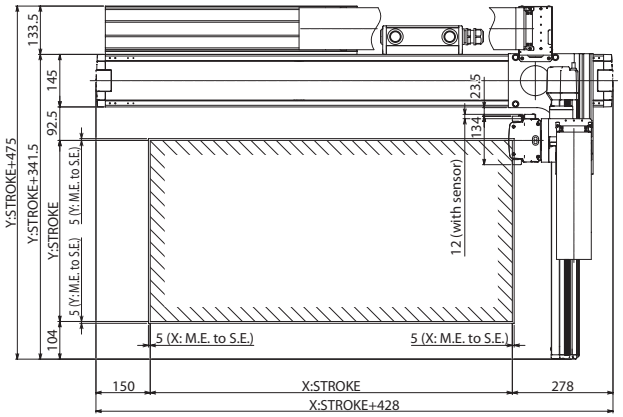
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

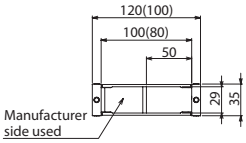


Z-axis slider details

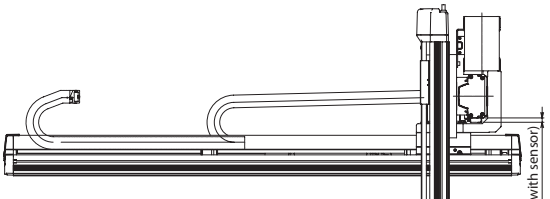


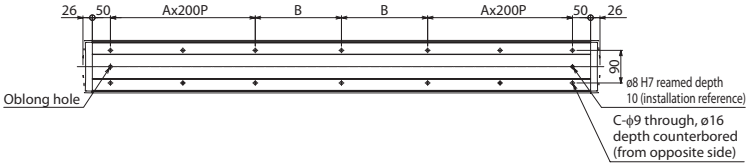
M.E: Mechanical end
S.E: Stroke end

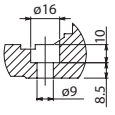




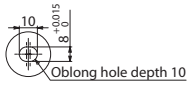
Cable track sectional view
* ( ) dimensions indicate Y-Z cable track







X-axis base mounting hole details



X-axis base bottom oblong hole details

X stroke	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
A	5	5	5	6	6	6	6	6	6	6	6	7	7	7	7	7
B	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238
C	26	26	26	30	30	30	30	30	30	30	30	34	34	34	34	34

ICSB3-BA□MS1□
ICSPB3-BA□MS1□ High-Precision Specification

±10μm (Standard) / ±5μm (High-Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | Medium Speed Type | X: Md (60W) Y: Sml (60W) Z: Sml (60W)

■ Model Specification Items

□ — BA□MS1□ — WA — □□ — □□ — □□ — □□ — T2 — □ — □

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 ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 30: 300mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

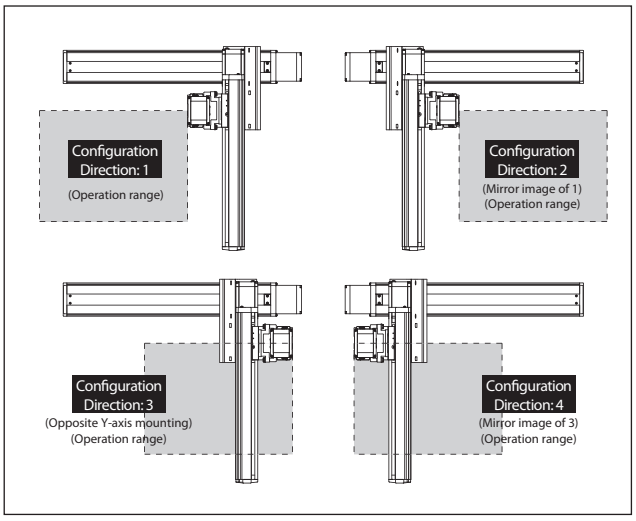
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BA1MS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BA1MS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BA2MS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BA2MS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BA3MS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BA3MS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BA4MS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BA4MS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-SXM-①-60-8-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-SXM-①-60-8-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 40: 400mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 30: 300mm
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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism *4	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	60W/8mm
Y-axis motor output/lead	60W/8mm
Z-axis motor output/lead	60W/8mm (M), 4mm (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 4, 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)

■BA□MS1M

Z-axis stroke \ Y-axis stroke	100~400
100	4.3
150	3.9
200	3.5
250	3.1
300	2.8

■BA□MS1L

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400
100	11.3	11.3	11.3	11.2	8.9	7.0	5.5
150	10.3	10.1	9.8	9.6	8.5	6.6	5.1
200	9.0	8.8	8.5	8.3	8.1	6.2	4.7
250	7.9	7.7	7.5	7.3	7.1	5.8	4.3
300	7.0	6.8	6.6	6.4	6.3	5.5	4.0

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

■BA□MS1M

	100~300	350~400	450~600	650~700
X-axis	480			330
Y-axis	480		—	
Z-axis	480	—		

■BA□MS1L

	100~300	350~400	450~600	650~700
X-axis	480			330
Y-axis	480		—	
Z-axis	240	—		

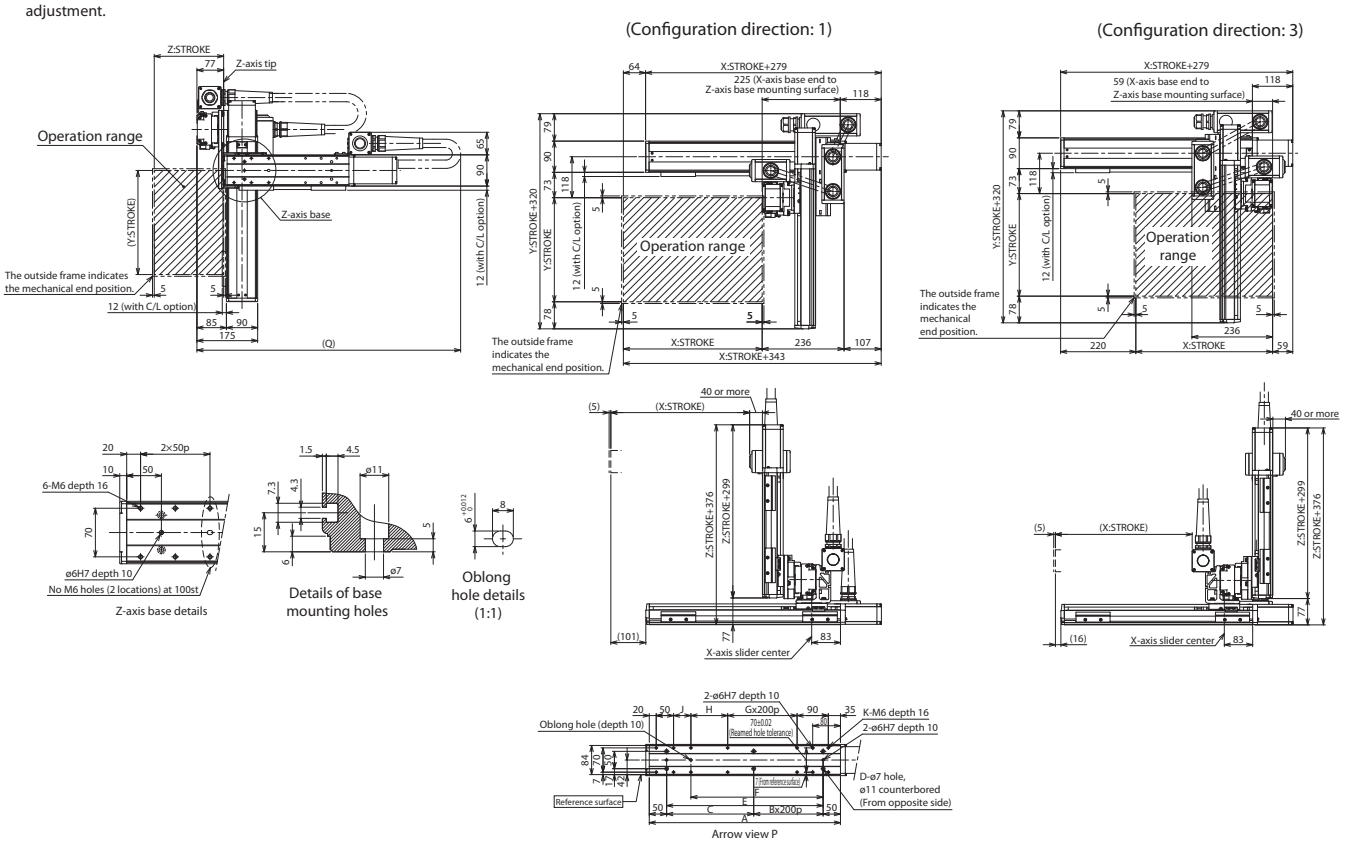
ICSB3 [ICSPB3]-BA□MS1□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
A	251	301	351	401	451	501	551	601	651	701	751	801	851
B	0	0	0	1	1	1	1	2	2	2	2	3	3
C	151	201	251	101	151	201	251	101	151	201	251	101	151
D	4	4	4	6	6	6	6	8	8	8	8	10	10
E	151	201	251	301	351	401	451	501	551	601	651	701	751
F	131	131	181	231	281	331	381	431	481	531	581	631	681
G	0	0	0	0	0	0	1	1	1	1	2	2	2
H	56	56	106	156	206	256	106	156	206	256	106	156	206
J	0	50	50	50	50	50	50	50	50	50	50	50	50
K	8	10	10	10	10	10	12	12	12	12	14	14	14

Q dimension

Z-axis \ Y-axis	100	150	200	250	300	350	400
100	650	700	700	750	750	750	800
150	700	750	750	800	800	800	850
200	750	800	800	850	850	850	900
250	800	850	850	900	900	900	950
300	850	900	900	950	950	950	1000

ICSB3-BB□HS1□
ICSPB3-BB□HS1□ High-Precision Specification

±10μm Standard / ±5μm High Precision | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | High Speed Type | X: Md (100W) Y: Sml (60W) Z: Sml (60W)

■ Model Specification Items

□ — BB□HS1□ — WA — □□ — □□ — □□ — T2 — □ — □

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) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 30: 300mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

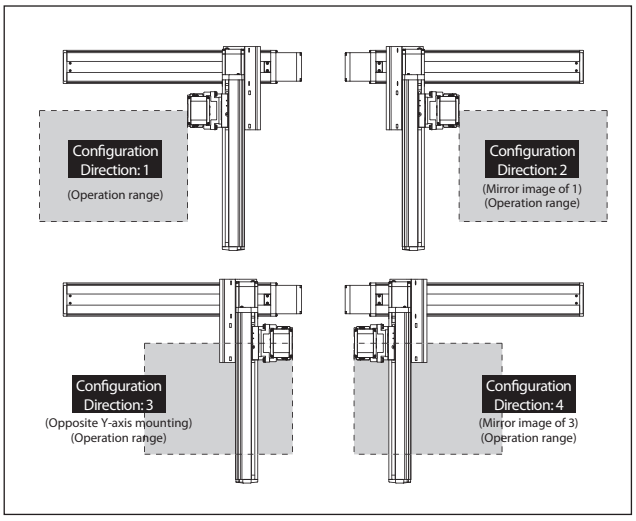
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BB1HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB1HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BB2HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB2HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BB3HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB3HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BB4HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB4HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXM-①-100-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-SXM-①-60-16-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

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)	10: 100mm ~ 40: 400mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 30: 300mm
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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism *4	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	100W/20mm
Y-axis motor output/lead	60W/16mm
Z-axis motor output/lead	60W/8mm (M), 4mm (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 4, 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)

■BB□HS1M

Z-axis stroke \ Y-axis stroke	100~400
100	4.3
150	3.9
200	3.5
250	3.1
300	2.8

■BB□HS1L

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400
100	8.1	8.0	8.0	8.0	8.0	7.9	7.9
150	7.7	7.7	7.7	7.6	7.6	7.6	7.6
200	7.3	7.3	7.3	7.3	7.2	7.2	7.2
250	7.0	7.0	6.9	6.9	6.9	6.9	6.8
300	6.7	6.7	6.7	6.6	6.6	6.6	6.6

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

■BB□HS1M

	100~300	350~400	450~700	750~800	850~900	950~1000
X-axis	1200			860	695	570
Y-axis	960		—			
Z-axis	480	—				

■BB□HS1L

	100~300	350~400	450~700	750~800	850~900	950~1000
X-axis	1200			860	695	570
Y-axis	960		—			
Z-axis	240	—				

ICSB3 [ICSPB3]-BB□HS1□-SC-SC (Self-standing cable specification)

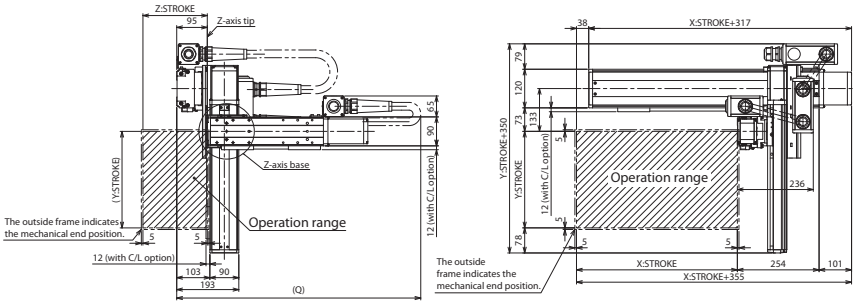
Dimensions

CAD drawings can be downloaded from our website.

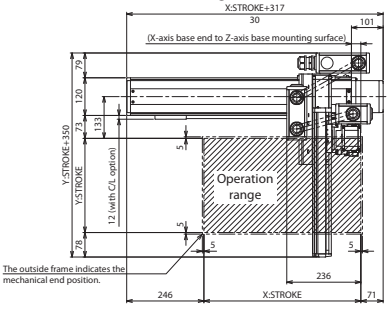
2D CAD 3D CAD RoHS

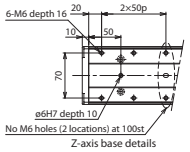
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

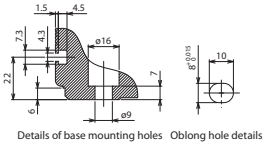
(Configuration direction: 1)

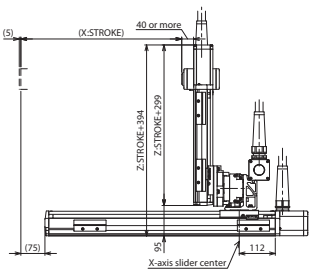


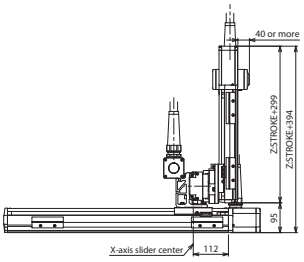
(Configuration direction: 3)

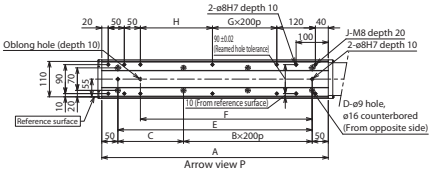












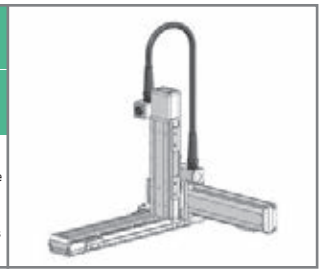
Q dimension

Z-axis \ Y-axis	100	150	200	250	300	350	400
100	700	700	700	750	750	800	800
150	750	750	750	800	800	850	850
200	800	800	800	850	850	900	900
250	850	850	850	900	900	950	950
300	900	900	900	950	950	1000	1000

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

ICSB3-BB□MS1□
ICSPB3-BB□MS1□ High-Precision Specification

±10μm (Standard) / ±5μm (High-Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | Medium Speed Type | X: Md (100W) Y: Sml (60W) Z: Sml (60W)



■ Model Specification Items

□ — BB□MS1□ — WA — □□ — □□ — □□ — T2 — □ — □

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) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 30: 300mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

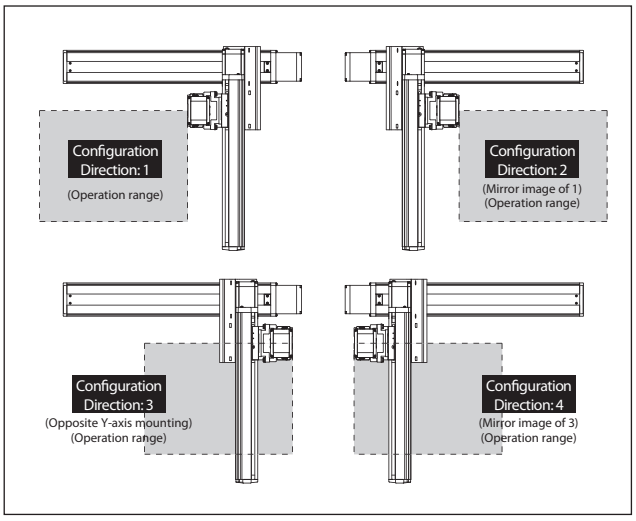
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BB1MS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB1MS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BB2MS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB2MS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BB3MS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB3MS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BB4MS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BB4MS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXM-①-100-10-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-SXM-①-60-8-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

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)	10: 100mm ~ 40: 400mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 30: 300mm
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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism *4	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	100W/10mm
Y-axis motor output/lead	60W/8mm
Z-axis motor output/lead	60W/8mm (M), 4mm (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 4, 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)

■BB□MS1M

Z-axis stroke \ Y-axis stroke	100~400
100	4.3
150	3.9
200	3.5
250	3.1
300	2.8

■BB□MS1L

Z-axis stroke \ Y-axis stroke	100~400
100	11.3
150	10.9
200	10.5
250	10.1
300	9.8

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

■BB□MS1M

	100~300	350~400	450~700	750~800	850~900	950~1000
X-axis	600			430	345	280
Y-axis	480		—			
Z-axis	480	—				

■BB□MS1L

	100~300	350~400	450~700	750~800	850~900	950~1000
X-axis	600			430	345	280
Y-axis	480		—			
Z-axis	240	—				

ICSB3 [ICSPB3]-BB□MS1□-SC-SC (Self-standing cable specification)

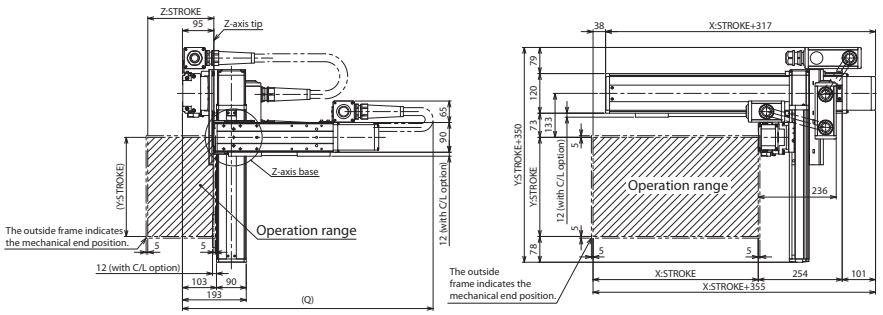
Dimensions

CAD drawings can be downloaded from our website.

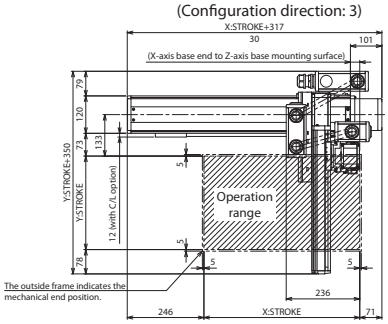
2D CAD 3D CAD RoHS

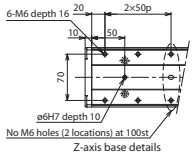
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

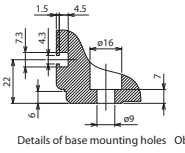
(Configuration direction: 1)

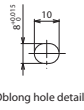


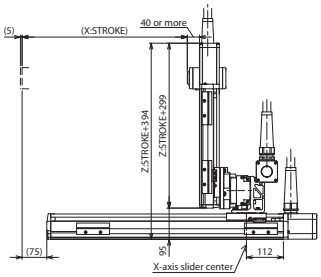
(Configuration direction: 3)

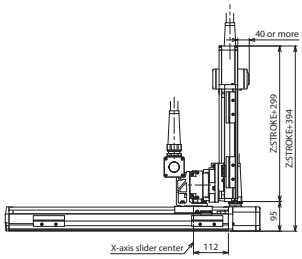


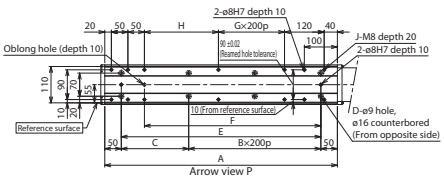












Q dimension

Z-axis \ Y-axis	100	150	200	250	300	350	400
100	700	700	700	750	750	800	800
150	750	750	750	800	800	850	850
200	800	800	800	850	850	900	900
250	850	850	850	900	900	950	950
300	900	900	900	950	950	1000	1000

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

ICSB3-BC□HS1□
ICSPB3-BC□HS1□ High-Precision Specification

±10μm (Standard) / ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | High Speed Type | X: Md (200W) Y: Md (100W) Z: Sml (60W)

■ Model Specification Items

□ — BC□HS1□ — WA — □□ — □□ — □□ — T2 — □ — □

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) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

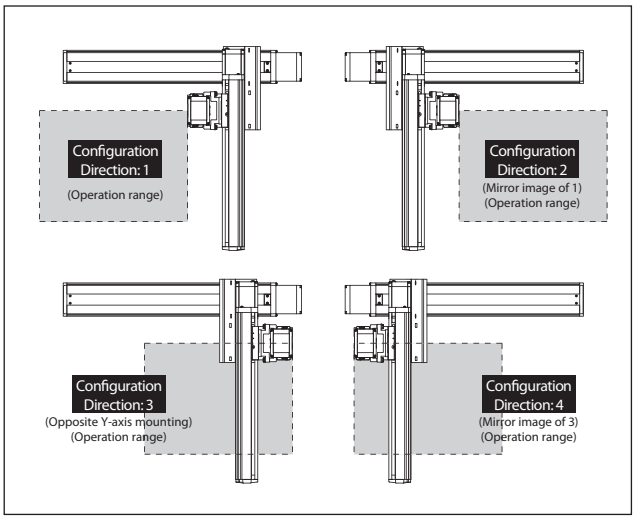
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BC1HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC1HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BC2HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC2HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BC3HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC3HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BC4HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BC4HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXM-①-200-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

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)	10: 100mm ~ 50: 500mm
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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism *4	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	200W/20mm
Y-axis motor output/lead	100W/20mm
Z-axis motor output/lead	60W/8mm (M), 4mm (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 4, 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)

■BC□HS1M

Z-axis stroke \ Y-axis stroke	100~400
100	4.3
150	3.9
200	3.5
250	3.1
300	2.8
350	2.4
400	2.1

■BC□HS1L

Z-axis stroke \ Y-axis stroke	100~400
100	11.3
150	10.9
200	10.5
250	10.1
300	9.8
350	9.4
400	9.1

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

■BC□HS1M

	100~400	450~500	550~700	750~800	850~900	950~1000
X-axis	1200			860	695	570
Y-axis	1200		—			
Z-axis	480	—				

■BC□HS1L

	100~400	450~500	550~700	750~800	850~900	950~1000
X-axis	1200			860	695	570
Y-axis	1200		—			
Z-axis	240	—				

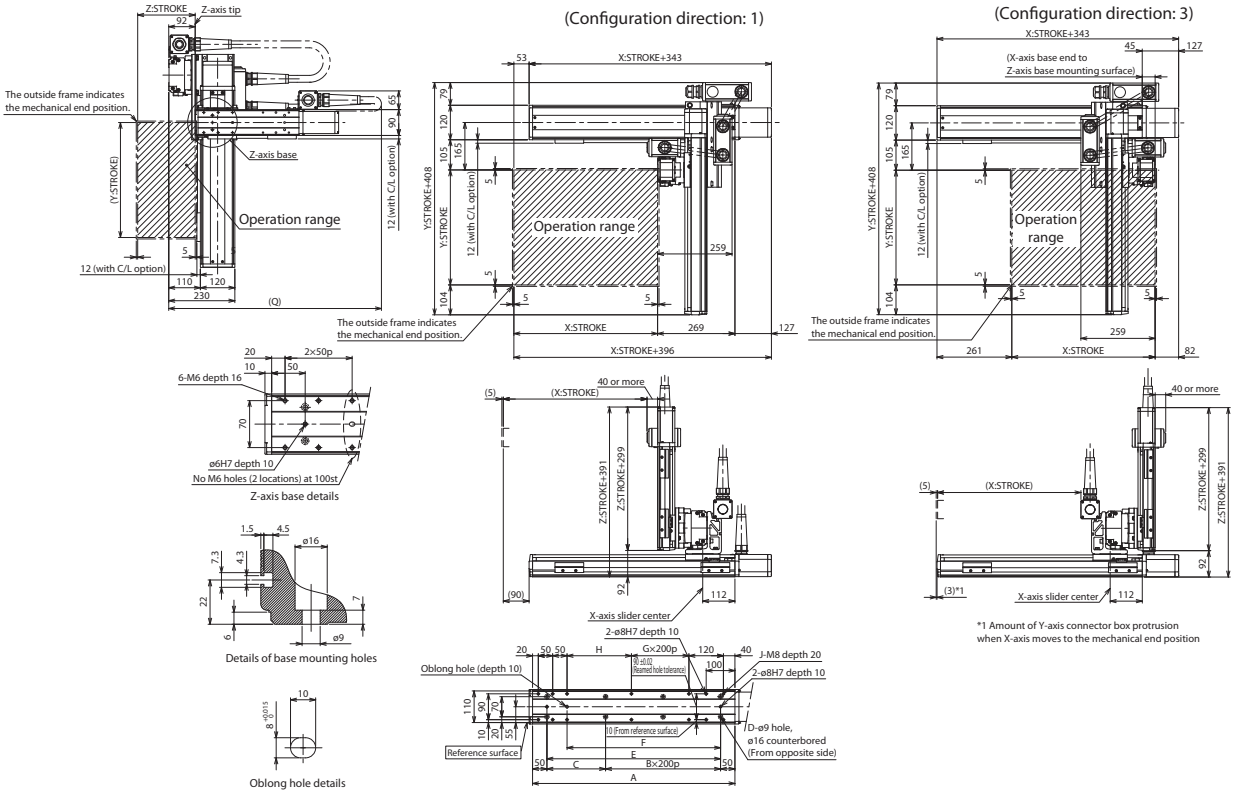
ICSB3 [ICSPB3]-BC□HS1□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. 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	100	150	200	250	300	350	400	450	500
100	700	700	750	750	800	800	800	850	850
150	750	750	800	800	850	850	850	900	900
200	800	800	850	850	900	900	900	950	950
250	850	850	900	900	950	950	950	1000	1000
300	900	900	950	950	1000	1000	1000	1050	1050
350	950	950	1000	1000	1050	1050	1050	1100	1100
400	1000	1000	1050	1050	1100	1100	1100	1150	1150

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

ICSB3-BC□HS3M
ICSPB3-BC□HS3M High-Precision Specification

±10μm Standard / ±5μm High Precision | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | High Speed Type | X: Md (200W) Y: Md (100W) Z: Md (200W)

Model Specification Items

□ — BC□HS3M — WA — □□ — □□ — □□ — T2 — □ — □

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) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

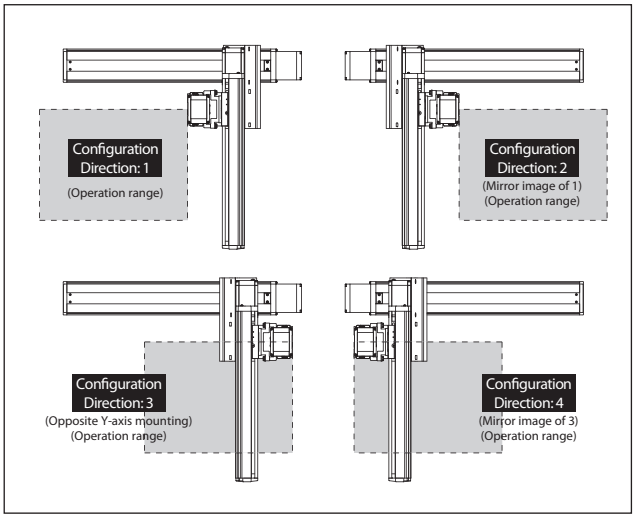
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BC1HS3M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BC2HS3M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BC3HS3M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BC4HS3M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXM-①-200-20-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-20-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-10-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

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)	10: 100mm ~ 50: 500mm
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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism *4	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	200W/20mm
Y-axis motor output/lead	100W/20mm
Z-axis motor output/lead	200W/10mm

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 0.4G. 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)

■BC□HS3M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500
100	13.2	13.2	13.1	13.1	13.1	13.1	13.1	11.6	9.3
150	12.6	12.5	12.5	12.5	12.5	12.4	12.4	10.9	8.6
200	12.0	12.0	12.0	11.9	11.9	11.9	11.9	10.3	8.0
250	11.4	11.4	11.3	11.3	11.3	11.3	11.3	9.6	7.3
300	10.8	10.8	10.8	10.8	10.8	10.7	10.7	9.0	6.7
350	10.3	10.3	10.3	10.2	10.2	10.2	10.2	8.4	6.1
400	9.8	9.7	9.7	9.7	9.7	9.7	9.6	7.8	5.5

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

■BC□HS3M

	100~400	450~500	550~700	750~800	850~900	950~1000
X-axis	1200			860	695	570
Y-axis	1200		—			
Z-axis	600	—				

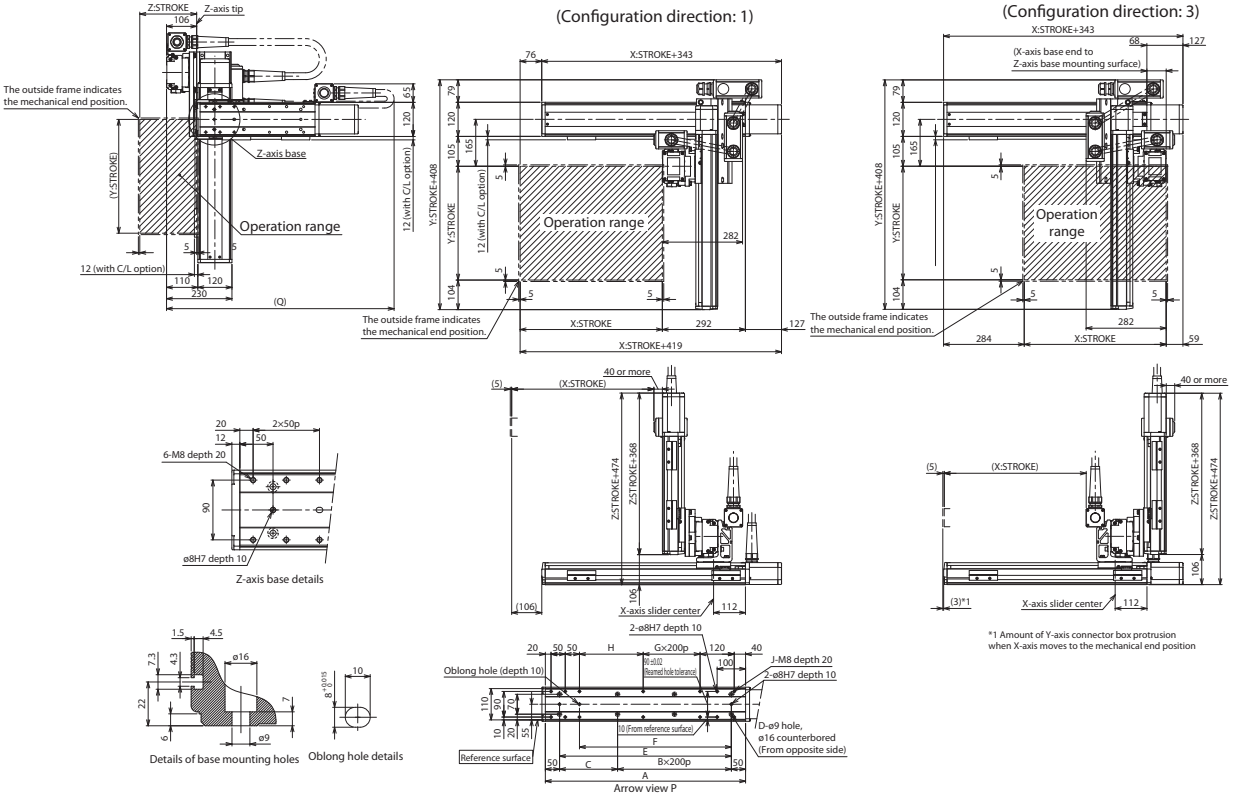
ICSB3 [ICSPB3]-BC□HS3M□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. 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	100	150	200	250	300	350	400	450	500
100	750	750	800	800	850	850	900	900	950
150	800	800	850	850	900	900	950	950	1000
200	850	850	900	900	950	950	1000	1000	1050
250	900	900	950	950	1000	1000	1050	1050	1100
300	950	950	1000	1000	1050	1050	1100	1100	1150
350	1000	1000	1050	1050	1100	1100	1150	1150	1200
400	1050	1050	1100	1100	1150	1150	1200	1200	1250

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

ICSB3-BC□MS3M
ICSPB3-BC□MS3M High-Precision Specification

±10μm Standard / ±5μm High Precision | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | Medium Speed Type | X: Md (100W) Y: Md (100W) Z: Md (200W)

■ Model Specification Items

□ — BC□MS3M — WA — □□ — □□ — □□ — T2 — □ — □

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) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

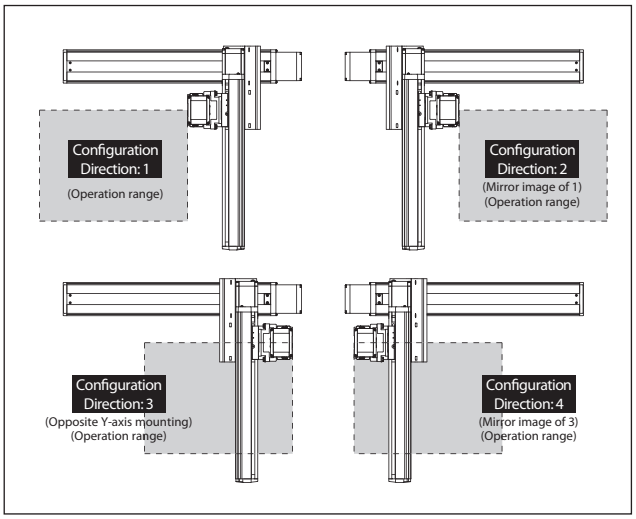
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BC1MS3M-①②③④⑤⑥⑦BNM-T2-⑧⑨
2	M	ICSB3[ICSPB3]-BC2MS3M-①②③④⑤⑥⑦BNM-T2-⑧⑨
3	M	ICSB3[ICSPB3]-BC3MS3M-①②③④⑤⑥⑦BNM-T2-⑧⑨
4	M	ICSB3[ICSPB3]-BC4MS3M-①②③④⑤⑥⑦BNM-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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXM-①-100-10-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-10-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-10-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

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)	10: 100mm ~ 50: 500mm
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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism *4	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	100W/10mm
Y-axis motor output/lead	100W/10mm
Z-axis motor output/lead	200W/10mm

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 0.4G. 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)

■BC□MS3M

Z-axis stroke	Y-axis stroke 100~400	450	500
100	14.3	11.6	9.3
150	13.6	10.9	8.6
200	13.0	10.3	8.0
250	12.3	9.6	7.3
300	11.7	9.0	6.7
350	11.1	8.4	6.1
400	10.5	7.8	5.5

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

■BC□MS3M

	100~400	450~500	550~700	750~800	850~900	950~1000
X-axis	600			430	345	280
Y-axis	600		—			
Z-axis	600	—				

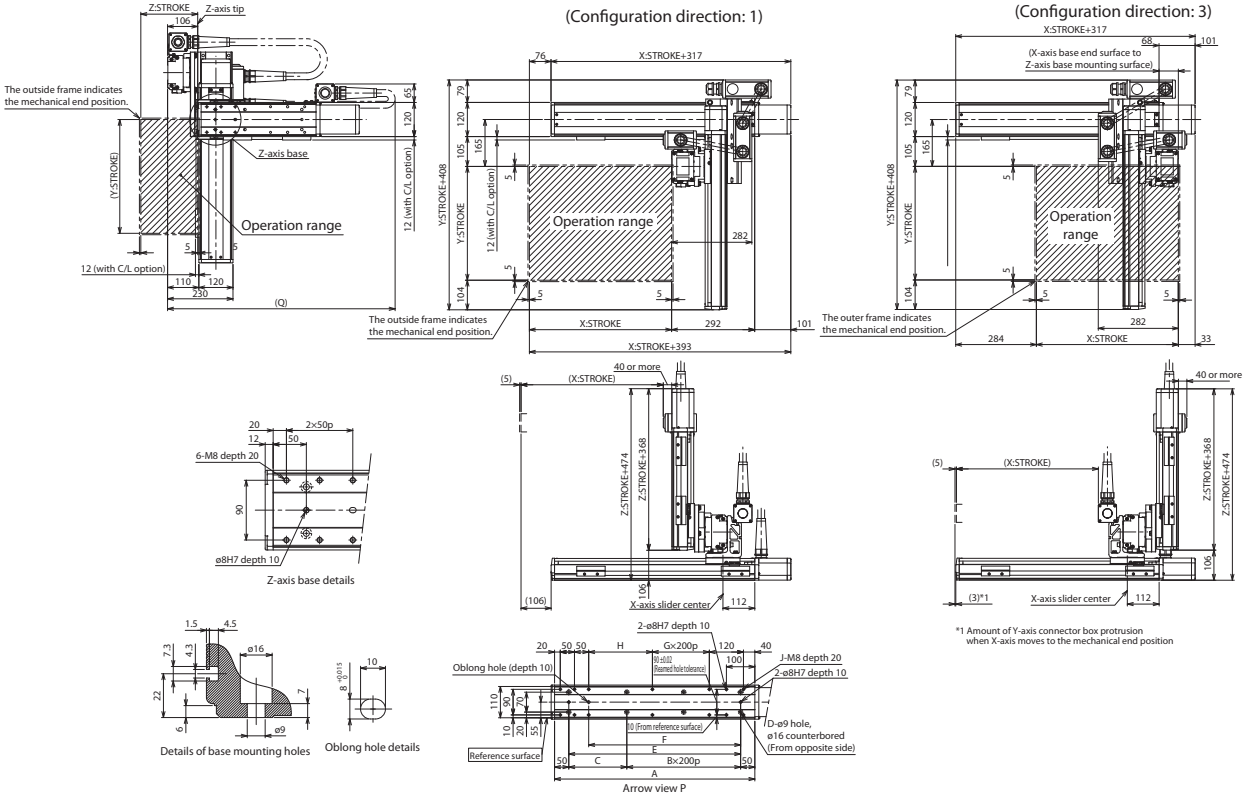
ICSB3 [ICSPB3]-BC□MS3M□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



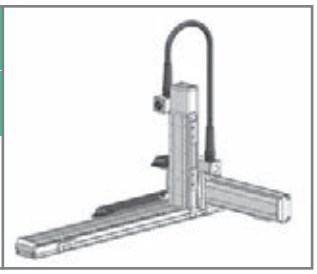
Q dimension

Z-axis \ Y-axis	100	150	200	250	300	350	400	450	500
100	750	750	800	800	850	850	900	900	950
150	800	800	850	850	900	900	950	950	1000
200	850	850	900	900	950	950	1000	1000	1050
250	900	900	950	950	1000	1000	1050	1050	1100
300	950	950	1000	1000	1050	1050	1100	1100	1150
350	1000	1000	1050	1050	1100	1100	1150	1150	1200
400	1050	1050	1100	1100	1150	1150	1200	1200	1250

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104
F	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034
G	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4
H	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

ICSB3-BD□HS1□
ICSPB3-BD□HS1□ High-Precision Specification

±10μm (Standard) / ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | High Speed Long Type | X: Md (200W) Y: Md (100W) Z: Sml (60W)



Model Specification Items

□ — BD□HS1□ — WA — □□ — □□ — □□ — □□ — T2 — □ — □

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	80: 800mm ~ 200: 2000mm (Every 100mm)	10: 100mm ~ 50: 500mm (Every 50mm)	10: 100mm ~ 40: 400mm (Every 50mm)	Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

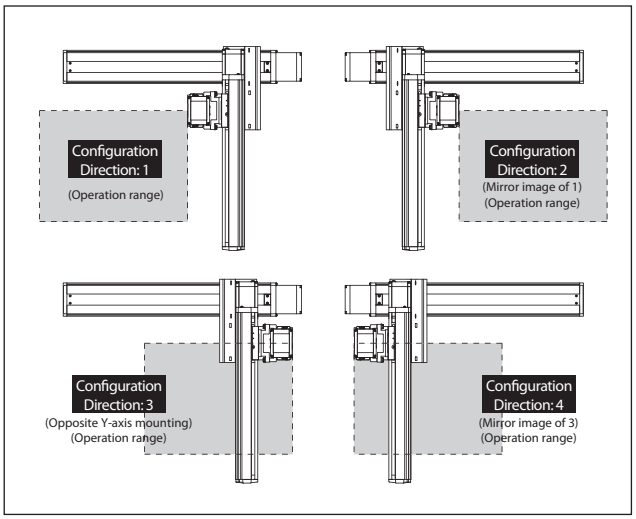
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BD1HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BD1HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BD2HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BD2HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BD3HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BD3HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BD4HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BD4HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXMX-①-200-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	80: 800mm ~ 200: 2000mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-SC: Cable track - 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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism *4	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	200W/20mm
Y-axis motor output/lead	100W/20mm
Z-axis motor output/lead	60W/8mm (M), 4mm (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 4, 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)

■BD□HS1M

Z-axis stroke \ Y-axis stroke	100~500
100	4.3
150	3.9
200	3.5
250	3.1
300	2.8
350	2.4
400	2.1

■BD□HS1L

Z-axis stroke \ Y-axis stroke	100~500
100	11.3
150	10.9
200	10.5
250	10.1
300	9.8
350	9.4
400	9.1

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

■BD□HS1M

	100~400	450~500	800~1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
X-axis	—		1200	1100	1000	950	800	700	600	550	500	450
Y-axis	1200		—									
Z-axis	480	—										

■BD□HS1L

	100~400	450~500	800~1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
X-axis	—		1200	1100	1000	950	800	700	600	550	550	450
Y-axis	1200		—									
Z-axis	240	—										

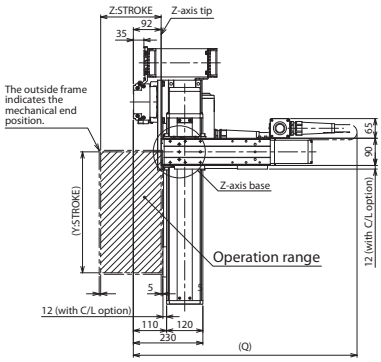
ICSB3 [ICSPB3]-BD□HS1□-CT-SC (Cable track - Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



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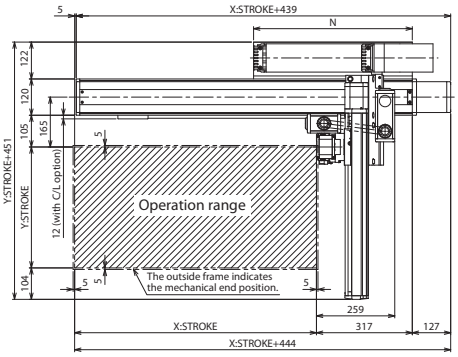

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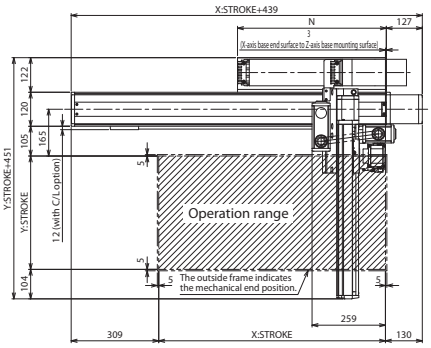
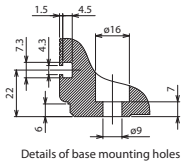
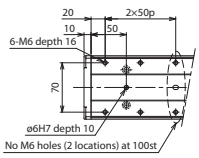
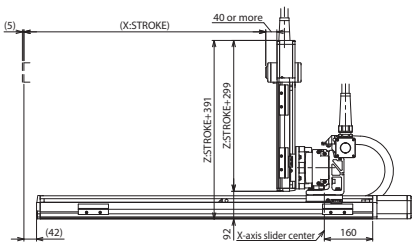
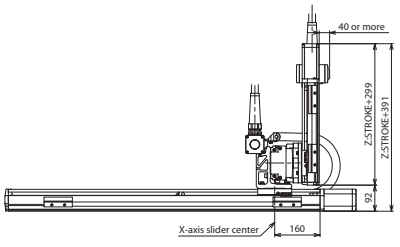
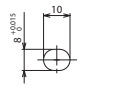


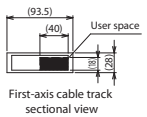


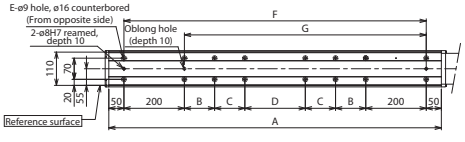












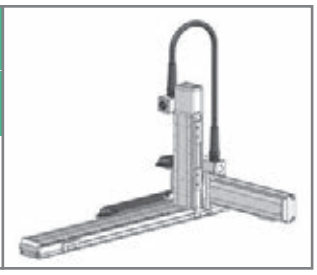
X-axis stroke	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
A	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
B	200	200	200	250	300	350	400	450	500	550	200	200	200
C	0	0	0	0	0	0	0	0	0	0	400	450	500
D	200	300	400	400	400	400	400	400	400	400	400	400	400
E	12	12	12	12	12	12	12	12	12	12	16	16	16
F	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
G	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
N	525	575	625	675	725	775	825	875	925	975	1025	1075	1125

Q dimension

Z-axis \ Y-axis	100	150	200	250	300	350	400	450	500
100	700	700	750	750	800	800	800	850	850
150	750	750	800	800	850	850	850	900	900
200	800	800	850	850	900	900	900	950	950
250	850	850	900	900	950	950	950	1000	1000
300	900	900	950	950	1000	1000	1000	1050	1050
350	950	950	1000	1000	1050	1050	1050	1100	1100
400	1000	1000	1050	1050	1100	1100	1100	1150	1150

ICSB3-BD□HS3M
ICSPB3-BD□HS3M High-Precision Specification

±10μm Standard / ±5μm High Precision | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | High Speed Long Type | X: Md (200W) Y: Md (100W) Z: Md (200W)



■ Model Specification Items

□ — BD□HS3M — WA — □□ — □□ — □□ — T2 — □ — □

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	80: 800mm ~ 200: 2000mm (Every 100mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

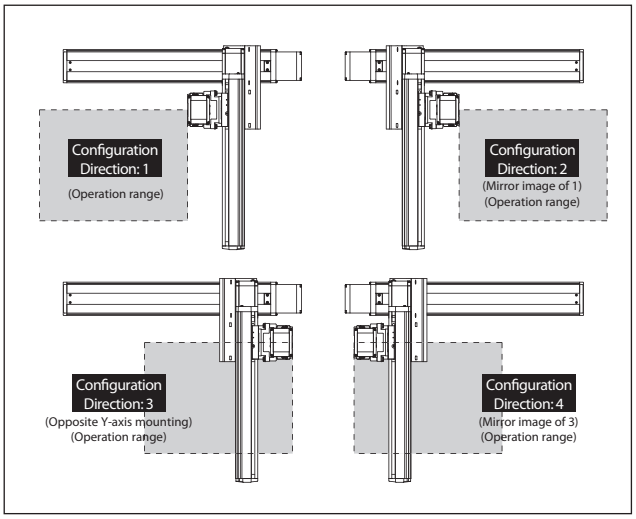
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BD1HS3M-①②③④⑤⑥⑦BNM-T2-⑧⑨
2	M	ICSB3[ICSPB3]-BD2HS3M-①②③④⑤⑥⑦BNM-T2-⑧⑨
3	M	ICSB3[ICSPB3]-BD3HS3M-①②③④⑤⑥⑦BNM-T2-⑧⑨
4	M	ICSB3[ICSPB3]-BD4HS3M-①②③④⑤⑥⑦BNM-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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXMX-①-200-20-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-20-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-10-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	80: 800mm ~ 200: 2000mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-SC: Cable track - 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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism *4	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	200W/20mm
Y-axis motor output/lead	100W/20mm
Z-axis motor output/lead	200W/10mm

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 0.4G. 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)

■BD□HS3M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500
100	13.2	13.2	13.1	13.1	13.1	13.1	13.1	11.6	9.3
150	12.6	12.5	12.5	12.5	12.5	12.4	12.4	10.9	8.6
200	12.0	12.0	12.0	11.9	11.9	11.9	11.9	10.3	8.0
250	11.4	11.4	11.3	11.3	11.3	11.3	11.3	9.6	7.3
300	10.8	10.8	10.8	10.8	10.8	10.7	10.7	9.0	6.7
350	10.3	10.3	10.3	10.2	10.2	10.2	10.2	8.4	6.1
400	9.8	9.7	9.7	9.7	9.7	9.7	9.6	7.8	5.5

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

■BD□HS3M

	100~400	450~500	800~1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
X-axis	—		1200	1100	1000	950	800	700	600	550	500	450
Y-axis	1200		—									
Z-axis	600	—										

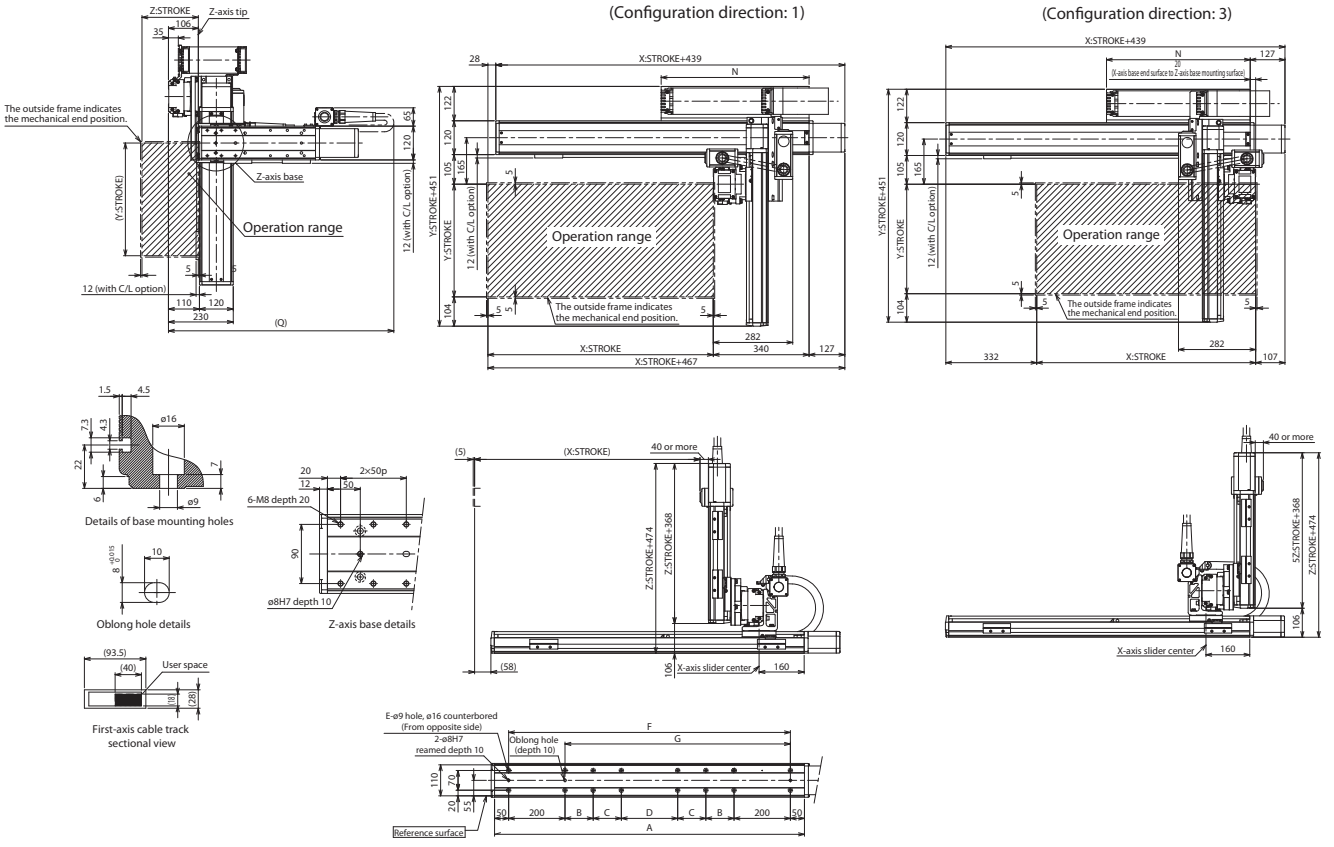
ICSB3 [ICSPB3]-BD□HS3M□-CT-SC (Cable track - Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



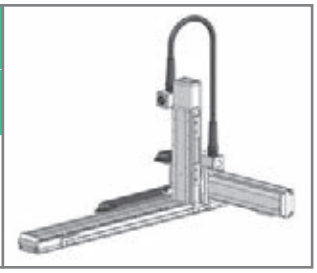
X-axis stroke	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
A	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
B	200	200	200	250	300	350	400	450	500	550	200	200	200
C	0	0	0	0	0	0	0	0	0	0	400	450	500
D	200	300	400	400	400	400	400	400	400	400	400	400	400
E	12	12	12	12	12	12	12	12	12	12	16	16	16
F	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
G	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
N	525	575	625	675	725	775	825	875	925	975	1025	1075	1125

Q dimension

Z-axis \ Y-axis	100	150	200	250	300	350	400	450	500
100	750	750	800	800	850	850	900	900	950
150	800	800	850	850	900	900	950	950	1000
200	850	850	900	900	950	950	1000	1000	1050
250	900	900	950	950	1000	1000	1050	1050	1100
300	950	950	1000	1000	1050	1050	1100	1100	1150
350	1000	1000	1050	1050	1100	1100	1150	1150	1200
400	1050	1050	1100	1100	1150	1150	1200	1200	1250

ICSB3-BE□HS1□
ICSPB3-BE□HS1□ High-Precision Specification

±10μm (Standard) / ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | High Speed Type | X: Lg (400W) Y: Md (200W) Z: Sml (60W)



■ Model Specification Items

□ — BE□HS1□ — WA — □□ — □□ — □□ — T2 — □ — □

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) Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

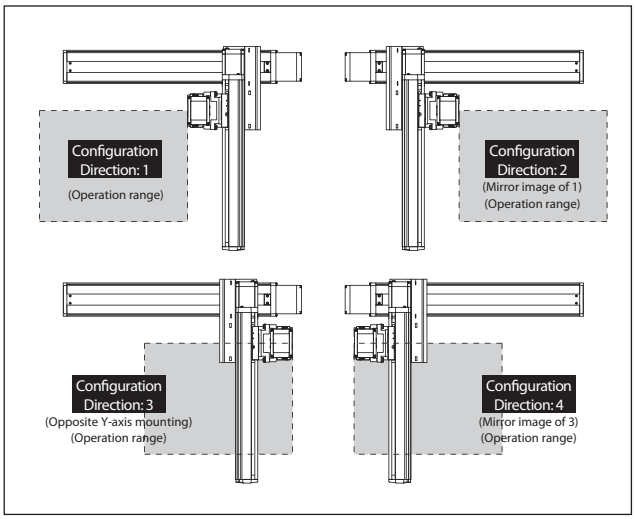
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BE1HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BE1HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BE2HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BE2HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BE3HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BE3HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BE4HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BE4HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-LXM-①-400-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-200-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

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)	10: 100mm ~ 70: 700mm
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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism *4	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	60W/8mm (M), 4mm (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 4, 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)

■BE□HS1M

Z-axis stroke \ Y-axis stroke	100~700
100	4.3
150	3.9
200	3.5
250	3.1
300	2.8
350	2.4
400	2.1

■BE□HS1L

Z-axis stroke \ Y-axis stroke	100~700
100	11.3
150	10.9
200	10.5
250	10.1
300	9.8
350	9.4
400	9.1

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

■BE□HS1M

	100~400	450~700	750~800	850~900	950~1000
X-axis	1200			920	765
Y-axis	1200			—	
Z-axis	480	—			

■BE□HS1L

	100~400	450~700	750~800	850~900	950~1000
X-axis	1200			920	765
Y-axis	1200			—	
Z-axis	240	—			

ICSB3 [ICSPB3]-BE□HS1□-SC-SC (Self-standing cable specification)

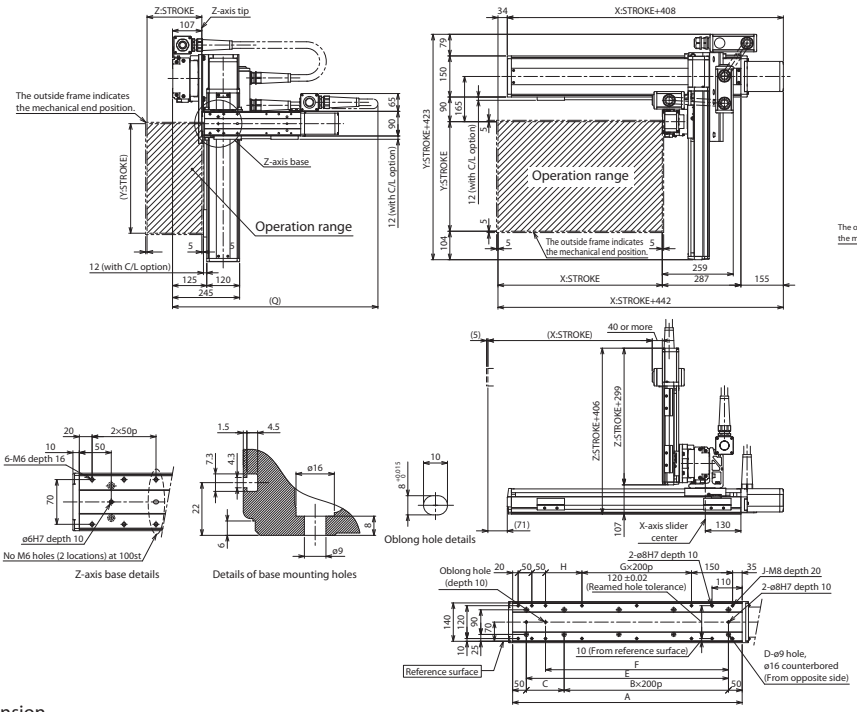
Dimensions

CAD drawings can be downloaded from our website.

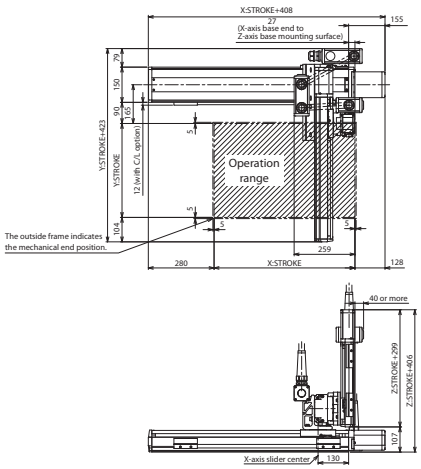
2D CAD 3D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)



(Configuration direction: 3)



Q dimension

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

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	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138
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	133	183	233	283	133	183	233	283	133	183	233	283	133
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

ICSB3-BE□HS3M
ICSPB3-BE□HS3M High-Precision Specification

±10μm Standard / ±5μm High Precision | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | High Speed Type | X: Lg (400W) Y: Md (200W) Z: Md (200W)

■ Model Specification Items

□ — BE□HS3M — WA — □□ — □□ — □□ — T2 — □ — □

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) Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

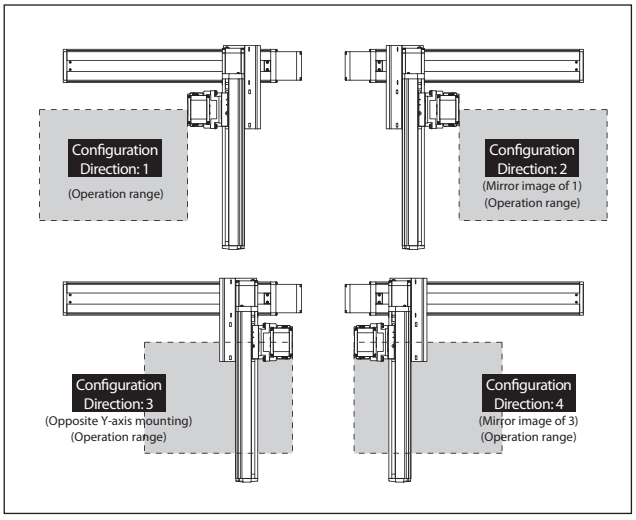
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BE1HS3M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BE2HS3M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BE3HS3M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BE4HS3M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-LXM-①-400-20-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-200-20-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-10-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

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)	10: 100mm ~ 70: 700mm
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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism *4	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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

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 0.4G. 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)

■BE□HS3M

Z-axis stroke	Y-axis stroke 100~650	Y-axis stroke 700
100	14.3	12.3
150	13.6	11.6
200	13.0	11.0
250	12.3	10.3
300	11.7	9.7
350	11.1	9.1
400	10.5	8.5

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

■BE□HS3M

	100~400	450~700	750~800	850~900	950~1000
X-axis	1200			920	765
Y-axis	1200			—	
Z-axis	600	—			

ICSB3 [ICSPB3]-BE□HS3M□-SC-SC (Self-standing cable specification)

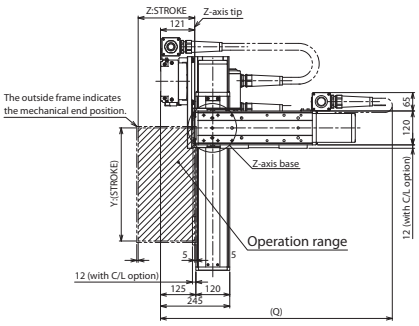
Dimensions

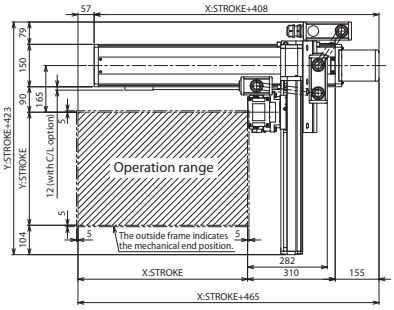
CAD drawings can be downloaded from our website.

2D CAD 3D CAD RoHS

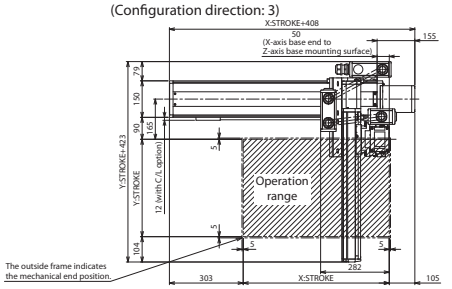
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

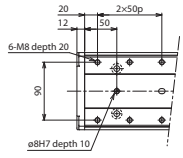
(Configuration direction: 1)



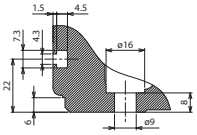


(Configuration direction: 3)



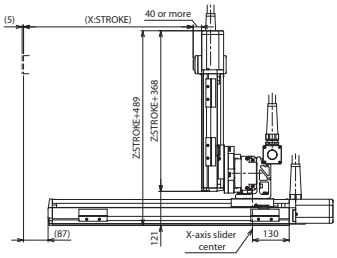


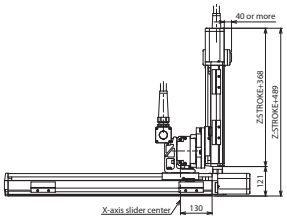
Z-axis base details

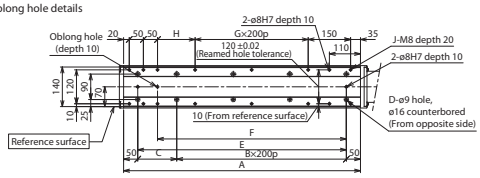


Details of base mounting holes

Oblong hole details







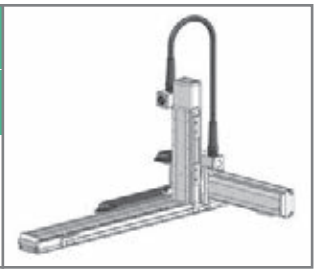
Q dimension

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

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	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138
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	133	183	233	283	133	183	233	283	133	183	233	283	133
J	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18

ICSB3-BF□HS1□
ICSPB3-BF□HS1□ High-Precision Specification

±10μm (Standard) / ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | High Speed Long Type | X: Lg (400W) Y: Md (200W) Z: Sml (60W)



■ Model Specification Items

□ — BF□HS1□ — WA — □ □ — □ □ — □ □ — T2 — □ — □

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	100: 1000mm 〜 250: 2500mm (Every 100mm) Refer to Options table below.	10: 100mm 〜 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm 〜 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

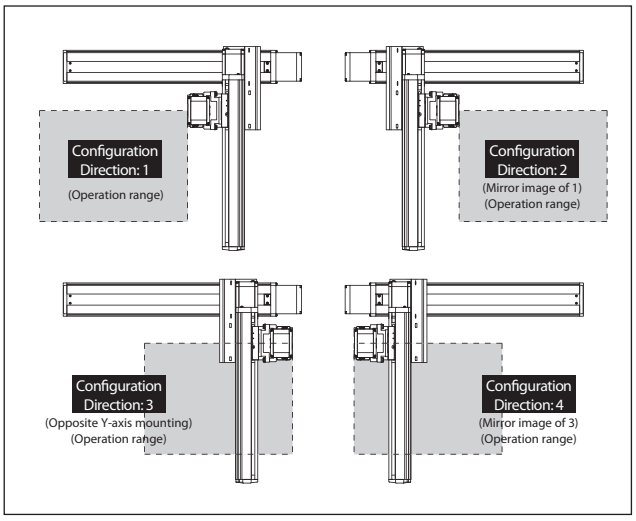
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BF1HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BF1HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BF2HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BF2HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BF3HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BF3HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BF4HS1M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	L	ICSB3[ICSPB3]-BF4HS1L-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-LXMX-①-400-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-200-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	100: 1000mm 〜 250: 2500mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm 〜 70: 700mm
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	CT-SC: Cable track - 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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism *4	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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	60W/8mm (M), 4mm (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 4, 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)

■BF□HS1M

Z-axis stroke \ Y-axis stroke	100~700
100	4.3
150	3.9
200	3.5
250	3.1
300	2.8
350	2.4
400	2.1

■BF□HS1L

Z-axis stroke \ Y-axis stroke	100~700
100	11.3
150	10.9
200	10.5
250	10.1
300	9.8
350	9.4
400	9.1

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

■BF□HS1M

	100~400	450~700	1,000~1,200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1150	1000	950	830	740	650	590	540	490	440	410	370	340
Y-axis	1200		—													
Z-axis	480	—														

■BF□HS1L

	100~400	450~700	1,000~1,200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1150	1000	950	830	740	650	590	540	490	440	410	370	340
Y-axis	1200		—													
Z-axis	240	—														

ICSB3 [ICSPB3]-BF□HS1□-CT-SC (Cable track - Self-standing cable specification)

Dimensions

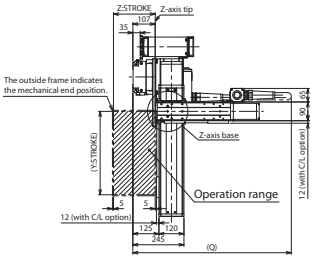
CAD drawings can be downloaded from our website.

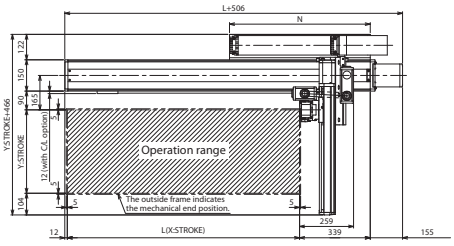
2D CAD 3D CAD

RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)





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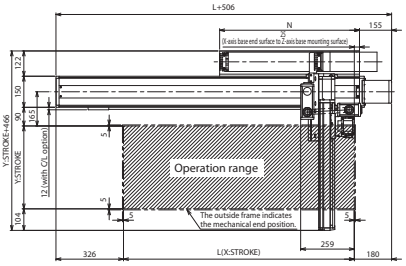
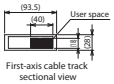
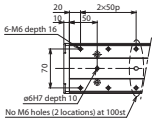
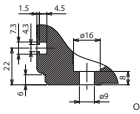
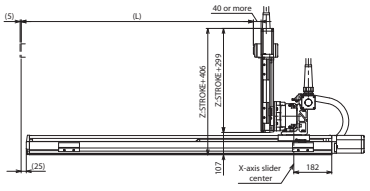
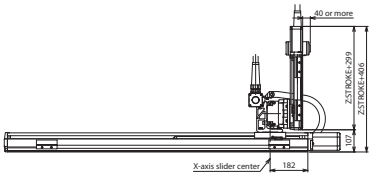


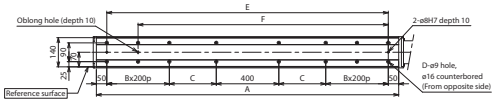












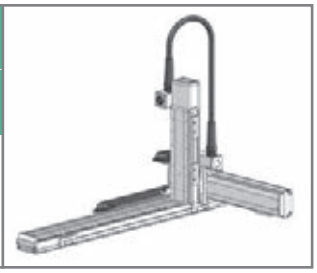
Q dimension

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

X-axis stroke	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
L	1014	1114	1214	1314	1414	1514	1614	1714	1814	1914	2014	2114	2214	2314	2414	2514
A	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850
B	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3
C	225	275	325	375	425	475	525	575	425	475	525	575	425	475	525	575
D	12	12	12	12	12	12	12	12	16	16	16	16	20	20	20	20
E	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750
F	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550
N	625	675	725	775	825	875	925	975	1025	1075	1125	1175	1225	1275	1325	1375

ICSB3-BF□HS3M
ICSPB3-BF□HS3M High-Precision Specification

±10μm (Standard) / ±5μm (High Precision) | Battery-less Absolute | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | High Speed Long Type | X: Lg (400W) Y: Md (200W) Z: Md (200W)



■ Model Specification Items

□ — BF□HS3M — WA — □□ — □□ — □□ — T2 — □ — □

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	100: 1000mm ~ 250: 2500mm (Every 100mm) Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

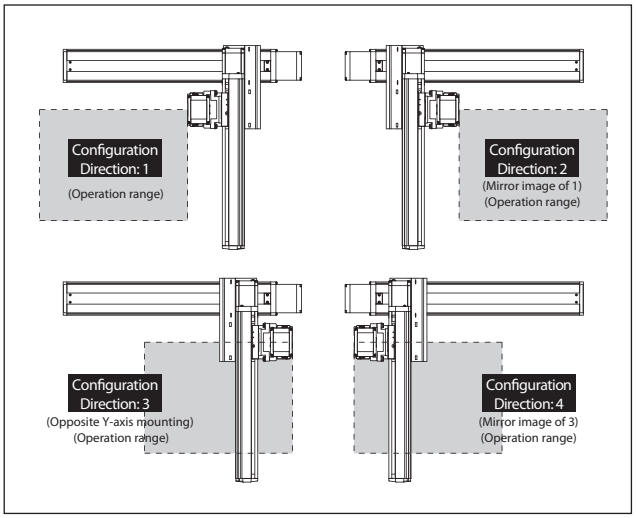
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BF1HS3M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BF2HS3M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BF3HS3M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BF4HS3M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-LXMX-①-400-20-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-200-20-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-10-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	100: 1000mm ~ 250: 2500mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
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	CT-SC: Cable track - 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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism *4	RT	See P.354

*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 Cannot be selected for High-Precision Specification.
* 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.

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

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 0.4G. 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)

■BF□HS3M

Z-axis stroke	Y-axis stroke 100~650	Y-axis stroke 700
100	14.3	12.3
150	13.6	11.6
200	13.0	11.0
250	12.3	10.3
300	11.7	9.7
350	11.1	9.1
400	10.5	8.5

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

■BF□HS3M

	100~400	450~700	1,000~1,200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1150	1000	950	830	740	650	590	540	490	440	410	370	340
Y-axis	1200		—													
Z-axis	600	—														

ICSB3 [ICSPB3]-BF□HS3M-CT-SC (Cable track - Self-standing cable specification)

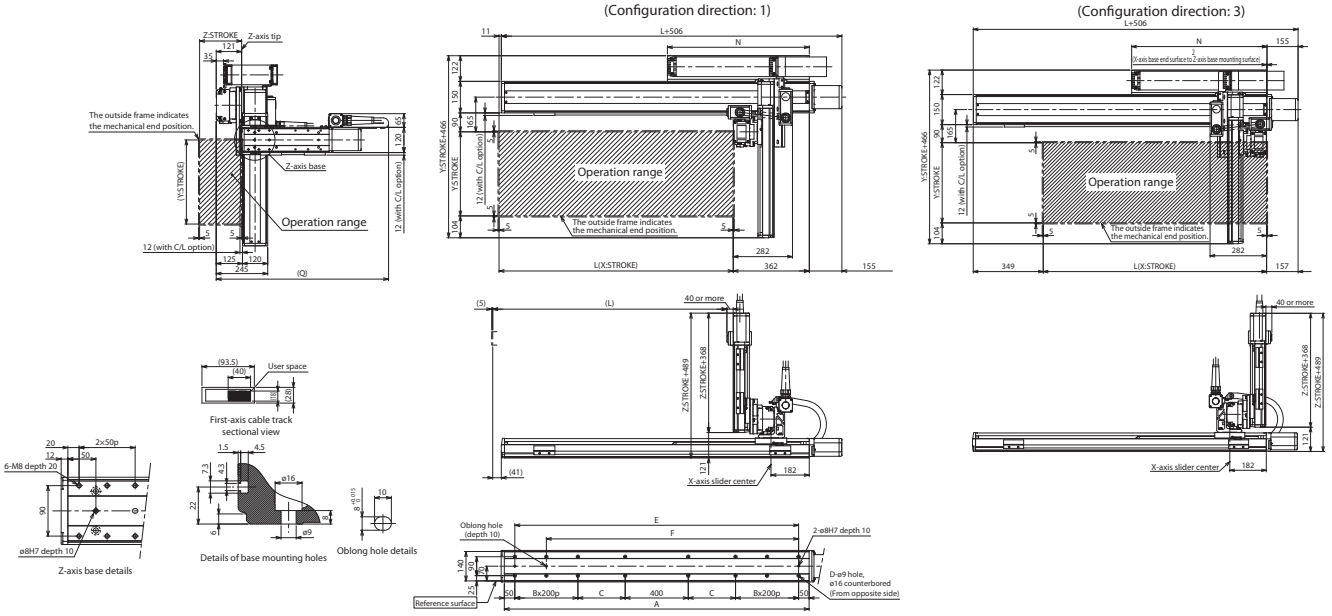
Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD

RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



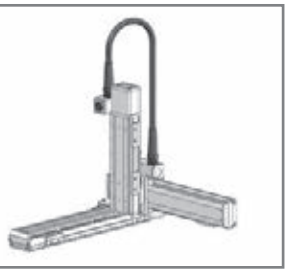
Q dimension

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

X-axis stroke	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
L	1014	1114	1214	1314	1414	1514	1614	1714	1814	1914	2014	2114	2214	2314	2414	2514
A	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850
B	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3
C	225	275	325	375	425	475	525	575	425	475	525	575	425	475	525	575
D	12	12	12	12	12	12	12	12	16	16	16	16	20	20	20	20
E	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750
F	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550
N	625	675	725	775	825	875	925	975	1025	1075	1125	1175	1225	1275	1325	1375

ICSB3-BK□HS4□
ICSPB3-BK□HS4□ High-Precision Specification

X±20μm Y/Z±10μm (Standard)
X±10μm Y/Z±5μm (High-Precision)
X-Y-Z 3-axis
XYB+ZS (Y Base Mount Z Slider)
High Speed Type
X: XL (600W) Y: Lg (400W) Z: Lg (400W)



■ Model Specification Items

□ — BK□HS4□ — □ — □ □ — □ □ — □ □ — □ □ — T2 — □ — □

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	A: Absolute I: Incremental	10: 100mm ~ 100: 1000mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

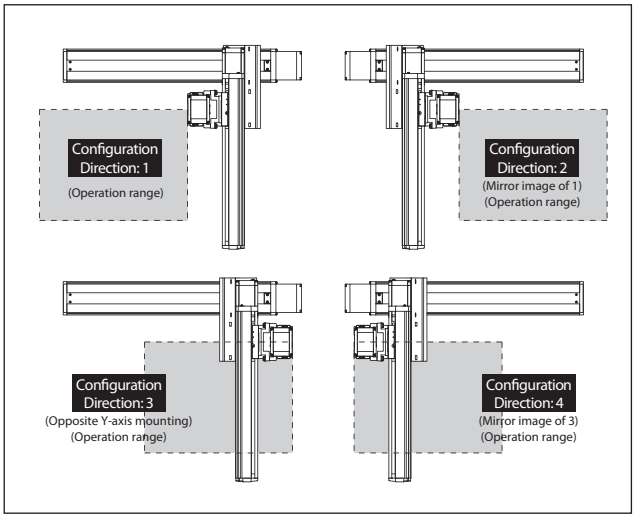
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BK1HS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BK1HS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BK2HS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BK2HS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BK3HS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BK3HS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BK4HS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BK4HS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISA[ISPA]-WXM-①-600-40-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-40-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
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)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 *	A1/A3	See P.11, P.353
AQ seal (equipped as standard on Y/Z-axis)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2 (equipped as standard on X-axis)	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only)	RT	See P.354

*1 Brake option for Y-axis increases the length of the motor unit. 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.
* Please refer to P.11 for the X-axis cable exit direction.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.02mm, Y/Z-axis ±0.01mm [X-axis ±0.01mm, Y/Z-axis ±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	600W/40mm
Y-axis motor output/lead	400W/40mm
Z-axis motor output/lead	400W/20mm (H), 10mm (M)

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 20m.
(Note 3) The rated acceleration is 0.4G. 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)

■BK□HS4H

Z-axis stroke \ Y-axis stroke	100~700
100	12.0
150	11.1
200	10.2
250	9.3
300	8.5
350	7.6
400	6.8
450	5.9
500	5.0

■BK□HS4M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
100	25.1	24.4	23.5	22.7	21.9	21.1	20.3	19.4	18.6	17.7	17.0	16.1	15.3
150	24.3	23.6	22.7	21.9	21.1	20.3	19.5	18.6	17.8	16.9	16.2	15.3	14.5
200	23.4	22.8	21.9	21.1	20.3	19.4	18.7	17.8	17.0	16.1	15.3	14.5	13.7
250	22.6	22.0	21.1	20.3	19.5	18.6	17.9	17.0	16.2	15.3	14.5	13.7	12.9
300	21.9	21.2	20.4	19.5	18.8	17.9	17.1	16.3	15.4	14.6	13.8	13.0	12.2
350	21.1	20.4	19.6	18.7	18.0	17.1	16.3	15.5	14.6	13.8	13.0	12.2	11.4
400	20.4	19.7	18.9	18.0	17.2	16.4	15.6	14.8	13.9	13.1	12.3	11.4	10.7
450	19.6	18.9	18.0	17.2	16.4	15.6	14.8	14.0	13.1	12.2	11.5	10.6	9.9
500	18.8	18.1	17.2	16.4	15.6	14.8	14.0	13.1	12.3	11.4	10.7	9.8	9.0

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

■BK□HS4H

	100~500	550~700	750~800	850~900	950~1000
X-axis	2400			1840	1530
Y-axis	2400		—		
Z-axis	1200	—			

■BK□HS4M

	100~500	550~700	750~800	850~900	950~1000
X-axis	2400			1840	1530
Y-axis	2400		—		
Z-axis	600	—			

ICSB3 [ICSPB3]-BK□HS4□-SC-SC (Self-standing cable specification)

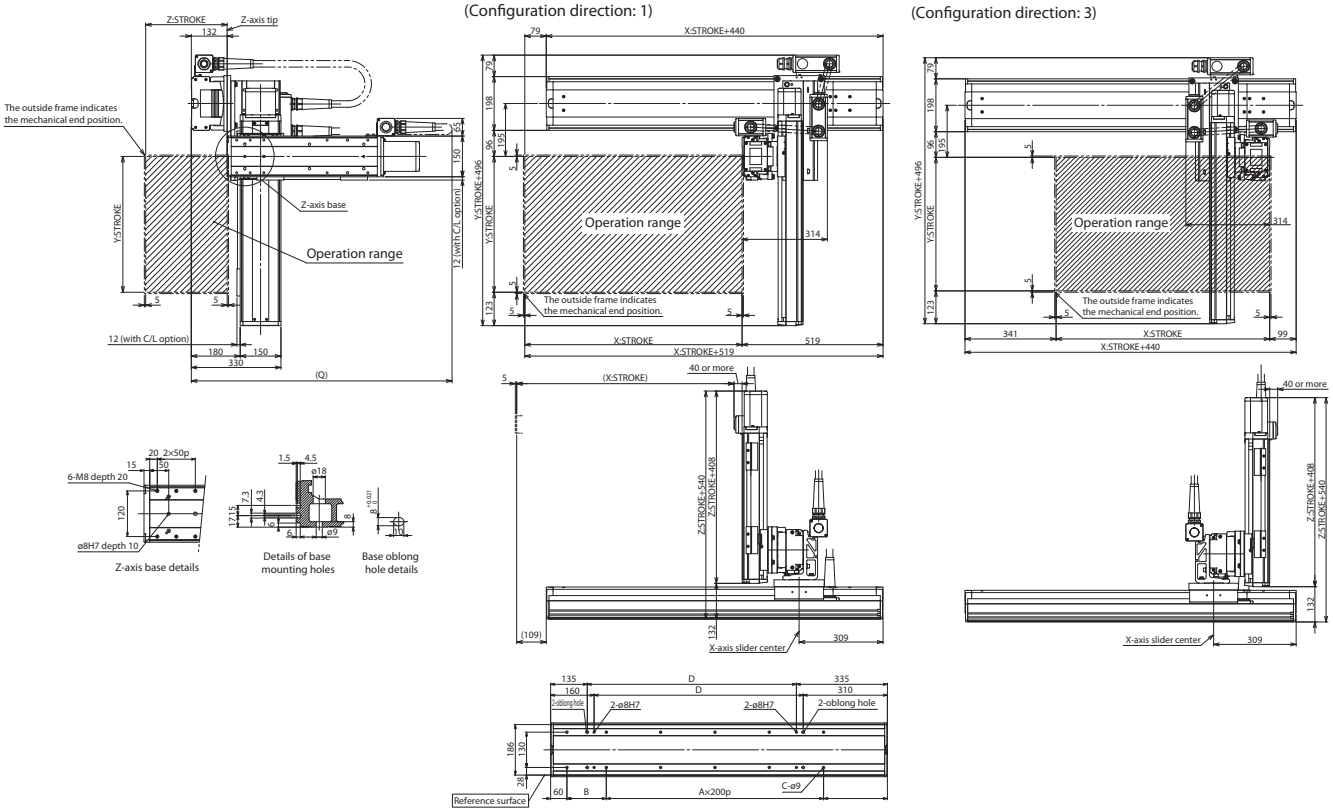
Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD

RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



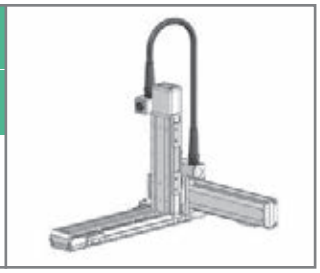
Q dimension

Z-axis \ Y-axis	100	150	200	250	300	350	400	450	500	550	600	650	700
100	850	850	850	900	900	950	950	1000	1000	1050	1050	1100	1100
150	900	900	900	950	950	1000	1000	1050	1050	1100	1100	1150	1150
200	950	950	950	1000	1000	1050	1050	1100	1100	1150	1150	1200	1200
250	1000	1000	1000	1050	1050	1100	1100	1150	1150	1200	1200	1250	1250
300	1050	1050	1050	1100	1100	1150	1150	1200	1200	1250	1250	1300	1300
350	1100	1100	1100	1150	1150	1200	1200	1250	1250	1300	1300	1350	1350
400	1150	1150	1150	1200	1200	1250	1250	1300	1300	1350	1350	1400	1400
450	1200	1200	1200	1250	1250	1300	1300	1350	1350	1400	1400	1450	1450
500	1250	1250	1250	1300	1300	1350	1350	1400	1400	1450	1450	1500	1500

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
B	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145
C	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
D	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970

ICSB3-BK□MS4□
ICSPB3-BK□MS4□ High-Precision Specification

X ±20μm Y/Z ±10μm (Standard) / X ±10μm Y/Z ±5μm (High-Precision) | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | Medium Speed Type | X: XL (600W) Y: Lg (400W) Z: Lg (400W)



■ Model Specification Items

□ — BK□MS4□ — □ — □ □ — □ □ — □ □ — □ □ — T2 — □ — □

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	A: Absolute I: Incremental	10: 100mm ~ 100: 1000mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

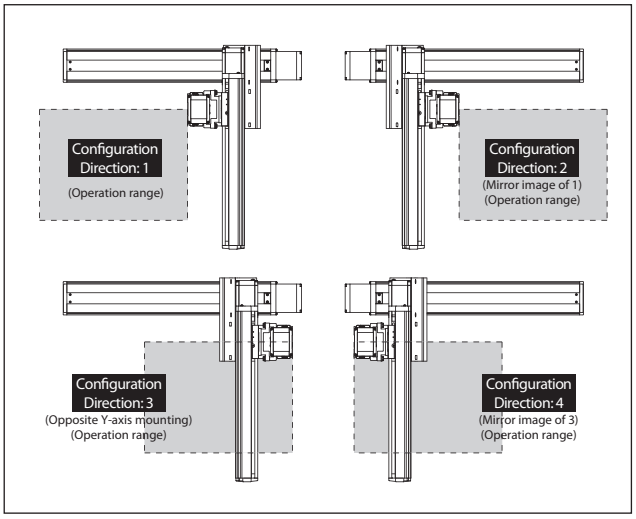
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BK1MS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BK1MS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BK2MS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BK2MS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BK3MS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BK3MS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BK4MS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BK4MS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISA[ISPA]-WXM-①-600-20-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
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)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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 *	A1/A3	See P.11, P.353
AQ seal (equipped as standard on Y/Z-axis)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2 (equipped as standard on X-axis)	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only)	RT	See P.354

*1 Brake option for Y-axis increases the length of the motor unit. 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.
* Please refer to P.11 for the X-axis cable exit direction.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.02mm, Y/Z-axis ±0.01mm [X-axis ±0.01mm, Y/Z-axis ±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	600W/20mm
Y-axis motor output/lead	400W/20mm
Z-axis motor output/lead	400W/20mm (H), 10mm (M)

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 20m.
(Note 3) The rated acceleration is 0.4G. 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)

■BK□MS4H

Z-axis stroke	Y-axis stroke 100~700
100	12.0
150	11.1
200	10.2
250	9.3
300	8.5
350	7.6
400	6.8
450	5.9
500	5.0

■BK□MS4M

Z-axis stroke	Y-axis stroke 100~300	350	400	450	500	550	600	650	700
100	32.0	32.0	32.0	32.0	32.0	29.1	25.4	22.1	19.1
150	31.1	31.1	31.1	31.1	31.1	28.2	24.5	21.2	18.2
200	30.2	30.2	30.2	30.2	30.2	27.3	23.6	20.3	17.3
250	29.3	29.3	29.3	29.3	29.3	26.4	22.7	19.4	16.4
300	28.5	28.5	28.5	28.5	28.5	25.6	21.9	18.6	15.6
350	27.6	27.6	27.6	27.6	27.6	24.7	21.0	17.7	14.7
400	26.8	26.4	26.0	25.5	25.1	23.9	20.2	16.9	13.9
450	23.5	23..5	23.5	23..5	23.2	22.8	19.3	16.0	13.0
500	19.2	19.2	19.2	19.2	19.2	19.2	18.4	15.1	12.1

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

■BK□MS4H

	100~400	450~700	750~800	850~900	950~1000
X-axis	1200			920	765
Y-axis	1200		—		
Z-axis	1200	—			

■BK□MS4M

	100~400	450~700	750~800	850~900	950~1000
X-axis	1200			920	765
Y-axis	1200		—		
Z-axis	600	—			

ICSB3 [ICSPB3]-BK□MS4□-SC-SC (Self-standing cable specification)

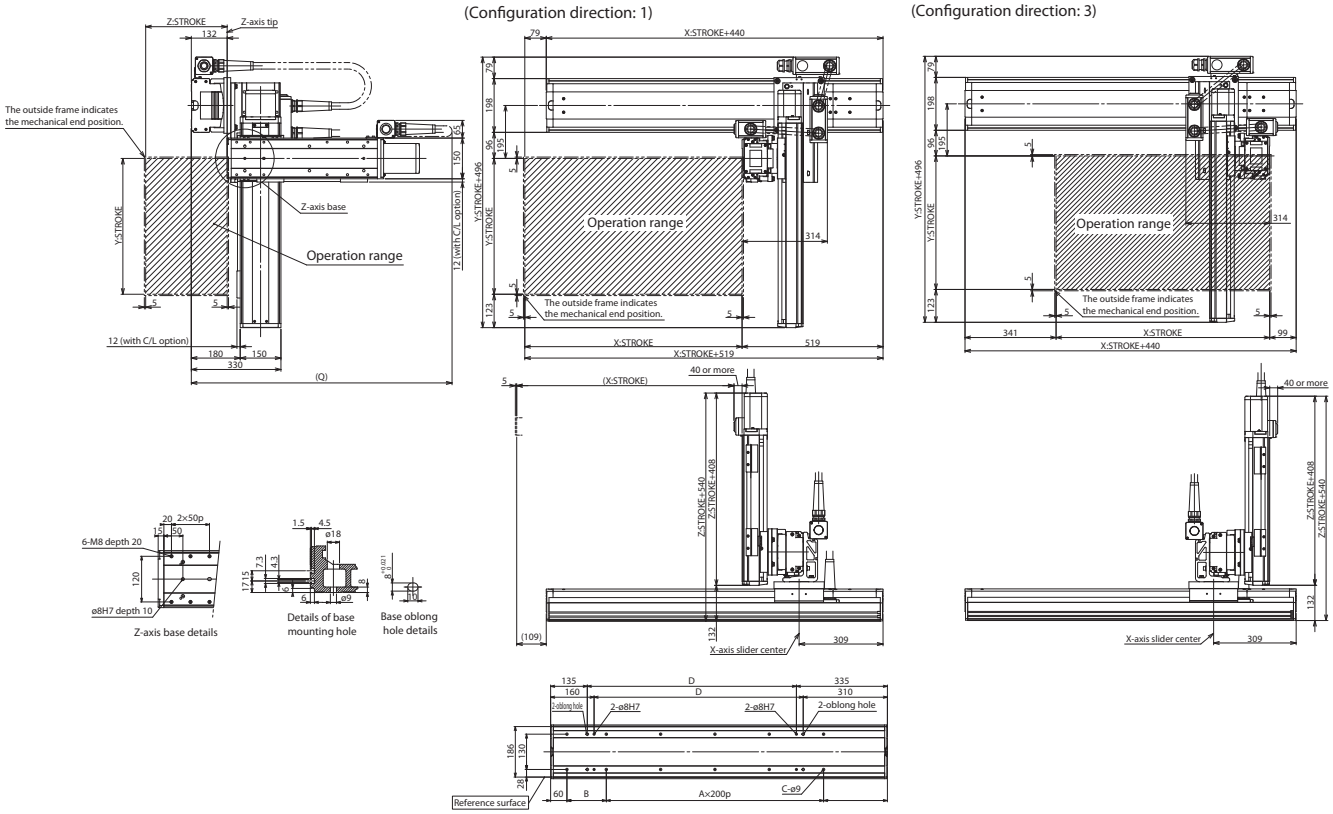
Dimensions

CAD drawings can be downloaded from our website.

2D CAD 3D CAD

RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



Q dimension

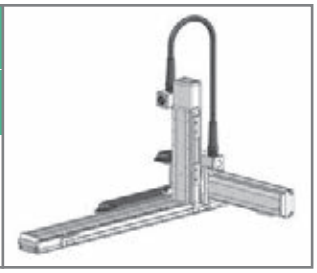
Z-axis \ Y-axis	100	150	200	250	300	350	400	450	500	550	600	650	700
100	850	850	850	900	900	950	950	1000	1000	1050	1050	1100	1100
150	900	900	900	950	950	1000	1000	1050	1050	1100	1100	1150	1150
200	950	950	950	1000	1000	1050	1050	1100	1100	1150	1150	1200	1200
250	1000	1000	1000	1050	1050	1100	1100	1150	1150	1200	1200	1250	1250
300	1050	1050	1050	1100	1100	1150	1150	1200	1200	1250	1250	1300	1300
350	1100	1100	1100	1150	1150	1200	1200	1250	1250	1300	1300	1350	1350
400	1150	1150	1150	1200	1200	1250	1250	1300	1300	1350	1350	1400	1400
450	1200	1200	1200	1250	1250	1300	1300	1350	1350	1400	1400	1450	1450
500	1250	1250	1250	1300	1300	1350	1350	1400	1400	1450	1450	1500	1500

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
B	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145	195	245	295	145
C	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
D	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970

ICSB3-BL□HS4□
ICSPB3-BL□HS4□ High-Precision Specification

X ±20μm Y/Z ±10μm (Standard)
X ±10μm Y/Z ±5μm (High-Precision)

X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | High Speed Long Type | X: XL (600W) Y: Lg (400W) Z: Lg (400W)



■ Model Specification Items

□ — BL□HS4□ — □ — □ □ — □ □ — □ □ — □ □ — T2 — □ — □

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	A: Absolute I: Incremental	90: 900mm ~ 250: 2500mm (Every 100mm) Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

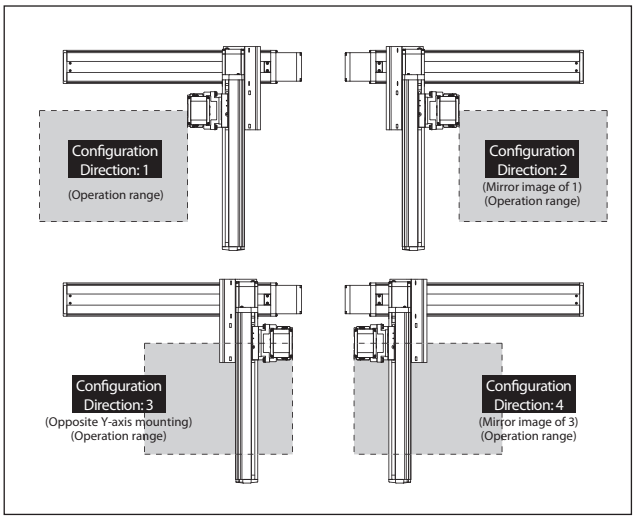
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BL1HS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BL1HS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BL2HS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BL2HS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BL3HS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BL3HS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BL4HS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BL4HS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISA[ISPA]-WXMX-①-600-40-②-T2-⑪-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-40-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	90: 900mm ~ 250: 2500mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-SC: Cable track - 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 *	A1/A3	See P.11, P.353
AQ seal (equipped as standard on Y/Z-axis)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2 (equipped as standard on X-axis)	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only)	RT	See P.354

*1 Brake option for Y-axis increases the length of the motor unit. 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.
* Please refer to P.11 for the X-axis cable exit direction.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	X-axis ±0.02mm, Y/Z-axis ±0.01mm [X-axis ±0.01mm, Y/Z-axis ±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	600W/40mm
Y-axis motor output/lead	400W/40mm
Z-axis motor output/lead	400W/20mm (H), 10mm (M)

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 20m.
(Note 3) The rated acceleration is 0.4G. 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)

■BL□HS4H

Z-axis stroke	Y-axis stroke 100~700
100	12.0
150	11.1
200	10.2
250	9.3
300	8.5
350	7.6
400	6.8
450	5.9
500	5.0

■BL□HS4M

Z-axis stroke	Y-axis stroke 100	150	200	250	300	350	400	450	500	550	600	650	700
100	25.1	24.4	23.5	22.7	21.9	21.1	20.3	19.4	18.6	17.7	17.0	16.1	15.3
150	24.3	23.6	22.7	21.9	21.1	20.3	19.5	18.6	17.8	16.9	16.2	15.3	14.5
200	23.4	22.8	21.9	21.1	20.3	19.4	18.7	17.8	17.0	16.1	15.3	14.5	13.7
250	22.6	22.0	21.1	20.3	19.5	18.6	17.9	17.0	16.2	15.3	14.5	13.7	12.9
300	21.9	21.2	20.4	19.5	18.8	17.9	17.1	16.3	15.4	14.6	13.8	13.0	12.2
350	21.1	20.4	19.6	18.7	18.0	17.1	16.3	15.5	14.6	13.8	13.0	12.2	11.4
400	20.4	19.7	18.9	18.0	17.2	16.4	15.6	14.8	13.9	13.1	12.3	11.4	10.7
450	19.6	18.9	18.0	17.2	16.4	15.6	14.8	14.0	13.1	12.2	11.5	10.6	9.9
500	18.8	18.1	17.2	16.4	15.6	14.8	14.0	13.1	12.3	11.4	10.7	9.8	9.0

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

■BL□HS4H

	100~500	550~700	900~1,200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		2400	2200	1965	1725	1530	1365	1225	1110	1005	915	840	770	710	655
Y-axis	2400		—													
Z-axis	1200		—													

■BL□HS4M

	100~500	550~700	900~1,200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		2400	2200	1965	1725	1530	1365	1225	1110	1005	915	840	770	710	655
Y-axis	2400		—													
Z-axis	600		—													

ICSB3 [ICSPB3]-BL□HS4□-CT-SC (Cable track - Self-standing cable specification)

Dimensions

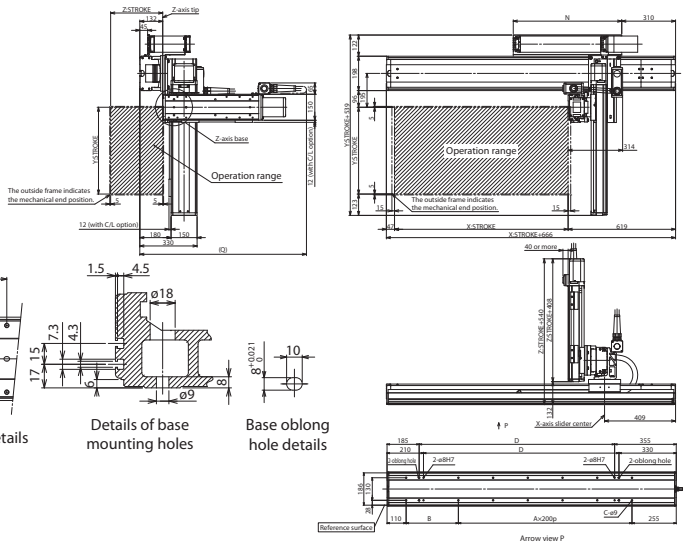
CAD drawings can be downloaded from our website.

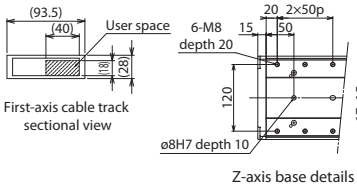
2D CAD 3D CAD

RoHS

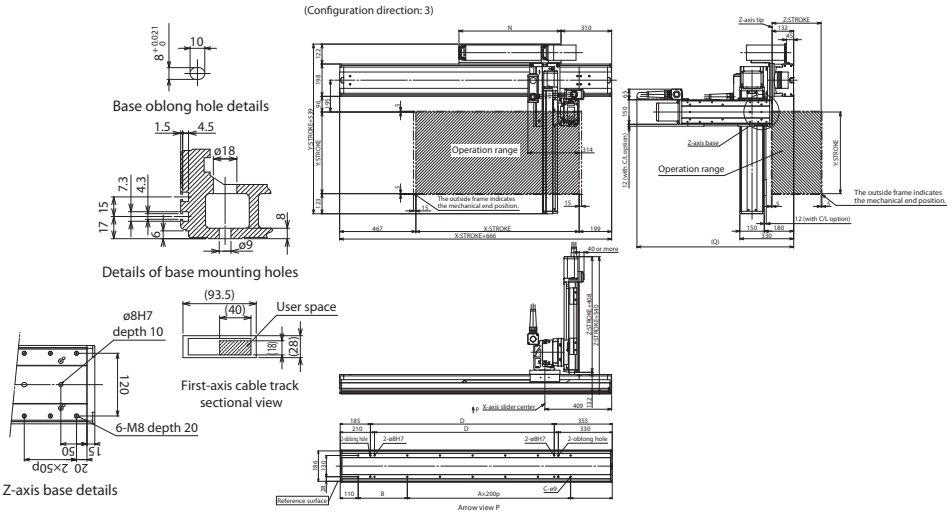
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)





(Configuration direction: 3)



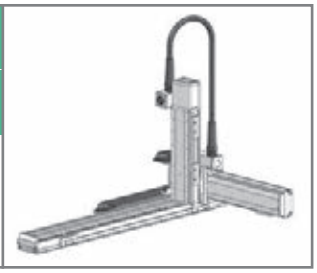
Q dimension

Z-axis \ Y-axis	100	150	200	250	300	350	400	450	500	550	600	650	700
100	850	850	850	900	900	950	950	1000	1000	1050	1050	1100	1100
150	900	900	900	950	950	1000	1000	1050	1050	1100	1100	1150	1150
200	950	950	950	1000	1000	1050	1050	1100	1100	1150	1150	1200	1200
250	1000	1000	1000	1050	1050	1100	1100	1150	1150	1200	1200	1250	1250
300	1050	1050	1050	1100	1100	1150	1150	1200	1200	1250	1250	1300	1300
350	1100	1100	1100	1150	1150	1200	1200	1250	1250	1300	1300	1350	1350
400	1150	1150	1150	1200	1200	1250	1250	1300	1300	1350	1350	1400	1400
450	1200	1200	1200	1250	1250	1300	1300	1350	1350	1400	1400	1450	1450
500	1250	1250	1250	1300	1300	1350	1350	1400	1400	1450	1450	1500	1500

X-axis stroke	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
A	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
B	201	301	201	301	201	301	201	301	201	301	201	301	201	301	201	301	201
C	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30
D	1026	1126	1226	1326	1426	1526	1626	1726	1826	1926	2026	2126	2226	2326	2426	2526	2626
N	575	625	675	725	775	825	875	925	975	1025	1075	1125	1175	1225	1275	1325	1375

ICSB3-BL□MS4□
ICSPB3-BL□MS4□ High-Precision Specification

±20μm Standard | ±10μm High-Precision | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | Medium Speed Long Type | X: XL (600W) Y: Lg (400W) Z: Lg (400W)



■ Model Specification Items

□ — BL□MS4□ — □ — □ □ — □ □ — □ □ — □ □ — T2 — □ — □

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	A: Absolute I: Incremental	90:900mm ~ 250:2500mm (Every 100mm) Refer to Options table below.	10:100mm ~ 70:700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

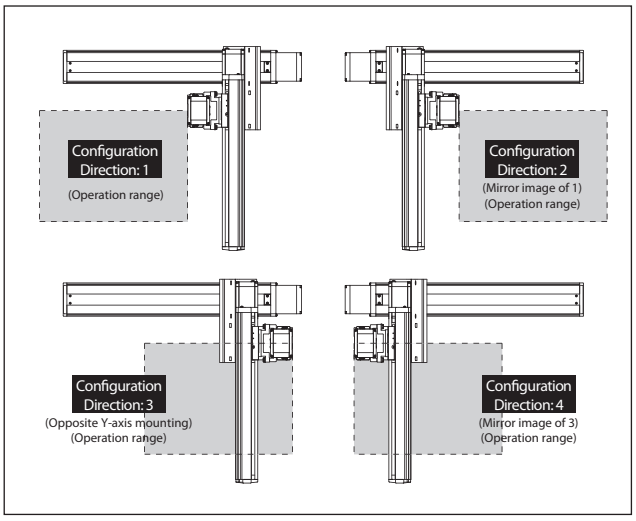
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BL1MS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BL1MS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BL2MS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BL2MS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BL3MS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BL3MS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BL4MS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
	M	ICSB3[ICSPB3]-BL4MS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISA[ISPA]-WXMX-①-600-20-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-20-④-T2-⑪-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-⑩-⑥-T2-⑪-⑦	→ 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 ⑩ in the above model names.
20: For Z-axis High Speed type
10: For Z-axis Medium Speed type
* Cable exit direction is specified with ⑪ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	90: 900mm ~ 250: 2500mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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	CT-SC: Cable track - 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 *	A1/A3	See P.11, P.353
AQ seal (equipped as standard on Y/Z-axis)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2 (equipped as standard on X-axis)	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only)	RT	See P.354

*1 Brake option for Y-axis increases the length of the motor unit. 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.
* Please refer to P.11 for the X-axis cable exit direction.

Common Specifications

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

Drive system	Ball screw, rolled C10 [equivalent to rolled C5]
Positioning repeatability	±0.02mm [±0.01mm]
Lost motion	0.05mm [0.02mm] or less
Guide	Integrated with base
Base	Material: Aluminum with white alumite treatment
X-axis motor output/lead	600W/20mm
Y-axis motor output/lead	400W/20mm
Z-axis motor output/lead	400W/20mm (H), 10mm (M)

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 20m.
(Note 3) The rated acceleration is 0.4G. 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)

■BL□MS4H

Z-axis stroke \ Y-axis stroke	100~700
100	12.0
150	11.1
200	10.2
250	9.3
300	8.5
350	7.6
400	6.8
450	5.9
500	5.0

■BL□MS4M

Z-axis stroke \ Y-axis stroke	100~300	350	400	450	500	550	600	650	700
100	32.0	32.0	32.0	32.0	32.0	29.1	25.4	22.1	19.1
150	31.1	31.1	31.1	31.1	31.1	28.2	24.5	21.2	18.2
200	30.2	30.2	30.2	30.2	30.2	27.3	23.6	20.3	17.3
250	29.3	29.3	29.3	29.3	29.3	26.4	22.7	19.4	16.4
300	28.5	28.5	28.5	28.5	28.5	25.6	21.9	18.6	15.6
350	27.6	27.6	27.6	27.5	27.0	24.7	21.0	17.7	14.7
400	26.8	26.4	26.0	25.5	25.1	23.9	20.2	16.9	13.9
450	23.5	23..5	23.5	23..5	23.2	22.8	19.3	16.0	13.0
500	19.2	19.2	19.2	19.2	19.2	19.2	18.4	15.1	12.1

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

■BL□MS4H

	100~500	550~700	900~1,200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1100	980	860	765	680	610	555	500	455	420	385	355	325
Y-axis	1200		—													
Z-axis	1200		—													

■BL□MS4M

	100~500	550~700	900~1,200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
X-axis	—		1200	1100	980	860	765	680	610	555	500	455	420	385	355	325
Y-axis	1200		—													
Z-axis	600		—													

ICSB3 [ICSPB3]-BL□MS4□-CT-SC (Cable track - Self-standing cable specification)

Dimensions

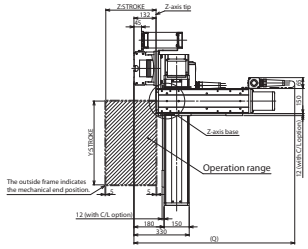
CAD drawings can be downloaded from our website.

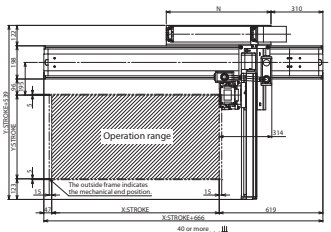
2D CAD 3D CAD

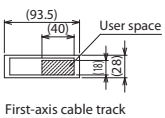
RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

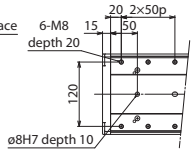
(Configuration direction: 1)



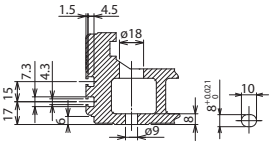




First-axis cable track sectional view

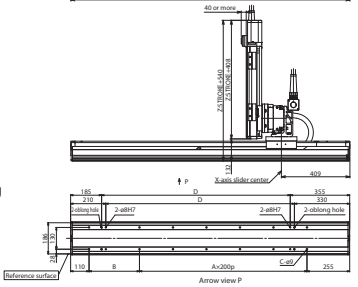


Z-axis base details

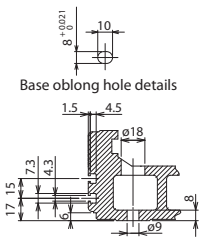


Details of base mounting holes

Base oblong hole details

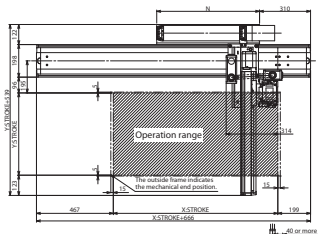


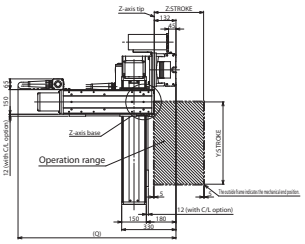
(Configuration direction: 3)

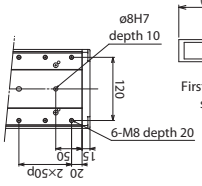


Base oblong hole details

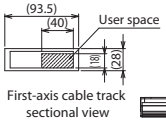
Details of base mounting holes



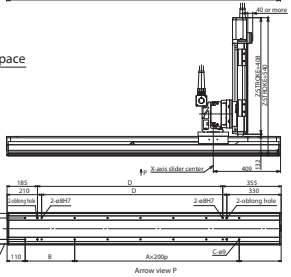




Z-axis base details



First-axis cable track sectional view



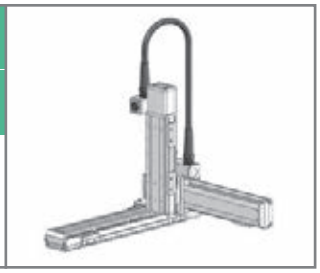
Q dimension

Z-axis \ Y-axis	100	150	200	250	300	350	400	450	500	550	600	650	700
100	850	850	850	900	900	950	950	1000	1000	1050	1050	1100	1100
150	900	900	900	950	950	1000	1000	1050	1050	1100	1100	1150	1150
200	950	950	950	1000	1000	1050	1050	1100	1100	1150	1150	1200	1200
250	1000	1000	1000	1050	1050	1100	1100	1150	1150	1200	1200	1250	1250
300	1050	1050	1050	1100	1100	1150	1150	1200	1200	1250	1250	1300	1300
350	1100	1100	1100	1150	1150	1200	1200	1250	1250	1300	1300	1350	1350
400	1150	1150	1150	1200	1200	1250	1250	1300	1300	1350	1350	1400	1400
450	1200	1200	1200	1250	1250	1300	1300	1350	1350	1400	1400	1450	1450
500	1250	1250	1250	1300	1300	1350	1350	1400	1400	1450	1450	1500	1500

X-axis stroke	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
A	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
B	201	301	201	301	201	301	201	301	201	301	201	301	201	301	201	301	201
C	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30
D	1026	1126	1226	1326	1426	1526	1626	1726	1826	1926	2026	2126	2226	2326	2426	2526	2626
N	575	625	675	725	775	825	875	925	975	1025	1075	1125	1175	1225	1275	1325	1375

ICSB3-BM□HS4H
ICSPB3-BM□HS4H High-Precision Specification

±10μm Standard / ±5μm High-Precision | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | High Speed Type | X: Lg (750W) Y: Lg (400W) Z: Lg (400W)



■ Model Specification Items

□ — BM□HS4H — □ — □ □ — □ □ — □ □ — □ □ — T2 — □ — □

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	A: Absolute I: Incremental	10: 100mm ~ 100: 1000mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

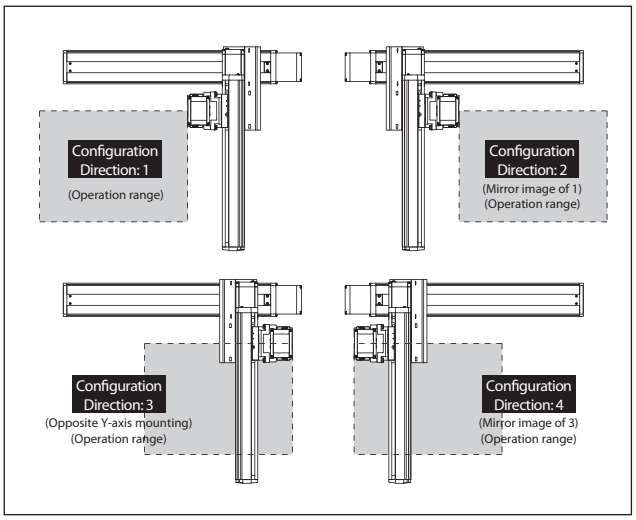
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-BM1HS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-BM2HS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	H	ICSB3[ICSPB3]-BM3HS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	H	ICSB3[ICSPB3]-BM4HS4H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	SSPA-LXM-①-750-50-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-40-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-20-⑩-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
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)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism	RT	See P.354

*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.
* 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.

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	0.02mm or less
Guide	Integrated with base
Base	Material: Aluminum with white alumite treatment
X-axis motor output/lead	750W/50mm
Y-axis motor output/lead	400W/40mm
Z-axis motor output/lead	400W/20mm

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 20m.
(Note 3) The rated acceleration is 0.4G. 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)

■BM□HS4H

Z-axis stroke	Y-axis stroke 100~700
100	12.0
150	11.1
200	10.2
250	9.3
300	8.5
350	7.6
400	6.8
450	5.9
500	5.0

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

■BM□HS4H

	100~500	550~700	750~900	950~1000
X-axis	2500			2320
Y-axis	2400		—	
Z-axis	1200	—		

ICSB3 [ICSPB3]-BM□HS4H-SC-SC (Self-standing cable specification)

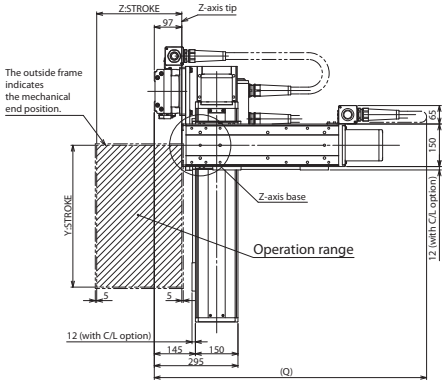
Dimensions

CAD drawings can be downloaded from our website.

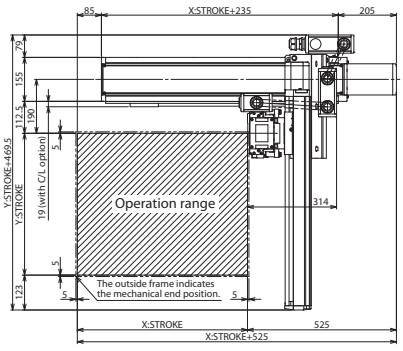
2D CAD 3D CAD

RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



(Configuration direction: 1)



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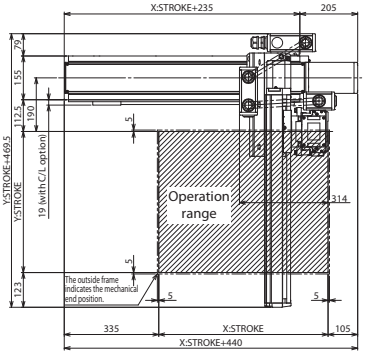
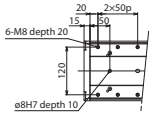
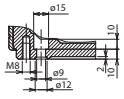


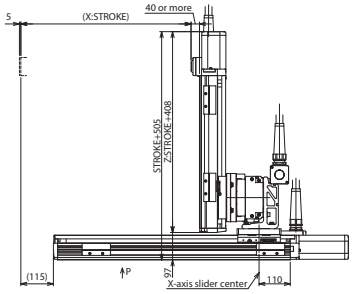


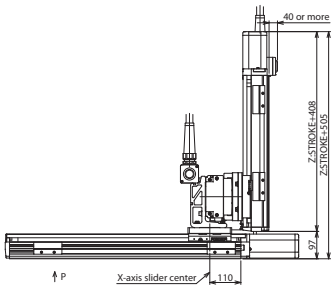
Z-axis base details

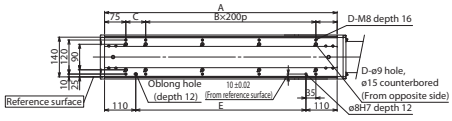


Details of base mounting holes

Oblong hole details







Arrow view P

Q dimension

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

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000

ICSB3-BM□MS4M
ICSPB3-BM□MS4M High-Precision Specification

±10μm Standard / ±5μm High-Precision | X-Y-Z 3-axis | XYB+ZS (Y Base Mount Z Slider) | Medium Speed Type | X: Lg (750W) Y: Lg (400W) Z: Lg (400W)

■ Model Specification Items

□ — BM□MS4M — □ — □□ — □□ — □□ — □□ — T2 — □ — □

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	A: Absolute I: Incremental	10: 100mm ~ 100: 1000mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 50: 500mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

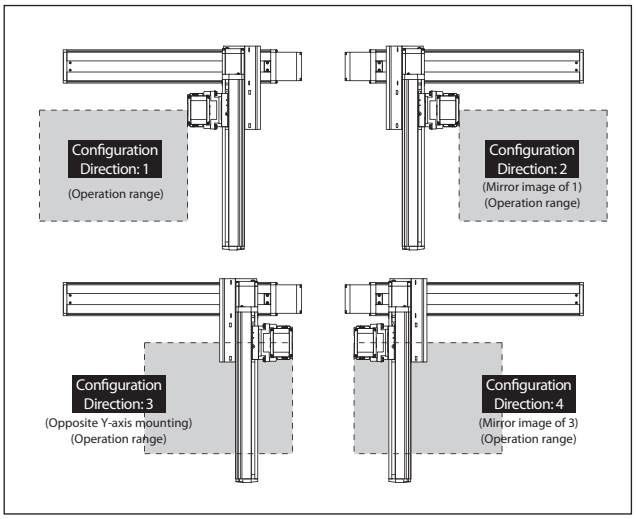
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	M	ICSB3[ICSPB3]-BM1MS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	M	ICSB3[ICSPB3]-BM2MS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
3	M	ICSB3[ICSPB3]-BM3MS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
4	M	ICSB3[ICSPB3]-BM4MS4M-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	SSPA-LXM-①-750-25-②-T2-⑩-③	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-LXM-①-400-20-④-T2-⑩-⑤	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-10-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
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)	10: 100mm ~ 70: 700mm
⑤	Y-axis option	Refer to Options table below.
⑥	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Z-axis setting)	NM	See P.353
Guide with ball-retaining mechanism	RT	See P.354

*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.
* 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.

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	0.02mm or less
Guide	Integrated with base
Base	Material: Aluminum with white alumite treatment
X-axis motor output/lead	750W/25mm
Y-axis motor output/lead	400W/20mm
Z-axis motor output/lead	400W/10mm

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 20m.
(Note 3) The rated acceleration is 0.4G. 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)

■BM□MS4M

Z-axis stroke \ Y-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
100	32.0	32.0	32.0	32.0	32.0	32.0	32.0	30.6	26.3	22.5	19.2	16.2	13.5
150	31.1	31.1	31.1	31.1	31.1	31.1	31.1	29.7	25.4	21.6	18.3	15.3	12.6
200	30.2	30.2	30.2	30.2	30.2	30.2	30.2	28.8	24.5	20.7	17.4	14.4	11.7
250	29.3	29.3	29.3	29.3	29.3	29.3	29.2	27.9	23.6	19.8	16.5	13.5	10.8
300	28.5	28.5	28.5	28.0	27.5	27.1	26.6	26.1	22.8	19.0	15.7	12.7	10.0
350	27.0	26.5	26.0	25.6	25.2	24.7	24.3	23.8	21.9	18.1	14.8	11.8	9.1
400	24.8	24.4	24.0	23.5	23.1	22.7	22..3	21.9	21.1	17.3	14.0	11.0	8.3
450	22.9	22.4	22.0	21.6	21.2	20.8	20.5	20.1	19.6	16.4	13.1	10.1	7.4
500	19.2	19.2	19.2	19.2	19.2	19.2	18.8	18.4	18.0	15.5	12.2	9.2	6.5

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

■BM□MS4M

	100~500	550~700	750~900	950~1000
X-axis	1250			1160
Y-axis	1200		—	
Z-axis	600	—		

ICSB3 [ICSPB3]-BM□MS4M-SC-SC (Self-standing cable specification)

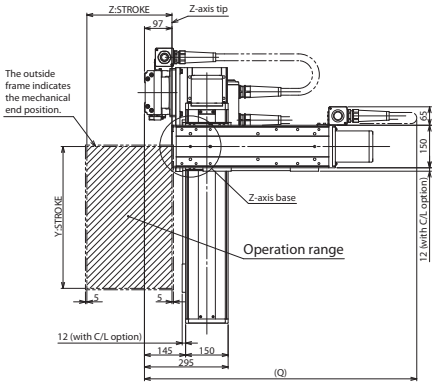
Dimensions

CAD drawings can be downloaded from our website.

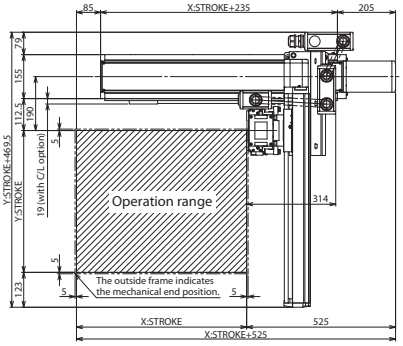
2D CAD 3D CAD

RoHS

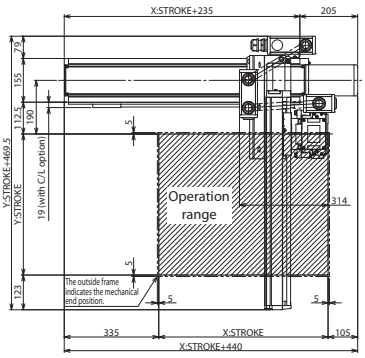
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

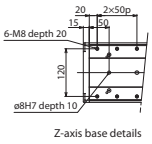


(Configuration direction: 1)

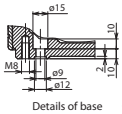


(Configuration direction: 3)



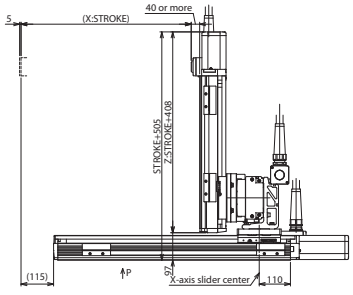


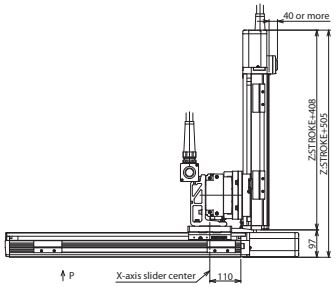
Z-axis base details

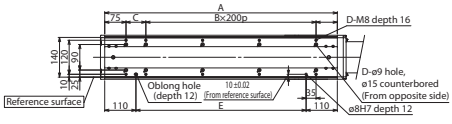


Details of base mounting holes

Oblong hole details







Arrow view P

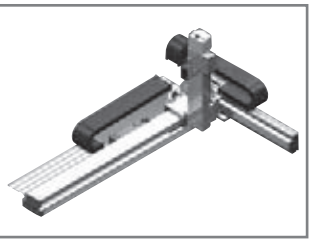
Q dimension

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

X-axis stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
C	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70
D	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14
E	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000

ICSPA3-B1N□HS3M

High-Precision Specification | ±10μm | X-Y-Z 3-axis (NS+ISPA) | XYB+ZS (Y Base Mount Z Slider) | High Speed Type | X: Lg (400W) Y: Md (200W) Z: Md (200W)



Model Specification Items

ICSPA3 — B1N□HS3M — [Encoder Type] — [X-axis Stroke/Option] [Y-axis Stroke/Option] [Z-axis Stroke/Option] — T2 — [Cable Length] — [Y-axis - Z-axis Cable Management]

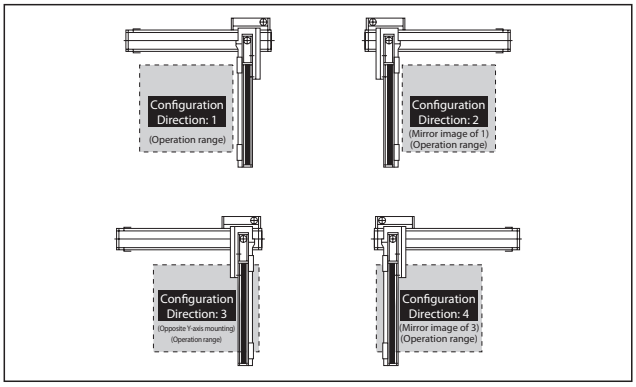
Series	Type	Encoder Type	X-axis Stroke/Option	Y-axis Stroke/Option	Z-axis Stroke/Option	Applicable Controllers	Cable Length	Y-axis - Z-axis Cable Management
ICSPA3: High precision 3-axis specification	Refer to Model Specification table below	A: Absolute I : Incremental	50: 500mm ↓ 220: 2200mm (Every 50mm)	Refer to Options table below. 20: 200mm ↓ 70: 700mm (Every 50mm)	Refer to Options table below. 10: 100mm ↓ 40: 400mm (Every 50mm)	Refer to Options table below. T2: SCON XSEL-P/Q XSEL-RA/SA* * Coming soon	3L : 3m 5L : 5m □L : Specified length	Explanation of Model Designations below

Model Specification

XY configuration direction *1	Model
1	ICSPA3-B1N1HS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	ICSPA3-B1N2HS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	ICSPA3-B1N3HS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	ICSPA3-B1N4HS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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.

XY Configuration Direction



Axis Configuration

Axis configuration	Model	Reference page
X-axis	NS-LXMS-①-400-40-②-T2-③-⑩	→ Please contact IAI for more details
Y-axis	ISPA-MYM-①-200-20-④-T2-⑤	→ Please contact IAI for more details
Z-axis	ISPA-MZM-①-200-10-⑥-T2-⑦	→ 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).
* The following symbols are specified with ⑩ in the above model names.
NT1: For cartesian configuration directions 1 and 3
NT2: For cartesian configuration directions 2 and 4
Note: Although the rotating nut types and linear servo types are equipped with cable tracks even for individual axes, a different cable track is used when it is assembled in a Cartesian system, so replacement actuators should specify the no-cable track specification (NT1 or NT2).

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	50:500mm ↓ 220:2200mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	20:200mm ↓ 70:700mm
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	CT-CT: Cable track

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
AQ seal (standard equipment)	AQ	See P.353
Brake (Y/Z-axis only (equipped as standard on Z-axis)) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification (Y/Z-axis only (standard Z-axis setting))	NM	See P.353
Guide with ball-retaining mechanism	RT	See P.354

*1 Brake option for Y-axis increases the length of the non-motor side. 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.

Common Specifications

Drive system	Ball screw, equivalent to rolled C5
Positioning repeatability	±0.01mm
Lost motion	0.02mm or less
Guide	Integrated with base
Base	Material: Aluminum with white alumite treatment
X-axis motor output/lead	400W/40mm
Y-axis motor output/lead	200W/20mm
Z-axis motor output/lead	200W/10mm

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 20m.
(Note 3) The rated acceleration is 0.3G. Although it is operable up to 1G, increasing the acceleration will reduce the payload.

Payload (kg)

■B1N□HS3M

Z-axis stroke	Y-axis stroke 200	300	400	500	600	700
100	11.5	10.5	9.5	8.4	7.5	6.5
~ 200	10.5	9.5	8.5	7.4	6.5	5.5
~ 300	9.5	8.5	7.5	6.4	5.5	4.5
~ 400	8.4	7.4	6.5	5.4	4.4	3.4

Maximum Speed by Stroke (mm/s)

■B1N□HS3M

	Stroke 100	200	300	400	500	600	700	800~2200
X-axis	—	—	—	—	2400			
Y-axis	—	1200						—
Z-axis	600				—	—	—	—

ICSPA3-B1N□HS3M□-CT-CT (Cable track specification)

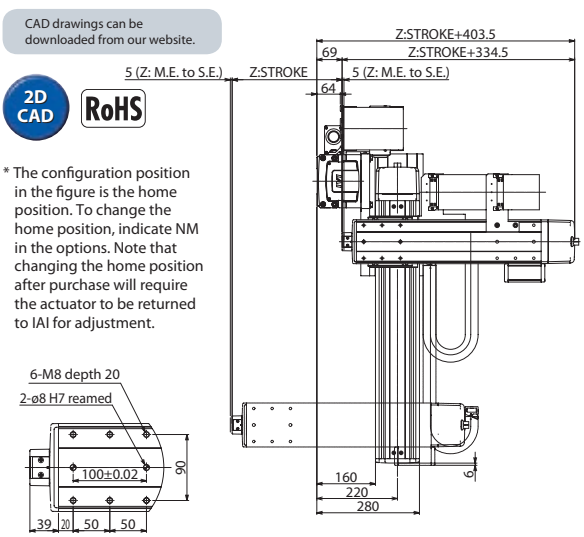
Dimensions

CAD drawings can be downloaded from our website.

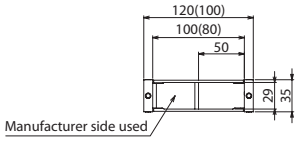
2D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction 1)

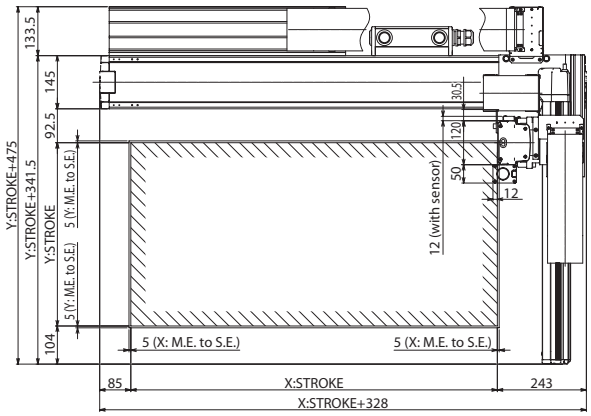


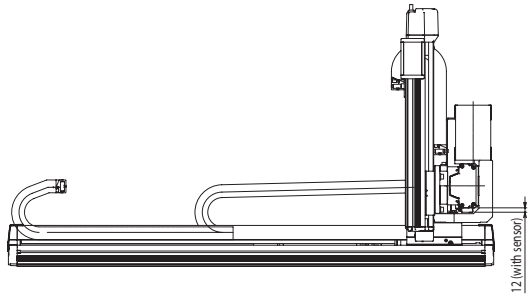
Z-axis base details

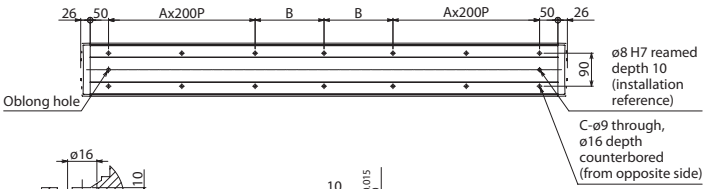


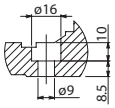
Cable track sectional view
* ( ) dimensions indicate Y-Z cable track

M.E: Mechanical end
S.E: Stroke end

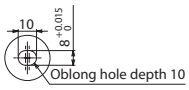








X-axis base mounting hole details



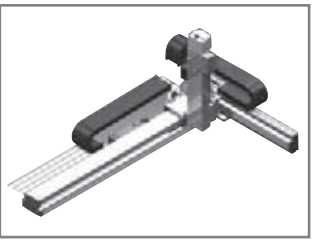
X-axis base bottom oblong hole details

X stroke	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350
A	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3
B	138	163	188	213	238	263	288	113	138	163	188	213	238	263	288	313	138	163
C	10	10	10	10	10	10	10	14	14	14	14	14	14	14	14	14	18	18

X stroke	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200
A	3	3	3	3	3	3	4	4	4	4	4	4	4	4	5	5	5
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188
C	18	18	18	18	18	18	22	22	22	22	22	22	22	22	26	26	26

ICSPA3-B1N□MS3M

High-Precision Specification | ±10μm | X-Y-Z 3-axis (NS+ISPA) | XYB+ZS (Y Base Mount Z Slider) | Medium Speed Type | X: Lg (400W) Y: Md (200W) Z: Md (200W)



■ Model Specification Items

ICSPA3 — B1N□MS3M — [Encoder Type] — [X-axis Stroke/Option] — [Y-axis Stroke/Option] — [Z-axis Stroke/Option] — T2 — [Cable Length] — [Y-axis - Z-axis Cable Management]

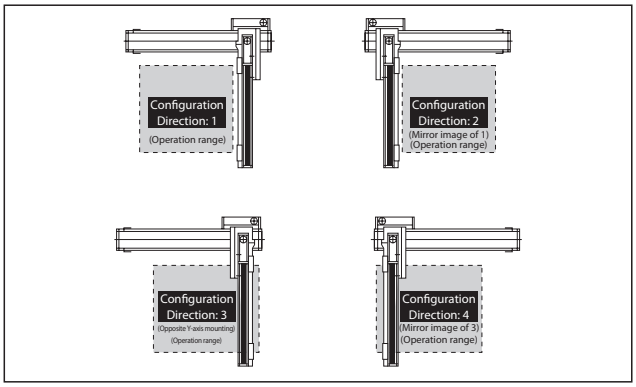
Series	Type	Encoder Type	X-axis Stroke/Option	Y-axis Stroke/Option	Z-axis Stroke/Option	Applicable Controllers	Cable Length	Y-axis - Z-axis Cable Management
ICSPA3: High precision 3-axis specification	Refer to Model Specification table below	A: Absolute I : Incremental	50: 500mm ↓ 220: 2200mm (Every 50mm)	Refer to Options table below.	20: 200mm ↓ 70: 700mm (Every 50mm)	Refer to Options table below.	10: 100mm ↓ 40: 400mm (Every 50mm)	Refer to Options table below.	T2: SCON XSEL-P/Q XSEL-RA/SA* * Coming soon	3L : 3m 5L : 5m □L : Specified length	Explanation of Model Designations below

Model Specification

XY configuration direction *1	Model
1	ICSPA3-B1N1MS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	ICSPA3-B1N2MS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	ICSPA3-B1N3MS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	ICSPA3-B1N4MS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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.

XY Configuration Direction



Axis Configuration

Axis configuration	Model	Reference page
X-axis	NS-LXMS-①-400-20-②-T2-③-⑩	→ Please contact IAI for more details
Y-axis	ISPA-MYM-①-200-20-④-T2-⑤	→ Please contact IAI for more details
Z-axis	ISPA-MZM-①-200-10-⑥-T2-⑦	→ 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).
* The following symbols are specified with ⑩ in the above model names.
NT1: For cartesian configuration directions 1 and 3
NT2: For cartesian configuration directions 2 and 4
Note: Although the rotating nut types and linear servo types are equipped with cable tracks even for individual axes, a different cable track is used when it is assembled in a Cartesian system, so replacement actuators should specify the no-cable track specification (NT1 or NT2).

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	50:500mm ↓ 220:2200mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	20:200mm ↓ 70:700mm
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	CT-CT: Cable track

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
AQ seal (standard equipment)	AQ	See P.353
Brake (Y/Z-axis only (equipped as standard on Z-axis)) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification (Y/Z-axis only (standard Z-axis setting))	NM	See P.353
Guide with ball-retaining mechanism	RT	See P.354

*1 Brake option for Y-axis increases the length of the non-motor side. 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.

Common Specifications

Drive system	Ball screw, equivalent to rolled C5
Positioning repeatability	±0.01mm
Lost motion	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

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 20m.
(Note 3) The rated acceleration is 0.3G. Although it is operable up to 1G, increasing the acceleration will reduce the payload.

Payload (kg)

■B1N□MS3M

Z-axis stroke	Y-axis stroke 200	300	400	500	600	700
100	13.0					9.1
~ 200	11.7					8.1
~ 300	10.7					7.1
~ 400	9.7					6.1

Maximum Speed by Stroke (mm/s)

■B1N□MS3M

	Stroke 100	200	300	400	500	600	700	800~2200
X-axis	—	—	—	—	1300			
Y-axis	—	1200						—
Z-axis	600				—	—	—	—

ICSPA3-B1N□MS3M-CT-CT (Cable track specification)

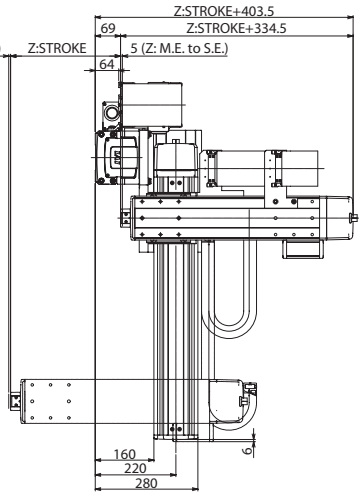
Dimensions

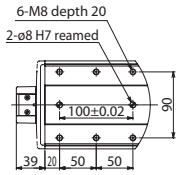
CAD drawings can be downloaded from our website.

2D CAD RoHS

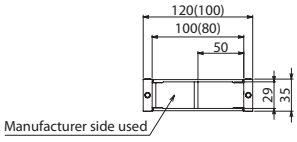
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction 1)



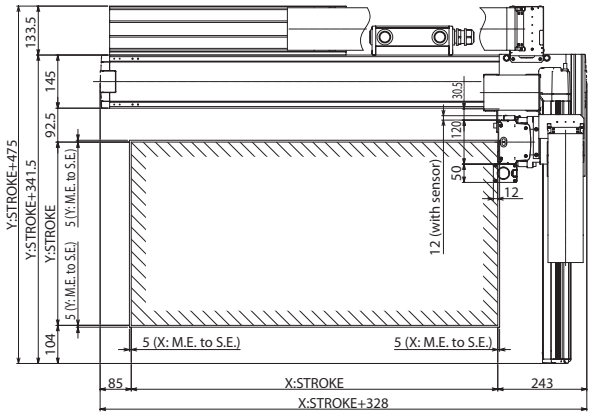


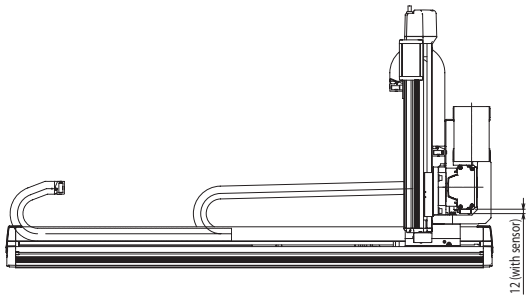
Z-axis base details

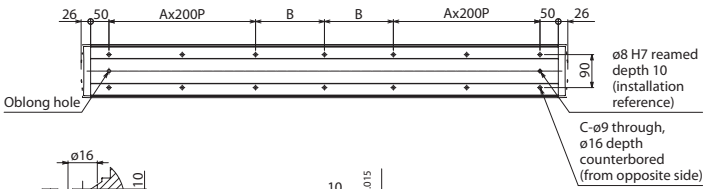


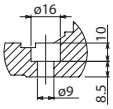
Cable track sectional view
* ( ) dimensions indicate Y-Z cable track

M.E: Mechanical end
S.E: Stroke end

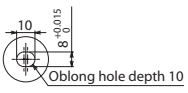








X-axis base mounting hole details



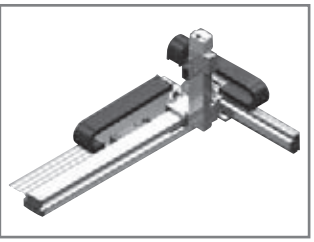
X-axis base bottom oblong hole details

X stroke	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350
A	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3
B	138	163	188	213	238	263	288	113	138	163	188	213	238	263	288	313	138	163
C	10	10	10	10	10	10	10	14	14	14	14	14	14	14	14	14	18	18

X stroke	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200
A	3	3	3	3	3	3	4	4	4	4	4	4	4	4	5	5	5
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188
C	18	18	18	18	18	18	22	22	22	22	22	22	22	22	26	26	26

ICSPA3-B2N□HS3M

High-Precision Specification | ±10μm | X-Y-Z 3-axis (NS+ISPA) | XYB+ZS (Y Base Mount Z Slider) | High Speed Long Type | X: Lg (400W) Y: Md (200W) Z: Md (200W)



■ Model Specification Items

ICSPA3 — B2N□HS3M — □ — □ □ — □ □ — □ □ — □ □ — T2 — □ — □

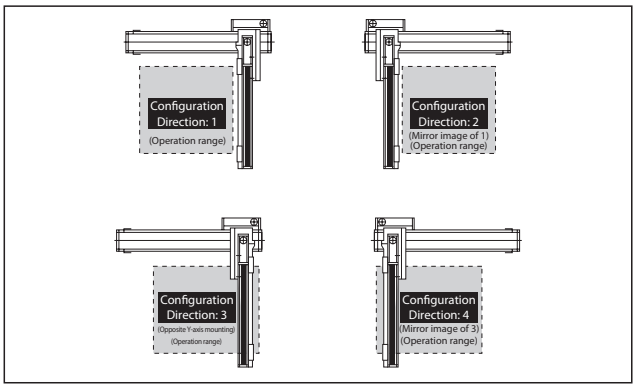
Series	Type	Encoder Type	X-axis Stroke/Option	Y-axis Stroke/Option	Z-axis Stroke/Option	Applicable Controllers	Cable Length	Y-axis - Z-axis Cable Management
ICSPA3: High precision 3-axis specification	Refer to Model Specification table below	A: Absolute I : Incremental	225: 2250mm 〜 300: 3000mm (Every 50mm) Refer to Options table below.	20: 200mm 〜 70: 700mm (Every 50mm) Refer to Options table below.	10: 100mm 〜 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Explanation of Model Designations below

Model Specification

XY configuration direction *1	Model
1	ICSPA3-B2N1HS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	ICSPA3-B2N2HS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	ICSPA3-B2N3HS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	ICSPA3-B2N4HS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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.

XY Configuration Direction



Axis Configuration

Axis configuration	Model	Reference page
X-axis	NS-LXMXS-①-400-40-②-T2-③-⑩	→ Please contact IAI for more details
Y-axis	ISPA-MYM-①-200-20-④-T2-⑤	→ Please contact IAI for more details
Z-axis	ISPA-MZM-①-200-10-⑥-T2-⑦	→ 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).
* The following symbols are specified with ⑩ in the above model names.
NT1: For cartesian configuration directions 1 and 3
NT2: For cartesian configuration directions 2 and 4
Note: Although the rotating nut types and linear servo types are equipped with cable tracks even for individual axes, a different cable track is used when it is assembled in a Cartesian system, so replacement actuators should specify the no-cable track specification (NT1 or NT2).

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	225:2250mm 〜 300:3000mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	20:200mm 〜 70:700mm
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	CT-CT: Cable track

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
AQ seal (standard equipment)	AQ	See P.353
Brake (Y/Z-axis only (equipped as standard on Z-axis)) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification (Y/Z-axis only (standard Z-axis setting))	NM	See P.353
Guide with ball-retaining mechanism	RT	See P.354

*1 Brake option for Y-axis increases the length of the non-motor side. 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.

Common Specifications

Drive system	Ball screw, equivalent to rolled C5
Positioning repeatability	±0.01mm
Lost motion	0.02mm or less
Guide	Integrated with base
Base	Material: Aluminum with white alumite treatment
X-axis motor output/lead	400W/40mm
Y-axis motor output/lead	200W/20mm
Z-axis motor output/lead	200W/10mm

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 20m.
(Note 3) The rated acceleration is 0.3G. Y-axis is operable up to 1G, but the upper limit for the X-axis is 0.3G.

Payload (kg)

■B2N□HS3M

Z-axis stroke	Y-axis stroke 200	300	400	500	600	700
100	11.5	10.5	9.5	8.4	7.5	6.5
~ 200	10.5	9.5	8.5	7.4	6.5	5.5
~ 300	9.5	8.5	7.5	6.4	5.5	4.5
~ 400	8.4	7.4	6.5	5.4	4.4	3.4

Maximum Speed by Stroke (mm/s)

■B2N□HS3M

	Stroke 100	200	300	400	500	600	700	2250~3000
X-axis	—	—	—	—	—	—	—	2400
Y-axis	—	1200						—
Z-axis	600			—	—	—	—	—

ICSPA3-B2N□HS3M□-CT-CT (Cable track specification)

Dimensions

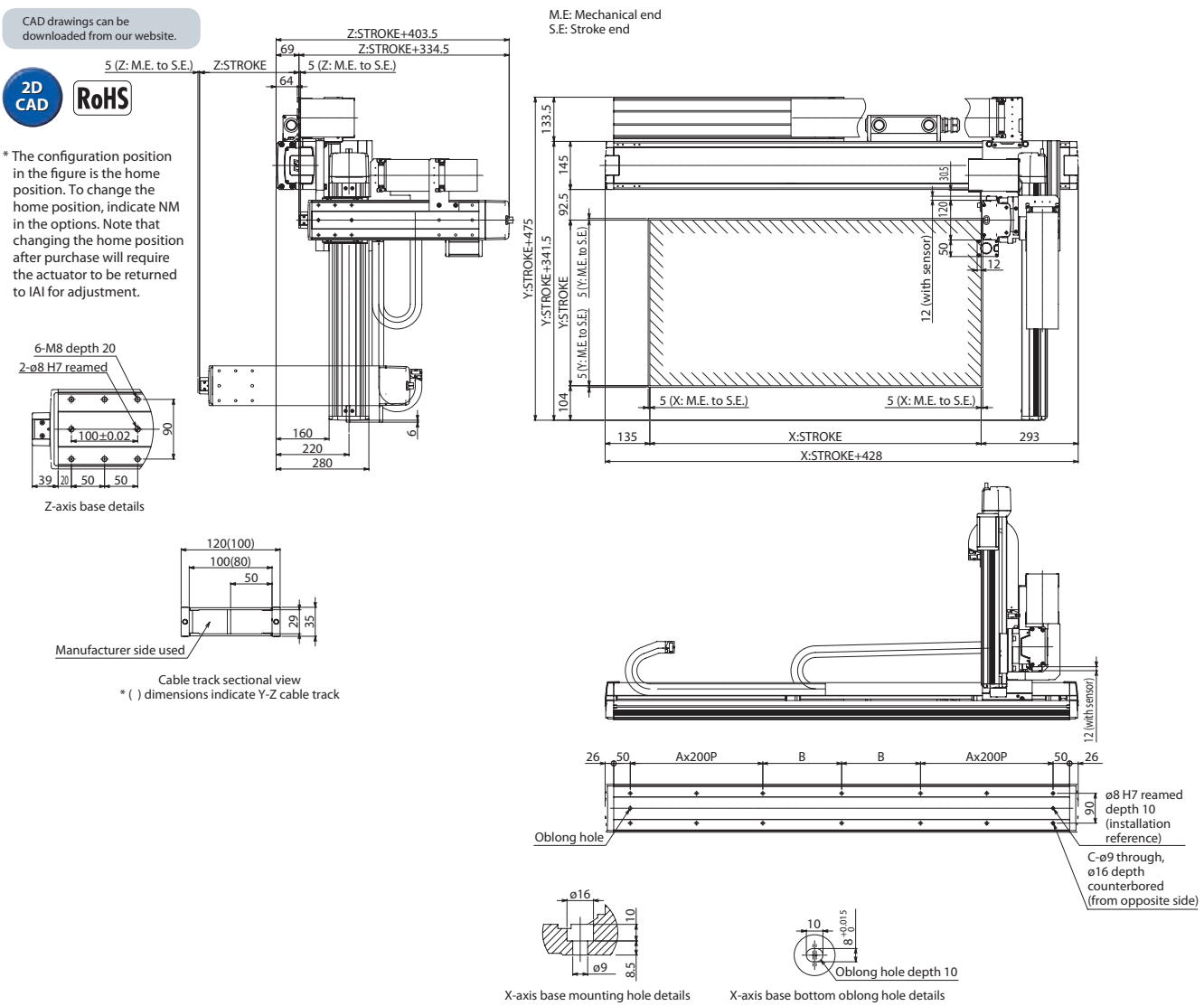
CAD drawings can be downloaded from our website.

2D CAD RoHS

* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction 1)

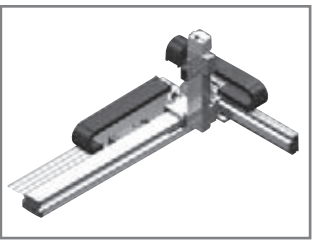
M.E: Mechanical end
S.E: Stroke end



X stroke	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
A	5	5	5	6	6	6	6	6	6	6	6	7	7	7	7	7
B	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238
C	26	26	26	30	30	30	30	30	30	30	30	34	34	34	34	34

ICSPA3-B2N□MS3M

High-Precision Specification | ±10μm | X-Y-Z 3-axis (NS+ISPA) | XYB+ZS (Y Base Mount Z Slider) | Medium Speed Long Type | X: Lg (400W) Y: Md (200W) Z: Md (200W)



■ Model Specification Items

ICSPA3 — B2N□MS3M — [Encoder Type] — [X-axis Stroke/Option] [Y-axis Stroke/Option] [Z-axis Stroke/Option] — T2 — [Cable Length] — [Y-axis - Z-axis Cable Management]

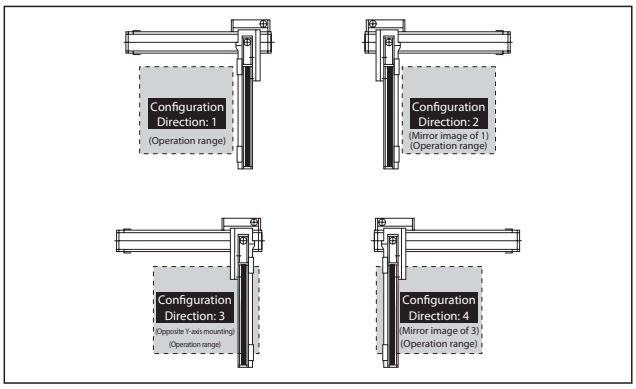
Series	Type	Encoder Type	X-axis Stroke/Option	Y-axis Stroke/Option	Z-axis Stroke/Option	Applicable Controllers	Cable Length	Y-axis - Z-axis Cable Management
ICSPA3: High precision 3-axis specification	Refer to Model Specification table below	A: Absolute I : Incremental	225: 2250mm ↓ 300: 3000mm (Every 50mm)	Refer to Options table below.	20: 200mm ↓ 70: 700mm (Every 50mm)	Refer to Options table below.	10: 100mm ↓ 40: 400mm (Every 50mm)	Refer to Options table below.	T2: SCON XSEL-P/Q XSEL-RA/SA* * Coming soon	3L : 3m 5L : 5m □L : Specified length	Explanation of Model Designations below

Model Specification

XY configuration direction *1	Model
1	ICSPA3-B2N1MS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
2	ICSPA3-B2N2MS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
3	ICSPA3-B2N3MS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨
4	ICSPA3-B2N4MS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨

*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.

XY Configuration Direction



Axis Configuration

Axis configuration	Model	Reference page
X-axis	NS-LXMXS-①-400-20-②-T2-③-⑩	→ Please contact IAI for more details
Y-axis	ISPA-MYM-①-200-20-④-T2-⑤	→ Please contact IAI for more details
Z-axis	ISPA-MZM-①-200-10-⑥-T2-⑦	→ 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).
* The following symbols are specified with ⑩ in the above model names.
NT1: For cartesian configuration directions 1 and 3
NT2: For cartesian configuration directions 2 and 4
Note: Although the rotating nut types and linear servo types are equipped with cable tracks even for individual axes, a different cable track is used when it is assembled in a Cartesian system, so replacement actuators should specify the no-cable track specification (NT1 or NT2).

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	A: Absolute I: Incremental
②	X-axis stroke (Note 1)	225:2250mm ↓ 300:3000mm
③	X-axis option	Refer to Options table below.
④	Y-axis stroke (Note 1)	20:200mm ↓ 70:700mm
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	CT-CT: Cable track

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
AQ seal (standard equipment)	AQ	See P.353
Brake (Y/Z-axis only (equipped as standard on Z-axis)) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (Y/Z-axis only (standard Z-axis setting))	NM	See P.353
Guide with ball-retaining mechanism	RT	See P.354

*1 Brake option for Y-axis increases the length of the non-motor side. 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.

Common Specifications

Drive system	Ball screw, equivalent to rolled C5
Positioning repeatability	±0.01mm
Lost motion	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

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 20m.
(Note 3) The rated acceleration is 0.3G. Y-axis is operable up to 1G, but the upper limit for the X-axis is 0.3G. (Please inquire regarding the payload at increased Y-axis acceleration)

Payload (kg)

■B2N□MS3M

Z-axis stroke	Y-axis stroke 200	300	400	500	600	700
100	13.0					9.1
~ 200	11.7					8.1
~ 300	10.7					7.1
~ 400	9.7					6.1

Maximum Speed by Stroke (mm/s)

■B2N□MS3M

	Stroke 100	200	300	400	500	600	700	2250~3000
X-axis	—	—	—	—	—	—	—	1300
Y-axis	—	1200						—
Z-axis	600				—	—	—	—

ICSPA3-B2N□MS3M-CT-CT (Cable track specification)

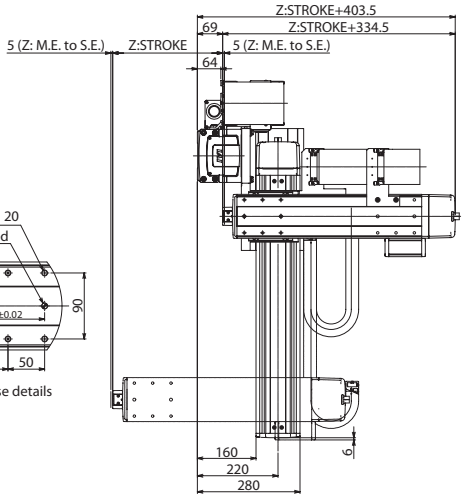
Dimensions

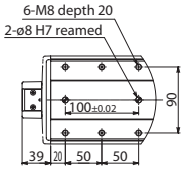
CAD drawings can be downloaded from our website.

2D CAD RoHS

(Configuration direction 1)

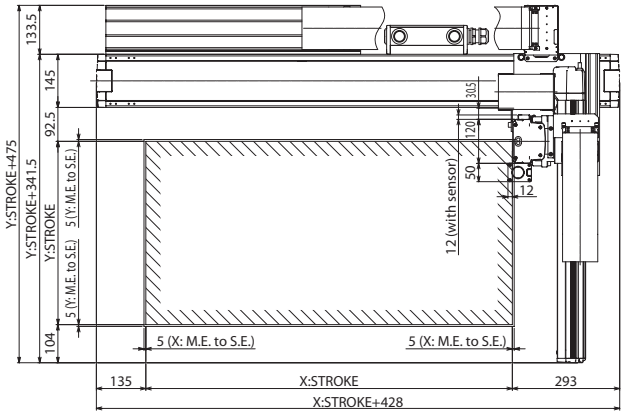
* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

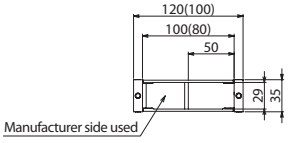




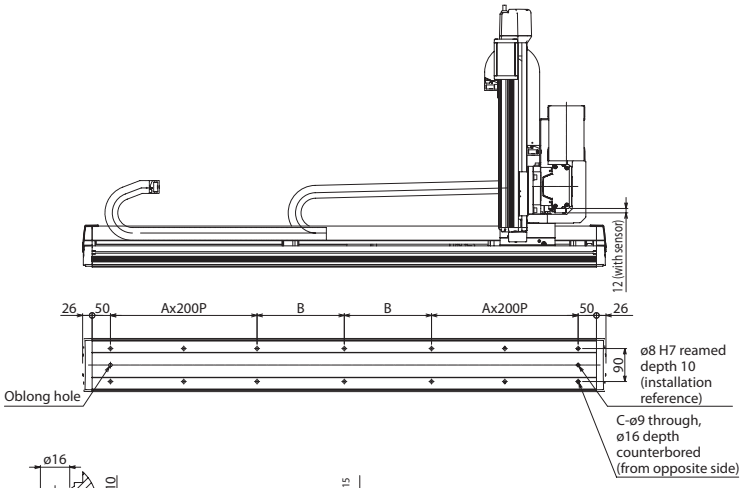
Z-axis base details

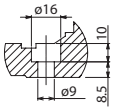
M.E: Mechanical end
S.E: Stroke end



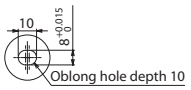


Cable track sectional view
* ( ) dimensions indicate Y-Z cable track





X-axis base mounting hole details



X-axis base bottom oblong hole details

X stroke	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
A	5	5	5	6	6	6	6	6	6	6	6	7	7	7	7	7
B	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238
C	26	26	26	30	30	30	30	30	30	30	30	34	34	34	34	34

ICSB3-Z3C□HS1H
ICSPB3-Z3C□HS1H High-Precision Specification

±10μm Standard | ±5μm High-Precision | Battery-less Absolute | X-Y-Z 3-axis | XZ+YS (Y Slider Z Upright) | High Speed Type | X: Md (200W) Z: Md (200W) Y: 5m (60W)

■ Model Specification Items

□ — Z3C□HS1H — WA — □□ — □□ — □□ — T2 — □ — □

Series	Type	Encoder Type	X-axis Stroke/Option	Z-axis Stroke/Option	Y-axis Stroke/Option	Applicable Controllers	Cable Length	Z-axis - Y-axis Cable Management
ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification	Refer to Model Specification table below	WA: Battery-less Absolute	12: 120mm ~ 107: 1070mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	10: 100mm ~ 40: 400mm (Every 50mm) Refer to Options table below.	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* * Coming soon	3L: 3m 5L: 5m □L: Specified length	Refer to Explanation of Model Designations below

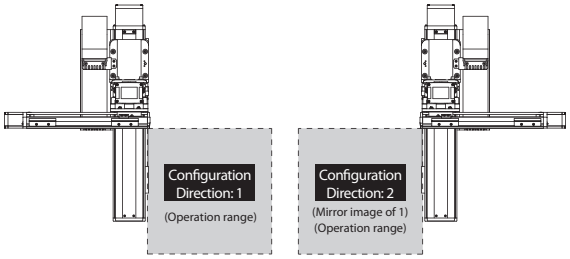
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-Z3C1HS1H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-Z3C2HS1H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-MXL-①-200-20-②-T2-⑩-③	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-MXM-①-200-10-④-T2-⑩-⑤	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-SXM-①-60-16-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	12: 120mm ~ 107: 1070mm
③	X-axis option	Refer to Options table below.
④	Z-axis stroke (Note 1)	10: 100mm ~ 40: 400mm
⑤	Z-axis option	Refer to Options table below.
⑥	Y-axis stroke (Note 1)	10: 100mm ~ 40: 400mm
⑦	Y-axis option	Refer to Options table below.
⑧	Cable length (Note 2)	3L:3m 5L:5m □L:□m
⑨	Z-axis - Y-axis Cable Management	CT-SC: Cable track - 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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Y-axis setting)	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only) *4	RT	See P.354

*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 Y-axis is non-motor end (NM). To reverse the home position of the Y-axis, 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 Cannot be selected for High-Precision Specification.
* 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.

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	200W/20mm
Z-axis motor output/lead	200W/10mm
Y-axis motor output/lead	60W/16mm

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 0.4G. 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)

■Z3C□HS1H

Y-axis stroke	Z-axis stroke 100~400
100	9.5
150	9.2
200	8.8
250	8.5
300	8.2
350	7.8
400	7.6

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

■Z3C□HS1H

	120~670	720~770	820~870	920~970	1020~1070
X-axis	1200	860	695	570	460

	100~400
Z-axis	600
Y-axis	960

ICSB3 [ICSPB3]-Z3C□HS1H-CT-SC (Cable track - Self-standing cable specification)

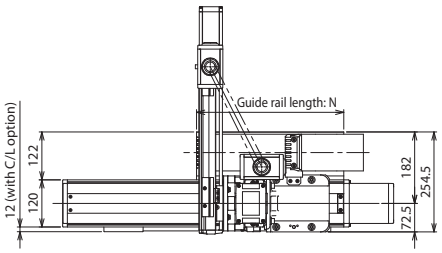
Dimensions

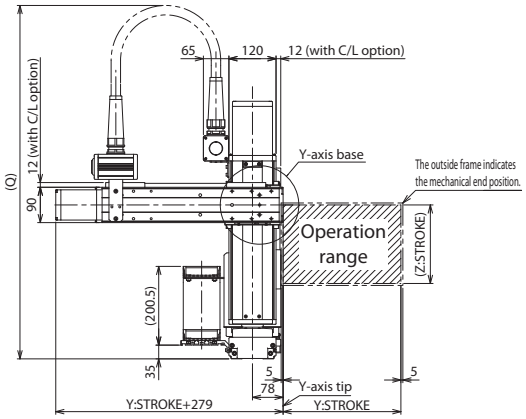
CAD drawings can be downloaded from our website.

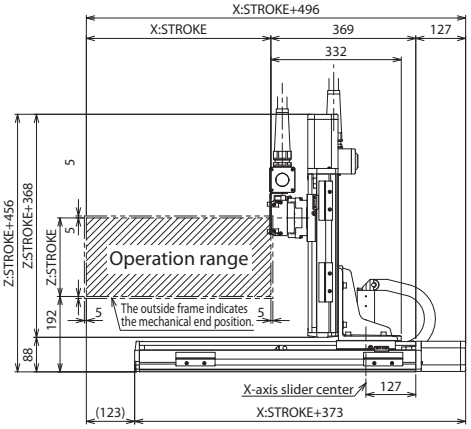
2D CAD 3D CAD RoHS

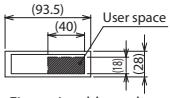
* The position in the figure is the home position with normal settings. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)

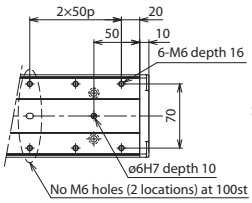




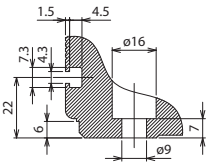




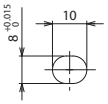
First-axis cable track sectional view



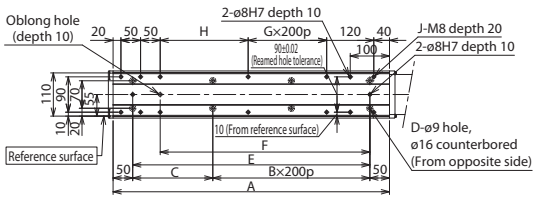
Y-axis base details



Details of base mounting holes



Oblong hole details



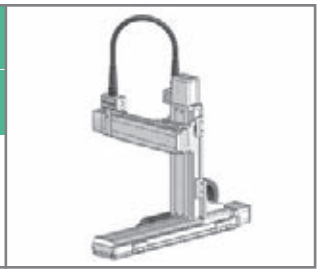
Q dimension

Z-axis \ Y-axis	100	150	200	250	300	350	400
100	900	900	950	950	1000	1000	1000
150	1000	1000	1050	1050	1100	1100	1100
200	1100	1100	1150	1150	1200	1200	1200
250	1200	1200	1250	1250	1300	1300	1300
300	1300	1300	1350	1350	1400	1400	1400
350	1400	1400	1450	1450	1500	1500	1500
400	1500	1500	1550	1550	1600	1600	1600

X-axis stroke	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070
A	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304
B	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
C	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204
D	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
E	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
F	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134
G	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4
H	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224
J	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
N	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675

ICSB3-Z3G□HS2H
ICSPB3-Z3G□HS2H High-Precision Specification

±10μm Standard | ±5μm High-Precision | Battery-less Absolute | X-Y-Z 3-axis | XZ+YS (Y Slider Z Upright) | High Speed Type | X: Lg (200W) Z: Lg (400W) Y: Md (100W)



■ Model Specification Items

□ — Z3G□HS2H — WA — □□ — □□ — □□ — T2 — □ — □

- Series: ICSB3: Standard 3-axis specification; ICSPB3: High precision 3-axis specification
- Type: Refer to Model Specification table below
- Encoder Type: WA: Battery-less Absolute
- X-axis Stroke/Option: 12: 120mm ~ 127: 1270mm (Every 50mm); Refer to Options table below.
- Z-axis Stroke/Option: 10: 100mm ~ 50: 500mm (Every 50mm); Refer to Options table below.
- Y-axis Stroke/Option: 10: 100mm ~ 50: 500mm (Every 50mm); Refer to Options table below.
- Applicable Controllers: T2: SCON, SSEL, XSEL-P/Q, XSEL-RA/SA* (* Coming soon)
- Cable Length: 3L: 3m, 5L: 5m, □L: Specified length
- Z-axis - Y-axis Cable Management: Refer to Explanation of Model Designations below

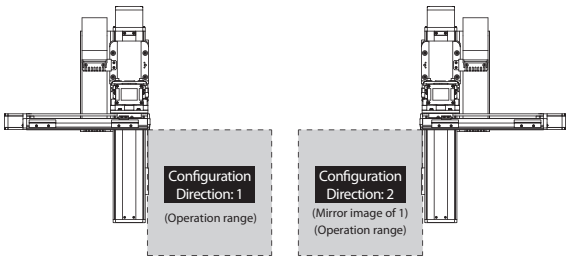
Model Specification

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

XY configuration direction *1	Z-axis speed type *2	Model
1	H	ICSB3[ICSPB3]-Z3G1HS2H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨
2	H	ICSB3[ICSPB3]-Z3G2HS2H-①-②-③-④-⑤-⑥-⑦BNM-T2-⑧-⑨

*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



Axis Configuration

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

Name of axis	Model	Reference page
X-axis	ISB[ISPB]-LXL-①-200-20-②-T2-⑩-③	→ Please contact IAI for more details
Z-axis	ISB[ISPB]-LXM-①-400-10-④-T2-⑩-⑤	→ Please contact IAI for more details
Y-axis	ISB[ISPB]-MXM-①-100-20-⑥-T2-⑩-⑦	→ 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).
* Cable exit direction is specified with ⑩ in the above model names.
Please refer to P.11 for the exit directions.

Explanation of Model Designations

No.	Description	Notation
①	Encoder type	WA: Battery-less Absolute
②	X-axis stroke (Note 1)	12: 120mm ~ 127: 1270mm
③	X-axis option	Refer to Options table below.
④	Z-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
⑤	Z-axis option	Refer to Options table below.
⑥	Y-axis stroke (Note 1)	10: 100mm ~ 50: 500mm
⑦	Y-axis option	Refer to Options table below.
⑧	Cable length (Note 2)	3L:3m 5L:5m □L:□m
⑨	Z-axis - Y-axis Cable Management	CT-SC: Cable track - 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.353
AQ seal (standard equipment)	AQ	See P.353
Brake (equipped as standard on Z-axis) *1	B	See P.353
Creep sensor *2	C/CL	See P.353
Home limit switch *2	L/LL	See P.353
Non-motor end specification *3 (standard Y-axis setting)	NM	See P.353
Guide with ball-retaining mechanism (Y/Z-axis only) *4	RT	See P.354

*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 Y-axis is non-motor end (NM). To reverse the home position of the Y-axis, 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 Cannot be selected for High-Precision Specification.
* 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.

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	200W/20mm
Z-axis motor output/lead	400W/10mm
Y-axis motor output/lead	100W/20mm

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 0.4G. 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)

■Z3G□HS2H

Y-axis stroke \ Z-axis stroke	100	150	200	250	300	350	400	450	500
100	16.5						15.4	13.7	12.0
150	15.9						14.8	13.1	11.4
200	15.4						14.2	12.5	10.8
250	14.8						13.5	11.8	10.1
300	14.2						12.9	11.2	9.5
350	13.6						12.2	10.5	8.8
400	12.2						11.6	9.9	8.2
450	11.0							9.3	7.6
500	10.1							8.7	7.0

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

■Z3G□HS2H

	120~770	820~870	920~970	1020~1070	1120~1170	1220~1270
X-axis	1200	920	765	645	550	440

	100~500
Z-axis	600
Y-axis	1200

ICSB3 [ICSPB3]-Z3G□HS2H-CT-SC (Cable track - Self-standing cable specification)

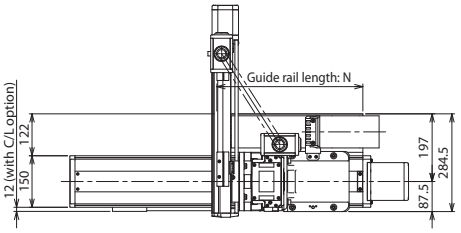
Dimensions

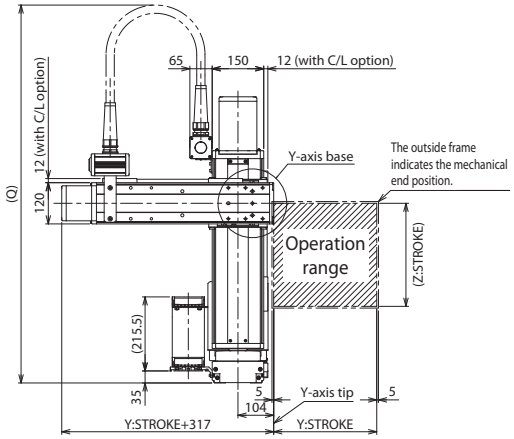
CAD drawings can be downloaded from our website.

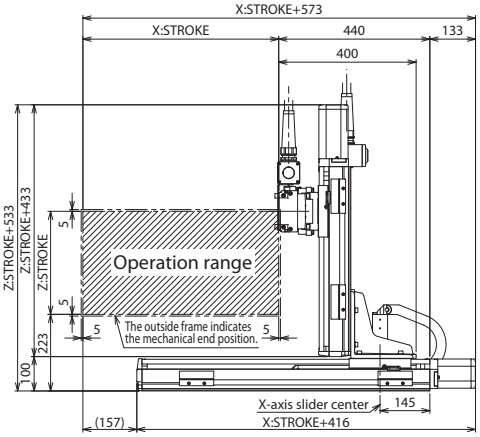
2D CAD 3D CAD RoHS

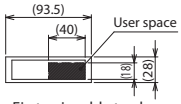
* The position in the figure is the home position with normal settings. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Configuration direction: 1)

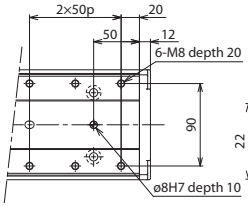




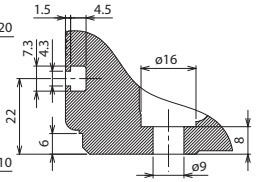




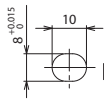
First-axis cable track sectional view



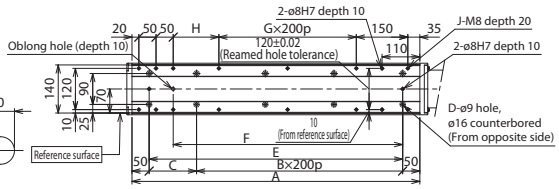
Y-axis base details



Details of base mounting holes



Oblong hole details



Q dimension

Z-axis \ Y-axis	100	150	200	250	300	350	400	450	500
100	950	1000	1000	1000	1050	1050	1100	1100	1150
150	1050	1100	1100	1100	1150	1150	1200	1200	1250
200	1150	1200	1200	1200	1250	1250	1300	1300	1350
250	1250	1300	1300	1300	1350	1350	1400	1400	1450
300	1350	1400	1400	1400	1450	1450	1500	1500	1550
350	1450	1500	1500	1500	1550	1550	1600	1600	1650
400	1550	1600	1600	1600	1650	1650	1700	1700	1750
450	1650	1700	1700	1700	1750	1750	1800	1800	1850
500	1750	1800	1800	1800	1850	1850	1900	1900	1950

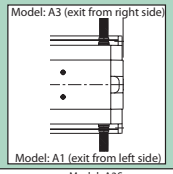
X-axis stroke	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
A	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	1488	1538
B	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6
C	288	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238	288	138	188	238
D	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16
E	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438
F	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368
G	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
H	83	133	183	233	283	133	183	233	283	133	183	233	283	133	183	233	283	133	183	233	283	133	183	233
J	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20
N	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775

Cartesian Robot Options

Cable exit direction

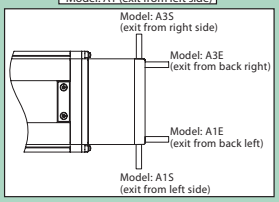
Model
A1/A3

Description
Specify when changing the actuator cable exit direction.



Model
A1S/A1E/A3S/A3E

Description
The exit direction of the actuator cable can be selected from back left, side left, back right and side right.
* It is required to select an exit direction.



AQ seal

Model
AQ

Description
AQ seal is a lubricant unit that uses a lubricating member made of lubricating oil solidified with resin.
Because it is a porous member that contains a large amount of lubricating oil, the oil seeps out on the surface through capillary action.
Lubricating oil is supplied by pressing the AQ seal on the surface of the guide and ball screw (steel ball rolling surface), enabling long-term use without maintenance in a synergistic effect by the combined use of the grease.

Brake

Model
B

Description
When used vertically, this works as a holding mechanism that prevents the Z-axis slider from falling and damaging any attached fittings when the power or servo is turned off.
As the Z-axis is designed to be used vertically, a brake will be equipped as a standard feature.
For axes other than the Z-axis, please use the brake option as required.

Creep sensor

Model
C / CL

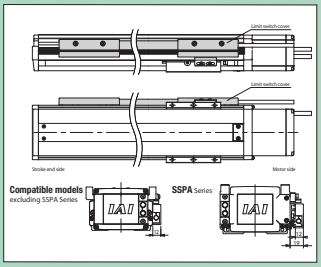
Description
A sensor for performing homing at high speed.
As homing is normally done by pressing the slider against the stopper on the motor side stroke end and reversing it, the homing speed is kept to 10~20mm/s. Therefore, types with long stroke take time until homing is completed. In order to shorten this, the proximity sensor is used to return the slider at high speed halfway through, then drop the speed to normal homing return speed just before home.
The mounting position of the sensor is by default on the right side of the actuator body as viewed from the motor side (C) and the left side for the opposite type (CL).
The mounting position of the sensor is determined by the axis configuration direction. Please refer to P.11 for more information.

Home limit switch

Model
L / LL

Description
When performing home return, the standard type determines the home position by pushing against the mechanical end and reversing. This option allows reverse motion to be triggered by a sensor.
Use when changing or adjusting the reversing position during home return or confirming that the home position has been reached.
The mounting position of the limit switch and cover is by default on the right side of the actuator body as viewed from the motor side (L) and the left side for the opposite type (LL).
The mounting position of the sensor is determined by the axis configuration direction. Please refer to P.11 for more information.

* IS(S)P-W has a limit switch equipped as standard.
Also, as the limit switch is built into the body, there is no cover on the body side.



Non-motor end specification

Model
NM

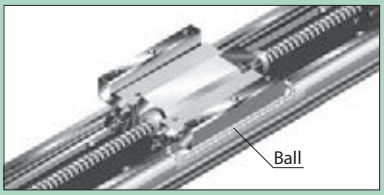
Description
The normal home position is set to the motor side, but this is the option to set the home position on the other side in order to accommodate variations in equipment layout, etc. (Please note that changing the home position after the actuators are shipped may require the products to be sent back to IAI for re-setting.)

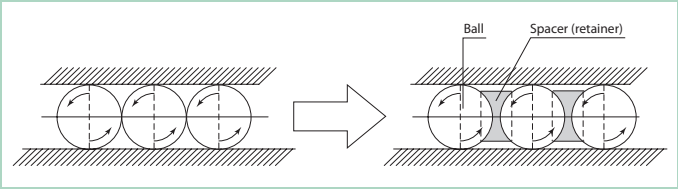
Guide with ball-retaining mechanism

Model RT

Description

A spacer (retainer) is placed between steel balls of the guide in order to reduce noise and extend the service life.
It eliminates metallic noise due to balls colliding with each other, reducing harsh noise.
It reduces wear caused by friction of balls, extending the life of the guide.
It eliminates the interference between balls, making the movement smoother and improving the operating capability of the slider.
* It cannot be used with ISB/ISPB-SXL/MXL/LXL or ISA/ISPA-WXM/WXMX.

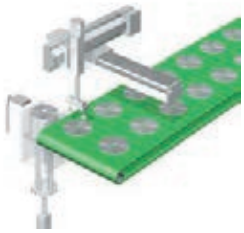




Cartesian Robot Application Examples

CD-Rom Stocking

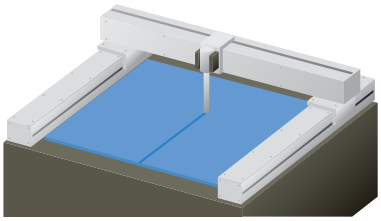
Incremental · Positioning



RC Line / IA Line	RCS2-RA4C / RCS2-RA5C / ICSB2	Controller	X-SEL

Cutting

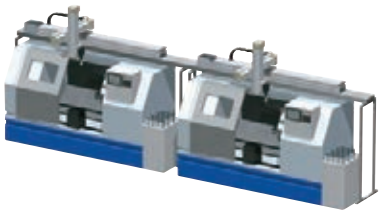
Positioning



IA Line	ICSB2	Controller	S-SEL (x 1)

Pick & Place

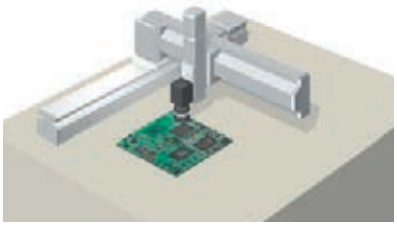
Positioning



IA Line	ICSB3 (x 2)	Controller	X-SEL (x 2)

Circuit Board Inspection

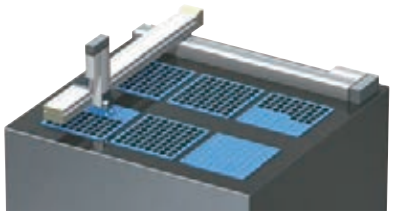
Positioning



IA Line	ICSB3	Controller	X-SEL

Parts Transfer

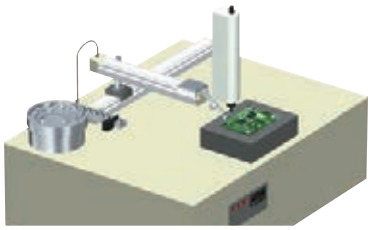
Positioning



IA Line / RC Line	ICSB2 / RCS2-A5R	Controller	X-SEL

Screwdriving

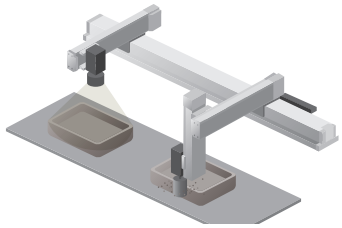
Positioning



IA Line	ICSB2	Controller	S-SEL

Burr Removing & Inspection

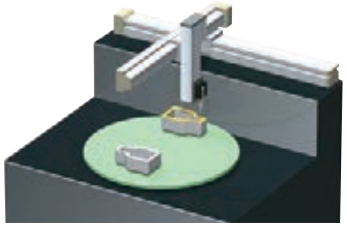
Positioning



IA Line	ICSA6	Controller	X-SEL

Dispensing

Path Move · Index Mode



RC Line / IA Line	RCS2-RT6R / ICSB3	Controller	X-SEL

Unloading

Positioning

IA- Line	ICSB3	Controller	X-SEL

ICSB&ICSA Series
Catalogue No. 0417-E

The information contained in this catalog is subject to change without notice for the purpose of product inprovement

INTELLIGENT ACTUATOR

IAI
Quality and Innovation

IAI Industrieroboter GmbH
Ober der Röth 4
D-65824 Schwalbach / Frankfurt
Germany
Tel.:+49-6196-8895-0
Fax:+49-6196-8895-24
E-Mail: info@IAI-GmbH.de
Internet: http://www.eu.IAI-GmbH.de

IAI America, Inc.
2690 W. 237th Street, Torrance, CA 90505, U.S.A
Phone: +1-310-891-6015, Fax: +1-310-891-0815

IAI CORPORATION
577-1 Obane, Shimizu-Ku, Shizuoka, 424-0103 Japan
Phone: +81-543-64-5105, Fax: +81-543-64-5192

IAI (Shanghai) Co., Ltd
Shanghai Jiahua Business Center A8-303, 808,
Hongqiao Rd., Shanghai 200030, China
Phone: +86-21-6448-4753, Fax: +86-21-6448-3992

IAI Robot (Thailand) Co., Ltd
825 PhairojKijja Tower 12th Floor, Bangna-Trad RD.,
Bangna, Bangna, Bangkok 10260, Thailand
Phone: +66-2-361-4457, Fax: +66-2-361-4456

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