

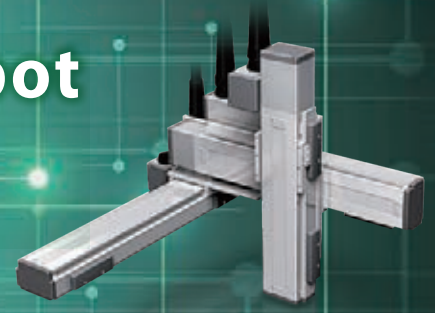
Cartesian Gantry Robot
3-Axis Combinations

ICSB/ICSPB3-G

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



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.

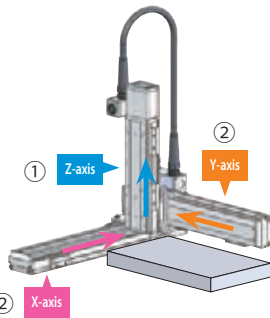
The advantages of using an absolute encoder.

- 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.


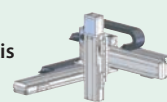

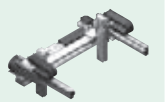
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3

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]

XYB Type

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[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

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[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 |
| 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 |
| ICSPA2 {NS+ISPA 2-axis Combinations} |  | BQ □M | I/A | 2500 | 700 | — | 62.3 | 1250 | 1200 | — | P. 59 |
| | | 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 |
| | | | | | | | | | | P. 67 | |

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

XYB 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.

IXZ 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.

IYZS 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.

IYZB 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.

IXYG 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.

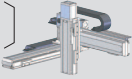
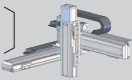
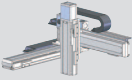

IYBG Type (Y-axis Side-mounted Gantry)

| 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 |
| 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 |
| | G1J □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 |

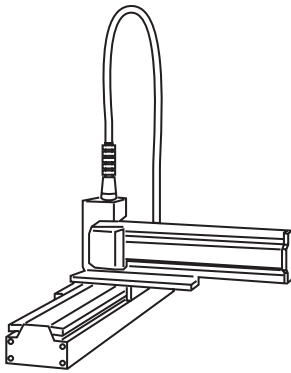
* The payload shown is the maximum value for the rated acceleration.

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

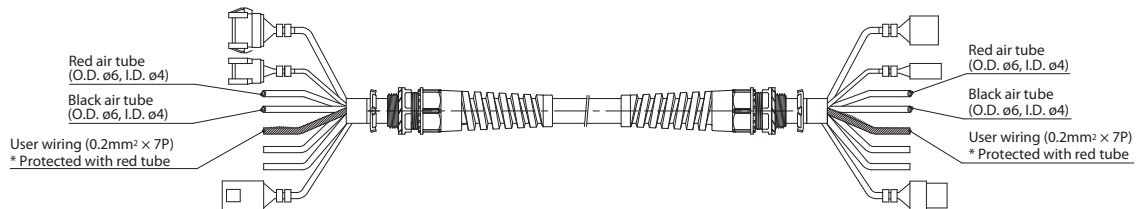


Cable Management Model: SC

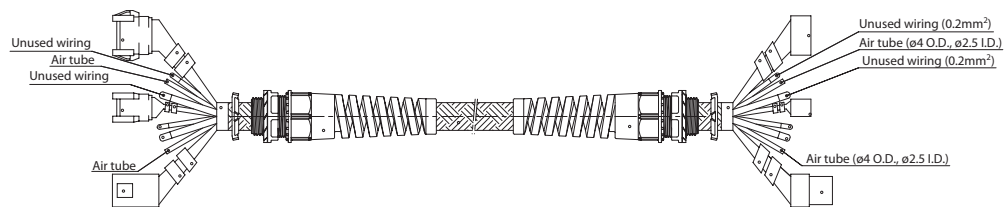
Features

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

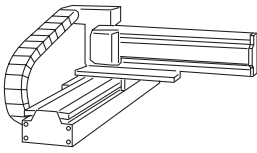
ICSB Series



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)

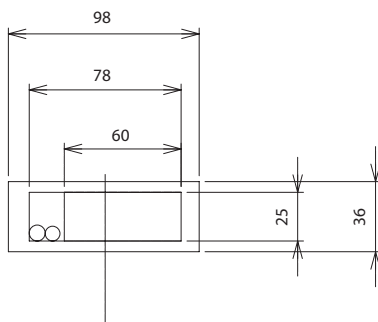
ICSB Series

Please refer to the dimensions on the product pages.

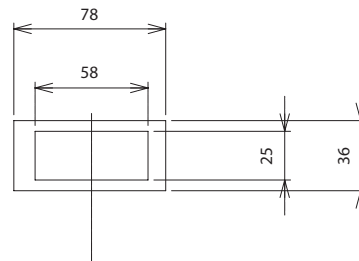
ICSA Series

● ISA extra-large type 2-axis combinations

Applicable models: BP□□/ BQ□□



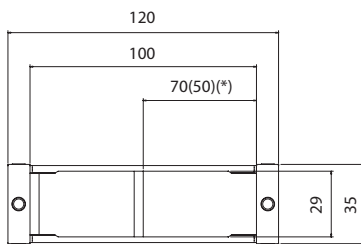
Cable track for Y-axis wiring



Cable track for Z-axis wiring (optional)

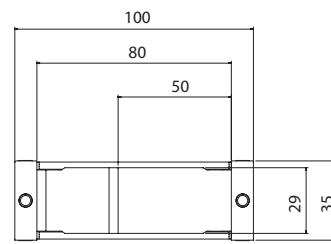
● Nut rotation actuator 2-axis/3-axis/4-axis/6-axis combinations

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



Cable track for Y-axis wiring

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



Cable track for Z-axis wiring (optional)

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.

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 |
| XYB + ZS | 1 | A3S[A3] | CL/LL(C/L) | A1S | C/L | A1S | C/L | CT |
| | | | | | | A3S | CL/LL | SC |
| | 2 | A1S[A1] | C/L(C/L) | A3S | CL/LL | A3E | CL/LL | CT |
| | | | | | | A1E | | SC |
| XZ+YS | 1 | A3S | CL/LL | A3E | CL/LL | A3S | C/L | SC |
| | 2 | A1S | C/L | A1E | C/L | A1S | CL/LL | SC |
| XYG+ZB | 1 | A3S | CL/LL | A3E | C/L | A1S | C/L | CT |
| | 2 | A1S | C/L | A1E | CL/LL | A3S | CL/LL | CT |
| XYG+ZS | 1 | A3S | CL/LL | A3E | C/L | A3E | CL/LL | SC |
| | 2 | A1S | C/L | A1E | CL/LL | A1E | C/L | SC |
| 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 |
| XYBG + ZS | 1 | A3S | CL/LL | A1S | C/L | A1E | C/L | CT |
| | | | | | | A3E | CL/LL | SC |
| | 2 | A1S | C/L | A3S | CL/LL | A3E | CL/LL | CT |
| | | | | | | A1E | | SC |

*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 |

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 |
| IS(P)A-W | A3S | Exit direction: Right |
| | 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".

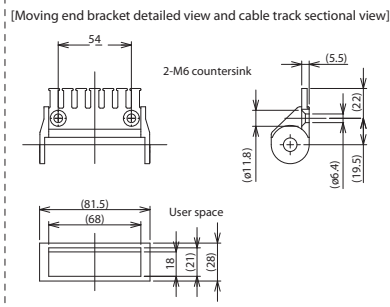
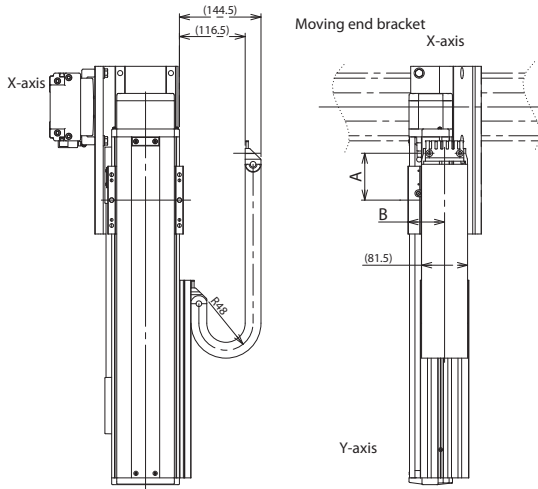
| ● Wiring | |
|----------|---------------------|
| Code | Legend |
| SC | Self-standing Cable |
| CT | Cable Track |

Z-axis Wiring Option

* Only ICS(P)B2 can be selected

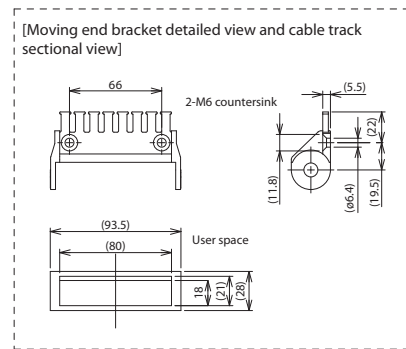
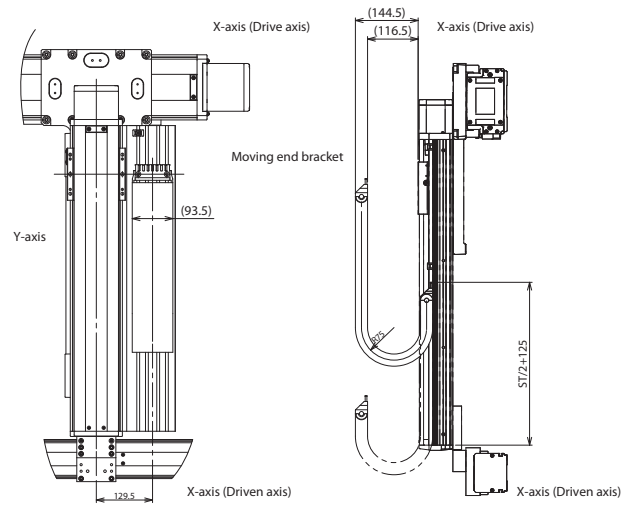
Cable track for wiring is set as an option on the Y-axis slider of XYB, XYBG and XYG for customer device mounting.

<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

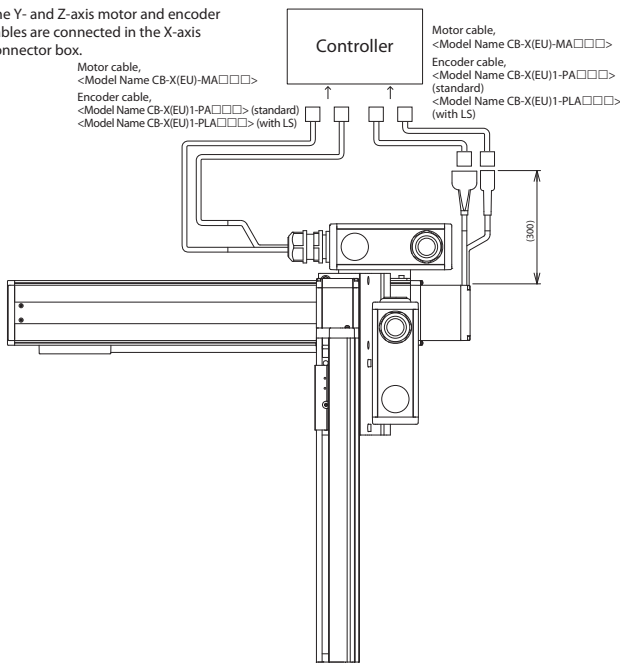
*ICS(P)B

Connect the cartesian robot - controller connecting cable using the single axis robot cable for each configured axis.

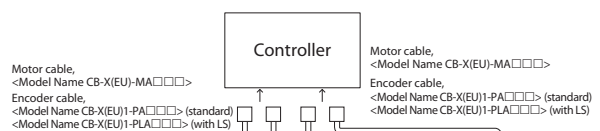
Please contact IAI for more details on the cables.

<Self-standing cable specification>

The Y- and Z-axis motor and encoder cables are connected in the X-axis connector box.



<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-G1J□HB1□

ICSPB3-G1J□HB1□

High-Precision Specification

±10μm Standard

±5μm High Precision

Battery-less Absolute

X-Y-Z 3-axis

XYG+ZB (Y Horiz. Gantry Z Base Mount)

High Speed Long Type

X: Lg (400W)
Y: Mg (200W)
Z: Sm (60W)



Model Specification Items

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: 100: 1000mm Refer to Options table below
250: 2500mm (Every 100mm)

Y-axis Stroke/Option: 50: 500mm Refer to Options table below
70: 700mm (Every 100mm)

Z-axis Stroke/Option: 10: 100mm Refer to Options table below
60: 600mm (Every 50mm)

Applicable Controllers: T2: SCON, XSEL, 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

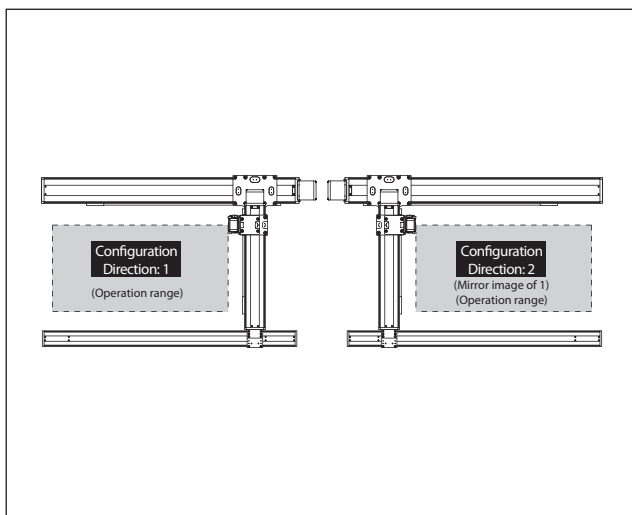
* Items in brackets [] are for the High-Precision Specification.

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---|
| 1 | H | ICSB3[ICSPB3]-G1J1HB1H-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | M | ICSB3[ICSPB3]-G1J1HB1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-G1J1HB1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | H | ICSB3[ICSPB3]-G1J2HB1H-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | M | ICSB3[ICSPB3]-G1J2HB1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-G1J2HB1L-[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 (Drive axis) | ISB[ISPB]-LXUWX-[1]-400-20-[2]-T2-[3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM05-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXM-[1]-200-20-[4]-T2-[5] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-[1]-60-[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).

* Lead is specified with [16] 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 [13] 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) | 50: 500mm 70: 700mm |
| [5] | Y-axis option | Refer to Options table below. |
| [6] | Z-axis stroke (Note 1) | 10: 100mm 60: 600mm |
| [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 | 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)

G1J□HB1H

| Z-axis stroke | Y-axis stroke 500~700 | |
|---------------|--------------------------|-----|
| | 100 | 3.5 |
| 150 | | |
| 200 | | |
| 250 | | |
| 300 | | |
| 350 | | |
| 400 | | |
| 450 | | |
| 500 | | |
| 550 | | |
| 600 | | |

G1J□HB1L

| Z-axis stroke | Y-axis stroke 500~700 | |
|---------------|--------------------------|------|
| | 100 | 14.0 |
| 150 | | |
| 200 | | |
| 250 | | |
| 300 | | |
| 350 | | |
| 400 | | |
| 450 | | |
| 500 | | |
| 550 | | |
| 600 | | |

G1J□HB1M

| Z-axis stroke | Y-axis stroke 500~700 | |
|---------------|--------------------------|-----|
| | 100 | 7.0 |
| 150 | | |
| 200 | | |
| 250 | | |
| 300 | | |
| 350 | | |
| 400 | | |
| 450 | | |
| 500 | | |
| 550 | | |
| 600 | | |

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

G1J□HB1H

| | 100~450 | 500~600 | 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 | — | 960 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

G1J□HB1M

| | 100~450 | 500~600 | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

G1J□HB1L

| | 100~450 | 500~600 | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

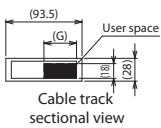
ICSB3 [ICSPB3]-G1J□HB1□-CT-CT (Cable track specification)

Dimensions

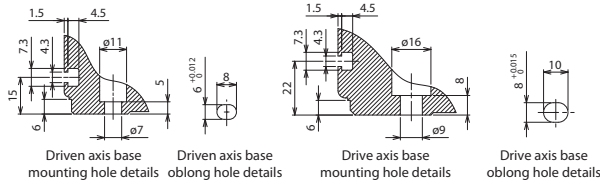
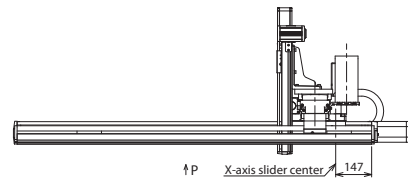
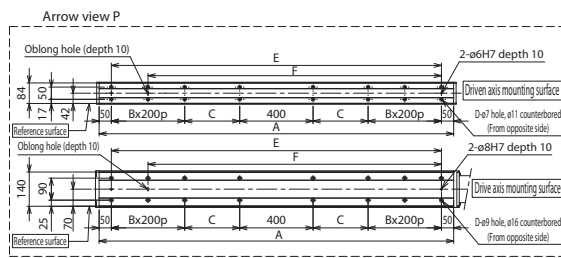
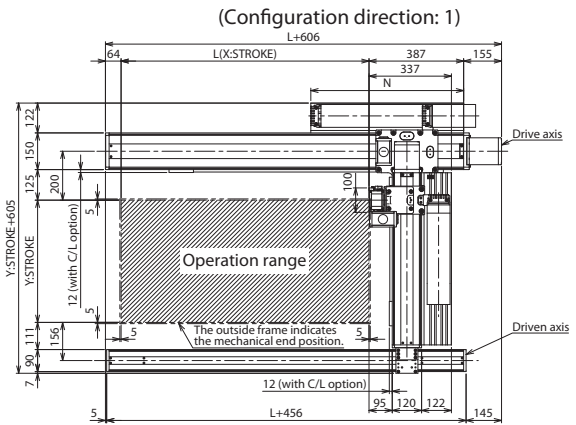
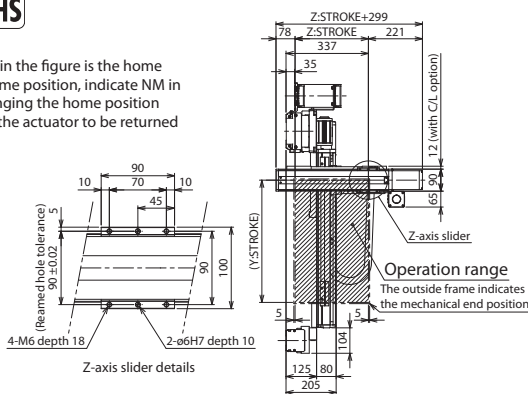
CAD drawings can be downloaded from our website.



* 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.



| Cable track location | G |
|----------------------|----|
| First axis | 40 |
| Second axis | 60 |



| 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 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 | 2950 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C | 275 | 325 | 375 | 425 | 475 | 525 | 575 | 425 | 475 | 525 | 575 | 425 | 475 | 525 | 575 | 625 |
| D | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 | 20 |
| E | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 |
| F | 1150 | 1250 | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 |
| N | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 | 1075 | 1125 | 1175 | 1225 | 1275 | 1325 | 1375 |

ICSB3-G1J□HB2□

ICSPB3-G1J□HB2□

High-Precision Specification



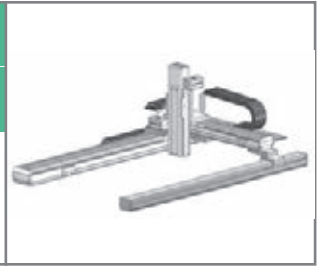
Battery-less Absolute

X-Y-Z 3-axis

XYG+ZB (Y Horiz. Gantry Z Base Mount)

High Speed Long Type

X: Lg (400W)
Y: Md (200W)
Z: Md (100W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|--------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 100: 1000mm 250: 2500mm (Every 100mm) | 50: 500mm 70: 700mm (Every 100mm) | 10: 100mm 60: 600mm (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

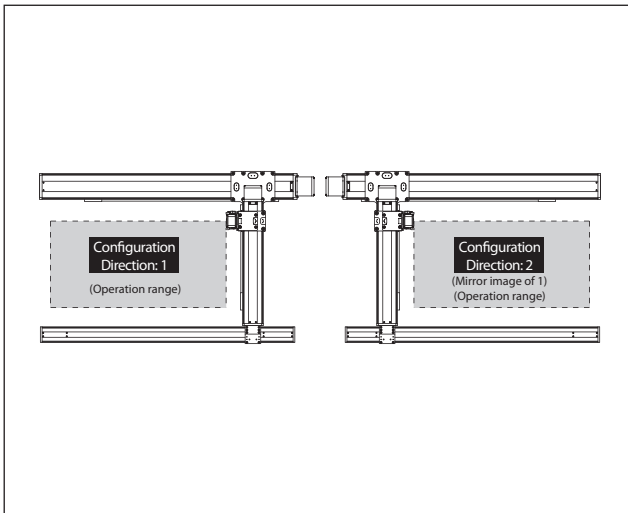
* Items in brackets [] are for the High-Precision Specification.

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---|
| 1 | H | ICSB3[ICSPB3]-G1J1HB2H-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | M | ICSB3[ICSPB3]-G1J1HB2M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-G1J1HB2L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | H | ICSB3[ICSPB3]-G1J2HB2H-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | M | ICSB3[ICSPB3]-G1J2HB2M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-G1J2HB2L-[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 (Drive axis) | ISB[ISPB]-LXUWX-[1]-400-20-[2]-T2-[11]-[3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM05-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXM-[3]-200-20-[4]-T2-[11]-[5] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-[3]-100-[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) | 50: 500mm 70: 700mm |
| [5] | Y-axis option | Refer to Options table below. |
| [6] | Z-axis stroke (Note 1) | 10: 100mm 60: 600mm |
| [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 | ±0.01 mm [±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)

■ **G1J□HB2H**

| Z-axis stroke | Y-axis stroke 500~700 | |
|---------------|--------------------------|-----|
| | 100 | 5.0 |
| 150 | 5.0 | |
| 200 | 5.0 | |
| 250 | 5.0 | |
| 300 | 5.0 | |
| 350 | 5.0 | |
| 400 | 5.0 | |
| 450 | 5.0 | |
| 500 | 5.0 | |
| 550 | 5.0 | |
| 600 | 5.0 | |

■ **G1J□HB2L**

| Z-axis stroke | Y-axis stroke 500~700 | |
|---------------|--------------------------|------|
| | 100 | 20.0 |
| 150 | 20.0 | |
| 200 | 20.0 | |
| 250 | 20.0 | |
| 300 | 20.0 | |
| 350 | 20.0 | |
| 400 | 20.0 | |
| 450 | 19.5 | |
| 500 | 19.0 | |
| 550 | 18.5 | |
| 600 | 18.0 | |

■ **G1J□HB2M**

| Z-axis stroke | Y-axis stroke 500~700 | |
|---------------|--------------------------|------|
| | 100 | 10.0 |
| 150 | 10.0 | |
| 200 | 10.0 | |
| 250 | 10.0 | |
| 300 | 10.0 | |
| 350 | 10.0 | |
| 400 | 10.0 | |
| 450 | 10.0 | |
| 500 | 10.0 | |
| 550 | 10.0 | |
| 600 | 10.0 | |

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

■ **G1J□HB2H**

| | 100~450 | 500~600 | 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 | 1200 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

■ **G1J□HB2M**

| | 100~450 | 500~600 | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

■ **G1J□HB2L**

| | 100~450 | 500~600 | 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 | 300 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

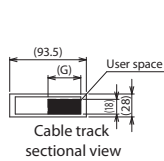
ICSB3 [ICSPB3]-G1J□HB2□-CT-CT (Cable track specification)

Dimensions

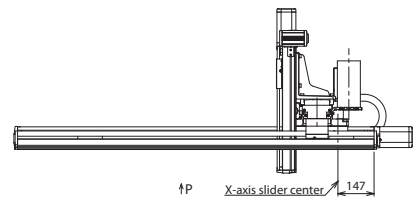
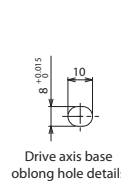
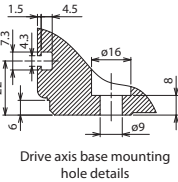
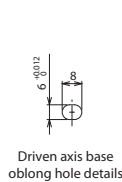
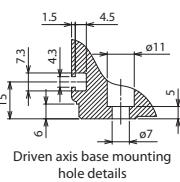
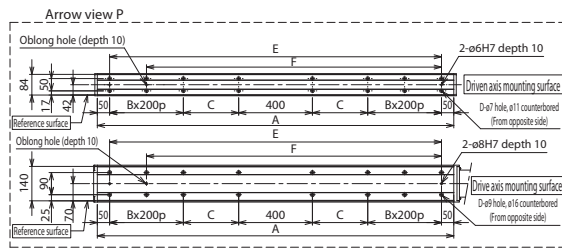
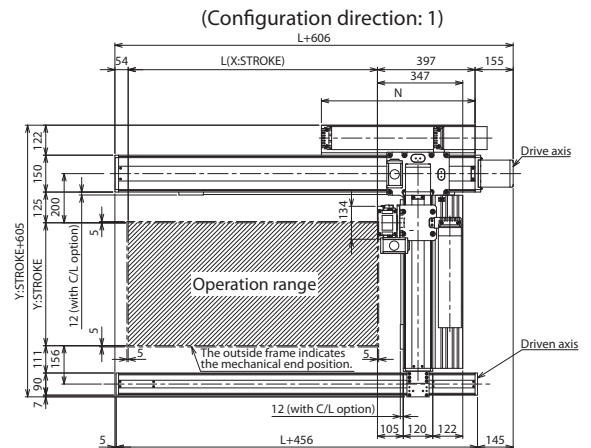
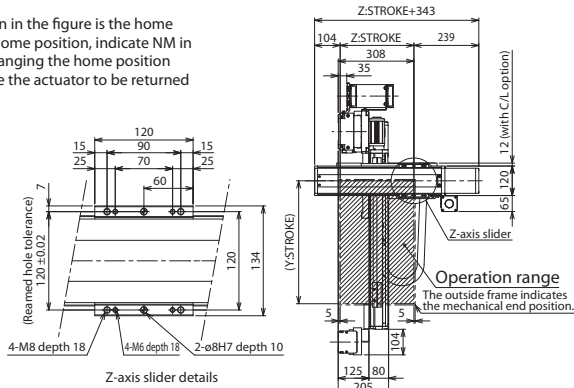
CAD drawings can be downloaded from our website.



* 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.



| Cable track location | G |
|----------------------|----|
| First axis | 40 |
| Second axis | 60 |



| 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 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 | 2950 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C | 275 | 325 | 375 | 425 | 475 | 525 | 575 | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 |
| D | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 | 20 |
| E | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 |
| F | 1150 | 1250 | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 |
| N | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 | 1075 | 1125 | 1175 | 1225 | 1275 | 1325 | 1375 |

ICSB3-G1J□HB3□

ICSPB3-G1J□HB3□

High-Precision Specification

±10μm
Standard

±5μm
High-Precision

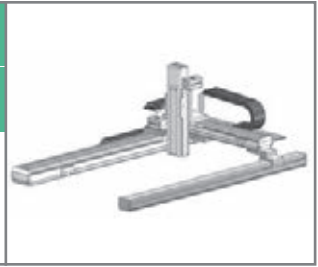
Battery-less Absolute

X-Y-Z 3-axis

XYG+ZB (Y Horiz. Gantry Z Base Mount)

High Speed Long Type

X: Lq (400W)
Y: Mg (200W)
Z: Md (200W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|--------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 100: 1000mm 250: 2500mm (Every 100mm) | 50: 500mm 70: 700mm (Every 100mm) | 10: 100mm 60: 600mm (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

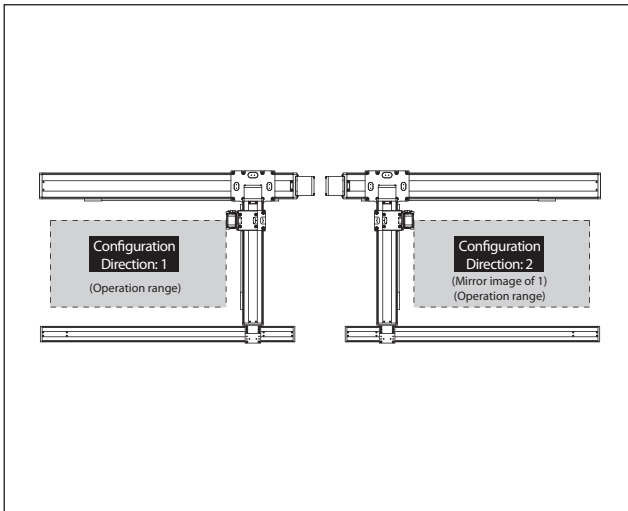
* Items in brackets [] are for the High-Precision Specification.

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---|
| 1 | H | ICSB3[ICSPB3]-G1J1HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | M | ICSB3[ICSPB3]-G1J1HB3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 2 | H | ICSB3[ICSPB3]-G1J2HB3H-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | M | ICSB3[ICSPB3]-G1J2HB3M-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 (Drive axis) | ISB[ISPB]-LXUWX-①-400-20-②-T2-③-④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM05-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-200-20-④-T2-⑤-⑥ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-①-200-⑩-⑥-T2-⑦-⑧ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑨ in the above model names.

Note that the strokes are indicated in mm (millimeters).

* Lead is specified with ⑤ 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 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) | 50: 500mm 70: 700mm |
| ⑤ | Y-axis option | Refer to Options table below. |
| ⑥ | Z-axis stroke (Note 1) | 10: 100mm 60: 600mm |
| 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)

G1J□HB3H

| | | Y-axis stroke 500~700 |
|---------------|-----|--------------------------|
| Z-axis stroke | 100 | 10.0 |
| | 150 | |
| | 200 | |
| | 250 | |
| | 300 | |
| | 350 | |
| | 400 | |
| | 450 | |
| | 500 | |
| | 600 | |

G1J□HB3M

| | | Y-axis stroke 500~700 |
|---------------|-----|--------------------------|
| Z-axis stroke | 100 | 20.0 |
| | 150 | |
| | 200 | |
| | 250 | |
| | 300 | |
| | 350 | |
| | 400 | |
| | 450 | |
| | 500 | |
| | 600 | |

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

G1J□HB3H

| | 100~450 | 500~600 | 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 | — | 1200 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

G1J□HB3M

| | 100~450 | 500~600 | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

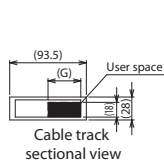
ICSB3 [ICSPB3]-G1J□HB3□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.

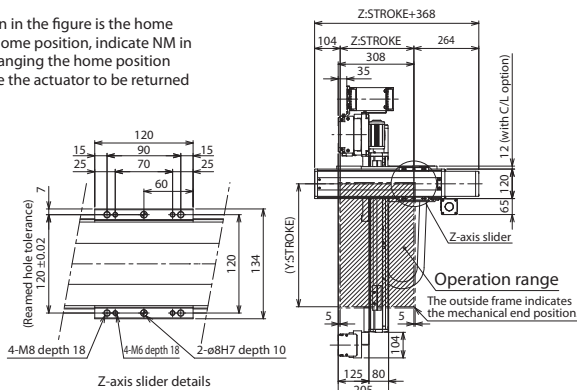


* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



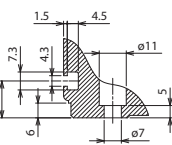
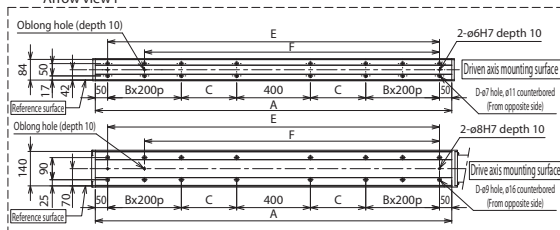
Cable track location

| Cable track location | G |
|----------------------|----|
| First axis | 40 |
| Second axis | 60 |

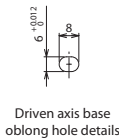


Z-axis slider details

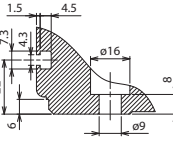
Arrow view P



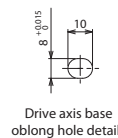
Drive axis base mounting hole details



Drive axis base oblong hole details

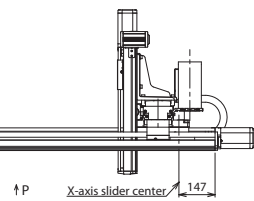
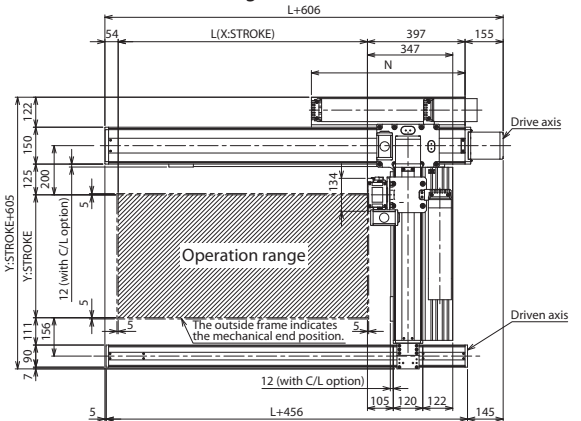


Drive axis base mounting hole details



Drive axis base oblong hole details

(Configuration direction: 1)



X-axis slider center

| 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 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 | 2950 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C | 275 | 325 | 375 | 425 | 475 | 525 | 575 | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 |
| D | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 | 20 |
| E | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 |
| F | 1150 | 1250 | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 |
| N | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 | 1075 | 1125 | 1175 | 1225 | 1275 | 1325 | 1375 |

ICSB3-G2J□HB1□

ICSPB3-G2J□HB1□

High-Precision Specification



Battery-less Absolute

X-Y-Z 3-axis

XYG+ZB (Y Horiz. Gantry Z Base Mount)

High Speed Long Type

X: Lg (400W)
Y: Md (200W)
Z: Sm (60W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|---------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis-Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 100: 1000mm 250: 2500mm (Every 100mm) | 80: 800mm 120: 1200mm (Every 50mm) | 10: 100mm 60: 600mm (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

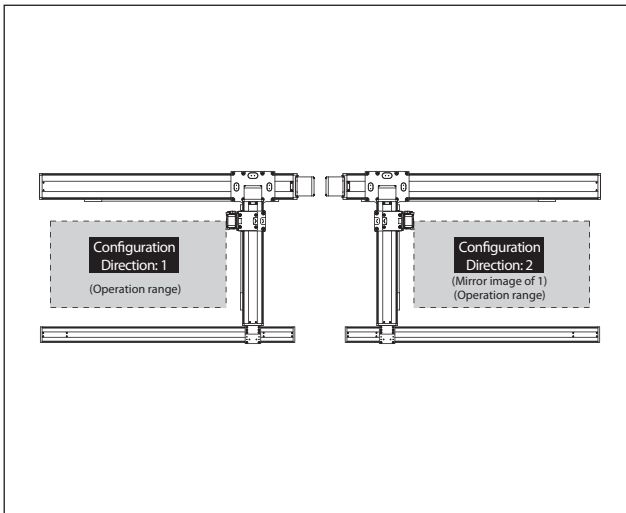
* Items in brackets [] are for the High-Precision Specification.

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---|
| 1 | H | ICSB3[ICSPB3]-G2J1HB1H-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | M | ICSB3[ICSPB3]-G2J1HB1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-G2J1HB1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | H | ICSB3[ICSPB3]-G2J2HB1H-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | M | ICSB3[ICSPB3]-G2J2HB1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-G2J2HB1L-[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 (Drive axis) | ISB[ISPB]-LXUWX-[1]-400-20-[2]-T2-[11]-[3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM05-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXMX-[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) | 100: 1000mm 250: 2500mm |
| [3] | X-axis option | Refer to Options table below. |
| [4] | Y-axis stroke (Note 1) | 80: 800mm 120: 1200mm |
| [5] | Y-axis option | Refer to Options table below. |
| [6] | Z-axis stroke (Note 1) | 10: 100mm 60: 600mm |
| [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 | 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)

| ■G2J□HB1H | | ■G2J□HB1M | | ■G2J□HB1L | |
|----------------------------|-----|----------------------------|-----|----------------------------|------|
| Y-axis stroke 800~1,200 | | Y-axis stroke 800~1,200 | | Y-axis stroke 800~1,200 | |
| Z-axis stroke | 100 | 3.5 | 7.0 | 14.0 | 14.0 |
| | 150 | | | | |
| | 200 | | | | |
| | 250 | | | | |
| | 300 | | | | |
| | 350 | | | | |
| | 400 | | | | |
| | 450 | | | | |
| | 500 | | | | |
| | 550 | | | | |
| | 600 | | | | |

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

| ■G2J□HB1H | | 100~600 | 800~1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 |
|-----------|-----|---------|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| X-axis | — | 1200 | | 1150 | 1000 | 950 | 830 | 740 | 650 | 590 | 490 | 540 | 490 | 440 | 440 | 370 | 340 |
| Y-axis | — | 1200 | | 1100 | — | | | | | | | | | | | | |
| Z-axis | 960 | — | | | | | | | | | | | | | | | |

| ■G2J□HB1M | | 100~600 | 800~1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 |
|-----------|-----|---------|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| X-axis | — | 1200 | | 1150 | 1000 | 950 | 830 | 740 | 650 | 590 | 490 | 540 | 490 | 440 | 440 | 370 | 340 |
| Y-axis | — | 1200 | | 1100 | — | | | | | | | | | | | | |
| Z-axis | 480 | — | | | | | | | | | | | | | | | |

| ■G2J□HB1L | | 100~600 | 800~1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 |
|-----------|-----|---------|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| X-axis | — | 1200 | | 1150 | 1000 | 950 | 830 | 740 | 650 | 590 | 490 | 540 | 490 | 440 | 440 | 370 | 340 |
| Y-axis | — | 1200 | | 1100 | — | | | | | | | | | | | | |
| Z-axis | 240 | — | | | | | | | | | | | | | | | |

ICSB3 [ICSPB3]-G2J□HB1□-CT-CT (Cable track specification)

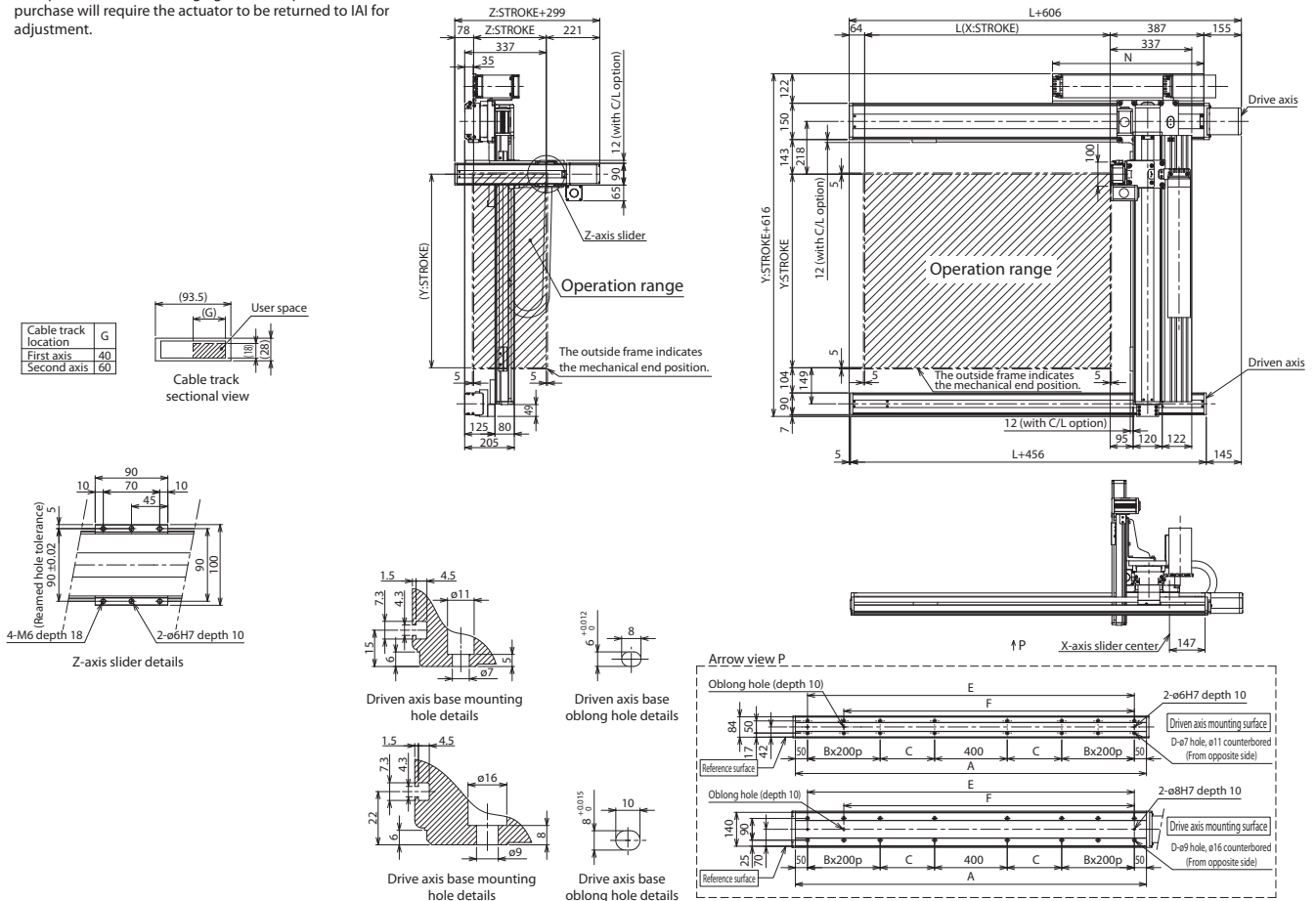
Dimensions

CAD drawings can be downloaded from our website.



(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.



| 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 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 | 2950 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C | 275 | 325 | 375 | 425 | 475 | 525 | 575 | 575 | 425 | 475 | 525 | 575 | 425 | 475 | 525 | 625 |
| D | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 | 20 |
| E | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 |
| F | 1150 | 1250 | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 |
| N | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 | 1075 | 1125 | 1175 | 1225 | 1275 | 1325 | 1375 |

ICSB3-G2J□HB2□

ICSPB3-G2J□HB2□

High-Precision Specification

±10μm Standard

±5μm High Precision


Battery-less Absolute

X-Y-Z 3-axis

XYG+ZB (Y Horiz. Gantry Z Base Mount)

High Speed Long Type

X: Lg (400W)
Y: Md (200W)
Z: Md (100W)



Model Specification Items: **G2J□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: 100: 1000mm; 250: 2500mm (Every 100mm)

Y-axis Stroke/Option: 80: 800mm; 120: 1200mm (Every 100mm)

Z-axis Stroke/Option: 10: 100mm; 60: 600mm (Every 50mm)

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

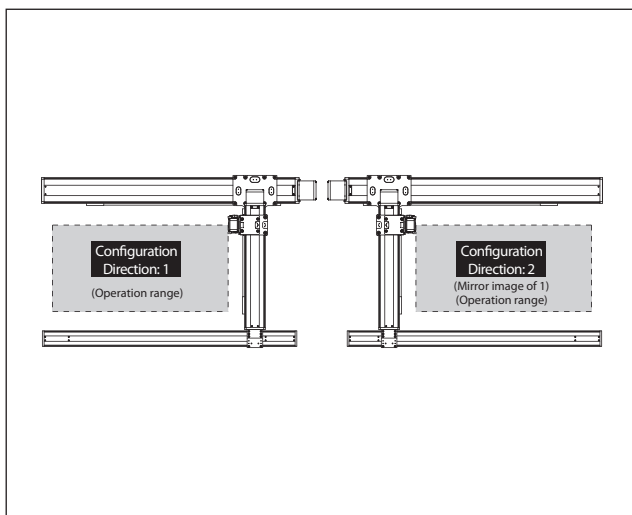
Model Specification * Items in brackets [] are for the High-Precision Specification.

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---|
| 1 | H | ICSB3[ICSPB3]-G2J1HB2H-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | M | ICSB3[ICSPB3]-G2J1HB2M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-G2J1HB2L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | H | ICSB3[ICSPB3]-G2J2HB2H-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | M | ICSB3[ICSPB3]-G2J2HB2M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-G2J2HB2L-[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 (Drive axis) | ISB[ISPB]-LXUWX-[1]-400-20-[2]-T2-[1]-[3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM05-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXMX-[1]-200-20-[4]-T2-[1]-[5] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-[1]-100-[6]-T2-[1]-[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 [8] 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 [9] 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) | 80: 800mm ? 120: 1200mm |
| [5] | Y-axis option | Refer to Options table below. |
| [6] | Z-axis stroke (Note 1) | 10: 100mm ? 60: 600mm |
| [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)

G2J□HB2H

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|------|
| | 800~1,200 | 1200 |
| 100 | 5.0 | |
| 150 | | |
| 200 | | |
| 250 | | |
| 300 | | |
| 350 | | |
| 400 | | |
| 450 | | |
| 500 | | |
| 550 | | |
| 600 | | |

G2J□HB2M

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|------|
| | 800~1,200 | 1200 |
| 100 | 10.0 | |
| 150 | | |
| 200 | | |
| 250 | | |
| 300 | | |
| 350 | | |
| 400 | | |
| 450 | | |
| 500 | | |
| 550 | | |
| 600 | | |

G2J□HB2L

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|------|
| | 800~1100 | 1200 |
| 100 | 20.0 | 20.0 |
| 150 | | 20.0 |
| 200 | | 20.0 |
| 250 | | 19.5 |
| 300 | | 18.9 |
| 350 | | 18.2 |
| 400 | | 17.6 |
| 450 | | 17.0 |
| 500 | | 16.4 |
| 550 | | 15.7 |
| 600 | | 15.1 |

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

G2J□HB2H

| | 100~600 | 800~1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 |
|--------|---------|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| X-axis | — | 1200 | 1100 | 1150 | 1000 | 950 | 830 | 740 | 650 | 590 | 490 | 540 | 490 | 440 | 370 | 340 |
| Y-axis | — | 1200 | 1100 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Z-axis | 1200 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

G2J□HB2M

| | 100~600 | 800~1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 |
|--------|---------|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| X-axis | — | 1200 | 1100 | 1150 | 1000 | 950 | 830 | 740 | 650 | 590 | 490 | 540 | 490 | 440 | 370 | 340 |
| Y-axis | — | 1200 | 1100 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Z-axis | 600 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

G2J□HB2L

| | 100~600 | 800~1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 |
|--------|---------|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| X-axis | — | 1200 | 1100 | 1150 | 1000 | 950 | 830 | 740 | 650 | 590 | 490 | 540 | 490 | 440 | 370 | 340 |
| Y-axis | — | 1200 | 1100 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Z-axis | 300 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

ICSB3 [ICSPB3]-G2J□HB2-CT-CT□ (Cable track specification)

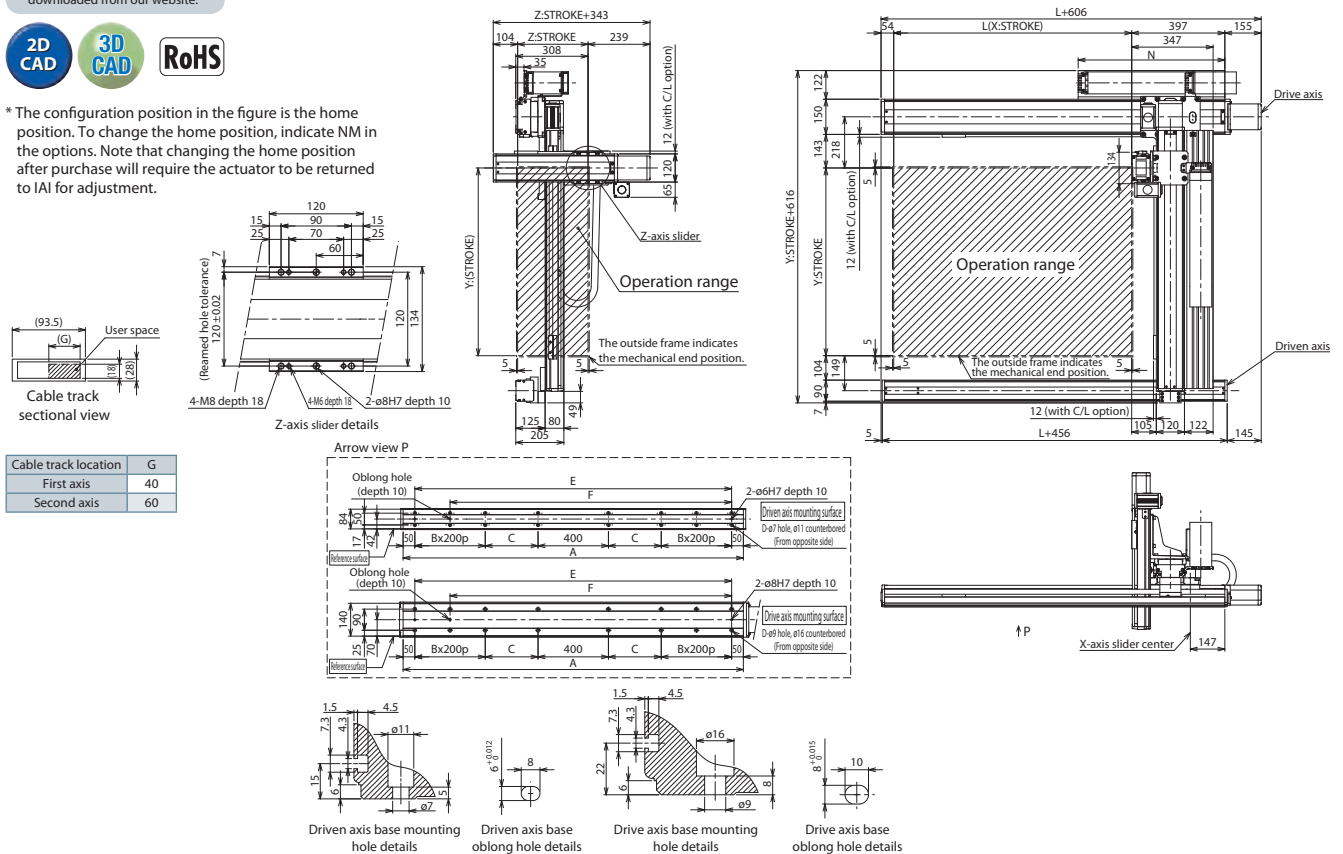
Dimensions

CAD drawings can be downloaded from our website.



* 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)



| 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 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 | 2950 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C | 275 | 325 | 375 | 425 | 475 | 525 | 575 | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 |
| D | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 | 20 |
| E | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 |
| F | 1150 | 1250 | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 |
| N | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 | 1075 | 1125 | 1175 | 1225 | 1275 | 1325 | 1375 |

ICSB3-G2J□HB3□

ICSPB3-G2J□HB3□

High-Precision Specification

±10μm
Standard

±5μm
High-Precision

Battery-less Absolute

X-Y-Z 3-axis

XYG+ZB (Y Horiz. Gantry Z Base Mount)

High Speed Long Type

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



Model Specification Items

| | | | | | | | | | |
|---|----------|---------------------------|---------------------------|--------------------------|------------------------|-------------------------|--------------------------------|--|--------------------------------|
| Series | G2J□HB3□ | Encoder Type | WA | 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 | | WA: Battery-less Absolute | 100: 1000mm | 80: 800mm | 10: 100mm | T2: SCON | 3L: 3m | Refer to Explanation of Model Designations below | |
| ICSPB3: High precision 3-axis specification | | | 250: 2500mm (Every 100mm) | 120: 1200mm (Every 50mm) | 60: 600mm (Every 50mm) | XSEL-P/Q XSEL-RA/SA* | 5L: 5m □L: Specified length | | |

Model Specification

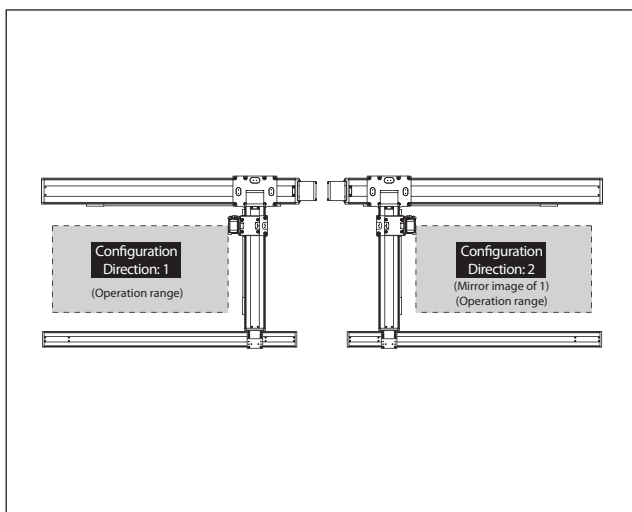
* Items in brackets [] are for the High-Precision Specification.

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---|
| 1 | H | ICSB3[ICSPB3]-G2J1HB3H-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | M | ICSB3[ICSPB3]-G2J1HB3M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | H | ICSB3[ICSPB3]-G2J2HB3H-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | M | ICSB3[ICSPB3]-G2J2HB3M-[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 (Drive axis) | ISB[ISPB]-LXUWX-[1]-400-20-[2]-T2-[11]-[3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM05-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXMX-[1]-200-20-[4]-T2-[11]-[5] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-[1]-200-[6]-[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 [13] 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) | 80: 800mm ? 120: 1200mm |
| [5] | Y-axis option | Refer to Options table below. |
| [6] | Z-axis stroke (Note 1) | 10: 100mm ? 60: 600mm |
| [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)

■G2J□HB3H

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|--|
| | 800~1,200 | |
| 100 | 10.0 | |
| 150 | | |
| 200 | | |
| 250 | | |
| 300 | | |
| 350 | | |
| 400 | | |
| 450 | | |
| 500 | | |
| 550 | | |
| 600 | | |

■G2J□HB3M

| Z-axis stroke | Y-axis stroke | | | |
|---------------|---------------|------|------|------|
| | 800~1000 | 1100 | 1200 | |
| 100 | 20.0 | 20.0 | 20.0 | |
| 150 | | 20.0 | 20.0 | |
| 200 | | 20.0 | 19.6 | |
| 250 | | 20.0 | 18.9 | |
| 300 | | 20.0 | 18.3 | |
| 350 | | 19.7 | 17.7 | |
| 400 | | 19.1 | 17.1 | |
| 450 | | 19.5 | 18.4 | 16.4 |
| 500 | | 19.0 | 17.8 | 15.8 |
| 550 | | 18.5 | 17.1 | 15.1 |
| 600 | | 18.0 | 16.5 | 14.5 |

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

■G2J□HB3H

| | 100~600 | 800~1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 |
|--------|---------|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| X-axis | — | 1200 | 1150 | 1000 | 950 | 830 | 740 | 650 | 590 | 490 | 540 | 490 | 440 | 370 | 340 | — |
| Y-axis | — | 1200 | 1100 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Z-axis | 1200 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

■G2J□HB3M

| | 100~600 | 800~1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 |
|--------|---------|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| X-axis | — | 1200 | 1150 | 1000 | 950 | 830 | 740 | 650 | 590 | 490 | 540 | 490 | 440 | 370 | 340 | — |
| Y-axis | — | 1200 | 1100 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Z-axis | 600 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

ICSB3 [ICSPB3]-G2J□HB3□-CT-CT (Cable track specification)

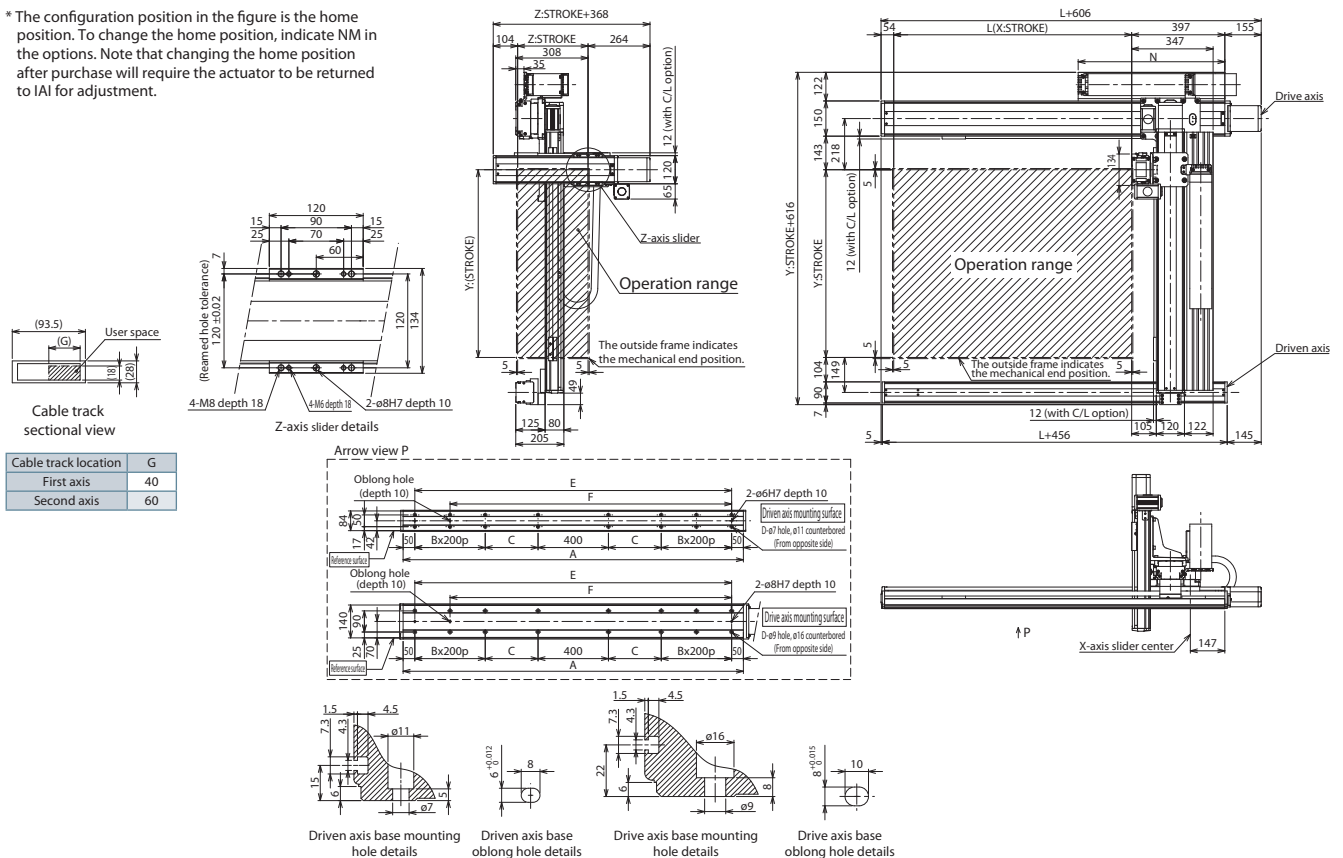
Dimensions

CAD drawings can be downloaded from our website.



(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 IA1 for adjustment.



| Cable track location | G |
|----------------------|----|
| First axis | 40 |
| Second axis | 60 |

| 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 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 | 2950 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C | 275 | 325 | 375 | 425 | 475 | 525 | 575 | 425 | 475 | 525 | 575 | 425 | 475 | 525 | 575 | 625 |
| D | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 | 20 |
| E | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 |
| F | 1150 | 1250 | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 |
| N | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 | 1075 | 1125 | 1175 | 1225 | 1275 | 1325 | 1375 |

ICSB3-G1J□HS1□

ICSPB3-G1J□HS1□

High-Precision Specification



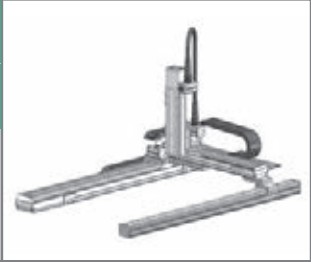
Battery-less Absolute

X-Y-Z 3-axis

XYG+ZS (Y Horiz. Gantry Z Slider)

High Speed Long Type

X:Lg (400W)
Y:Md (200W)
Z:Sm (60W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|--------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis-Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 100: 1000mm 250: 2500mm (Every 100mm) | 50: 500mm 70: 700mm (Every 100mm) | 10: 100mm 40: 400mm (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 |

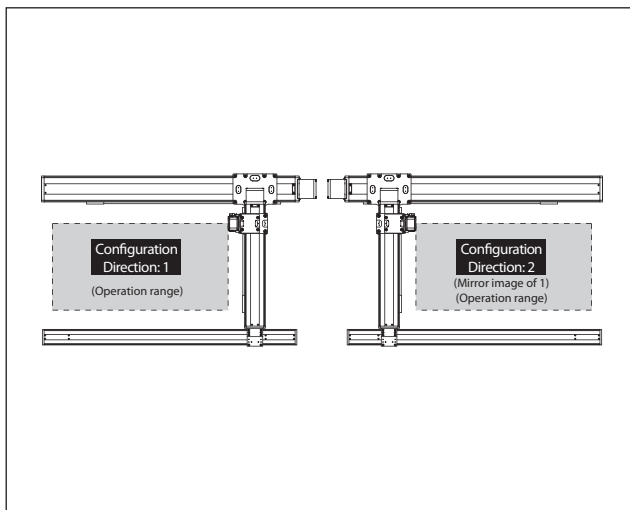
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---|
| 1 | M | ICSB3[ICSPB3]-G1J1HS1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-G1J1HS1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 2 | M | ICSB3[ICSPB3]-G1J2HS1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-G1J2HS1L-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 (Drive axis) | ISB[ISPB]-LXUWX-①-400-20-②-T2-③-④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM05-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-200-20-④-T2-⑤-⑥ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-①-60-⑥-⑦-T2-⑧-⑨ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑨ in the above model names.
Note that the strokes are indicated in mm (millimeters).
* Lead is specified with ⑧ 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 ⑨ 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) | 50: 500mm 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-CTSC: Cable track - 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)

■G1J□HS1M

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|--|
| | 500~700 | |
| 100 | 4.3 | |
| 150 | 3.9 | |
| 200 | 3.5 | |
| 250 | 3.1 | |
| 300 | 2.8 | |
| 350 | 2.4 | |
| 400 | 2.1 | |

■G1J□HS1L

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|--|
| | 500~700 | |
| 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)

■G1J□HS1M

| | 100~400 | 500~700 | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

■G1J□HS1L

| | 100~400 | 500~700 | 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]-G1J□HS1□-CT-CTSC (Cable track - Cable track + Self-standing cable specification)

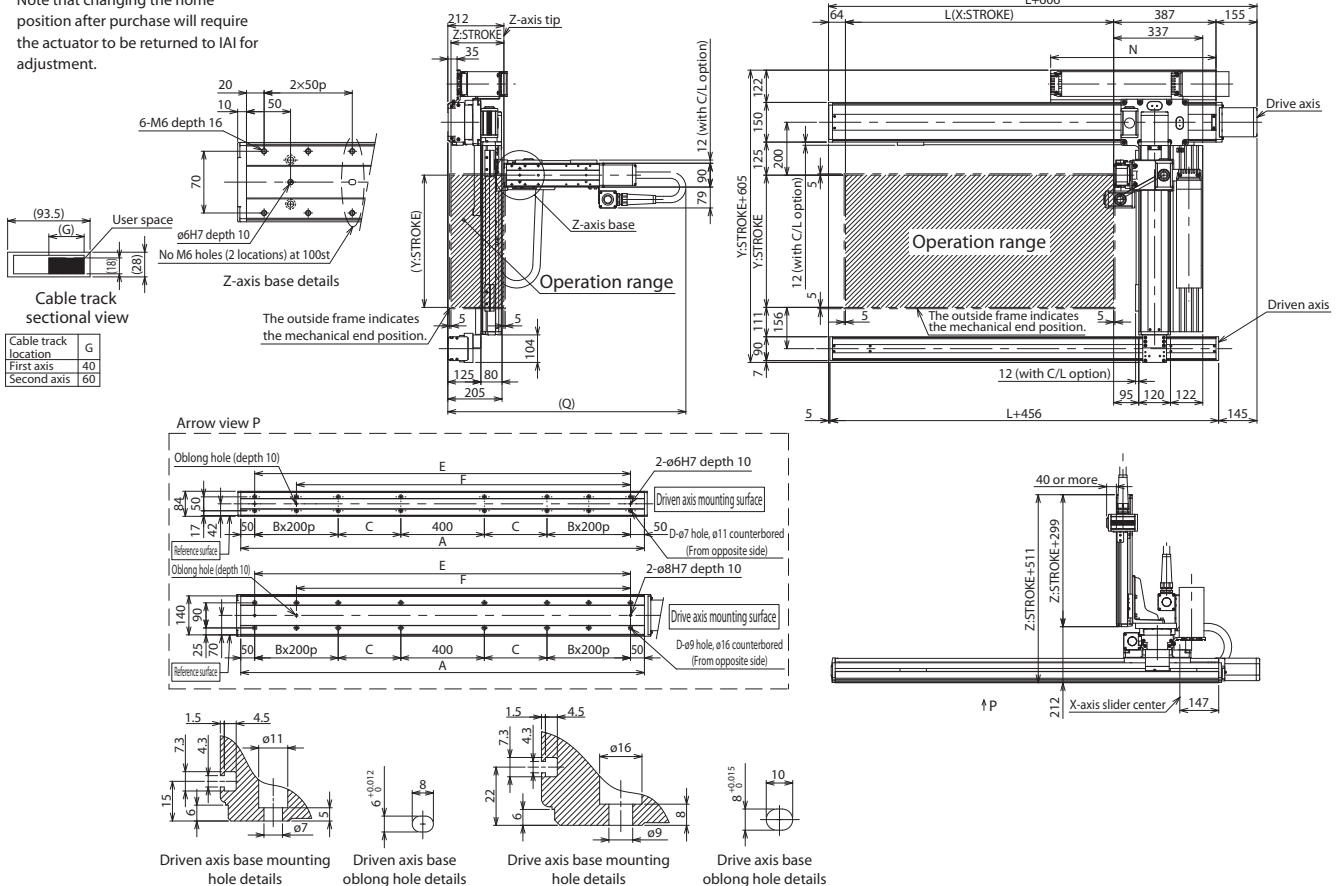
Dimensions

CAD drawings can be downloaded from our website.



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

(Configuration direction: 1)



Q dimension

| Z-axis stroke | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
|---------------|-----|-----|------|------|------|------|------|------|------|
| Q | 900 | 950 | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 |

| 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 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 | 2950 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C | 275 | 325 | 375 | 425 | 475 | 525 | 575 | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 |
| D | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 | 20 |
| E | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 |
| F | 1150 | 1250 | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 |
| N | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 | 1075 | 1125 | 1175 | 1225 | 1275 | 1325 | 1375 |

ICSB3-G1J□HS2L

ICSPB3-G1J□HS2L High-Precision Specification



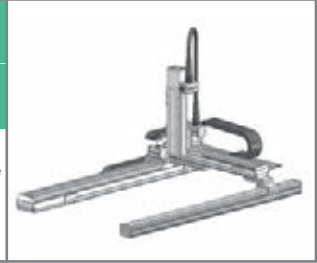
Battery-less Absolute

X-Y-Z 3-axis

XYG+ZS (Y Horiz. Gantry Z Slider)

High Speed Long Type

X: Lg (400W)
Y: Md (200W)
Z: Md (100W)



Model Specification Items

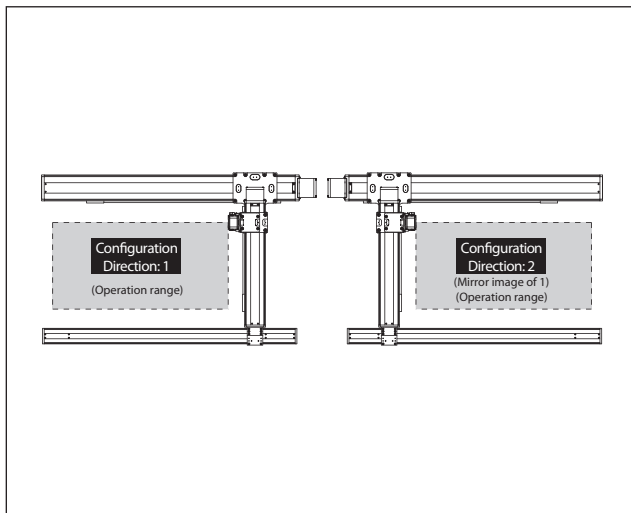
| | | | | | | | | |
|---|--|---------------------------|--|---|--|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 100: 1000mm 250: 2500mm (Every 100mm) | Refer to Options table below. 50: 500mm 70: 700mm (Every 100mm) | Refer to Options table below. 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 |

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---|
| 1 | L | ICSB3[ICSPB3]-G1J1HS2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 2 | L | ICSB3[ICSPB3]-G1J2HS2L-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 (Drive axis) | ISB[ISPB]-LXUWX-①-400-20-②-T2-③-④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM05-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-200-20-④-T2-⑤-⑥ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-①-100-5-⑥-T2-⑦-⑧ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑧ in the above model names.
Note that the strokes are indicated in mm (millimeters).
* Cable exit direction is specified with ④ 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) | 50: 500mm ? : 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-CTSC: Cable track - 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 axis 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 | ±0.01 mm [±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/5mm |

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)

■G1J□HS2L

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|--|
| | 500~700 | |
| 100 | 14.8 | |
| 150 | 14.2 | |
| 200 | 13.6 | |
| 250 | 12.9 | |
| 300 | 12.3 | |
| 350 | 11.6 | |
| 400 | 11.0 | |
| 450 | 10.4 | |
| 500 | 9.8 | |

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

■G1J□HS2L

| | 100~500 | 500~700 | 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 | 300 | | — | | | | | | | | | | | | | |

ICSB3 [ICSPB3]-G1J□HS2L-CT-CTSC (Cable track - Cable track + Self-standing cable specification)

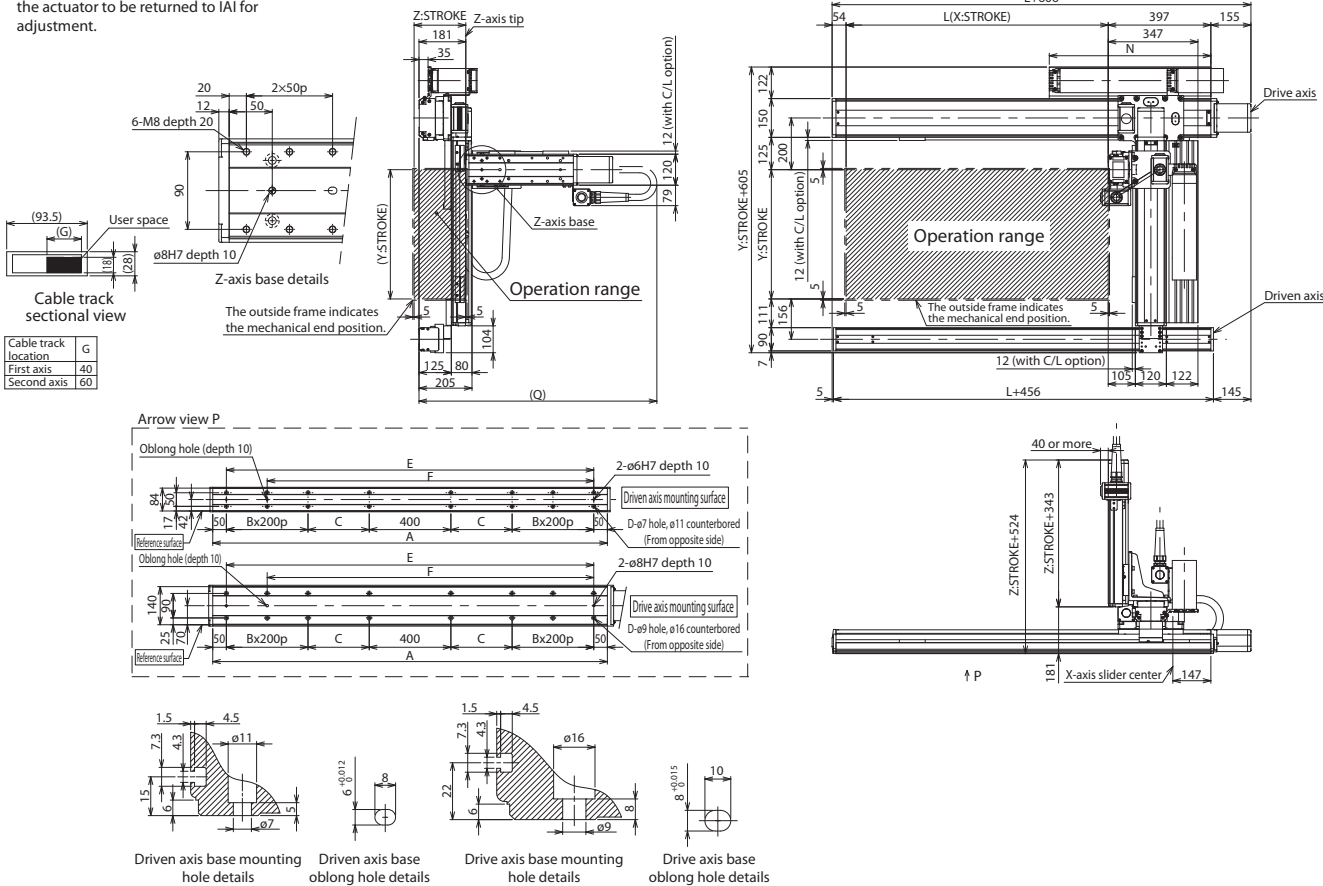
Dimensions

CAD drawings can be downloaded from our website.



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

(Configuration direction: 1)



Q dimension

| Z-axis stroke | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
|---------------|-----|-----|------|------|------|------|------|------|------|
| Q | 900 | 950 | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 |

| 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 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 | 2950 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C | 275 | 325 | 375 | 425 | 475 | 525 | 575 | 425 | 475 | 525 | 575 | 425 | 475 | 525 | 575 | 625 |
| D | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 | 20 |
| E | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 |
| F | 1150 | 1250 | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 |
| N | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 | 1075 | 1125 | 1175 | 1225 | 1275 | 1325 | 1375 |

ICSB3-G1J□HS3M

ICSPB3-G1J□HS3M High-Precision Specification



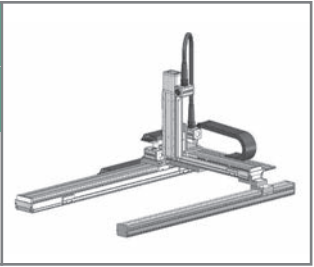
Battery-less Absolute

X-Y-Z 3-axis

XYG+ZS (Y Horiz Gantry Z Slider)

High Speed Long Type

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



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|--------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis-Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 100: 1000mm 250: 2500mm (Every 100mm) | 50: 500mm 70: 700mm (Every 100mm) | 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

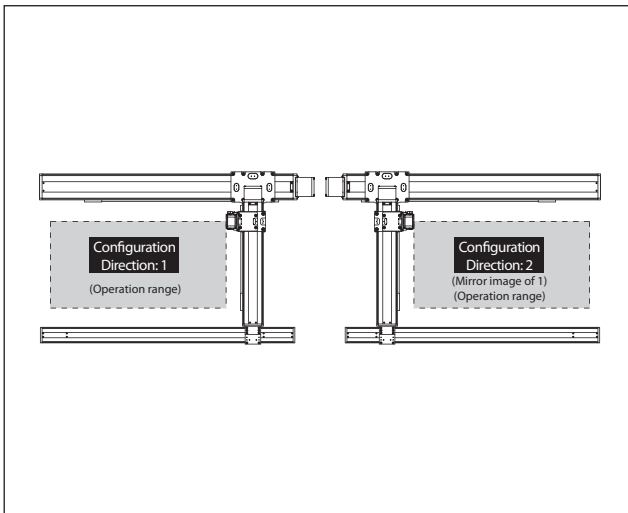
* Items in brackets [] are for the High-Precision Specification.

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---|
| 1 | M | ICSB3[ICSPB3]-G1J1HS3M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | M | ICSB3[ICSPB3]-G1J2HS3M-[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 (Drive axis) | ISB[ISPB]-LXJWX-[1]-400-20-[2]-T2-[3]-[4] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM05-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXM-[1]-200-20-[4]-T2-[3]-[5] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-[1]-200-10-[6]-T2-[3]-[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 [8] 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) | 50: 500mm 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-CTSC: Cable track - 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.



- (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)

G1J□HS3M

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|---------|
| | 100~500 | 500~700 |
| 100 | 14.3 | |
| 150 | 13.6 | |
| 200 | 13.0 | |
| 250 | 12.3 | |
| 300 | 11.7 | |
| 350 | 11.1 | |
| 400 | 10.5 | |
| 450 | 9.8 | |
| 500 | 9.2 | |

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

G1J□HS3M

| | 100~500 | 500~700 | 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]-G1J□HS3M-CT-CTSC (Cable track - Cable track + Self-standing cable specification)

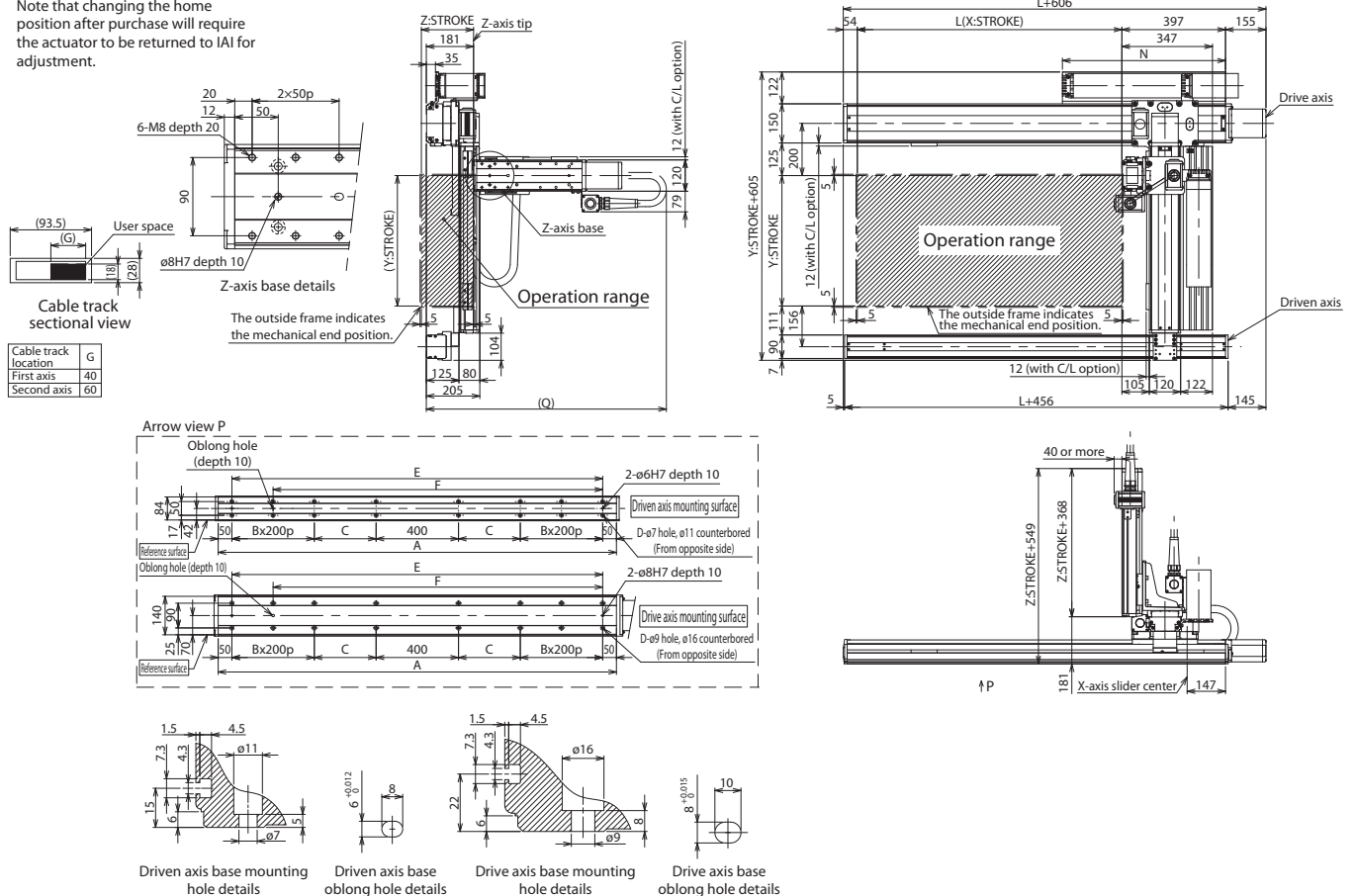
Dimensions

CAD drawings can be downloaded from our website.



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

(Configuration direction: 1)



Q dimension

| Z-axis stroke | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
|---------------|-----|-----|------|------|------|------|------|------|------|
| Q | 900 | 950 | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 |

| 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 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 | 2950 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C | 275 | 325 | 375 | 425 | 475 | 525 | 575 | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 |
| D | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 | 20 |
| E | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 |
| F | 1150 | 1250 | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 |
| N | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 | 1075 | 1125 | 1175 | 1225 | 1275 | 1325 | 1375 |

ICSB3-G2J□HS1□

ICSPB3-G2J□HS1□

High-Precision Specification

±10µm Standard

±5µm High Precision

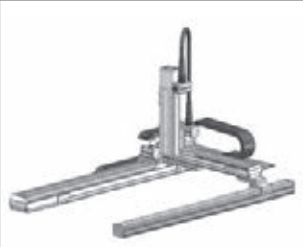
Battery-less Absolute

X-Y-Z 3-axis

XYG+ZS (Y Horiz. Gantry Z Slider)

High Speed Long Type

X:Lg (400W)
Y: Md (200W)
Z: Sm (60W)



■ Model Specification Items

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: 100: 1000mm; 250: 2500mm (Every 100mm)

Y-axis Stroke/Option: 80: 800mm; 120: 1200mm (Every 100mm)

Z-axis Stroke/Option: 10: 100mm; 40: 400mm (Every 50mm)

Applicable Controllers: T2: SCON; SSEL; XSEL-P/Q; XSEL-RA/SA*

Cable Length: 3L: 3m; 5L: 5m; □L: Specified length

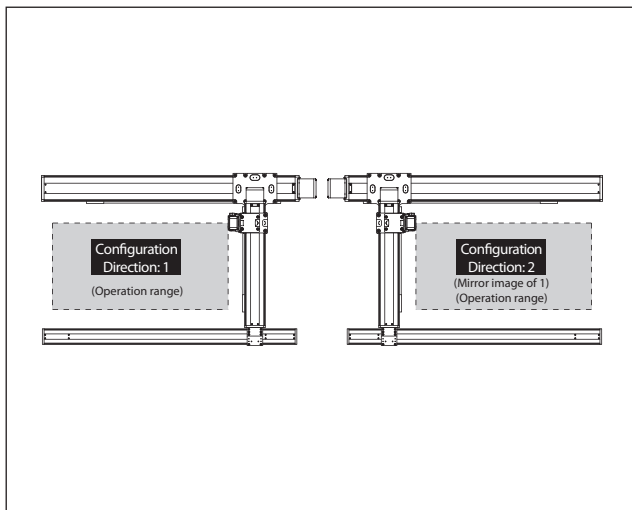
Y-axis-Z-axis Cable Management: Refer to Explanation of Model Designations below

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---|
| 1 | M | ICSB3[ICSPB3]-G2J1HS1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-G2J1HS1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 2 | M | ICSB3[ICSPB3]-G2J2HS1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-G2J2HS1L-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 (Drive axis) | ISB[ISPB]-LXUWX-①-400-20-②-T2-③-④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM05-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXMX-①-200-20-④-T2-⑤-⑥ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-①-60-⑥-⑦-T2-⑧-⑨ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑨ in the above model names.
 Note that the strokes are indicated in mm (millimeters).
 * Lead is specified with ⑤ 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 ③ 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) | 80: 800mm 120: 1200mm |
| 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-CTSC: Cable track - 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)

■G2J□HS1M

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|--|
| | 800~1,200 | |
| 100 | 4.3 | |
| 150 | 3.9 | |
| 200 | 3.5 | |
| 250 | 3.1 | |
| 300 | 2.8 | |
| 350 | 2.4 | |
| 400 | 2.1 | |

■G2J□HS1L

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|--|
| | 800~1,200 | |
| 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)

■G2J□HS1M

| | 100~400 | 800~900 | 1000~1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 |
|--------|---------|---------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| X-axis | — | — | 1200 | 1150 | 1000 | 950 | 830 | 740 | 650 | 590 | 490 | 540 | 490 | 440 | 370 | 340 | |
| Y-axis | — | — | 1200 | 1100 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Z-axis | 480 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

■G2J□HS1L

| | 100~400 | 800~900 | 1000~1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 |
|--------|---------|---------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| X-axis | — | — | 1200 | 1150 | 1000 | 950 | 830 | 740 | 650 | 590 | 490 | 540 | 490 | 440 | 370 | 340 | |
| Y-axis | — | — | 1200 | 1100 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Z-axis | 240 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

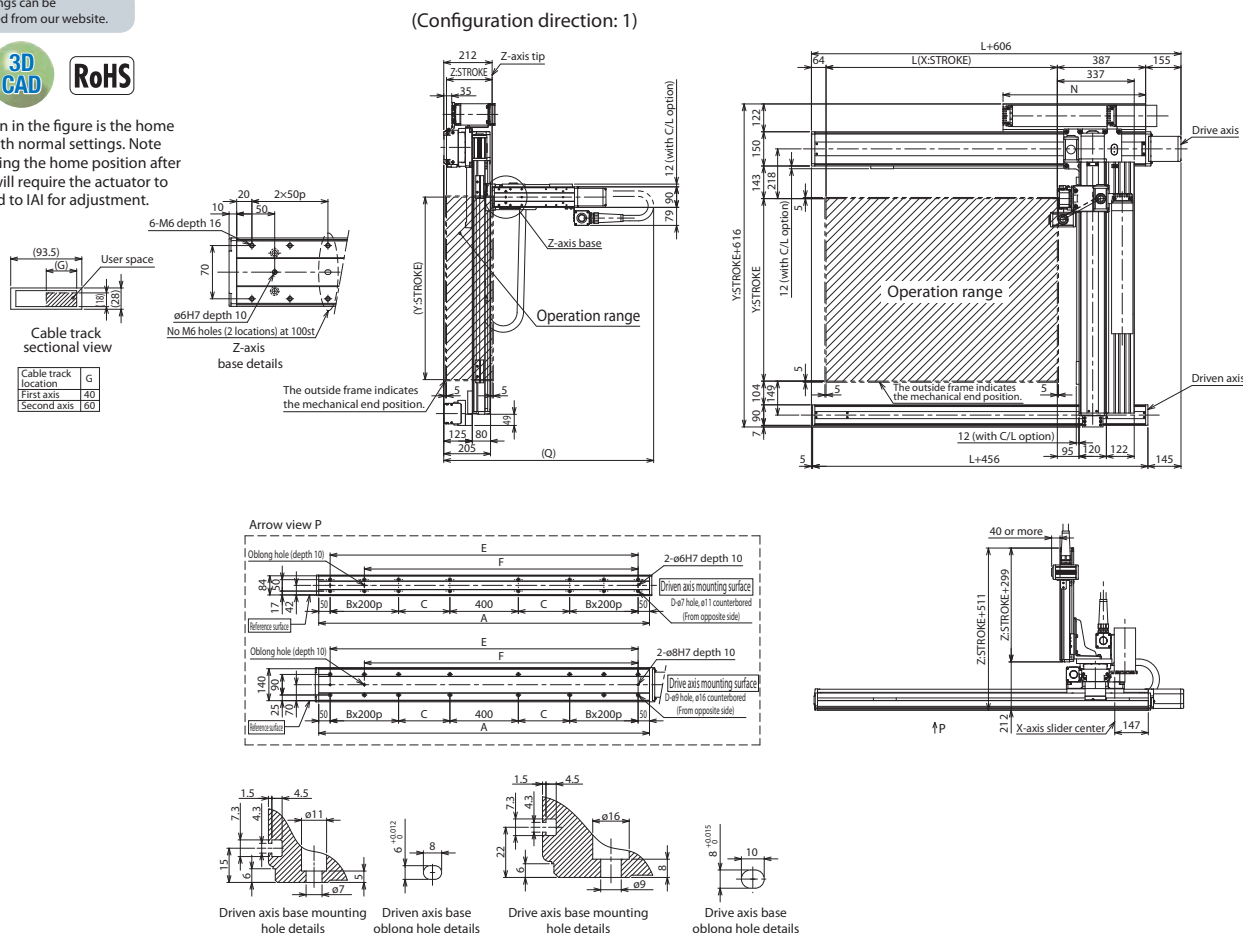
ICSB3 [ICSPB3]-G2J□HS1□-CT-CTSC (Cable track - Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



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



Q dimension

| Z-axis stroke | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 1250 |
|---------------|-----|-----|------|------|------|------|------|-----|------|
| Q | 900 | 950 | 1000 | 1050 | 1100 | 1150 | 1200 | 500 | 1300 |

| 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 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 | 2950 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C | 275 | 325 | 375 | 425 | 475 | 525 | 575 | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 |
| D | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 | 20 |
| E | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 |
| F | 1150 | 1250 | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 |
| N | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 | 1075 | 1125 | 1175 | 1225 | 1275 | 1325 | 1375 |

ICSB3-G2J□HS2L

ICSPB3-G2J□HS2L High-Precision Specification

±10µm
Standard

±5µm
High-Precision

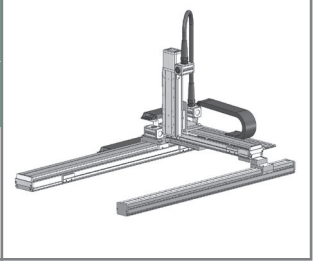
Battery-less Absolute

X-Y-Z 3-axis

XYG+ZS (Y Horiz. Gantry Z Slider)

High Speed Long Type

X: Lg (400W)
Y: Md (200W)
Z: Md (100W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|--|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis-Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 100: 1000mm 250: 2500mm (Every 100mm) | 80: 800mm 120: 1200mm (Every 100mm) | 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 |

Model Specification

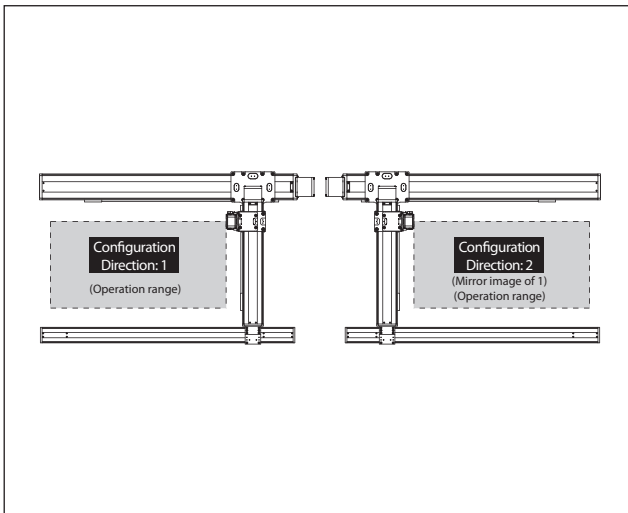
* Items in brackets [] are for the High-Precision Specification.

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---|
| 1 | L | ICSB3[ICSPB3]-G2J1HS2L-1-2-3-4-5-6-7-T2-8-9 |
| 2 | L | ICSB3[ICSPB3]-G2J2HS2L-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 (Drive axis) | ISB[ISPB]-LXUWX-1-400-20-2-T2-10-3 | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM05-N-0-0-2 | — |
| Y-axis | ISB[ISPB]-MXMX-1-200-20-4-T2-10-5 | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-1-100-5-6-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 [9] in the above model names.

Note that the strokes are indicated in mm (millimeters).

* Cable exit direction is specified with [8] 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) | 80: 800mm 120: 1200mm |
| [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-CTSC: Cable track - 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.

*4 Cannot be selected for High-Precision Specification. 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 | 0.05mm [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/5mm |

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)

G2J□HS2L

| Z-axis stroke | Y-axis stroke 800~1,200 | |
|---------------|----------------------------|-----|
| | 100 | 150 |
| 100 | 14.8 | |
| 150 | 14.2 | |
| 200 | 13.6 | |
| 250 | 12.9 | |
| 300 | 12.3 | |
| 350 | 11.6 | |
| 400 | 11.0 | |
| 450 | 10.4 | |
| 500 | 9.8 | |

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

G2J□HS2L

| | 100~500 | 800~900 | 1000~1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 |
|--------|---------|---------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| X-axis | — | | 1200 | | 1150 | 1000 | 950 | 830 | 740 | 650 | 590 | 490 | 540 | 490 | 440 | 370 | 340 |
| Y-axis | — | 1200 | | 1100 | | | | | | | | | | | | | |
| Z-axis | 300 | | | | | | | | | | | | | | | | |

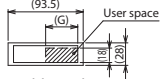
ICSB3 [ICSPB3]-G2J□HS2L-CT-CTSC (Cable track - Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



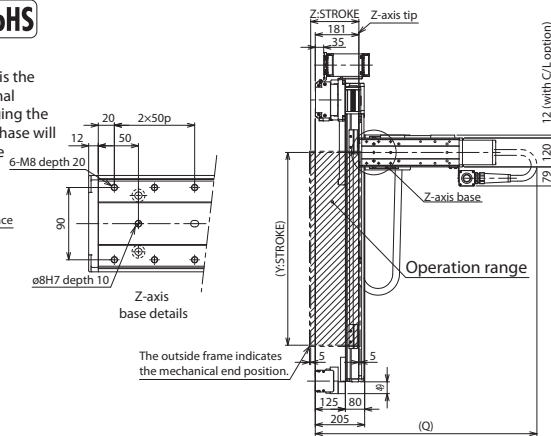
*The position in the figure is the home position with normal settings. Note that changing the home position after purchase will require the actuator to be returned to IA for adjustment.



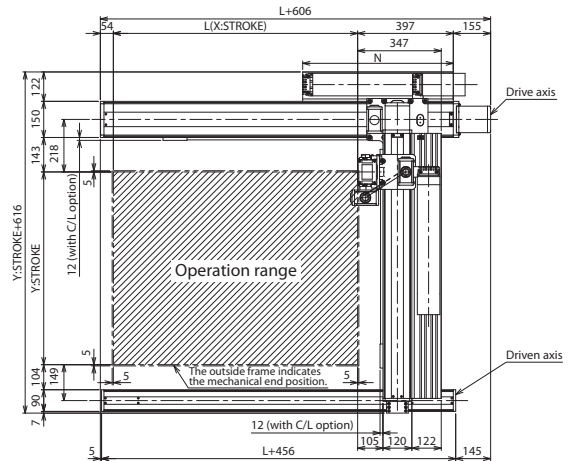
Cable track sectional view

| | |
|----------------------|----|
| Cable track location | G |
| First axis | 40 |
| Second axis | 60 |

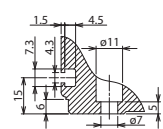
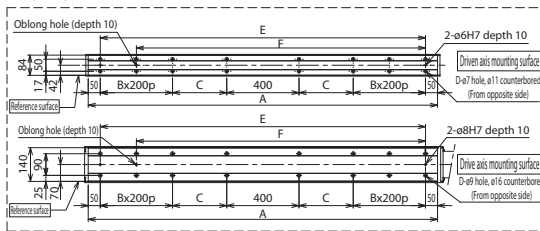
(Configuration direction: 1)



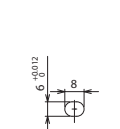
The outside frame indicates the mechanical end position.



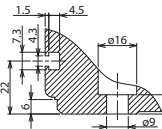
Arrow view P



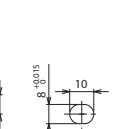
Drive axis base mounting hole details



Drive axis base oblong hole details



Drive axis base mounting hole details



Drive axis base oblong hole details

Q dimension

| Z-axis stroke | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
|---------------|-----|-----|------|------|------|------|------|------|------|
| Q | 900 | 950 | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 |

| 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 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 | 2950 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C | 275 | 325 | 375 | 425 | 475 | 525 | 575 | 425 | 475 | 525 | 575 | 425 | 475 | 525 | 575 | 625 |
| D | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 | 20 |
| E | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 |
| F | 1150 | 1250 | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 |
| N | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 | 1075 | 1125 | 1175 | 1225 | 1275 | 1325 | 1375 |

ICSB3-G2J□HS3M

ICSPB3-G2J□HS3M

High-Precision Specification



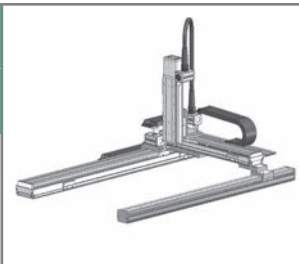
Battery-less Absolute

X-Y-Z 3-axis

XYG+ZS (Y Horiz Gantry Z Slider)

High Speed Long Type

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



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|--|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis-Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 100: 1000mm 250: 2500mm (Every 100mm) | 80: 800mm 120: 1200mm (Every 100mm) | 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

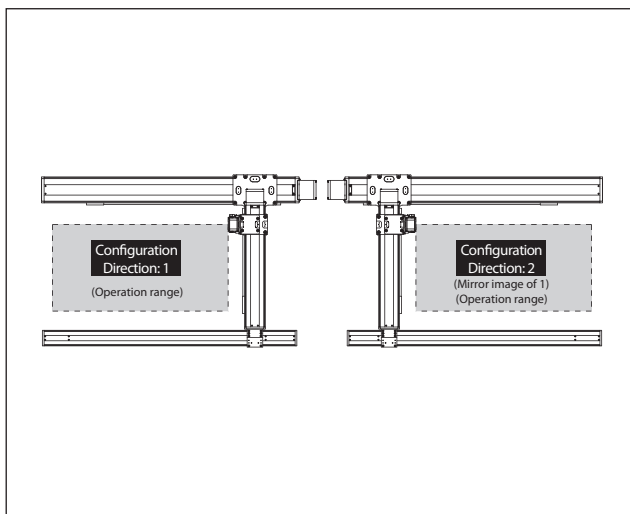
* Items in brackets [] are for the High-Precision Specification.

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-G2J1HS3M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 2 | M | ICSB3[ICSPB3]-G2J2HS3M-①-②③④⑤⑥⑦-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 (Drive axis) | ISB[ISPB]-LXUWX-①-400-20-②-T2-③-④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM05-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXMX-①-200-20-④-T2-⑤-⑥ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-①-200-10-⑥-T2-⑦-⑧ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑨ in the above model names.

Note that the strokes are indicated in mm (millimeters).

* Cable exit direction is specified with ⑧ 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) | 80: 800mm 120: 1200mm |
| 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-CTSC: Cable track - 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 | ±0.01 mm [±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.



- (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)

G2J□HS3M

| Z-axis stroke | Y-axis stroke 800~1,200 | |
|---------------|----------------------------|-----|
| | 100 | 150 |
| 100 | 14.3 | |
| 150 | 13.6 | |
| 200 | 13.0 | |
| 250 | 12.3 | |
| 300 | 11.7 | |
| 350 | 11.1 | |
| 400 | 10.5 | |
| 450 | 9.8 | |
| 500 | 9.2 | |

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

G2J□HS3M

| | 100~500 | 800~900 | 1000~1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 |
|--------|---------|---------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| X-axis | — | — | 1200 | 1150 | 1000 | 950 | 830 | 740 | 650 | 590 | 490 | 540 | 490 | 440 | 370 | 340 | |
| Y-axis | — | 1200 | 1100 | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Z-axis | 600 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

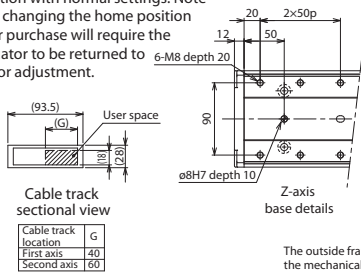
ICSB3 [ICSPB3]-G2J□HS3M-CT-CTSC (Cable track - Self-standing cable specification)

Dimensions

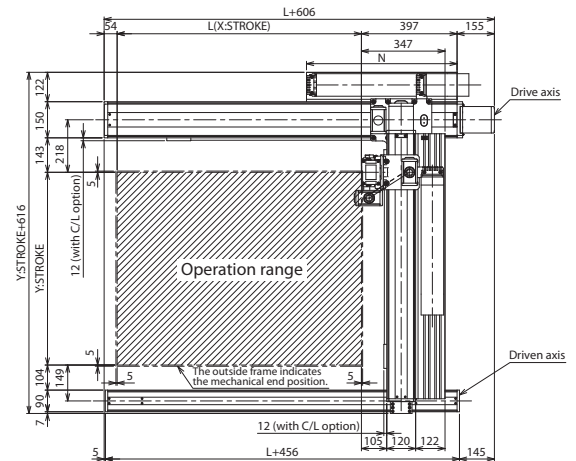
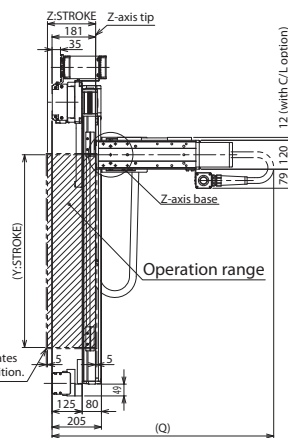
CAD drawings can be downloaded from our website.



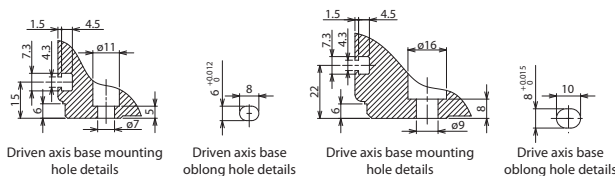
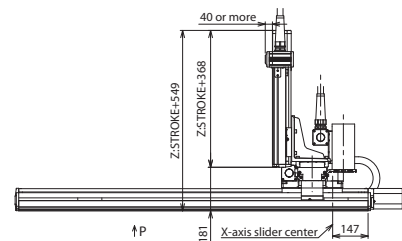
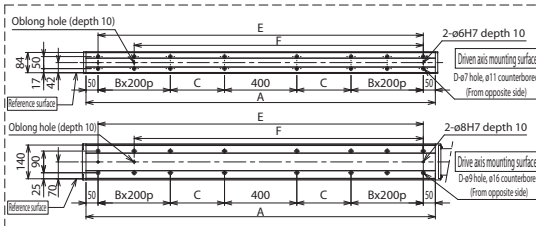
* The position in the figure is the home position with normal settings. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



(Configuration direction: 1)



Arrow view P



Q dimension

| Z-axis stroke | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
|---------------|-----|-----|------|------|------|------|------|------|------|
| Q | 900 | 950 | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 |

| 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 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 | 2950 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| C | 275 | 325 | 375 | 425 | 475 | 525 | 575 | 425 | 475 | 525 | 575 | 425 | 475 | 525 | 575 | 625 |
| D | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 | 20 |
| E | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 | 2750 | 2850 |
| F | 1150 | 1250 | 1350 | 1450 | 1550 | 1650 | 1750 | 1850 | 1950 | 2050 | 2150 | 2250 | 2350 | 2450 | 2550 | 2650 |
| N | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | 1025 | 1075 | 1125 | 1175 | 1225 | 1275 | 1325 | 1375 |

ICSB3-GB□HB1□

ICSPB3-GB□HB1□

High-Precision Specification



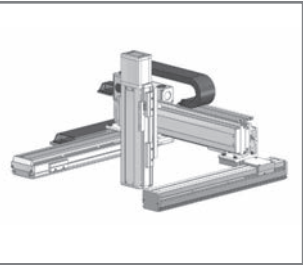
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

High Speed Type

X: Md (100W)
Y: Sml (60W)
Z: Sml (60W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|--|--|--|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 10: 100mm 110: 1100mm table <100: 1000mm> * below. (Every 50mm) | 30: 300mm table 60: 600mm table (Every 50mm) | 10: 100mm 30: 300mm (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 |

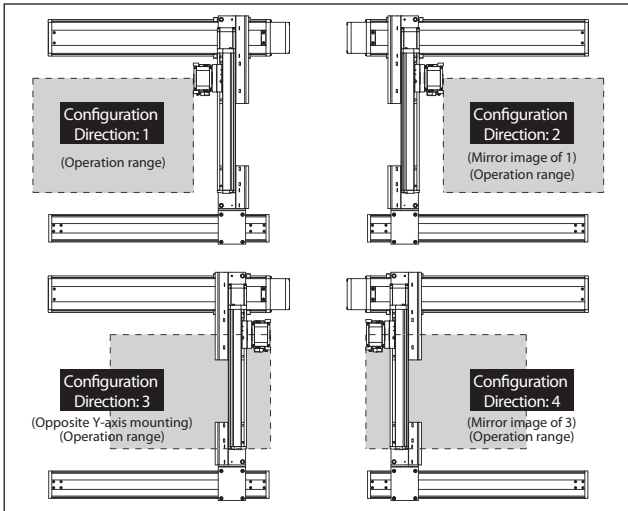
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GB1HB1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GB1HB1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | M | ICSB3[ICSPB3]-GB2HB1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GB2HB1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 3 | M | ICSB3[ICSPB3]-GB3HB1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GB3HB1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 4 | M | ICSB3[ICSPB3]-GB4HB1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GB4HB1L-[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 (Drive axis) | ISB[ISPB]-MXM-[1]-100-20-[2]-T2-[1]-[3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-SXM-[1]-60-16-[4]-T2-[1]-[5] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-[1]-60-[6]-[6]-T2-[1]-[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 [6] 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 [1] 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) | 30: 300mm 60: 600mm |
| 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 | ±0.01 mm [±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.



(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)

■GB□HB1M

| Z-axis stroke | Y-axis stroke | | | | |
|---------------|---------------|-----|-----|-----|-----|
| | 300-400 | 450 | 500 | 550 | 600 |
| 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 |

■GB□HB1L

| Z-axis stroke | Y-axis stroke | | | | | | |
|---------------|---------------|-----|-----|-----|-----|-----|-----|
| | 300 | 350 | 400 | 450 | 500 | 550 | 600 |
| 100 | 7.6 | 7.6 | 7.3 | 6.9 | 6.6 | 6.1 | 5.8 |
| 150 | 7.2 | 7.2 | 6.9 | 6.5 | 6.2 | 5.8 | 5.5 |
| 200 | 6.9 | 6.9 | 6.6 | 6.1 | 5.8 | 5.4 | 5.1 |
| 250 | 6.5 | 6.5 | 6.2 | 5.8 | 5.5 | 5.1 | 4.8 |
| 300 | 6.3 | 6.2 | 5.9 | 5.5 | 5.2 | 4.8 | 4.5 |

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

■GB□HB1M

| | 100-300 | 300-600 | 650-700 | 750-800 | 850-900 | 950-1000 | 1050-1100 |
|--------|---------|---------|---------|---------|---------|----------|-----------|
| X-axis | 1200 | | | | | | |
| Y-axis | 960 | | | | | | |
| Z-axis | 480 | | | | | | |

■GB□HB1L

| | 100-300 | 300-600 | 650-700 | 750-800 | 850-900 | 950-1000 | 1050-1100 |
|--------|---------|---------|---------|---------|---------|----------|-----------|
| X-axis | 1200 | | | | | | |
| Y-axis | 960 | | | | | | |
| Z-axis | 240 | | | | | | |

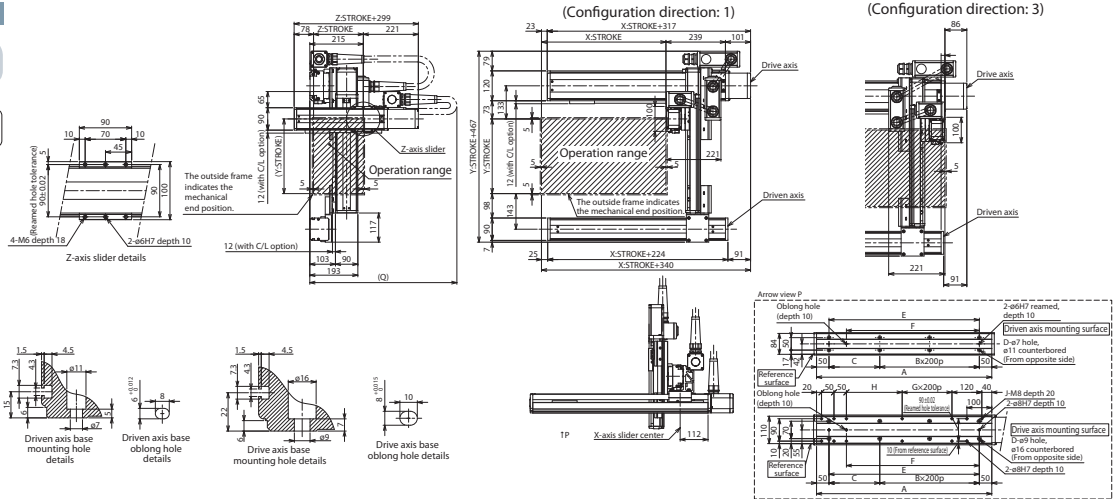
ICSB3 [ICSPB3]-GB□HB1□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 | 300 | 350 | 400 | 450 | 500 | 550 | 600 |
|---------------|-----|-----|-----|-----|-----|-----|-----|
| Q | 700 | 750 | 750 | 800 | 800 | 850 | 850 |

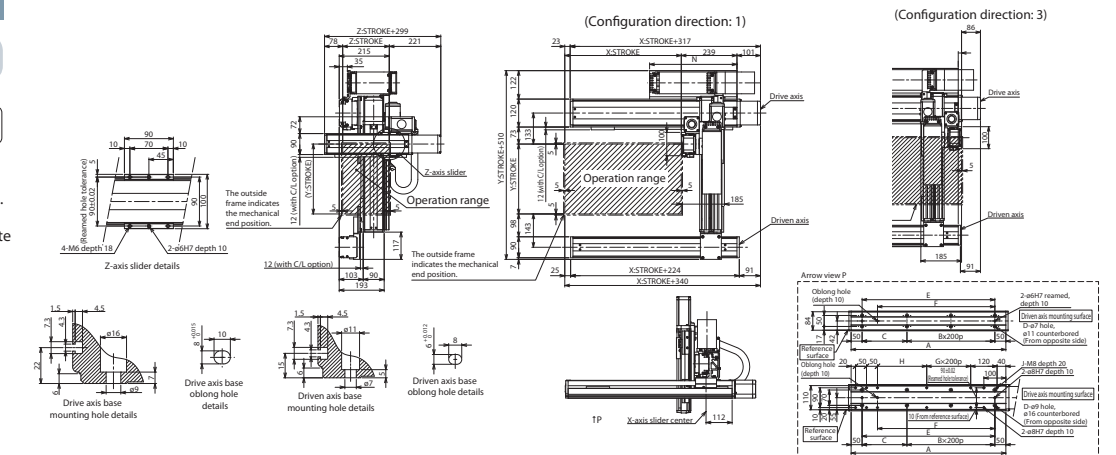
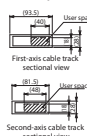
ICSB3 [ICSPB3]-GB□HB1□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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-GB MB1

ICSPB3-GB MB1

High-Precision Specification

±10µm Standard

±5µm High-Precision

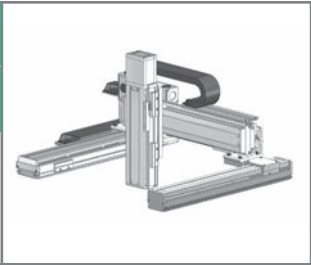
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

Medium Speed Type

X: Md (100W)
Y: Sml (60W)
Z: Sml (60W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|--|--|--|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 10: 100mm 110: 1100mm table <100: 1000mm> (Every 50mm) | 30: 300mm 60: 600mm table (Every 50mm) | 10: 100mm 30: 300mm table (Every 50mm) | T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** | 3L: 3m 5L: 5m □L: Specified length | Refer to Explanation of Model Designations below |

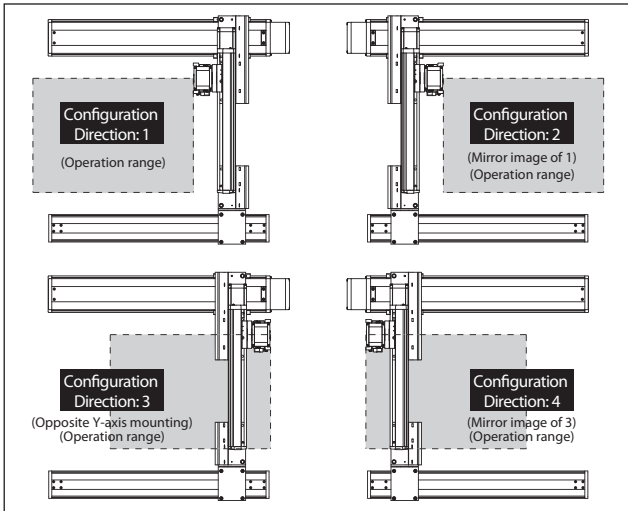
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---------------------------------------|
| 1 | M | ICSB3[ICSPB3]-GB1MB1M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GB1MB1L-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 2 | M | ICSB3[ICSPB3]-GB2MB1M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GB2MB1L-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 3 | M | ICSB3[ICSPB3]-GB3MB1M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GB3MB1L-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 4 | M | ICSB3[ICSPB3]-GB4MB1M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GB4MB1L-①-②③④⑤⑥⑦-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 (Drive axis) | ISB[ISPB]-MXM-①-100-10-②-T2-③-④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0-② | — |
| Y-axis | ISB[ISPB]-SXM-①-60-8-④-T2-⑤-⑥ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-①-60-⑥-⑥-T2-⑦-⑧ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑧ in the above model names.
Note that the strokes are indicated in mm (millimeters).
* Lead is specified with ⑥ 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 ⑧ 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) | 30: 300mm 60: 600mm |
| 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/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)

■GB□MB1M

| | | |
|---------------|-----|--------------------------|
| | | Y-axis stroke 300-600 |
| Z-axis stroke | 100 | 7.0 |
| | 150 | |
| | 200 | |
| | 250 | |
| | 300 | |

■GB□MB1L

| | | |
|---------------|-----|--------------------------|
| | | Y-axis stroke 300-600 |
| Z-axis stroke | 100 | 14.0 |
| | 150 | |
| | 200 | |
| | 250 | |
| | 300 | |

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

■GB□MB1M

| | | | | | | | |
|--------|---------|---------|---------|---------|---------|----------|-----------|
| | 100-300 | 300-600 | 650-700 | 750-800 | 850-900 | 950-1000 | 1050-1100 |
| X-axis | 600 | | | 430 | 345 | 280 | 230 |
| Y-axis | — | 480 | | | — | | |
| Z-axis | 480 | | | — | | | |

■GB□MB1L

| | | | | | | | |
|--------|---------|---------|---------|---------|---------|----------|-----------|
| | 100-300 | 300-600 | 650-700 | 750-800 | 850-900 | 950-1000 | 1050-1100 |
| X-axis | 600 | | | 430 | 230 | 280 | 230 |
| Y-axis | — | 480 | | | — | | |
| Z-axis | 240 | | | — | | | |

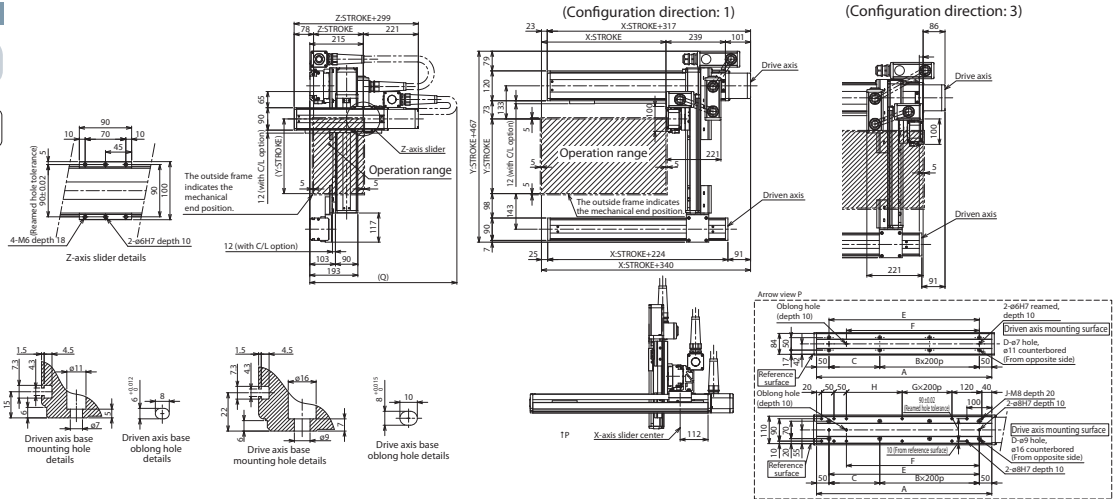
ICSB3 [ICSPB3]-GB□MB1□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 | 300 | 350 | 400 | 450 | 500 | 550 | 600 |
| Q | 700 | 750 | 750 | 800 | 800 | 850 | 850 |

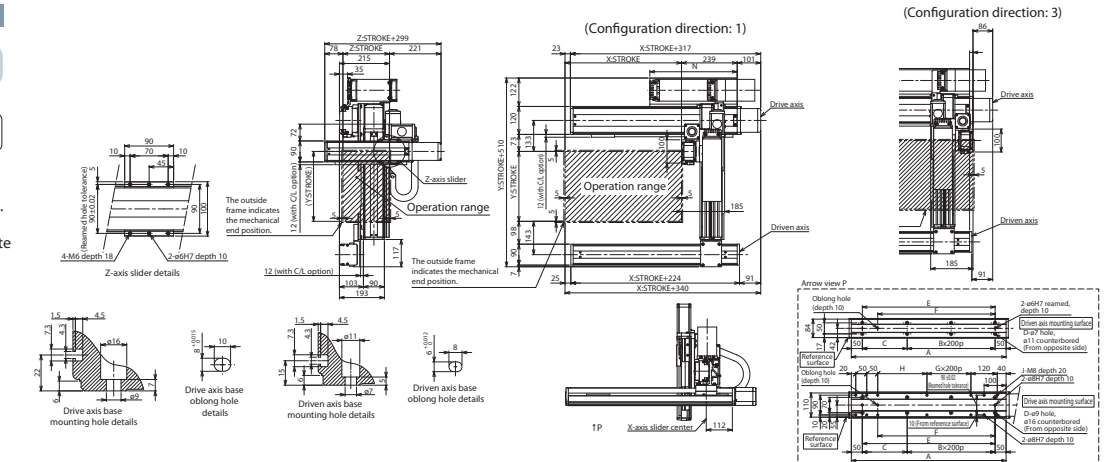
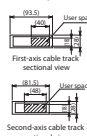
ICSB3 [ICSPB3]-GB□MB1□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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-GC□HB1□

ICSPB3-GC□HB1□ High-Precision Specification

±10μm Standard

±5μm High-Precision

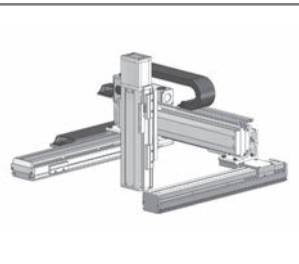
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

High Speed Type

X: Md (200W)
Y: Md (100W)
Z: Sm (60W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|---|---|---|--|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 10: 100mm 110: 1100mm > 100: 1000mm > (Every 50mm) * Refer to Options table below | 30: 300mm 70: 700mm table below (Every 50mm) Refer to Options table below | 10: 100mm 40: 400mm table below (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 |

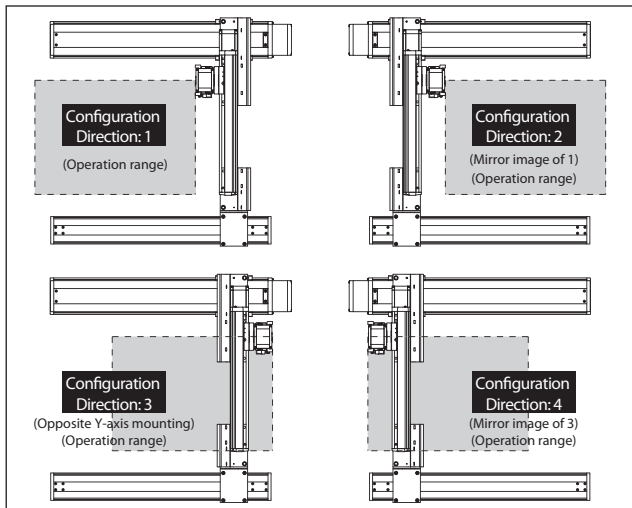
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GC1HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC1HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 2 | M | ICSB3[ICSPB3]-GC2HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC2HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 3 | M | ICSB3[ICSPB3]-GC3HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC3HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 4 | M | ICSB3[ICSPB3]-GC4HB1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC4HB1L-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 (Drive axis) | ISB[ISPB]-MXM-①-200-20-②-T2-③-④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-100-20-②-T2-③-④ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-①-60-⑤-⑥-T2-⑦-⑧ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for [①] through [⑧] in the above model names.
Note that the strokes are indicated in mm (millimeters).
* Lead is specified with [⑤] 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 [⑨] 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) | 30: 300mm 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 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/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)

GC□HB1M

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

GC□HB1L

| | | Y-axis stroke 300~650 | | 700 |
|---------------|-----|--------------------------|--|------|
| Z-axis stroke | 100 | 14.0 | | 14.0 |
| | 150 | | | |
| | 200 | | | |
| | 250 | | | |
| | 300 | | | |
| | 350 | | | |
| | 400 | | | |

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

GC□HB1M

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 | 1050~1100 |
|--------|---------|---------|---------|---------|---------|----------|-----------|
| X-axis | 1200 | | | | | | |
| Y-axis | 1200 | | | | | | |
| Z-axis | 480 | | | | | | |

GC□HB1L

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 | 1050~1100 |
|--------|---------|---------|---------|---------|---------|----------|-----------|
| X-axis | 1200 | | | | | | |
| Y-axis | 1200 | | | | | | |
| Z-axis | 240 | | | | | | |

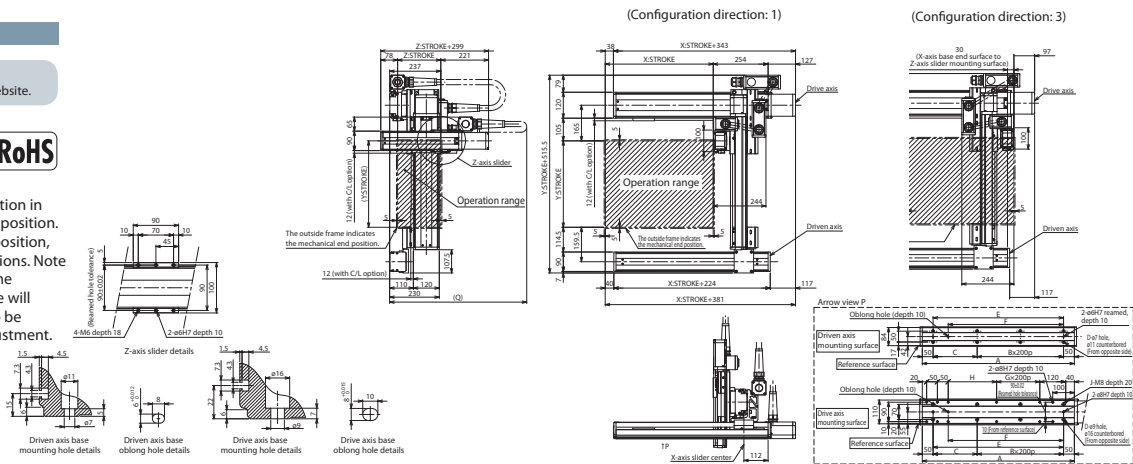
ICSB3 [ICSPB3]-GC□HB1□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 IA 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 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | | | | | | | | | | | |
| Q | 750 | 750 | 800 | 800 | 850 | 850 | 850 | 900 | 900 | | | | | | | | | | | |

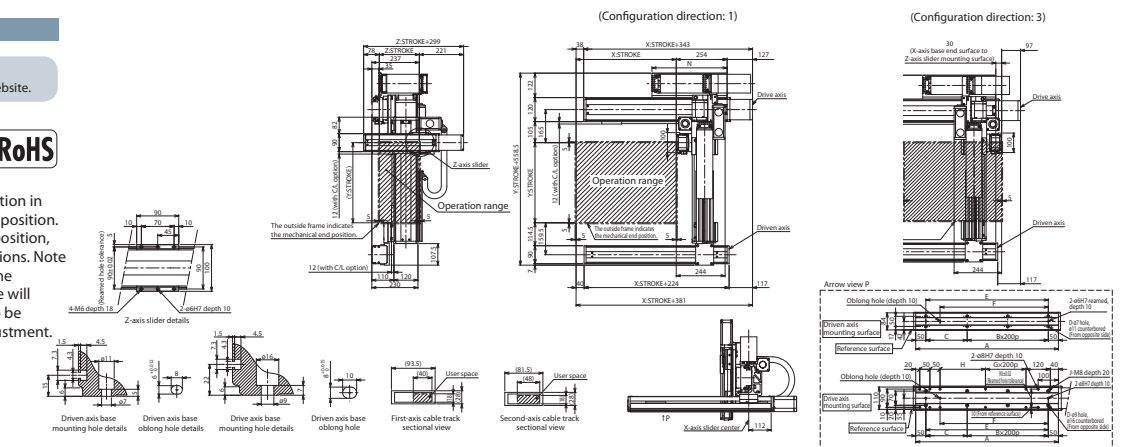
ICSB3 [ICSPB3]-GC□HB1□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 IA 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-GC□HB2□

ICSPB3-GC□HB2□

High-Precision Specification

±10μm Standard

±5μm High-Precision

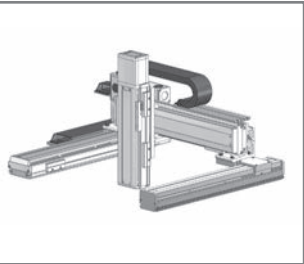
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

High Speed Type

X: Md (200W)
Y: Md (100W)
Z: Md (100W)



Model Specification Items

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; 110: 1100mm table < 100: 1000mm> (Every 50mm) * For self-standing cable specification

Y-axis Stroke/Option: 30: 300mm; 70: 700mm table below (Every 50mm)

Z-axis Stroke/Option: 10: 100mm; 40: 400mm table below (Every 50mm)

Applicable Controllers: T2: SCON; SSEL; XSEL-P/Q; XSEL-RA/SA** (Coming soon)

Cable Length: 3L: 3m; 5L: 5m; □L: Specified length

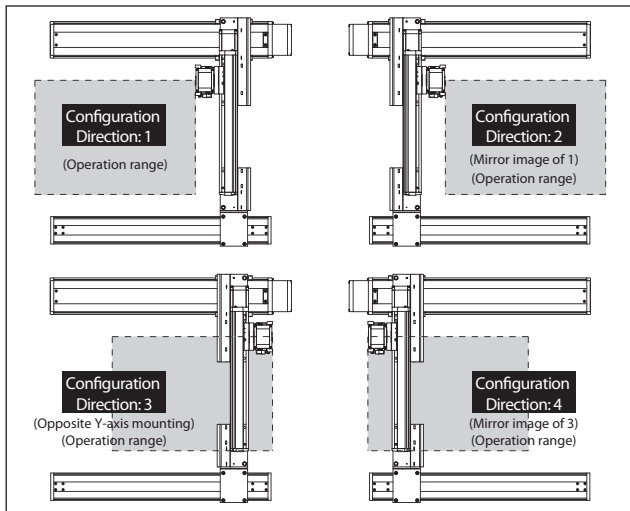
Y-axis - Z-axis Cable Management: Refer to Explanation of Model Designations below

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GC1HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC1HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 2 | M | ICSB3[ICSPB3]-GC2HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC2HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 3 | M | ICSB3[ICSPB3]-GC3HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC3HB2L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 4 | M | ICSB3[ICSPB3]-GC4HB2M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC4HB2L-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 (Drive axis) | ISB[ISPB]-MXM-①-200-20-②-T2-③-④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-100-20-②-T2-③-④ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-①-100-⑤-⑥-T2-③-④-⑦ | → 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 [⑤] in the above model names.
10: For Z-axis Medium Speed type
5: For Z-axis Low Speed type
* Cable exit direction is specified with [⑧] 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) | 30: 300mm ? : 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 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/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)

■GC□HB2M

| | | Y-axis stroke | | | | | | | | |
|---------------|-----|---------------|------|------|------|------|------|------|------|------|
| | | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| Z-axis stroke | 100 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| | 150 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| | 200 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| | 250 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 9.9 |
| | 300 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 9.3 |
| | 350 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 8.6 |
| | 400 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.4 | 8.0 |

■GC□HB2L

| | | Y-axis stroke | | | | | | | | |
|---------------|-----|---------------|------|------|------|------|------|------|------|------|
| | | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| Z-axis stroke | 100 | 13.0 | 13.0 | 13.0 | 12.9 | 12.9 | 12.9 | 12.9 | 12.8 | 11.8 |
| | 150 | 12.5 | 12.4 | 12.4 | 12.4 | 12.4 | 12.4 | 12.4 | 12.3 | 11.2 |
| | 200 | 11.9 | 11.9 | 11.9 | 11.9 | 11.8 | 11.8 | 11.8 | 11.8 | 10.6 |
| | 250 | 11.3 | 11.3 | 11.3 | 11.2 | 11.2 | 11.2 | 11.2 | 11.1 | 9.9 |
| | 300 | 10.8 | 10.7 | 10.7 | 10.7 | 10.7 | 10.6 | 10.6 | 10.6 | 9.3 |
| | 350 | 10.1 | 10.1 | 10.1 | 10.1 | 10.0 | 10.0 | 10.0 | 10.0 | 8.6 |
| | 400 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.4 | 8.0 |

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

■GC□HB2M

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 | 1050~1100 |
|--------|---------|---------|---------|---------|---------|----------|-----------|
| X-axis | 1200 | | | | | | |
| Y-axis | 1200 | | | | | | |
| Z-axis | 600 | | | | | | |

■GC□HB2L

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 | 1050~1100 |
|--------|---------|---------|---------|---------|---------|----------|-----------|
| X-axis | 1200 | | | | | | |
| Y-axis | 1200 | | | | | | |
| Z-axis | 300 | | | | | | |

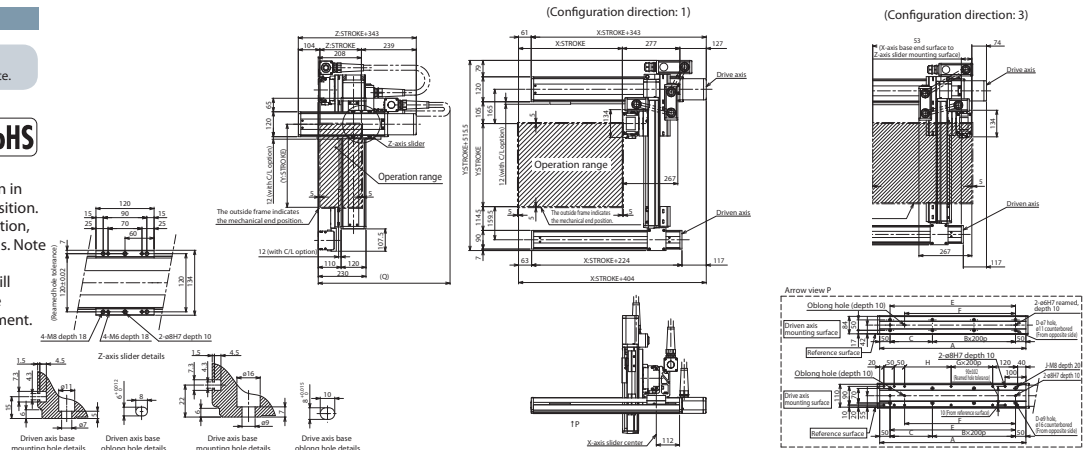
ICSB3 [ICSPB3]-GC□HB2□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Q | 750 | 800 | 800 | 850 | 850 | 850 | 900 | 900 | 950 |

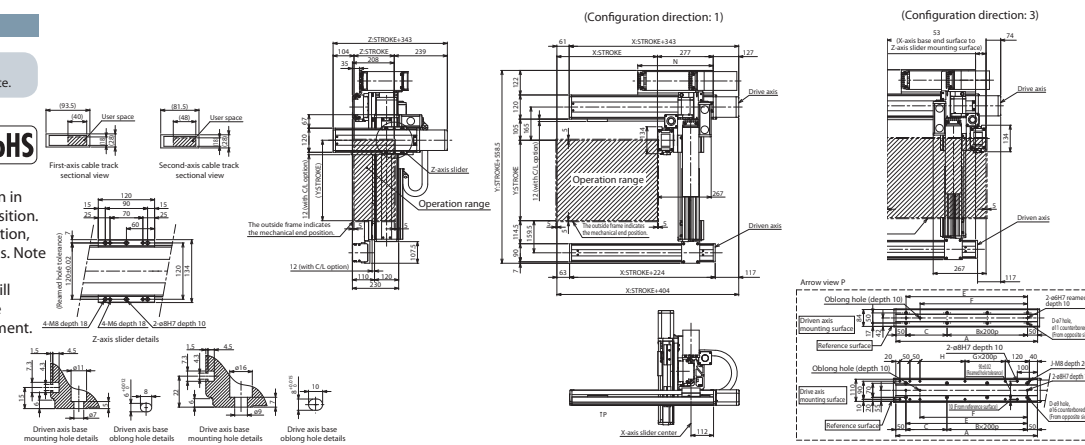
ICSB3 [ICSPB3]-GC□HB2□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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-GC□HB3H

ICSPB3-GC□HB3H

High-Precision Specification



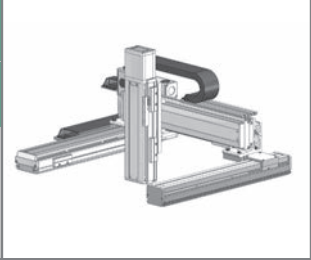
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

High Speed Type

X: Md (200W)
Y: Md (100W)
Z: Md (200W)



Model Specification Items

| | | | | | | | | | | | | | | | | | |
|--------|---|------|--|--------------|---------------------------|----------------------|--|----------------------|--|----------------------|--|------------------------|--|--------------|--|----------------------------------|--|
| 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 110: 1100mm table <100: 1000mm> * below. (Every 50mm) | Y-axis Stroke/Option | 30: 300mm 70: 700mm table (Every 50mm) | Z-axis Stroke/Option | 10: 100mm 40: 400mm (Every 50mm) | 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 |
|--------|---|------|--|--------------|---------------------------|----------------------|--|----------------------|--|----------------------|--|------------------------|--|--------------|--|----------------------------------|--|

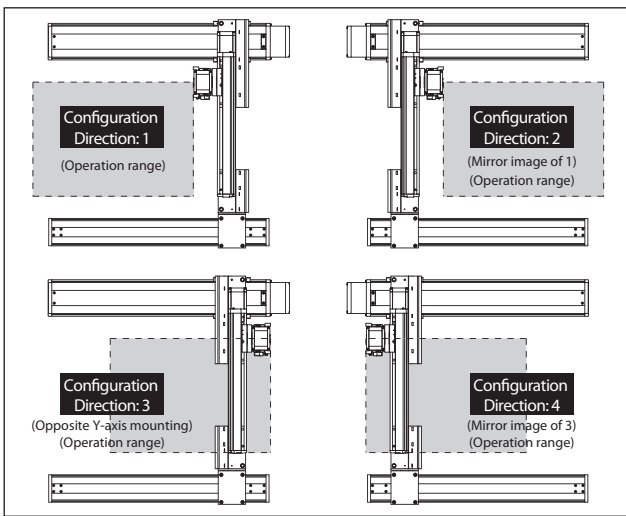
Model Specification

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

| XY configuration direction *1 | Z-axis speed type | Model |
|-------------------------------|-------------------|--------------------------------------|
| 1 | H | ICSB3[ICSPB3]-GC1HB3H-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 2 | H | ICSB3[ICSPB3]-GC2HB3H-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 3 | H | ICSB3[ICSPB3]-GC3HB3H-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 4 | H | ICSB3[ICSPB3]-GC4HB3H-①-②③④⑤⑥⑦-T2-⑧⑨ |

*1 Please refer to the following diagram under XY Configuration Direction. Please refer to the table on the right for details of ① through ⑨ in the model names above.

XY Configuration Direction



Axis Configuration

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

| Name of axis | Model | Reference page |
|----------------------|----------------------------------|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-MXM-①-200-20-②-T2-③④-⑤ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-100-20-③-T2-④⑤-⑥ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-①-200-20-⑥-T2-④⑤-⑦ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑨ 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 110: 1100mm (100: 1000mm) *1 |
| ③ | X-axis option | Refer to Options table below. |
| ④ | Y-axis stroke (Note 1) | 30: 300mm 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 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 |

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)

GC□HB3H

| | | Y-axis stroke | | | | | | | | |
|---------------|-----|---------------|------|------|------|------|------|------|------|------|
| | | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| Z-axis stroke | 100 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| | 150 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| | 200 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| | 250 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 9.3 |
| | 300 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 8.7 |
| | 350 | 9.7 | 9.7 | 9.6 | 9.6 | 9.6 | 9.6 | 9.5 | 9.5 | 8.1 |
| | 400 | 9.1 | 9.1 | 9.1 | 9.1 | 9.0 | 9.0 | 9.0 | 9.0 | 7.5 |

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

GC□HB3H

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 | 1050~1100 |
|--------|---------|---------|---------|---------|---------|----------|-----------|
| X-axis | 1200 | | | | | | |
| Y-axis | 1200 | | | | | | |
| Z-axis | 1200 | | | | | | |

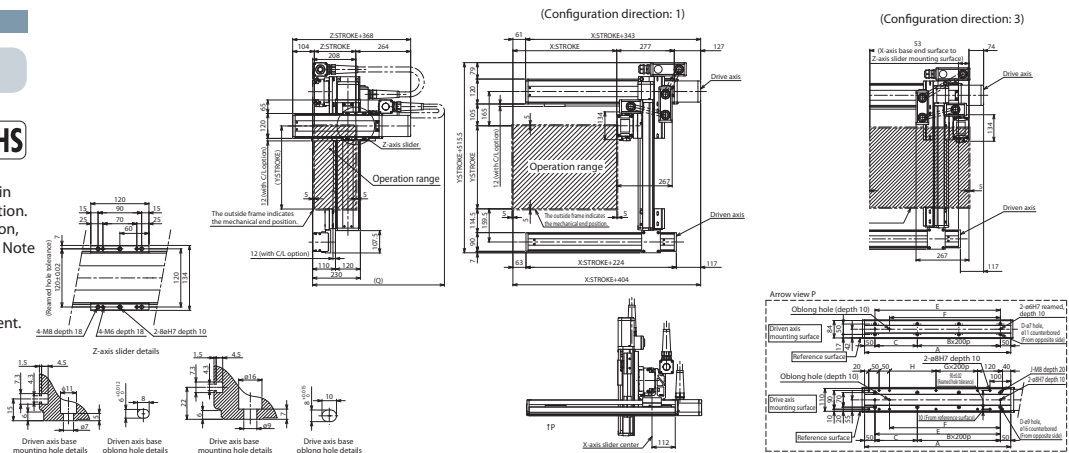
ICSB3 [ICSPB3]-GC□HB3H-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Q | 750 | 800 | 800 | 850 | 850 | 850 | 900 | 900 | 950 |

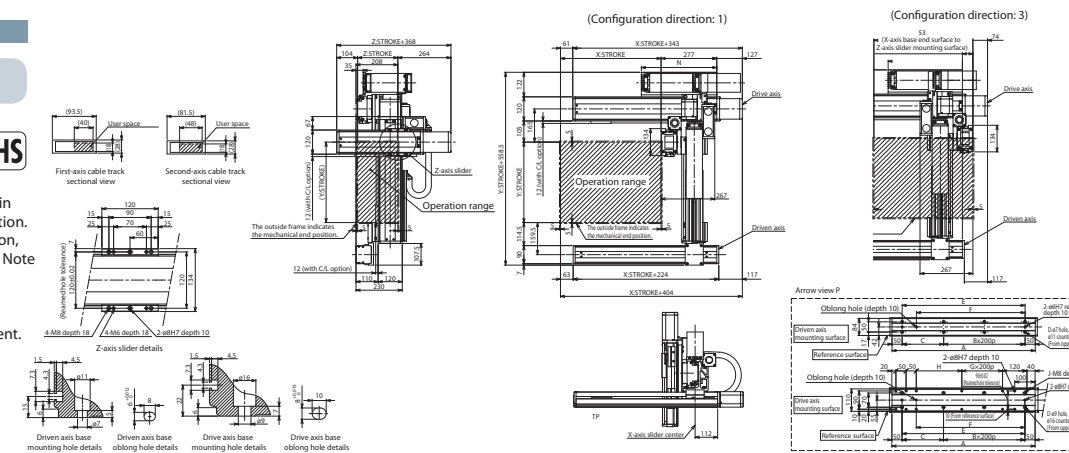
ICSB3 [ICSPB3]-GC□HB3H-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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.



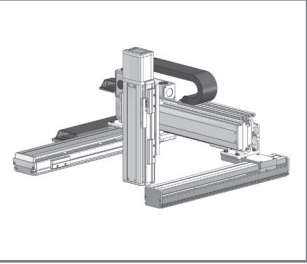
| X-axis stroke | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 | 1050 | 1100 |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| A | 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-GC□MB2L

ICSPB3-GC□MB2L High-Precision Specification



- Battery-less Absolute
- X-Y-Z 3-axis
- XYBG+ZB (Y Side Gantry Z Base Mount)
- Medium Speed Type
- X: Md (100W)
Y: Md (100W)
Z: Md (100W)



Model Specification Items

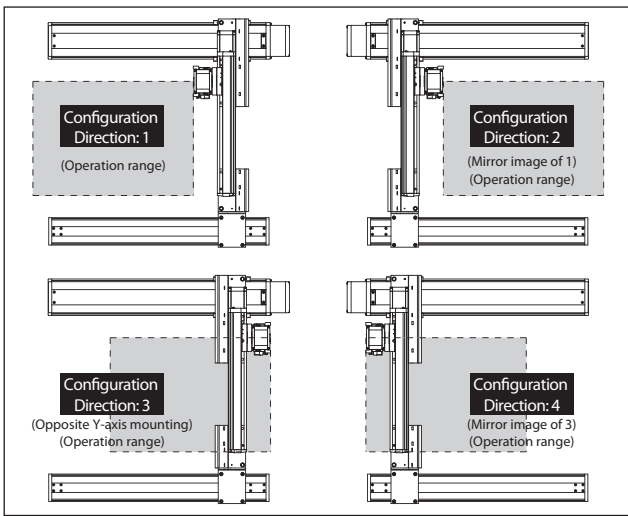
| | | | | | | | | | | | | | | | | | |
|--------|---|------|--|--------------|---------------------------|----------------------|---|----------------------|--|----------------------|--|------------------------|--|--------------|--|----------------------------------|--|
| Series | ICSB3: Standard 3-axis 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 110: 1100mm <100: 1000mm> * below. (Every 50mm) | Y-axis Stroke/Option | 30: 300mm 70: 700mm (Every 50mm) | Z-axis Stroke/Option | 10: 100mm 40: 400mm (Every 50mm) | Applicable Controllers | T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** | 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 | Model |
|-------------------------------|-------------------|--------------------------------------|
| 1 | L | ICSB3[ICSPB3]-GC1MB2L-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 2 | L | ICSB3[ICSPB3]-GC2MB2L-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 3 | L | ICSB3[ICSPB3]-GC3MB2L-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 4 | L | ICSB3[ICSPB3]-GC4MB2L-①-②③④⑤⑥⑦-T2-⑧⑨ |

*1 Please refer to the following diagram under XY Configuration Direction. Please refer to the table on the right for details of ① through ⑨ in the model names above.

XY Configuration Direction



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

| Name of axis | Model | Reference page |
|----------------------|--------------------------------|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-MXM-①-100-10-②-T2-③④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-100-10-②-T2-③④ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-①-100-5-⑥-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 ⑨ 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 110: 1100mm (100: 1000mm) *1 |
| ③ | X-axis option | Refer to Options table below. |
| ④ | Y-axis stroke (Note 1) | 30: 300mm 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 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/5mm |

Applicable Controllers

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



- (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)

GC□MB2L

| | | Y-axis stroke | | | | | | | | |
|---------------|-----|---------------|------|------|------|------|------|------|------|------|
| | | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| Z-axis stroke | 100 | 17.6 | 17.2 | 16.8 | 16.5 | 16.1 | 15.5 | 14.9 | 13.9 | 11.8 |
| | 150 | 17.0 | 16.6 | 16.2 | 15.9 | 15.5 | 14.9 | 14.4 | 13.3 | 11.2 |
| | 200 | 16.4 | 16.0 | 15.6 | 15.3 | 14.9 | 14.4 | 13.8 | 12.7 | 10.6 |
| | 250 | 15.7 | 15.3 | 14.9 | 14.6 | 14.2 | 13.8 | 13.2 | 12.0 | 9.9 |
| | 300 | 15.1 | 14.7 | 14.3 | 14.0 | 13.6 | 13.2 | 12.7 | 11.4 | 9.3 |
| | 350 | 14.4 | 14.0 | 13.6 | 13.3 | 12.9 | 12.5 | 12.0 | 10.7 | 8.6 |
| | 400 | 13.8 | 13.4 | 13.0 | 12.7 | 12.3 | 11.9 | 11.5 | 10.1 | 8.0 |

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

GC□MB2L

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

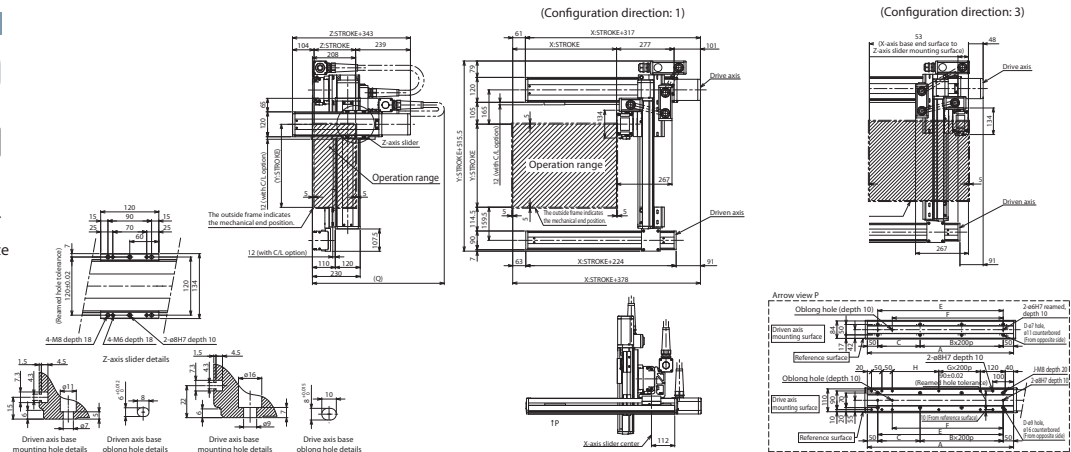
ICSB3 [ICSPB3]-GC□MB2L-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 IA 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 | 3 | 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 | 10 | 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 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Q | 750 | 800 | 800 | 850 | 850 | 850 | 900 | 900 | 950 |

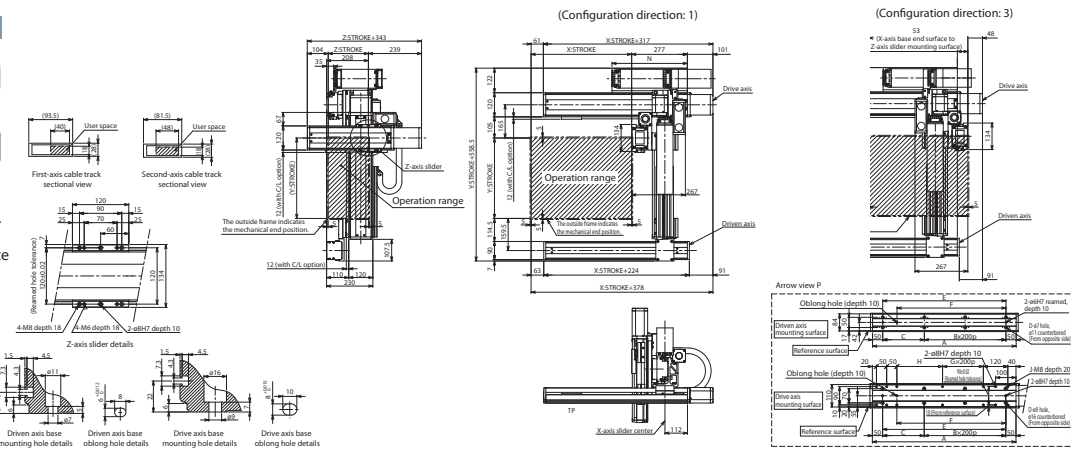
ICSB3 [ICSPB3]-GC□MB2L-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 IA 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 | 3 | 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 | 10 | 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-GC□MB3M

ICSPB3-GC□MB3M

High-Precision Specification



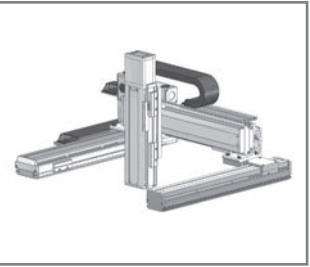
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

Medium Speed Type

X: Md (100W)
Y: Md (100W)
Z: Md (200W)



Model Specification Items

| | | | | | | | | | | | | | | | | | |
|--------|---|------|--|--------------|---------------------------|----------------------|--|----------------------|--|----------------------|--|------------------------|--|--------------|--|----------------------------------|--|
| 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 110: 1100mm table <100: 1000mm> * below. (Every 50mm) | Y-axis Stroke/Option | 30: 300mm 70: 700mm table (Every 50mm) | Z-axis Stroke/Option | 10: 100mm 40: 400mm table (Every 50mm) | 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 |
|--------|---|------|--|--------------|---------------------------|----------------------|--|----------------------|--|----------------------|--|------------------------|--|--------------|--|----------------------------------|--|

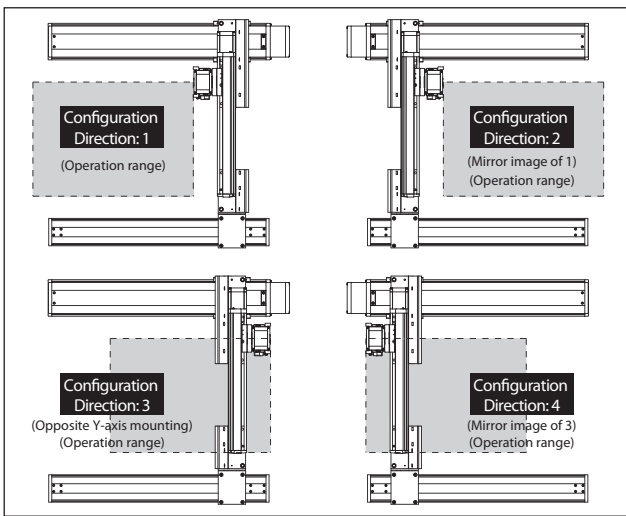
Model Specification

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

| XY configuration direction *1 | Z-axis speed type | Model |
|-------------------------------|-------------------|--|
| 1 | M | ICSB3[ICSPB3]-GC1MB3M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | M | ICSB3[ICSPB3]-GC2MB3M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 3 | M | ICSB3[ICSPB3]-GC3MB3M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 4 | M | ICSB3[ICSPB3]-GC4MB3M-[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

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

| Name of axis | Model | Reference page |
|----------------------|-------------------------------------|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-MXM-[1]-100-10-[2]-T2-[3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXM-[1]-100-10-[2]-T2-[3] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-[1]-200-10-[2]-T2-[3] | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for [1] through [9] in the above model names.
Note that the strokes are indicated in mm (millimeters).
* Cable exit direction is specified with [8] 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) | 30: 300mm 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 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 axis 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/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)

GC□MB3M

| Z-axis stroke | Y-axis stroke | | | | | | | | |
|---------------|---------------|------|------|------|------|------|------|------|------|
| | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| 100 | 17.1 | 16.7 | 16.3 | 16.0 | 15.6 | 15.0 | 14.5 | 13.4 | 11.3 |
| 150 | 16.4 | 16.0 | 15.6 | 15.3 | 14.9 | 14.4 | 13.8 | 12.7 | 10.6 |
| 200 | 15.8 | 15.4 | 15.0 | 14.7 | 14.3 | 13.9 | 13.3 | 12.1 | 10.0 |
| 250 | 15.1 | 14.7 | 14.3 | 14.0 | 13.6 | 13.2 | 12.7 | 11.4 | 9.3 |
| 300 | 14.5 | 14.1 | 13.7 | 13.4 | 13.0 | 12.6 | 12.1 | 10.8 | 8.7 |
| 350 | 13.9 | 13.5 | 13.1 | 12.8 | 12.4 | 12.0 | 11.6 | 10.2 | 8.1 |
| 400 | 13.3 | 12.9 | 12.5 | 12.2 | 11.8 | 11.4 | 11.0 | 9.6 | 7.5 |

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

GC□MB3M

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

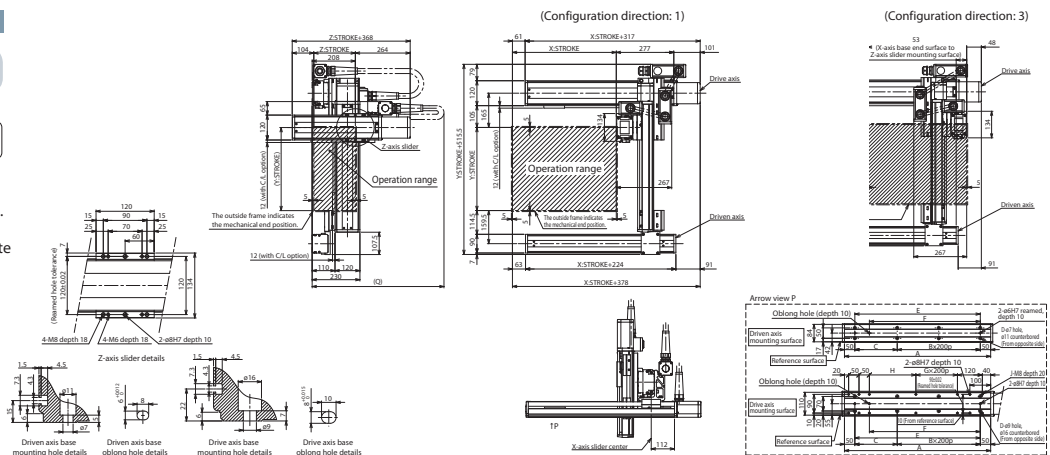
ICSB3 [ICSPB3]-GC□MB3M-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Q | 750 | 800 | 800 | 850 | 850 | 850 | 900 | 900 | 950 |

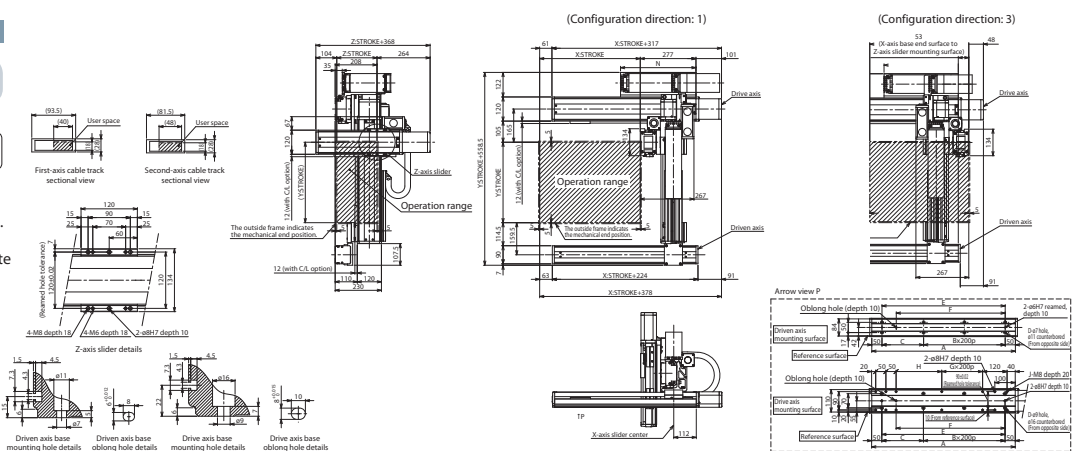
ICSB3 [ICSPB3]-GC□MB3M-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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-GD HB1

ICSPB3-GD HB1

High-Precision Specification

±10µm Standard

±5µm High Precision

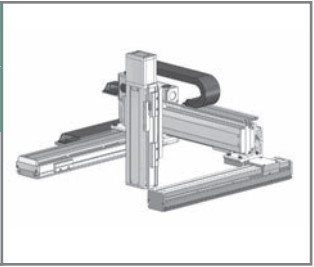
Battery-less Absolute

X-Y-Z 3-axis

XYB+ZB (Y Side Gantry Z Base Mount)

High Speed Long Type

X: Md (200W)
Y: Md (100W)
Z: Sml (60W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|---------------------------------------|-------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis-Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 80: 800mm 200: 2000mm (Every 50mm) | 30: 300mm 70: 700mm (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 |

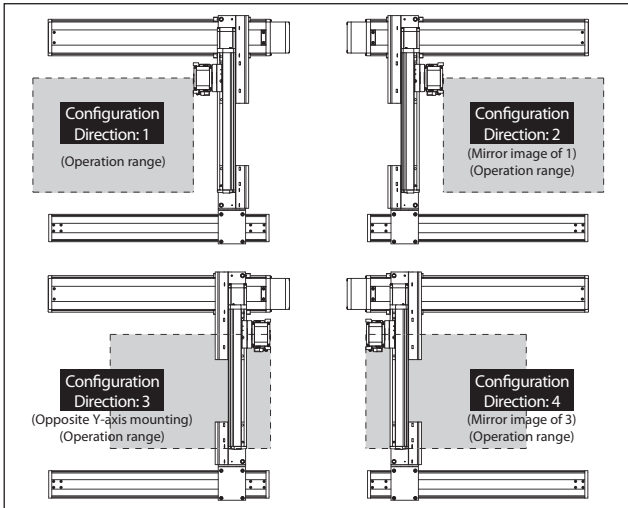
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---------------------------------------|
| 1 | M | ICSB3[ICSPB3]-GD1HB1M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GD1HB1L-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 2 | M | ICSB3[ICSPB3]-GD2HB1M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GD2HB1L-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 3 | M | ICSB3[ICSPB3]-GD3HB1M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GD3HB1L-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 4 | M | ICSB3[ICSPB3]-GD4HB1M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GD4HB1L-①-②③④⑤⑥⑦-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 (Drive axis) | ISB[ISPB]-MXM-①-200-20-②-T2-③④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM02-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-100-20-②-T2-③④ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-①-60-⑥⑦-T2-⑧⑨ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for [①] through [⑨] in the above model names.

Note that the strokes are indicated in mm (millimeters).

* Lead is specified with [⑧] 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 [⑨] 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) | 30: 300mm 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 - 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/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)

GD□HB1M

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

GD□HB1L

| | | Y-axis stroke | |
|---------------|-----|---------------|------|
| | | 300~650 | 700 |
| Z-axis stroke | 100 | 14.0 | 14.0 |
| | 150 | | 14.0 |
| | 200 | | 14.0 |
| | 250 | | 14.0 |
| | 300 | | 14.0 |
| | 350 | | 13.9 |
| | 400 | | 13.6 |

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

GD□HB1M

| | 100~300 | 300~400 | 450~700 | 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 | — | — | — | — | — | — | — | — | — | — | — |

GD□HB1L

| | 100~300 | 300~400 | 450~700 | 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 | — | — | — | — | — | — | — | — | — | — | — |

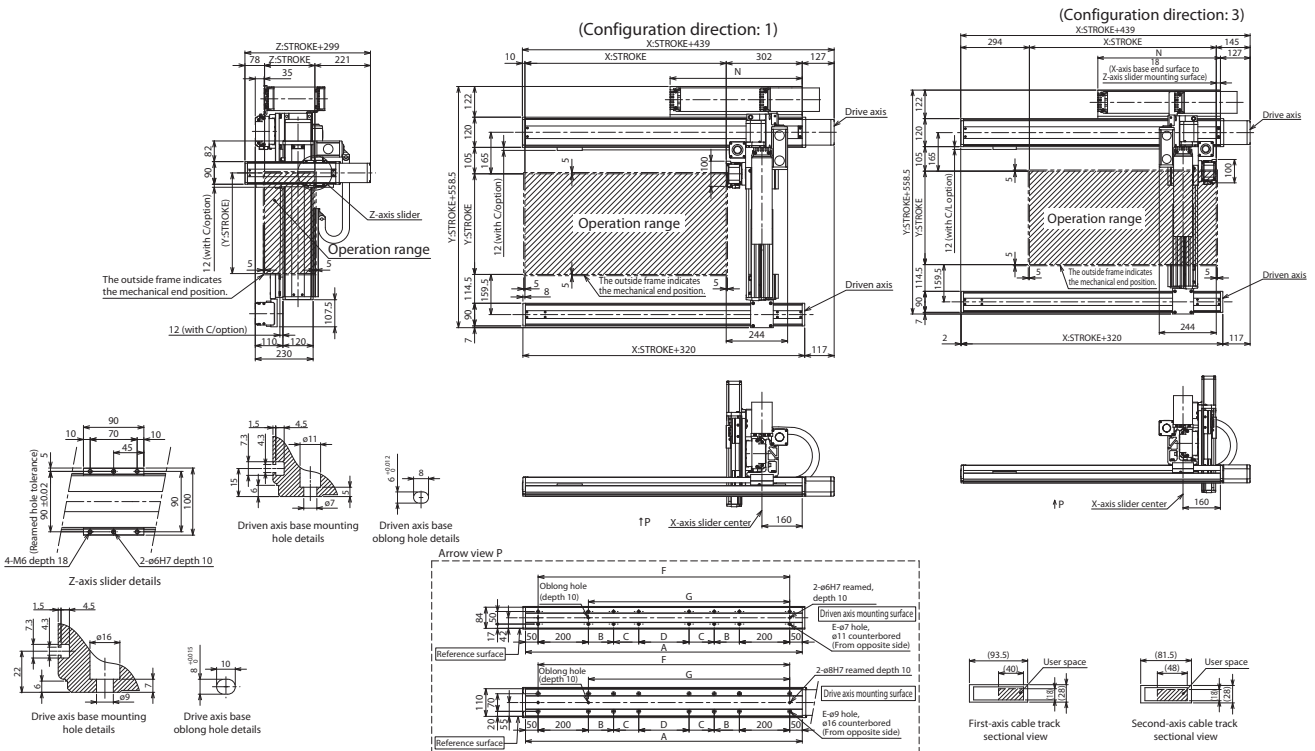
ICSB3 [ICSPB3]-GD□HB1□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 IA 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 |

ICSB3-GD HB2

ICSPB3-GD HB2

High-Precision Specification



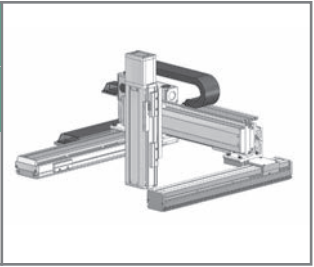
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

High Speed Long Type

X: Md (200W)
Y: Md (100W)
Z: Md (100W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|-------------------------------------|-------------------------------------|--|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 80: 800mm 200: 2000mm (Every 100mm) | 30: 300mm 70: 700mm (Every 50mm) | 10: 100mm 40: 400mm (Every 50mm) | T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* <small>*Coming soon</small> | 3L: 3m 5L: 5m □L: Specified length | Refer to Explanation of Model Designations below |

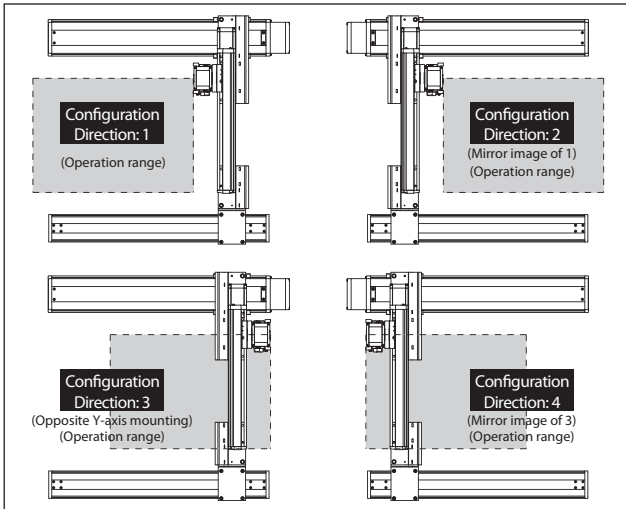
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GD1HB2M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GD1HB2L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | M | ICSB3[ICSPB3]-GD2HB2M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GD2HB2L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 3 | M | ICSB3[ICSPB3]-GD3HB2M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GD3HB2L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 4 | M | ICSB3[ICSPB3]-GD4HB2M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GD4HB2L-[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 (Drive axis) | ISB[ISPB]-MXM-[1]-200-20-[2]-T2-[3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM02-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXM-[1]-100-20-[2]-T2-[3] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-[1]-100-[4]-[5]-T2-[3] | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for [1] through [9] in the above model names.
Note that the strokes are indicated in mm (millimeters).
* Lead is specified with [9] in the above model names.
10: For Z-axis Medium Speed type
5: For Z-axis Low Speed type
* Cable exit direction is specified with [8] 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) | 30: 300mm 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 - 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/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)

GD□HB2M

| Z-axis stroke | Y-axis stroke | | | | | | | | |
|---------------|---------------|------|------|------|------|------|------|------|------|
| | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| 100 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 150 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 200 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 250 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 9.9 |
| 300 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 9.3 |
| 350 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 8.6 |
| 400 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.4 | 8.0 |

GD□HB2L

| Z-axis stroke | Y-axis stroke | | | | | | | | |
|---------------|---------------|------|------|------|------|------|------|------|------|
| | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| 100 | 13.0 | 13.0 | 13.0 | 12.9 | 12.9 | 12.9 | 12.9 | 12.8 | 11.8 |
| 150 | 12.5 | 12.4 | 12.4 | 12.4 | 12.4 | 12.4 | 12.3 | 12.3 | 11.2 |
| 200 | 11.9 | 11.9 | 11.9 | 11.9 | 11.8 | 11.8 | 11.8 | 11.8 | 10.6 |
| 250 | 11.3 | 11.3 | 11.3 | 11.2 | 11.2 | 11.2 | 11.2 | 11.1 | 9.9 |
| 300 | 10.8 | 10.7 | 10.7 | 10.7 | 10.7 | 10.6 | 10.6 | 10.6 | 9.3 |
| 350 | 10.1 | 10.1 | 10.1 | 10.1 | 10.0 | 10.0 | 10.0 | 10.0 | 8.6 |
| 400 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.4 | 8.0 |

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

GD□HB2M

| | 100-300 | 300-400 | 450-700 | 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 | | | | | | | | | | | | |

GD□HB2L

| | 100-300 | 300-400 | 450-700 | 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 | | | | | | | | | | | | |

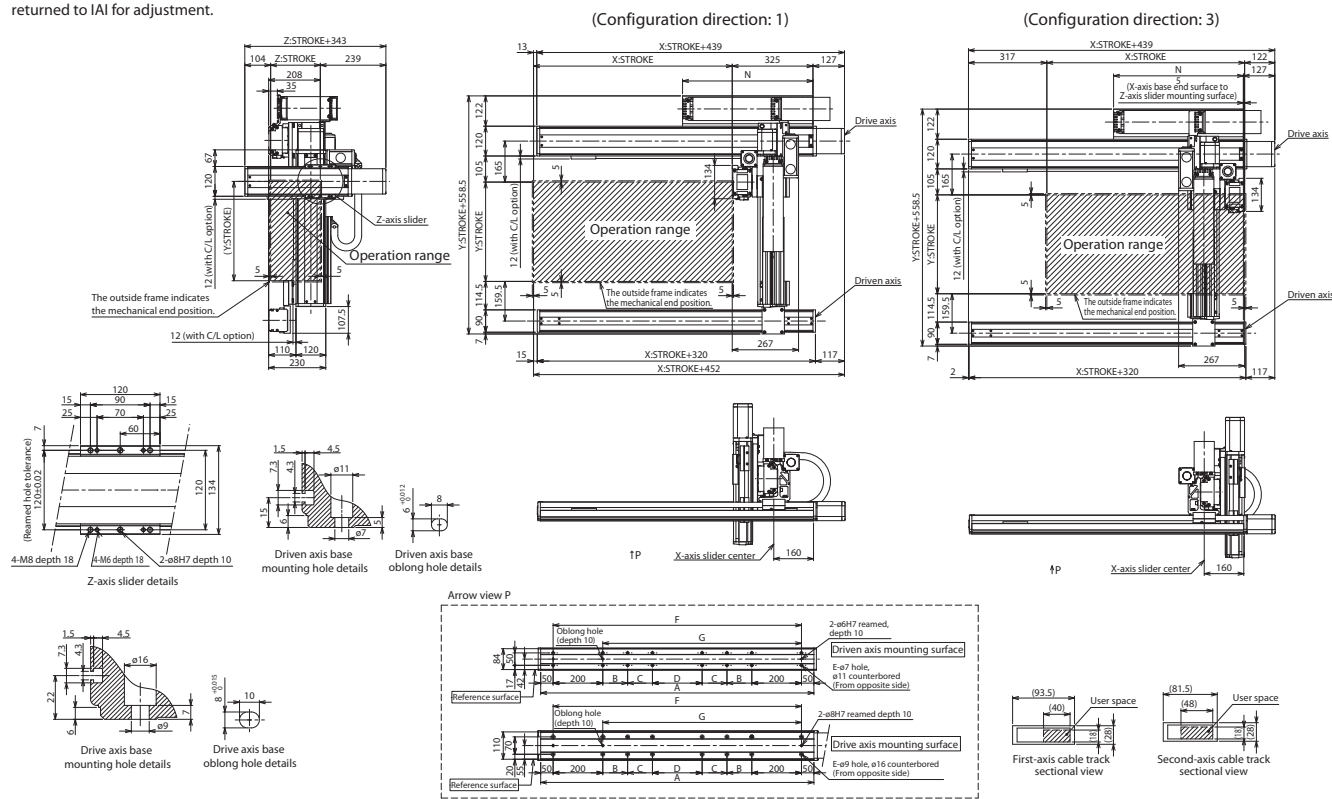
ICSB3 [ICSPB3]-GD□HB2□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 IA 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 |

ICSB3-GD HB3H

ICSPB3-GD HB3H High-Precision Specification



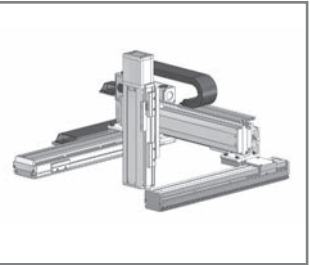
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

High Speed Long Type

X: Md (200W)
Y: Md (100W)
Z: Md (200W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--------------------------|-------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 80: 800mm 200: 2000mm | 30: 300mm 70: 700mm (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 |

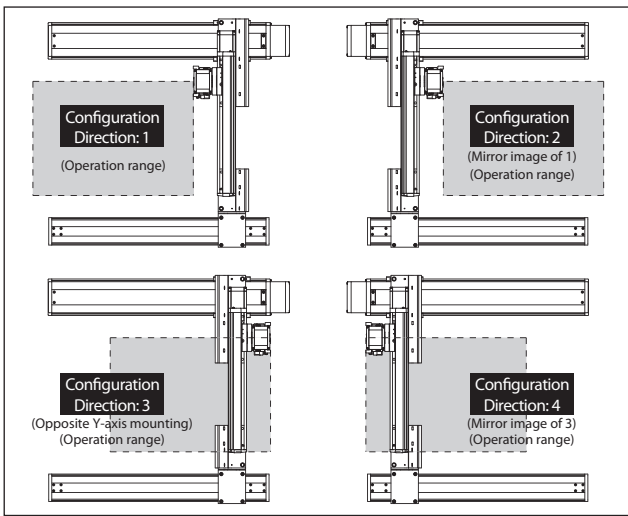
Model Specification

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

| XY configuration direction *1 | Z-axis speed type | Model |
|-------------------------------|-------------------|--------------------------------------|
| 1 | H | ICSB3[ICSPB3]-GD1HB3H-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 2 | H | ICSB3[ICSPB3]-GD2HB3H-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 3 | H | ICSB3[ICSPB3]-GD3HB3H-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 4 | H | ICSB3[ICSPB3]-GD4HB3H-①-②③④⑤⑥⑦-T2-⑧⑨ |

*1 Please refer to the following diagram under XY Configuration Direction. Please refer to the table on the right for details of ① through ⑨ in the model names above.

XY Configuration Direction



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) | 30: 300mm 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 - 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.

Axis Configuration

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

| Name of axis | Model | Reference page |
|----------------------|---------------------------------|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-MXMX-①-200-20-②-T2-③④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM02-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-100-20-③-T2-④⑤ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-①-200-20-⑥-T2-⑦⑧ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑧ 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.

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 |

Applicable Controllers

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



- (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)

GD□HB3H

| Z-axis stroke | Y-axis stroke | | | | | | | | |
|---------------|---------------|------|------|------|------|------|------|------|------|
| | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| 100 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 150 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 200 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 250 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 9.3 |
| 300 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 8.7 |
| 350 | 9.7 | 9.7 | 9.6 | 9.6 | 9.6 | 9.6 | 9.5 | 9.5 | 8.1 |
| 400 | 9.1 | 9.1 | 9.1 | 9.1 | 9.0 | 9.0 | 9.0 | 9.0 | 7.5 |

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

GD□HB3H

| | 100~300 | 300~400 | 450~700 | 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 | — | | | | | | | | | | | | |
| Z-axis | 1200 | | | | | | | | | | | | |

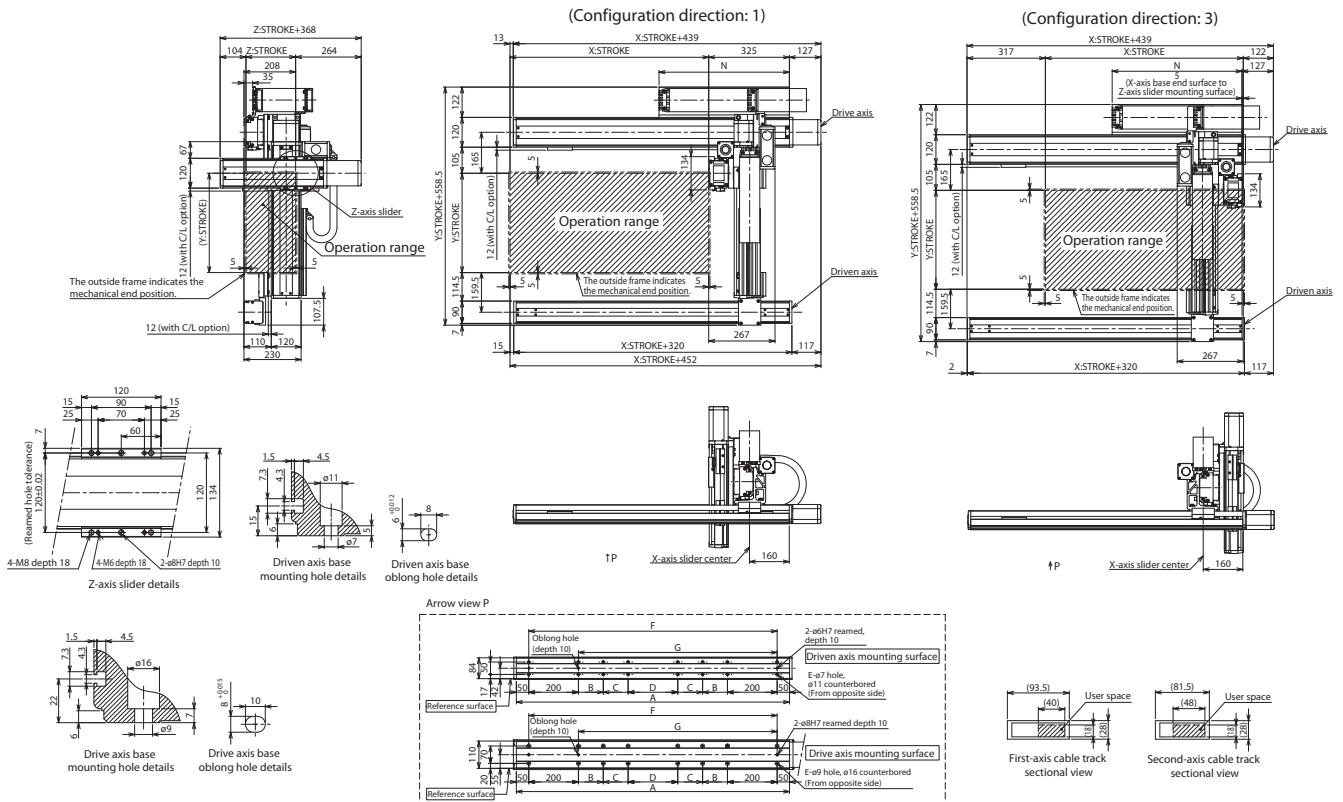
ICSB3 [ICSPB3]-GD□HB3H-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 IA 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 |

ICSB3-GE□HB1L

ICSPB3-GE□HB1L High-Precision Specification



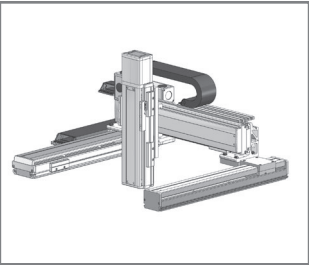
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

High Speed Type

X: Lg (400W)
Y: Mg (200W)
Z: SmI (60W)



Model Specification Items

| | | | | | | | | | | |
|---|---------|--|---------------------------|---|-------------------------------------|--|-------------------------------------|--|--|--|
| Series | GE□HB1L | Type | WA | 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> * For self-standing cable specification | Refer to Options table (Every 50mm) | 30: 300mm 90: 900mm (Every 50mm) | Refer to Options table (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 |

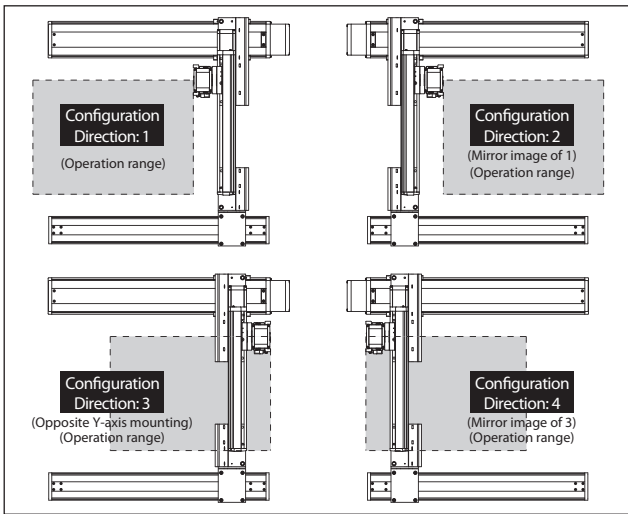
Model Specification

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

| XY configuration direction *1 | Z-axis speed type | Model |
|-------------------------------|-------------------|--|
| 1 | L | ICSB3[ICSPB3]-GE1HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 2 | L | ICSB3[ICSPB3]-GE2HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 3 | L | ICSB3[ICSPB3]-GE3HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 4 | L | ICSB3[ICSPB3]-GE4HB1L-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

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

| Name of axis | Model | Reference page |
|----------------------|---------------------------------|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-LXM-①-400-20-②-T2-③-④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM03-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-200-20-③-T2-④-⑤ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-①-60-4-⑥-⑦-T2-⑧-⑨ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑨ 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 130: 1300mm (100: 1000mm) *1 |
| ③ | X-axis option | Refer to Options table below. |
| ④ | Y-axis stroke (Note 1) | 30: 300mm 90: 900mm |
| ⑤ | Y-axis option | Refer to Options table below. |
| ⑥ | Z-axis stroke (Note 1) | 10: 100mm 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/4mm |

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)

| Y-axis stroke | |
|---------------|------|
| 300-900 | |
| Z-axis stroke | 14.0 |
| 100 | |
| 150 | |
| 200 | |
| 250 | |
| 300 | |
| 350 | |
| 400 | |
| 450 | |
| 500 | |

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

| | 100-300 | 300-500 | 550-700 | 750-800 | 850-900 | 950-1000 | 1050-1100 | 1150-1,200 | 1250-1300 |
|--------|---------|---------|---------|---------|---------|----------|-----------|------------|-----------|
| X-axis | | 1200 | | | 920 | 765 | 645 | 550 | 440 |
| Y-axis | | 1200 | | 860 | | 695 | | | |
| Z-axis | 240 | | | | | | | | |

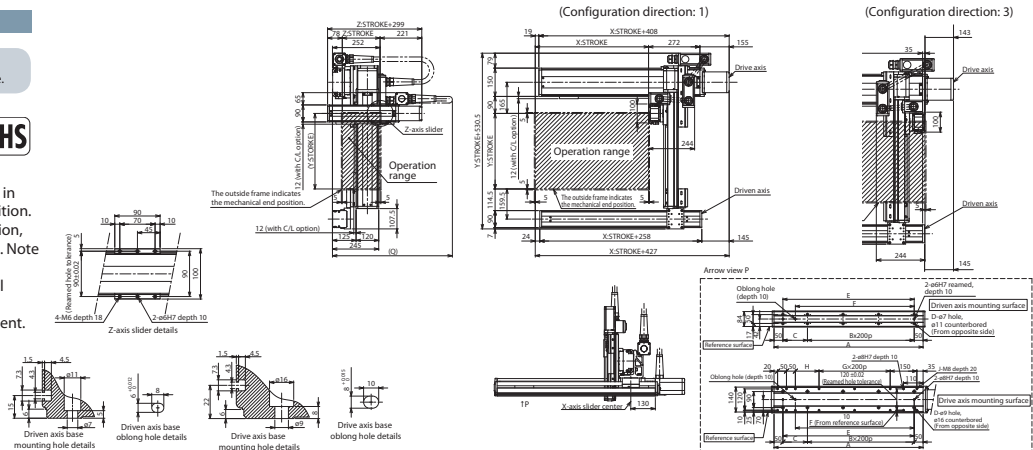
ICSB3 [ICSPB3]-GE□HB1L-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



*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 | 338 | 388 | 438 | 488 | 538 | 588 | 638 | 688 | 738 | 788 | 838 | 888 | 938 | 988 | 1038 | 1088 | 1138 |
| D | 4 | 4 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 14 |
| E | 238 | 288 | 338 | 388 | 438 | 488 | 538 | 588 | 638 | 688 | 738 | 788 | 838 | 888 | 938 | 988 | 1038 | 1088 | 1138 |
| F | 168 | 218 | 268 | 318 | 368 | 418 | 468 | 518 | 568 | 618 | 668 | 718 | 768 | 818 | 868 | 918 | 968 | 1018 | 1068 |
| G | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 |
| H | 33 | 83 | 133 | 183 | 233 | 283 | 333 | 383 | 433 | 483 | 533 | 583 | 633 | 683 | 733 | 783 | 833 | 883 | 933 |
| J | 10 | 10 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 16 | 16 | 16 | 16 | 18 |

| Y-axis stroke | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| Q | 700 | 800 | 800 | 800 | 850 | 850 | 900 | 900 | 950 | 950 | 1000 | 1000 | 1000 |

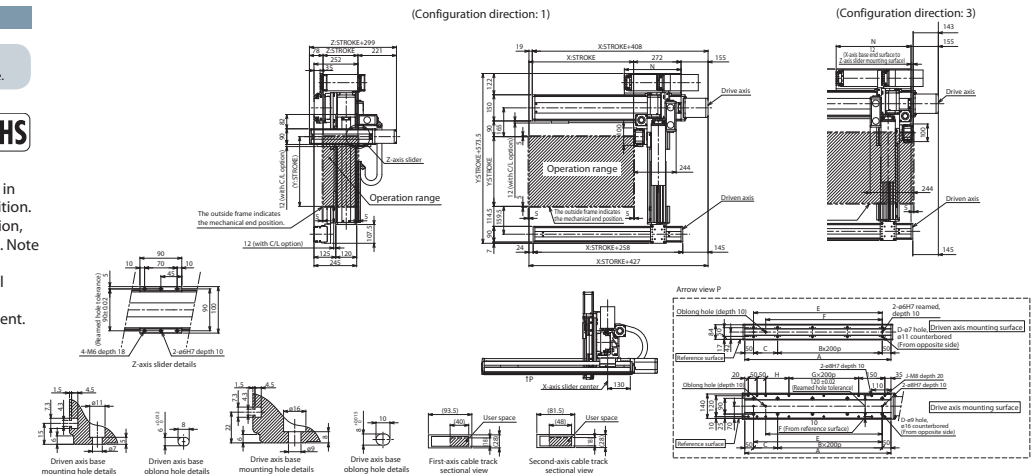
ICSB3 [ICSPB3]-GE□HB1L-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



*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 | 338 | 388 | 438 | 488 | 538 | 588 | 638 | 688 | 738 | 788 | 838 | 888 | 938 | 988 | 1038 | 1088 | 1138 | 1188 | 1238 | 1288 | 1338 | 1388 | 1438 |
| 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 | 333 | 383 | 433 | 483 | 533 | 583 | 633 | 683 | 733 | 783 | 833 | 883 | 933 | 983 | 1033 | 1083 | 1133 | 1183 | 1233 |
| 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-GE HB2

ICSPB3-GE HB2 High-Precision Specification

±10µm Standard

±5µm High-Precision

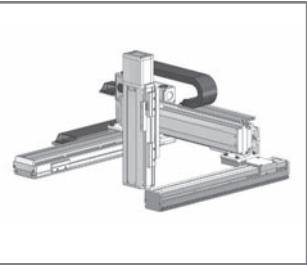
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

High Speed Type

X: Lg (400W)
Y: Md (200W)
Z: Md (100W)



Model Specification Items

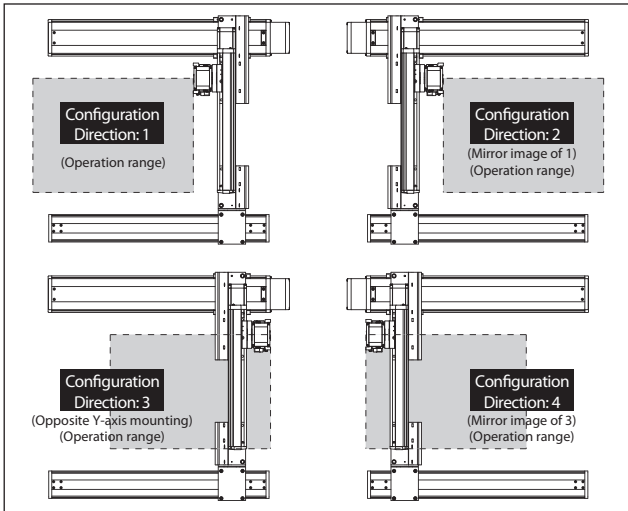
| | | | | | | | | | | | | | | | | | |
|--------|---|------|--|--------------|---------------------------|----------------------|---|----------------------|---|----------------------|---|------------------------|--|--------------|--|----------------------------------|--|
| Series | ICSB3: Standard 3-axis 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 table 30: 300mm 90: 900mm table Refer to Options table below. (Every 50mm) * For self-standing cable specification | Y-axis Stroke/Option | 30: 300mm 90: 900mm table Refer to Options table below. (Every 50mm) | Z-axis Stroke/Option | 10: 100mm 50: 500mm Refer to Options table below. (Every 50mm) | 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 | M | ICSB3[ICSPB3]-GE1HB2M- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| | L | ICSB3[ICSPB3]-GE1HB2L- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| 2 | M | ICSB3[ICSPB3]-GE2HB2M- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| | L | ICSB3[ICSPB3]-GE2HB2L- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| 3 | M | ICSB3[ICSPB3]-GE3HB2M- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| | L | ICSB3[ICSPB3]-GE3HB2L- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| 4 | M | ICSB3[ICSPB3]-GE4HB2M- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| | L | ICSB3[ICSPB3]-GE4HB2L- [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 (Drive axis) | ISB[ISPB]-LXM- [1] -400-20- [2] -T2- [3] - [4] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM03-N-0-0- [2] | — |
| Y-axis | ISB[ISPB]-MXM- [1] -200-20- [2] -T2- [3] - [4] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM- [1] -100- [2] - [3] -T2- [4] - [5] - [6] | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for [1] through [9] in the above model names.
Note that the strokes are indicated in mm (millimeters).
* Lead is specified with [2] in the above model names.
10: For Z-axis Medium Speed type
5: For Z-axis Low Speed type
* Cable exit direction is specified with [3] 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) | 30: 300mm 90: 900mm |
| [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/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)

| ■ GE□HB2M | |
|---------------|---|
| Z-axis stroke | Y-axis stroke 300-900 |
| | 100 150 200 250 300 350 400 450 500 |

■ GE□HB2L

| Z-axis stroke | Y-axis stroke | | | | |
|---------------|---------------|------|------|------|-----|
| | 300-700 | 750 | 800 | 850 | 900 |
| 100 | 20.0 | 20.0 | 18.9 | 16.8 | |
| 150 | 20.0 | 20.0 | 18.3 | 16.2 | |
| 200 | 20.0 | 20.0 | 17.7 | 15.6 | |
| 250 | 20.0 | 19.4 | 17.0 | 14.9 | |
| 300 | 20.0 | 18.8 | 16.4 | 14.3 | |
| 350 | 20.0 | 18.1 | 15.7 | 13.6 | |
| 400 | 20.0 | 17.5 | 15.1 | 13.0 | |
| 450 | 19.4 | 16.9 | 14.5 | 12.4 | |
| 500 | 18.8 | 16.3 | 13.9 | 11.8 | |

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

| ■ GE□HB2M | | | | | | | | | |
|-----------|---------|---------|---------|---------|---------|----------|-----------|-----------|-----------|
| | 100-300 | 300-500 | 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 | 860 | 695 | — | — | — | — | — |
| Z-axis | 600 | — | — | — | — | — | — | — | — |

■ GE□HB2L

| ■ GE□HB2L | | | | | | | | | |
|-----------|---------|---------|---------|---------|---------|----------|-----------|-----------|-----------|
| | 100-300 | 300-500 | 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 | 860 | 695 | — | — | — | — | — |
| Z-axis | 300 | — | — | — | — | — | — | — | — |

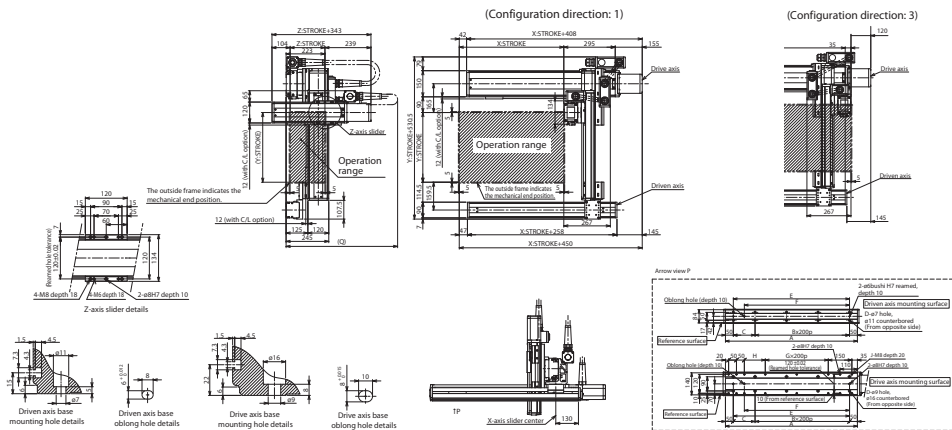
ICSB3 [ICSPB3]-GE□HB2□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 | 338 | 388 | 438 | 488 | 538 | 588 | 638 | 688 | 738 | 788 | 838 | 888 | 938 | 988 | 1038 | 1088 | 1138 |
| D | 4 | 4 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 14 |
| E | 238 | 288 | 338 | 388 | 438 | 488 | 538 | 588 | 638 | 688 | 738 | 788 | 838 | 888 | 938 | 988 | 1038 | 1088 | 1138 |
| F | 168 | 218 | 268 | 318 | 368 | 418 | 468 | 518 | 568 | 618 | 668 | 718 | 768 | 818 | 868 | 918 | 968 | 1018 | 1068 |
| G | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 |
| H | 33 | 83 | 133 | 183 | 233 | 283 | 333 | 383 | 433 | 483 | 533 | 583 | 633 | 683 | 733 | 783 | 833 | 883 | 933 |
| J | 10 | 10 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 16 | 16 | 16 | 16 | 18 |

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

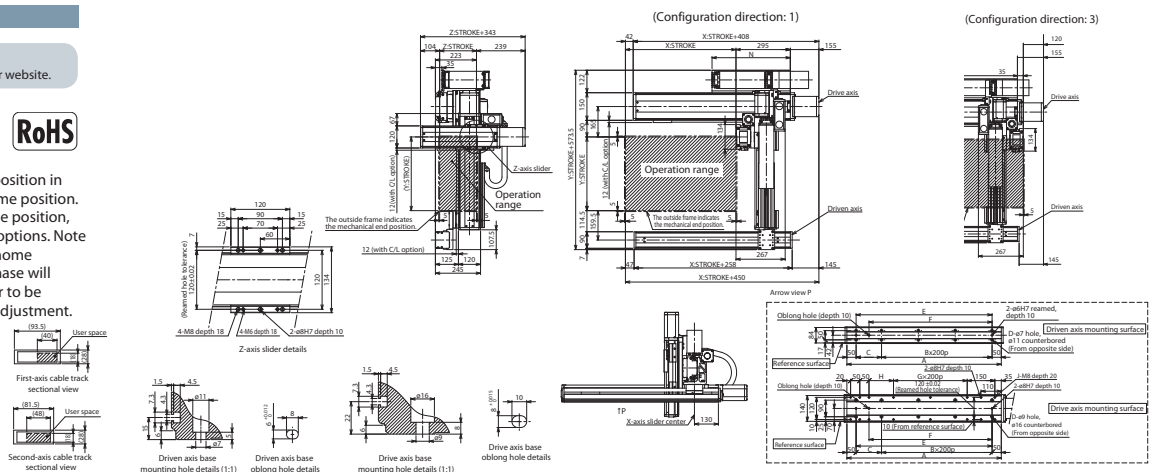
ICSB3 [ICSPB3]-GE□HB2□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 | 338 | 388 | 438 | 488 | 538 | 588 | 638 | 688 | 738 | 788 | 838 | 888 | 938 | 988 | 1038 | 1088 | 1138 | 1188 | 1238 | 1288 | 1338 | 1388 | 1438 |
| 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 | 333 | 383 | 433 | 483 | 533 | 583 | 633 | 683 | 733 | 783 | 833 | 883 | 933 | 983 | 1033 | 1083 | 1133 | 1183 | 1233 |
| 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-GE HB3

ICSPB3-GE HB3

High-Precision Specification



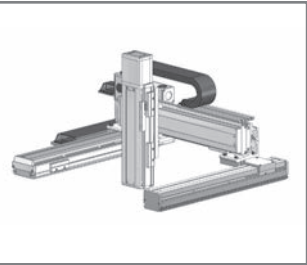
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

High Speed Type

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



Model Specification Items

| | | | | | | | | | | |
|---|--|--|---------------------------|--|--|--|-------------------------------|--|--|--|
| Series | GE HB3 | Type | WA | 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 | Refer to Model Specification table below | WA: Battery-less Absolute | 10: 100mm 130: 1300mm <100: 1000mm> (Every 50mm) | 30: 300mm 90: 900mm (Every 50mm) | 10: 100mm 50: 500mm (Every 50mm) | Refer to Options table below. | T2: SCON SSEL XSEL-P/Q XSEL-RA/SA** | 3L: 3m 5L: 5m □L: Specified length | Refer to Explanation of Model Designations below |

Model Specification

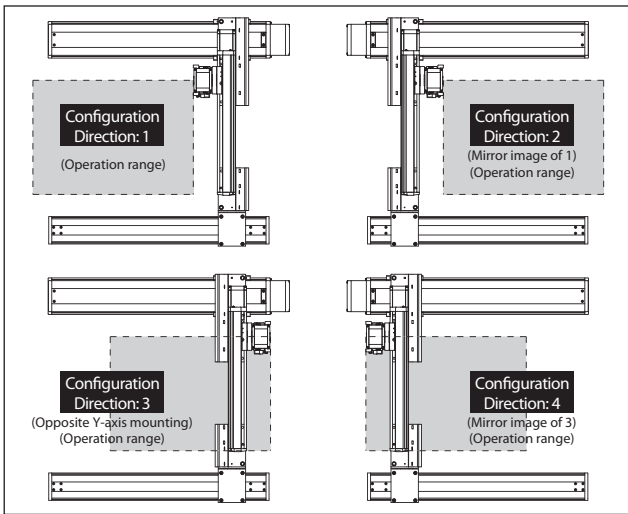
* Items in brackets [] are for the High-Precision Specification.

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | H | ICSB3[ICSPB3]-GE1HB3H- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | M | ICSB3[ICSPB3]-GE1HB3M- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | L | ICSB3[ICSPB3]-GE1HB3L- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| 2 | H | ICSB3[ICSPB3]-GE2HB3H- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | M | ICSB3[ICSPB3]-GE2HB3M- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | L | ICSB3[ICSPB3]-GE2HB3L- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| 3 | H | ICSB3[ICSPB3]-GE3HB3H- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | M | ICSB3[ICSPB3]-GE3HB3M- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | L | ICSB3[ICSPB3]-GE3HB3L- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| 4 | H | ICSB3[ICSPB3]-GE4HB3H- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | M | ICSB3[ICSPB3]-GE4HB3M- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | L | ICSB3[ICSPB3]-GE4HB3L- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |

*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 (Drive axis) | ISB[ISPB]-LXM- <u>1</u> -400-20- <u>2</u> -T2- <u>11</u> - <u>13</u> | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM03-N-0-0- <u>2</u> | — |
| Y-axis | ISB[ISPB]-MXM- <u>1</u> -200-20- <u>3</u> -T2- <u>11</u> - <u>13</u> | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM- <u>1</u> -200- <u>10</u> - <u>6</u> -T2- <u>11</u> - <u>17</u> | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for [1] through [9] 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 [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 130: 1300mm (100: 1000mm) *1 |
| [3] | X-axis option | Refer to Options table below. |
| [4] | Y-axis stroke (Note 1) | 30: 300mm 90: 900mm |
| [5] | Y-axis option | Refer to Options table below. |
| [6] | Z-axis stroke (Note 1) | 10: 100mm 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 | ±0.01 mm [±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), 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)

GE□HB3H

| Z-axis stroke | Y-axis stroke | | | | | | | | | |
|---------------|---------------|--|--|--|--|--|--|--|--|--|
| | 300-900 | | | | | | | | | |
| 100 | 10.0 | | | | | | | | | |
| 150 | | | | | | | | | | |
| 200 | | | | | | | | | | |
| 250 | | | | | | | | | | |
| 300 | | | | | | | | | | |
| 350 | | | | | | | | | | |
| 400 | | | | | | | | | | |
| 450 | | | | | | | | | | |
| 500 | | | | | | | | | | |

GE□HB3M

| Z-axis stroke | Y-axis stroke | | | | | | | | | |
|---------------|---------------|--|--|--|--|---------|--|--|--|--|
| | 300-700 | | | | | 750-900 | | | | |
| 100 | 20.0 | | | | | 20.0 | | | | |
| 150 | 20.0 | | | | | 20.0 | | | | |
| 200 | 20.0 | | | | | 20.0 | | | | |
| 250 | 20.0 | | | | | 20.0 | | | | |
| 300 | 20.0 | | | | | 20.0 | | | | |
| 350 | 20.0 | | | | | 20.0 | | | | |
| 400 | 20.0 | | | | | 20.0 | | | | |
| 450 | 20.0 | | | | | 20.0 | | | | |
| 500 | 20.0 | | | | | 20.0 | | | | |

GE□HB3L

| Z-axis stroke | Y-axis stroke | | | | | | | | | | | | |
|---------------|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 |
| 100 | 31.8 | 31.4 | 31.1 | 30.7 | 30.3 | 29.9 | 29.5 | 29.1 | 26.1 | 23.3 | 20.8 | 18.4 | 16.3 |
| 150 | 31.1 | 30.7 | 30.4 | 30.0 | 29.6 | 29.2 | 28.8 | 28.4 | 25.4 | 22.6 | 20.1 | 17.7 | 15.6 |
| 200 | 30.5 | 30.1 | 29.8 | 29.4 | 29.0 | 28.6 | 28.2 | 27.8 | 24.8 | 22.0 | 19.5 | 17.1 | 15.0 |
| 250 | 29.8 | 29.4 | 29.1 | 28.7 | 28.3 | 27.9 | 27.5 | 27.1 | 24.1 | 21.3 | 18.8 | 16.4 | 14.3 |
| 300 | 29.2 | 28.8 | 28.5 | 28.1 | 27.7 | 27.3 | 26.9 | 26.5 | 23.5 | 20.7 | 18.2 | 15.8 | 13.7 |
| 350 | 28.6 | 28.2 | 27.9 | 27.5 | 27.1 | 26.7 | 26.3 | 25.9 | 22.9 | 20.1 | 17.6 | 15.2 | 13.1 |
| 400 | 28.0 | 27.6 | 27.3 | 26.9 | 26.5 | 26.1 | 25.7 | 25.3 | 22.3 | 19.5 | 17.0 | 14.6 | 12.5 |
| 450 | 27.3 | 26.9 | 26.6 | 26.2 | 25.8 | 25.4 | 25.0 | 24.6 | 21.6 | 18.8 | 16.3 | 13.9 | 11.8 |
| 500 | 26.7 | 26.3 | 26.0 | 25.6 | 25.2 | 24.8 | 24.4 | 24.0 | 21.0 | 18.2 | 15.7 | 13.3 | 11.2 |

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

GE□HB3H

| | 100-300 | 300-500 | 550-700 | 750-800 | 850-900 | 950-1000 | 1050-1100 | 1150-1200 | 1250-1300 | |
|--------|---------|---------|---------|---------|---------|----------|-----------|-----------|-----------|--|
| X-axis | 1200 | | 860 | | 695 | — | | | | |
| Y-axis | 1200 | | 860 | | 695 | — | | | | |
| Z-axis | 1200 | | | | | | | | | |

GE□HB3M

| | 100-300 | 300-500 | 550-700 | 750-800 | 850-900 | 950-1000 | 1050-1100 | 1150-1200 | 1250-1300 | |
|--------|---------|---------|---------|---------|---------|----------|-----------|-----------|-----------|--|
| X-axis | 1200 | | 860 | | 695 | — | | | | |
| Y-axis | 1200 | | 860 | | 695 | — | | | | |
| Z-axis | 600 | | | | | | | | | |

GE□HB3L

| | 100-300 | 300-500 | 550-700 | 750-800 | 850-900 | 950-1000 | 1050-1100 | 1150-1200 | 1250-1300 | |
|--------|---------|---------|---------|---------|---------|----------|-----------|-----------|-----------|--|
| X-axis | 1200 | | 860 | | 695 | — | | | | |
| Y-axis | 1200 | | 860 | | 695 | — | | | | |
| Z-axis | 300 | | | | | | | | | |

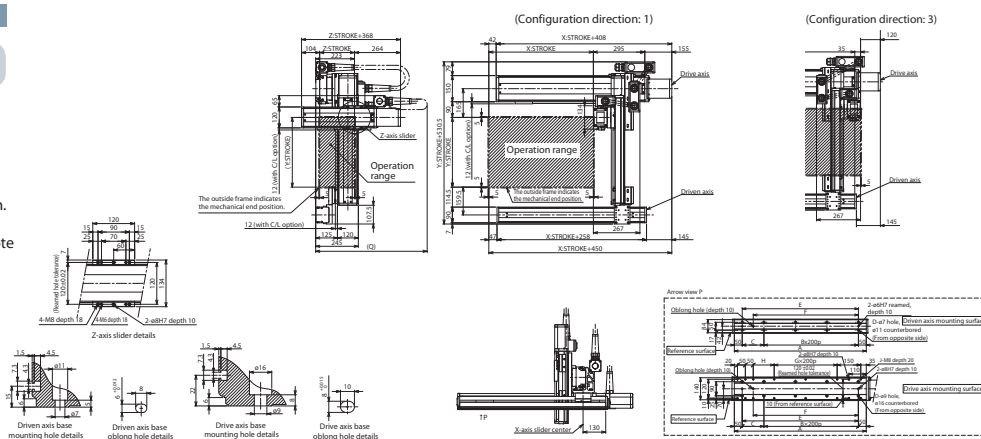
ICSB3 [ICSPB3]-GE□HB3□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 | 338 | 388 | 438 | 488 | 538 | 588 | 638 | 688 | 738 | 788 | 838 | 888 | 938 | 988 | 1038 | 1088 | 1138 |
| D | 4 | 4 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 14 |
| E | 238 | 288 | 338 | 388 | 438 | 488 | 538 | 588 | 638 | 688 | 738 | 788 | 838 | 888 | 938 | 988 | 1038 | 1088 | 1138 |
| F | 168 | 218 | 268 | 318 | 368 | 418 | 468 | 518 | 568 | 618 | 668 | 718 | 768 | 818 | 868 | 918 | 968 | 1018 | 1068 |
| G | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 |
| H | 33 | 83 | 133 | 183 | 233 | 283 | 333 | 383 | 433 | 483 | 533 | 583 | 633 | 683 | 733 | 783 | 833 | 883 | 933 |
| J | 10 | 10 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 16 | 16 | 16 | 16 | 18 |

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

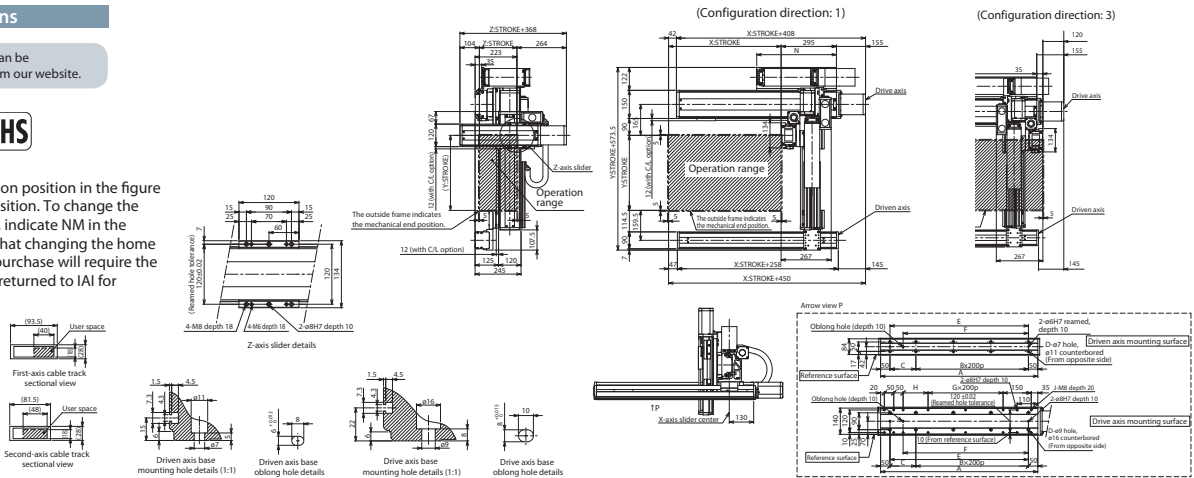
ICSB3 [ICSPB3]-GE□HB3□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 | 338 | 388 | 438 | 488 | 538 | 588 | 638 | 688 | 738 | 788 | 838 | 888 | 938 | 988 | 1038 | 1088 | 1138 | 1188 | 1238 | 1288 | 1338 | 1388 | 1438 |
| 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 | 333 | 383 | 433 | 483 | 533 | 583 | 633 | 683 | 733 | 783 | 833 | 883 | 933 | 983 | 1033 | 1083 | 1133 | 1183 | 1233 |
| 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-GF□HB1L

ICSPB3-GF□HB1L

High-Precision Specification

±10µm
Standard

±5µm
High-Precision

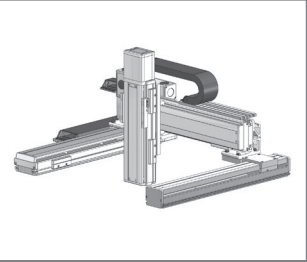
Battery-less Absolute

X-Y-Z 3-axis

XYGB+ZB (Y Side Gantry Z Base Mount)

High Speed Long Type

X:Lg (400W)
Y: Mg (200W)
Z: SmI (60W)



Model Specification Items

| | | | | | | | | | | | | | |
|--------|---------|------|----|--------------|---|--|--|------------------------|---|--------------|--|----------------------------------|--|
| Series | GF□HB1L | Type | WA | Encoder Type | 100: 1000mm 250: 2500mm (Every 100mm) | 30: 300mm 90: 900mm (Every 50mm) | 10: 100mm 50: 500mm (Every 50mm) | Applicable Controllers | T2: SCON SSEL XSEL-P/Q XSEL-RA/SA* | Cable Length | 3L: 3m 5L: 5m □L: Specified length | Y-axis - Z-axis Cable Management | Refer to Explanation of Model Designations below |
|--------|---------|------|----|--------------|---|--|--|------------------------|---|--------------|--|----------------------------------|--|

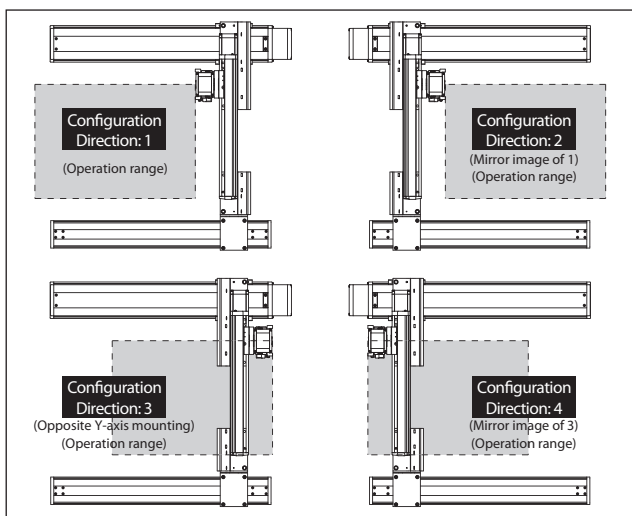
Model Specification

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

| XY configuration direction *1 | Z-axis speed type | Model |
|-------------------------------|-------------------|--|
| 1 | L | ICSB3[ICSPB3]-GF1HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 2 | L | ICSB3[ICSPB3]-GF2HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 3 | L | ICSB3[ICSPB3]-GF3HB1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 4 | L | ICSB3[ICSPB3]-GF4HB1L-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

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

| Name of axis | Model | Reference page |
|----------------------|----------------------------------|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-LXXM-①-400-20-②-T2-⑩-③ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM04-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-200-20-④-T2-⑩-⑤ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-①-60-4-⑥-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) | 30: 300mm 90: 900mm |
| 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 CS] |
| 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/4mm |

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)

GF□HB1L

| | | Y-axis stroke 300-900 |
|---------------|-----|--------------------------|
| Z-axis stroke | 100 | 14.0 |
| | 150 | |
| | 200 | |
| | 250 | |
| | 300 | |
| | 350 | |
| | 400 | |
| | 450 | |
| | 500 | |

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

GF□HB1L

| | 100-300 | 300-500 | 550-700 | 750-800 | 850-900 | 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 | 860 | | 695 | — | | | | | | | | | | | | | | |
| Z-axis | 240 | | | | | — | | | | | | | | | | | | | | |

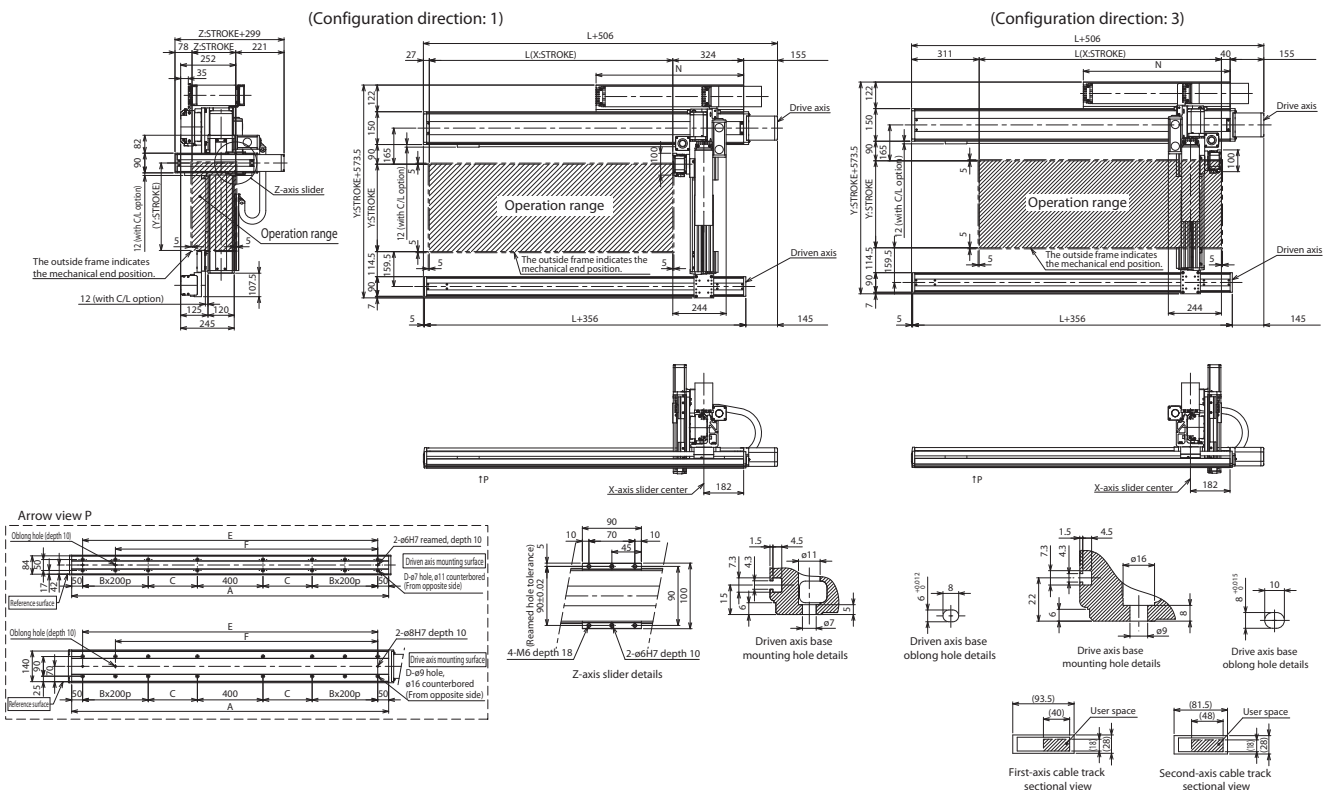
ICSB3 [ICSPB3]-GF□HB1L-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 IA for adjustment.



| 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-GF□HB2□

ICSPB3-GF□HB2□

High-Precision Specification



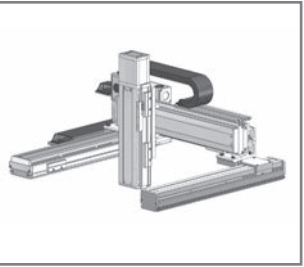
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

High Speed Long Type

X: Lg (400W)
Y: Md (200W)
Z: Md (100W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|---|-------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 100: 1000mm 250: 2500mm (Every 50mm) | 30: 300mm 90: 900mm (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 |

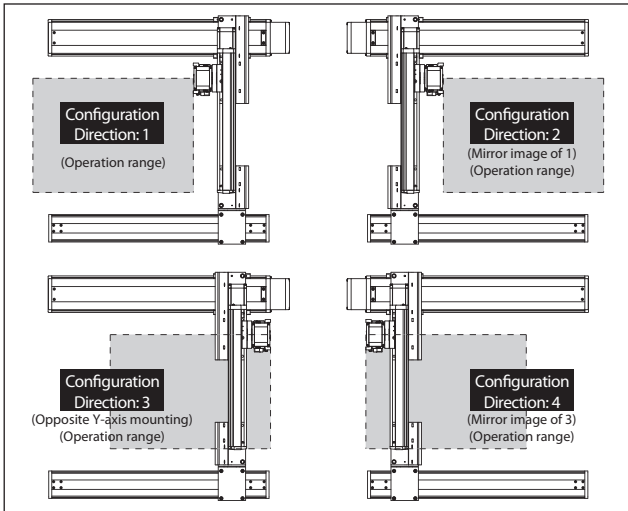
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GF1HB2M- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | L | ICSB3[ICSPB3]-GF1HB2L- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| 2 | M | ICSB3[ICSPB3]-GF2HB2M- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | L | ICSB3[ICSPB3]-GF2HB2L- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| 3 | M | ICSB3[ICSPB3]-GF3HB2M- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | L | ICSB3[ICSPB3]-GF3HB2L- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| 4 | M | ICSB3[ICSPB3]-GF4HB2M- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | L | ICSB3[ICSPB3]-GF4HB2L- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |

*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 (Drive axis) | ISB[ISPB]-LXXM- <u>1</u> -400-20- <u>2</u> -T2- <u>1</u> - <u>3</u> | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM04-N-0-0- <u>2</u> | — |
| Y-axis | ISB[ISPB]-MXM- <u>1</u> -200-20- <u>3</u> -T2- <u>1</u> - <u>5</u> | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM- <u>1</u> -100- <u>6</u> - <u>6</u> -T2- <u>1</u> - <u>7</u> | → 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 [6] in the above model names.
10: For Z-axis Medium Speed type
5: For Z-axis Low Speed type
* Cable exit direction is specified with [7] 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) | 30: 300mm 90: 900mm |
| [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/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)

GF□HB2M

| Z-axis stroke | Y-axis stroke 300~900 | |
|---------------|--------------------------|-----|
| | 100 | 150 |
| 100 | 10.0 | |
| 150 | | |
| 200 | | |
| 250 | | |
| 300 | | |
| 350 | | |
| 400 | | |
| 450 | | |
| 500 | | |

GF□HB2L

| Z-axis stroke | Y-axis stroke | Y-axis stroke | | | | |
|---------------|---------------|---------------|------|------|------|------|
| | | 300~700 | 750 | 800 | 850 | 900 |
| 100 | 20.0 | | 20.0 | 20.0 | 18.9 | 16.8 |
| 150 | | | 20.0 | 20.0 | 18.3 | 16.2 |
| 200 | | | 20.0 | 20.0 | 17.7 | 15.6 |
| 250 | | | 20.0 | 19.4 | 17.0 | 14.9 |
| 300 | | | 20.0 | 18.8 | 16.4 | 14.3 |
| 350 | | | 20.0 | 18.1 | 15.7 | 13.6 |
| 400 | | | 20.0 | 17.5 | 15.1 | 13.0 |
| 450 | | | 19.4 | 16.9 | 14.5 | 12.4 |
| 500 | | | 18.8 | 16.3 | 13.9 | 11.8 |

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

GF□HB2M

| | 100~300 | 300~500 | 550~700 | 750~800 | 850~900 | 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 | | 860 | 695 | | | | | | | | | | | | | | |
| Z-axis | 600 | | | | | | | | | | | | | | | | | | |

GF□HB2L

| | 100~300 | 300~500 | 550~700 | 750~800 | 850~900 | 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 | | 860 | 695 | | | | | | | | | | | | | | |
| Z-axis | 300 | | | | | | | | | | | | | | | | | | |

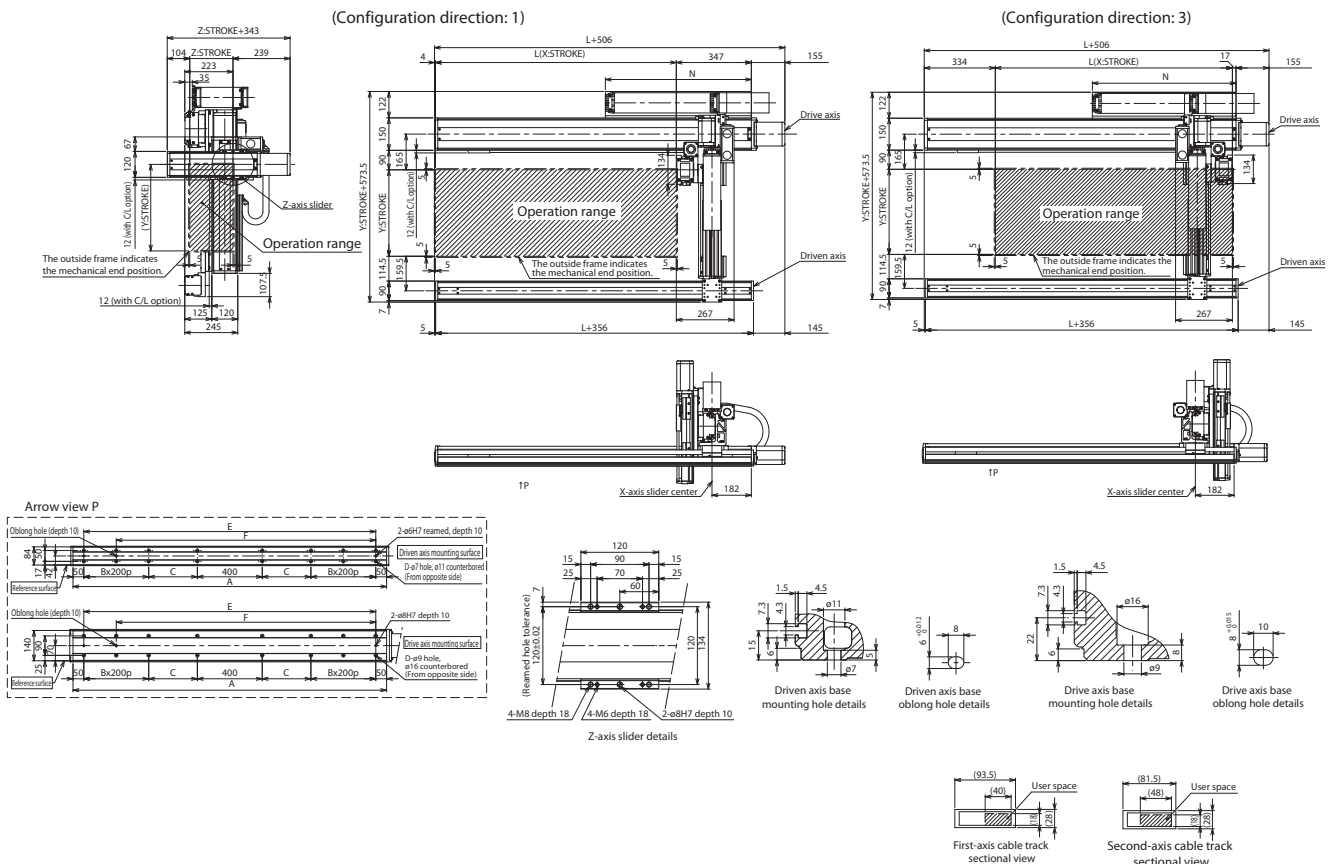
ICSB3 [ICSPB3]-GF□HB2□-CT-CT (Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 | 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-GF□HB3□

ICSPB3-GF□HB3□

High-Precision Specification

±10µm Standard

±5µm High Precision

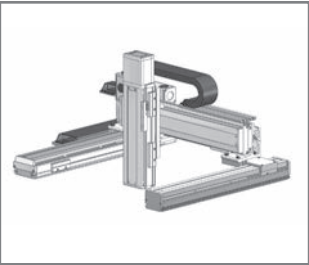
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZB (Y Side Gantry Z Base Mount)

High Speed Long Type

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



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|-------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis-Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 100: 1000mm 250: 2500mm (Every 100mm) | 30: 300mm 90: 900mm (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 |

Model Specification

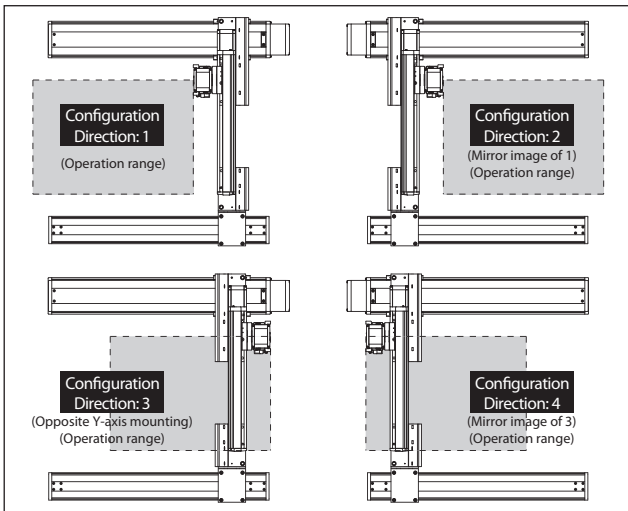
* Items in brackets [] are for the High-Precision Specification.

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--------------------------------------|
| 1 | H | ICSB3[ICSPB3]-GF1HB3H-①-②③④⑤⑥⑦-T2-⑧⑨ |
| | M | ICSB3[ICSPB3]-GF1HB3M-①-②③④⑤⑥⑦-T2-⑧⑨ |
| | L | ICSB3[ICSPB3]-GF1HB3L-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 2 | H | ICSB3[ICSPB3]-GF2HB3H-①-②③④⑤⑥⑦-T2-⑧⑨ |
| | M | ICSB3[ICSPB3]-GF2HB3M-①-②③④⑤⑥⑦-T2-⑧⑨ |
| | L | ICSB3[ICSPB3]-GF2HB3L-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 3 | H | ICSB3[ICSPB3]-GF3HB3H-①-②③④⑤⑥⑦-T2-⑧⑨ |
| | M | ICSB3[ICSPB3]-GF3HB3M-①-②③④⑤⑥⑦-T2-⑧⑨ |
| | L | ICSB3[ICSPB3]-GF3HB3L-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 4 | H | ICSB3[ICSPB3]-GF4HB3H-①-②③④⑤⑥⑦-T2-⑧⑨ |
| | M | ICSB3[ICSPB3]-GF4HB3M-①-②③④⑤⑥⑦-T2-⑧⑨ |
| | L | ICSB3[ICSPB3]-GF4HB3L-①-②③④⑤⑥⑦-T2-⑧⑨ |

*1 Please refer to the following diagram under XY Configuration Direction. Please refer to the table on the right for details of ① through ⑨ in the model names above.

*2 The payload and the max speed may vary depending on the type of Z-axis.

XY Configuration Direction



Axis Configuration

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

| Name of axis | Model | Reference page |
|----------------------|---------------------------------|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-LXXM-①-400-20-②-T2-③④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM04-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-200-20-②-T2-③④ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-①-200-⑤⑥-T2-③④⑦ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑨ in the above model names.

Note that the strokes are indicated in mm (millimeters).

* Lead is specified with ⑤ 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 ③ 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) | 30: 300mm 90: 900mm |
| 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), 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)

GF□HB3H

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|--|
| | 300~900 | |
| 100 | 10.0 | |
| 150 | 10.0 | |
| 200 | 10.0 | |
| 250 | 10.0 | |
| 300 | 10.0 | |
| 350 | 10.0 | |
| 400 | 10.0 | |
| 450 | 10.0 | |
| 500 | 10.0 | |

GF□HB3M

| Z-axis stroke | Y-axis stroke | Y-axis stroke | | | |
|---------------|---------------|---------------|------|------|------|
| | | 300~700 | 750 | 800 | 850 |
| 100 | 20.0 | 20.0 | 20.0 | 18.4 | 16.3 |
| 150 | | 20.0 | 20.0 | 17.7 | 15.6 |
| 200 | | 20.0 | 19.5 | 17.1 | 15.0 |
| 250 | | 20.0 | 18.8 | 16.4 | 14.3 |
| 300 | | 20.0 | 18.2 | 15.8 | 13.7 |
| 350 | | 20.0 | 17.6 | 15.2 | 13.1 |
| 400 | | 19.5 | 17.0 | 14.6 | 12.5 |
| 450 | | 18.8 | 16.3 | 13.9 | 11.8 |
| 500 | | 18.2 | 15.7 | 13.3 | 11.2 |

GF□HB3L

| Z-axis stroke | Y-axis stroke | Y-axis stroke | | | | | | | | | | | | |
|---------------|---------------|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 |
| 100 | 20.0 | 31.8 | 31.4 | 31.1 | 30.7 | 30.3 | 29.9 | 29.5 | 29.1 | 26.1 | 23.3 | 20.0 | 18.4 | 16.3 |
| 150 | | 31.1 | 30.7 | 30.4 | 30.0 | 29.6 | 29.2 | 28.8 | 28.4 | 25.4 | 22.6 | 20.1 | 17.7 | 15.6 |
| 200 | | 30.5 | 30.1 | 29.8 | 29.4 | 29.0 | 28.6 | 28.2 | 27.8 | 24.8 | 22.0 | 19.5 | 17.1 | 15.0 |
| 250 | | 29.8 | 29.4 | 29.1 | 28.7 | 28.3 | 27.9 | 27.5 | 27.1 | 24.1 | 21.3 | 18.8 | 16.4 | 14.3 |
| 300 | | 29.2 | 28.8 | 28.5 | 28.1 | 27.7 | 27.3 | 26.9 | 26.5 | 23.5 | 20.7 | 18.2 | 15.8 | 13.7 |
| 350 | | 28.6 | 28.2 | 27.9 | 27.5 | 27.1 | 26.7 | 26.3 | 25.9 | 22.9 | 20.1 | 17.6 | 15.2 | 13.1 |
| 400 | | 28.0 | 27.6 | 27.3 | 26.9 | 26.5 | 26.1 | 25.7 | 25.3 | 22.3 | 19.5 | 17.0 | 14.6 | 12.5 |
| 450 | | 27.3 | 26.9 | 26.6 | 26.2 | 25.8 | 25.4 | 25.0 | 24.6 | 21.6 | 18.8 | 16.3 | 13.9 | 11.8 |
| 500 | | 26.7 | 26.3 | 26.0 | 25.6 | 25.2 | 24.8 | 24.4 | 24.0 | 21.0 | 18.2 | 15.7 | 13.3 | 11.2 |

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

GF□HB3H

| | 100~300 | 300~500 | 550~700 | 750~800 | 850~900 | 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 | — | — | — | — | — | — | — |
| Y-axis | — | 1200 | — | 860 | 695 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Z-axis | 1200 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

GF□HB3M

| | 100~300 | 300~500 | 550~700 | 750~800 | 850~900 | 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 | — | — | — | — | — | — | — |
| Y-axis | — | 1200 | — | 860 | 695 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Z-axis | 600 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

GF□HB3L

| | 100~300 | 300~500 | 550~700 | 750~800 | 850~900 | 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 | — | — | — | — | — | — | — |
| Y-axis | — | 1200 | — | 860 | 695 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Z-axis | 300 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

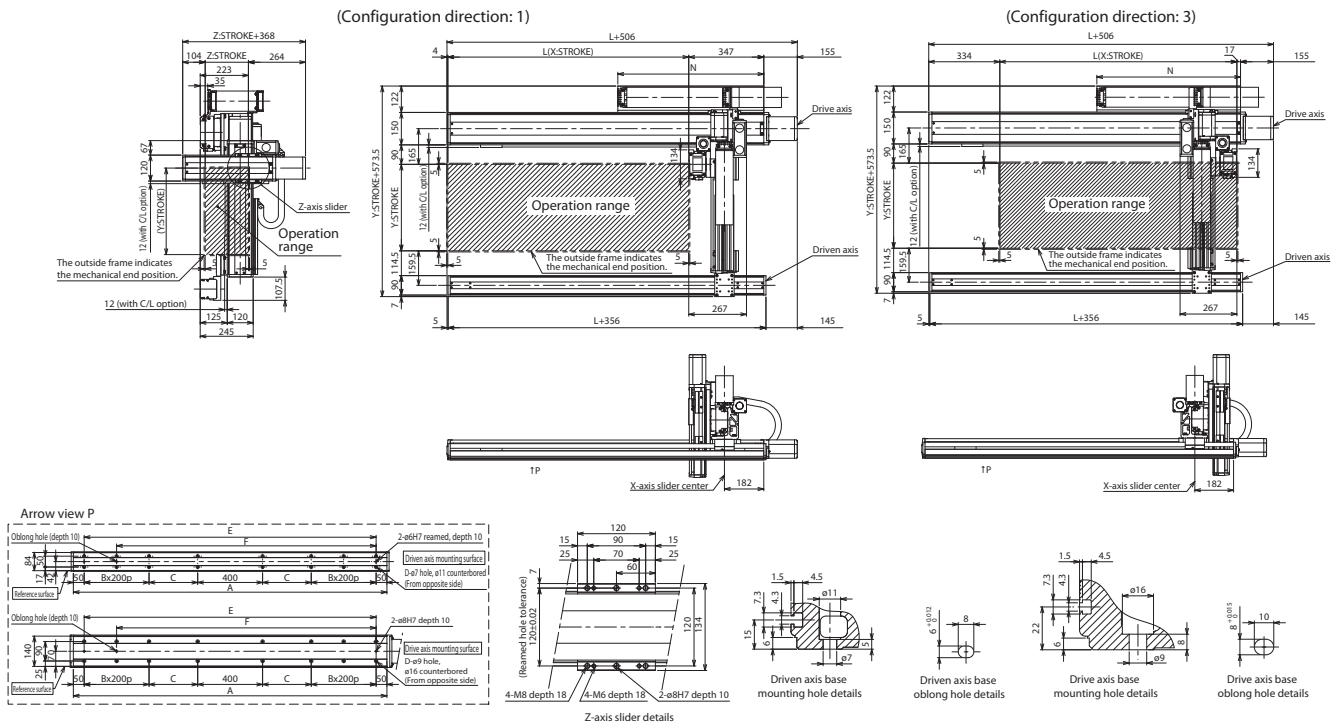
ICSB3 [ICSPB3]-GF□HB3□-CT-CT (Cable track specification)

Dimensions

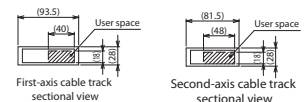
CAD drawings can be downloaded from our website.



* 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 | 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 | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 |
| 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-GB□HS1□

ICSPB3-GB□HS1□

High-Precision Specification



Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

High Speed Type

X: Md (100W)
Y: Sml (60W)
Z: Sml (60W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|---------------------------------------|-------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 10: 100mm 100: 1000mm (Every 50mm) | 30: 300mm 60: 600mm (Every 50mm) | 10: 100mm 30: 300mm (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

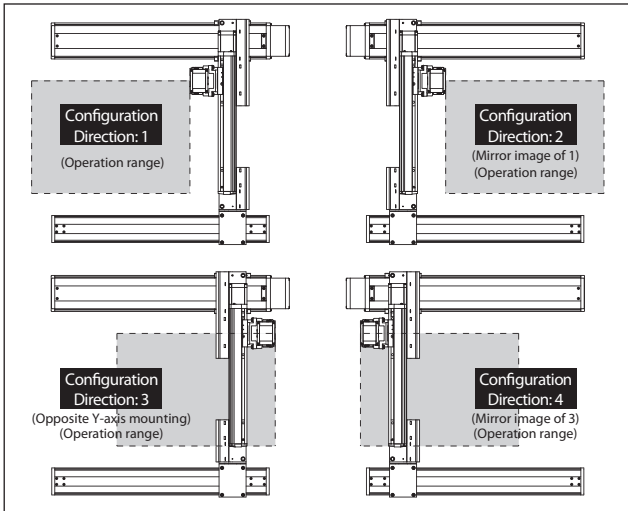
* Items in brackets [] are for the High-Precision Specification.

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--------------------------------------|
| 1 | M | ICSB3[ICSPB3]-GB1HS1M-①-②③④⑤⑥⑦-T2-⑧⑨ |
| | L | ICSB3[ICSPB3]-GB1HS1L-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 2 | M | ICSB3[ICSPB3]-GB2HS1M-①-②③④⑤⑥⑦-T2-⑧⑨ |
| | L | ICSB3[ICSPB3]-GB2HS1L-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 3 | M | ICSB3[ICSPB3]-GB3HS1M-①-②③④⑤⑥⑦-T2-⑧⑨ |
| | L | ICSB3[ICSPB3]-GB3HS1L-①-②③④⑤⑥⑦-T2-⑧⑨ |
| 4 | M | ICSB3[ICSPB3]-GB4HS1M-①-②③④⑤⑥⑦-T2-⑧⑨ |
| | L | ICSB3[ICSPB3]-GB4HS1L-①-②③④⑤⑥⑦-T2-⑧⑨ |

*1 Please refer to the following diagram under XY Configuration Direction. Please refer to the table on the right for details of ① through ⑨ in the model names above.

*2 The payload and the max speed may vary depending on the type of Z-axis.

XY Configuration Direction



Axis Configuration

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

| Name of axis | Model | Reference page |
|----------------------|--------------------------------|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-MXM-①-100-20-②-T2-③④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0-② | — |
| Y-axis | ISB[ISPB]-SXM-①-60-16-④-T2-⑤⑥ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-①-60-⑩-⑥-T2-⑦⑧ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑨ 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 ④ 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) | 30: 300mm 60: 600mm |
| 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)

■GB□HS1M

| Z-axis stroke | Y-axis stroke 300-600 | |
|---------------|--------------------------|-----|
| | 100 | 150 |
| 100 | 4.3 | |
| 150 | 3.9 | |
| 200 | 3.5 | |
| 250 | 3.1 | |
| 300 | 2.8 | |

■GB□HS1L

| Z-axis stroke | Y-axis stroke | | | | | | |
|---------------|---------------|-----|-----|-----|-----|-----|-----|
| | 300 | 350 | 400 | 450 | 500 | 550 | 600 |
| 100 | 8.0 | 7.9 | 7.6 | 7.2 | 6.9 | 6.5 | 6.2 |
| 150 | 7.6 | 7.6 | 7.3 | 6.9 | 6.6 | 6.1 | 5.8 |
| 200 | 7.2 | 7.2 | 6.9 | 6.5 | 6.2 | 5.8 | 5.5 |
| 250 | 6.9 | 6.9 | 6.6 | 6.1 | 5.8 | 5.4 | 5.1 |
| 300 | 6.6 | 6.6 | 6.3 | 5.9 | 5.6 | 5.2 | 4.8 |

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

■GB□HS1M

| | 100-300 | 300-600 | 650-700 | 750-800 | 850-900 | 950-1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | 1200 | | | 860 | 695 | 570 |
| Y-axis | — | 960 | | — | | |
| Z-axis | 480 | | | — | | |

■GB□HS1L

| | 100-300 | 300-600 | 650-700 | 750-800 | 850-900 | 950-1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | 1200 | | | 860 | 695 | 570 |
| Y-axis | — | 960 | | — | | |
| Z-axis | 240 | | | — | | |

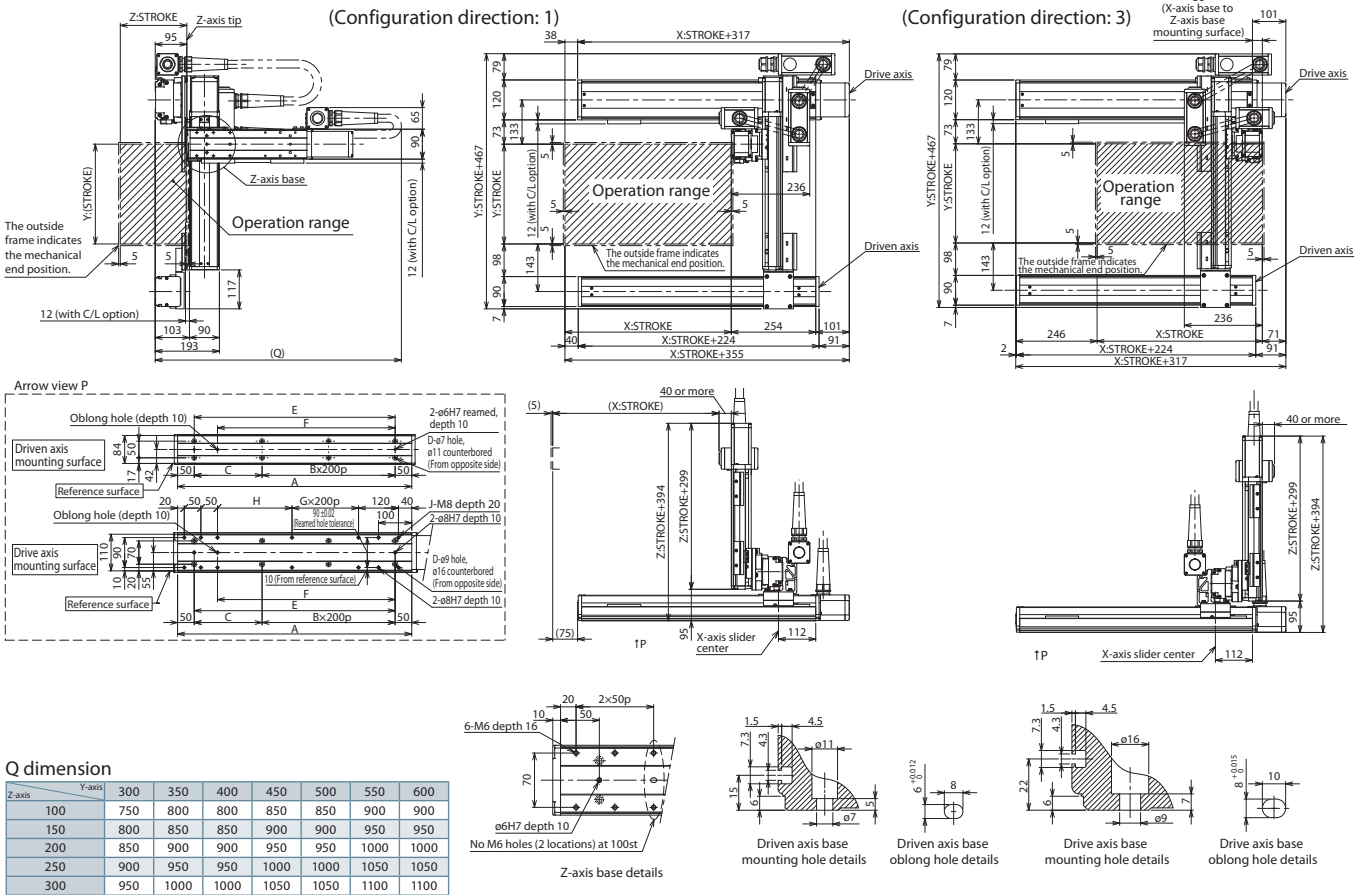
ICSB3 [ICSPB3]-GB□HS1□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



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



| 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 | 3 | 3 | 3 | 3 | 4 | 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 | 10 | 10 | 10 | 10 | 12 | 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 | 2 | 2 | 2 | 2 | 3 | 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-GB□MS1□

ICSPB3-GB□MS1□

High-Precision Specification



Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

Medium Speed Type

X: Md (100W)
Y: 5ml (60W)
Z: 5ml (60W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|---------------------------------------|-------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 10: 100mm 100: 1000mm (Every 50mm) | 30: 300mm 60: 600mm (Every 50mm) | 10: 100mm 30: 300mm (Every 50mm) | T2: SCOM XSEL XSEL-P/Q XSEL-RA/SA* *Coming soon | 3L: 3m 5L: 5m □L: Specified length | Refer to Explanation of Model Designations below |

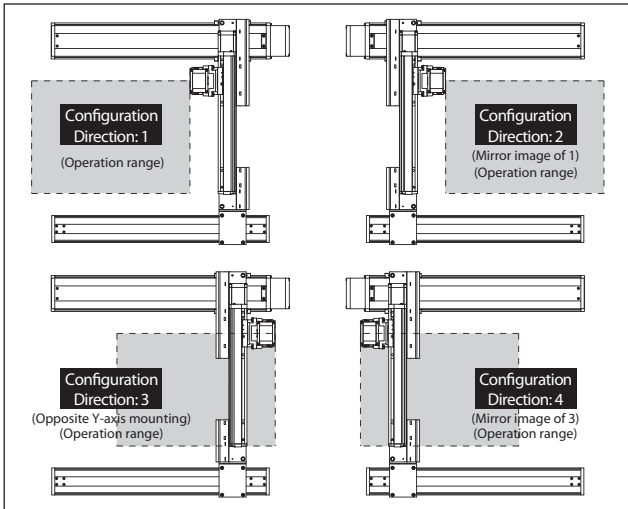
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GB1MS1M- <u>1</u> - <u>2</u> <u>3</u> - <u>4</u> <u>5</u> - <u>6</u> <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | L | ICSB3[ICSPB3]-GB1MS1L- <u>1</u> - <u>2</u> <u>3</u> - <u>4</u> <u>5</u> - <u>6</u> <u>7</u> -T2- <u>8</u> - <u>9</u> |
| 2 | M | ICSB3[ICSPB3]-GB2MS1M- <u>1</u> - <u>2</u> <u>3</u> - <u>4</u> <u>5</u> - <u>6</u> <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | L | ICSB3[ICSPB3]-GB2MS1L- <u>1</u> - <u>2</u> <u>3</u> - <u>4</u> <u>5</u> - <u>6</u> <u>7</u> -T2- <u>8</u> - <u>9</u> |
| 3 | M | ICSB3[ICSPB3]-GB3MS1M- <u>1</u> - <u>2</u> <u>3</u> - <u>4</u> <u>5</u> - <u>6</u> <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | L | ICSB3[ICSPB3]-GB3MS1L- <u>1</u> - <u>2</u> <u>3</u> - <u>4</u> <u>5</u> - <u>6</u> <u>7</u> -T2- <u>8</u> - <u>9</u> |
| 4 | M | ICSB3[ICSPB3]-GB4MS1M- <u>1</u> - <u>2</u> <u>3</u> - <u>4</u> <u>5</u> - <u>6</u> <u>7</u> -T2- <u>8</u> - <u>9</u> |
| | L | ICSB3[ICSPB3]-GB4MS1L- <u>1</u> - <u>2</u> <u>3</u> - <u>4</u> <u>5</u> - <u>6</u> <u>7</u> -T2- <u>8</u> - <u>9</u> |

*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 (Drive axis) | ISB[ISPB]-MXM- <u>1</u> -100-10- <u>2</u> -T2- <u>1</u> <u>3</u> | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0- <u>2</u> | — |
| Y-axis | ISB[ISPB]-SXM- <u>1</u> -60-8- <u>4</u> -T2- <u>1</u> <u>5</u> | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM- <u>1</u> -60- <u>6</u> - <u>6</u> -T2- <u>1</u> <u>7</u> | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for [1] through [7] in the above model names.
Note that the strokes are indicated in mm (millimeters).
* Lead is specified with [5] in the above model names.
8: For Z-axis Medium Speed type
4: For Z-axis Low Speed type
* Cable exit direction is specified with [1] 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) | 30: 300mm 60: 600mm |
| [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 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

| | |
|---------------------------|--|
| 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)

■GB□MS1M

| | | Y-axis stroke 300-600 |
|---------------|-----|--------------------------|
| Z-axis stroke | 100 | 4.3 |
| | 150 | 3.9 |
| | 200 | 3.5 |
| | 250 | 3.1 |
| | 300 | 2.8 |

■GB□MS1L

| | | Y-axis stroke 300-600 |
|---------------|-----|--------------------------|
| Z-axis stroke | 100 | 11.3 |
| | 150 | 10.9 |
| | 200 | 10.5 |
| | 250 | 10.1 |
| | 300 | 9.8 |

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

■GB□MS1M

| | 100-300 | 300-600 | 650-700 | 750-800 | 850-900 | 950-1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | 600 | | | 430 | 345 | 280 |
| Y-axis | — | 480 | | | | |
| Z-axis | 480 | | | | | |

■GB□MS1L

| | 100-300 | 300-600 | 650-700 | 750-800 | 850-900 | 950-1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | 600 | | | 430 | 345 | 280 |
| Y-axis | — | 480 | | | | |
| Z-axis | 240 | | | | | |

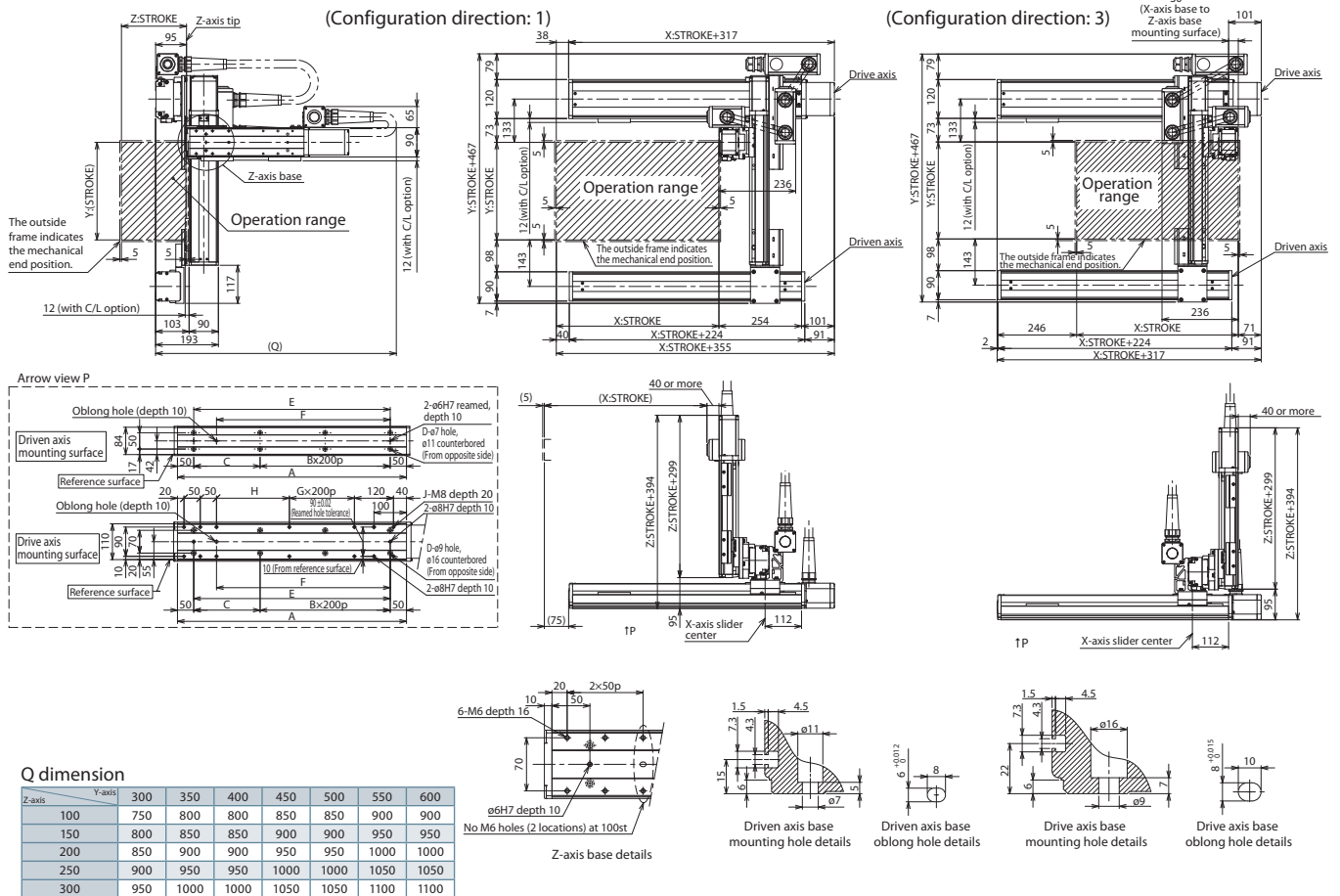
ICSB3 [ICSPB3]-GB□MS1□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



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



| 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 | 10 | 10 | 10 | 10 | 12 | 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-GC□HS1□

ICSPB3-GC□HS1□

High-Precision Specification

±10µm Standard

±5µm High-Precision

Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

High Speed Type

X: Md (200W)
Y: Md (100W)
Z: Sml (60W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|---------------------------------------|-------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis-Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 10: 100mm 100: 1000mm (Every 50mm) | 30: 300mm 70: 700mm (Every 50mm) | 10: 100mm 40: 400mm (Every 50mm) | T2: SCOM SSEL XSEL-P/Q XSEL-RA/SA* *Coming soon | 3L: 3m 5L: 5m □L: Specified length | Refer to Explanation of Model Designations below |

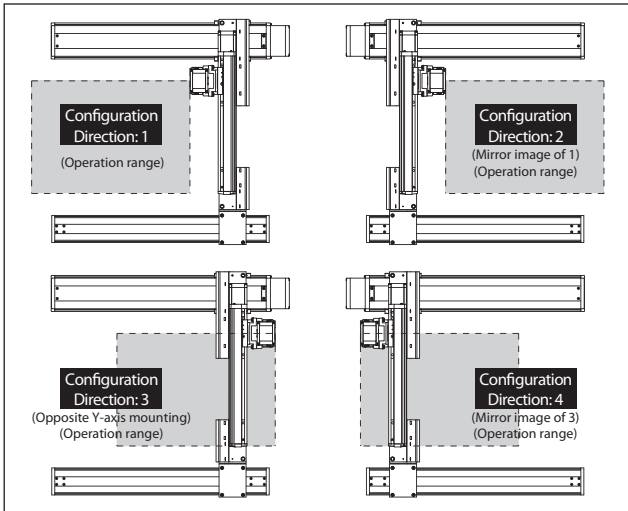
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GC1HS1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC1HS1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 2 | M | ICSB3[ICSPB3]-GC2HS1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC2HS1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 3 | M | ICSB3[ICSPB3]-GC3HS1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC3HS1L-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 4 | M | ICSB3[ICSPB3]-GC4HS1M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC4HS1L-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 (Drive axis) | ISB[ISPB]-MXM-①-200-20-②-T2-③-④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-100-20-③-T2-④-⑤ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-①-60-⑥-⑦-T2-⑧-⑨ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑨ in the above model names.
Note that the strokes are indicated in mm (millimeters).
* Lead is specified with ⑤ 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 ④ 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) | 30: 300mm 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 | 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.



- (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)

GC□HS1M

| Z-axis stroke | Y-axis stroke 300~700 | |
|---------------|--------------------------|-----|
| | 100 | 150 |
| 100 | 4.3 | |
| 150 | 3.9 | |
| 200 | 3.5 | |
| 250 | 3.1 | |
| 300 | 2.8 | |
| 350 | 2.4 | |
| 400 | 2.1 | |

GC□HS1L

| Z-axis stroke | Y-axis stroke 300~700 | |
|---------------|--------------------------|-----|
| | 100 | 150 |
| 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)

GC□HS1M

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | 1200 | | | | | |
| Y-axis | 1200 | | | | | |
| Z-axis | 480 | | | | | |

GC□HS1L

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | 1200 | | | | | |
| Y-axis | 1200 | | | | | |
| Z-axis | 240 | | | | | |

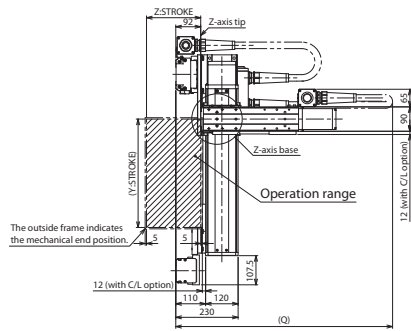
ICSB3 [ICSPB3]-GC□HS1-SC-SC□ (Self-standing cable specification)

Dimensions

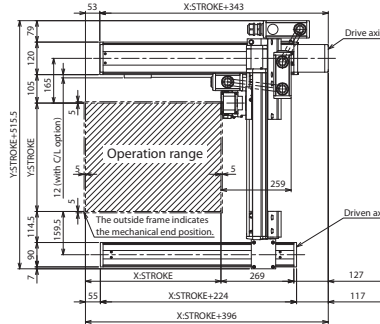
CAD drawings can be downloaded from our website.



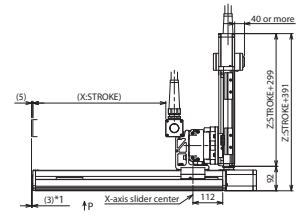
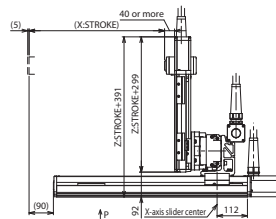
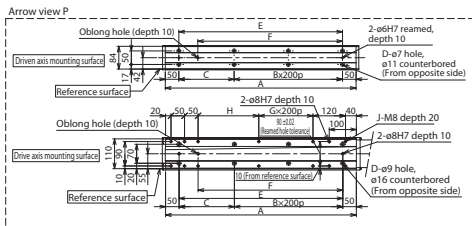
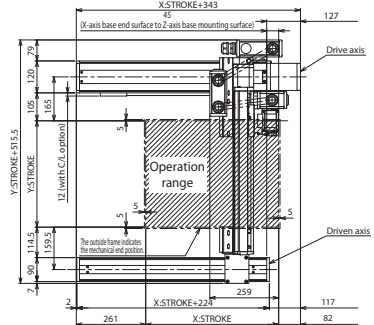
* The position in the figure is the home position with normal settings. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



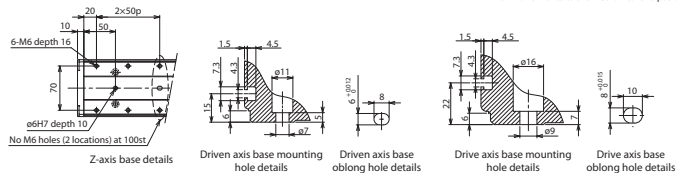
(Configuration direction: 1)



(Configuration direction: 3)



*1 Amount of Y-axis connector box protrusion when X-axis moves to the mechanical end position



Q dimension

| Z-axis | Y-axis | | | | | | | | | |
|--------|--------|------|------|------|------|------|------|------|------|--|
| | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | |
| 100 | 800 | 800 | 800 | 850 | 850 | 900 | 900 | 950 | 950 | |
| 150 | 850 | 850 | 850 | 900 | 900 | 950 | 950 | 1000 | 1000 | |
| 200 | 900 | 900 | 900 | 950 | 950 | 1000 | 1000 | 1050 | 1050 | |
| 250 | 950 | 950 | 950 | 1000 | 1000 | 1050 | 1050 | 1100 | 1100 | |
| 300 | 1000 | 1000 | 1000 | 1050 | 1050 | 1100 | 1100 | 1150 | 1150 | |
| 350 | 1050 | 1050 | 1050 | 1100 | 1100 | 1150 | 1150 | 1200 | 1200 | |
| 400 | 1100 | 1100 | 1100 | 1150 | 1150 | 1200 | 1200 | 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 | 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 | 304 | 354 | 404 | 454 | 504 | 554 | 604 | 654 | 704 | 754 | 804 | 854 | 904 | 954 | 1004 | 1054 | 1104 |
| D | 4 | 4 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 12 | 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 | 324 | 374 | 424 | 474 | 524 | 574 | 624 | 674 | 724 | 774 | 824 | 874 | 924 |
| J | 10 | 10 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 16 | 16 | 16 | 16 | 18 |

ICSB3-GC□HS3M

ICSPB3-GC□HS3M High-Precision Specification



Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

High Speed Type

X: Md (200W)
Y: Md (100W)
Z: Md (200W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|---------------------------------------|-------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 10: 100mm 100: 1000mm (Every 50mm) | 30: 300mm 70: 700mm (Every 50mm) | 10: 100mm 40: 400mm (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 |

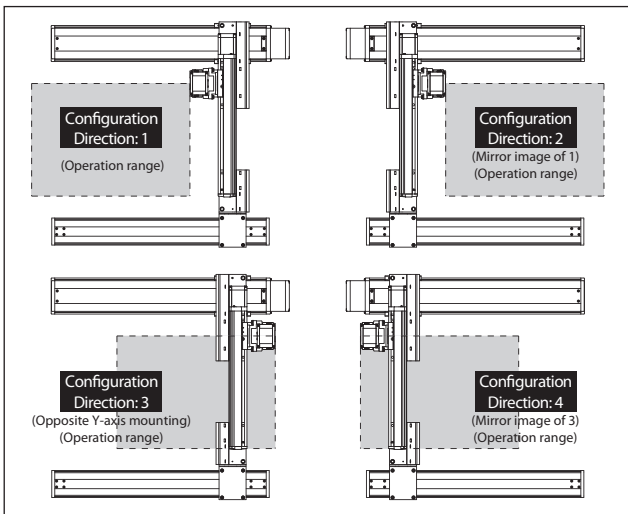
Model Specification

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

| XY configuration direction *1 | Z-axis speed type | Model |
|-------------------------------|-------------------|--|
| 1 | M | ICSB3[ICSPB3]-GC1HS3M- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| 2 | M | ICSB3[ICSPB3]-GC2HS3M- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| 3 | M | ICSB3[ICSPB3]-GC3HS3M- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |
| 4 | M | ICSB3[ICSPB3]-GC4HS3M- <u>1</u> - <u>2</u> - <u>3</u> - <u>4</u> - <u>5</u> - <u>6</u> - <u>7</u> -T2- <u>8</u> - <u>9</u> |

*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

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

| Name of axis | Model | Reference page |
|----------------------|---|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-MXM- <u>1</u> -200-20- <u>2</u> -T2- <u>10</u> - <u>3</u> | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0- <u>2</u> | — |
| Y-axis | ISB[ISPB]-MXM- <u>1</u> -100-20- <u>4</u> -T2- <u>10</u> - <u>5</u> | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM- <u>1</u> -200-10- <u>6</u> -T2- <u>10</u> - <u>7</u> | → 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) | 30: 300mm 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 | 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)

■ GC□HS3M

| Z-axis stroke | Y-axis stroke | | | | | | | | |
|---------------|---------------|------|------|------|------|------|------|------|------|
| | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| 100 | 13.1 | 13.1 | 13.1 | 13.0 | 13.0 | 13.0 | 13.0 | 12.9 | 11.9 |
| 150 | 12.5 | 12.4 | 12.4 | 12.4 | 12.4 | 12.4 | 12.3 | 12.3 | 11.2 |
| 200 | 11.9 | 11.9 | 11.9 | 11.9 | 11.8 | 11.8 | 11.8 | 11.8 | 10.6 |
| 250 | 11.3 | 11.3 | 11.3 | 11.2 | 11.2 | 11.2 | 11.2 | 11.1 | 9.9 |
| 300 | 10.8 | 10.7 | 10.7 | 10.7 | 10.7 | 10.6 | 10.6 | 10.6 | 9.3 |
| 350 | 10.2 | 10.2 | 10.2 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 8.7 |
| 400 | 9.7 | 9.7 | 9.6 | 9.6 | 9.6 | 9.6 | 9.5 | 9.3 | 8.1 |

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

■ GC□HS3M

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | 1200 | | | 860 | 695 | 570 |
| Y-axis | — | | 1200 | | — | |
| Z-axis | 600 | | | — | | |

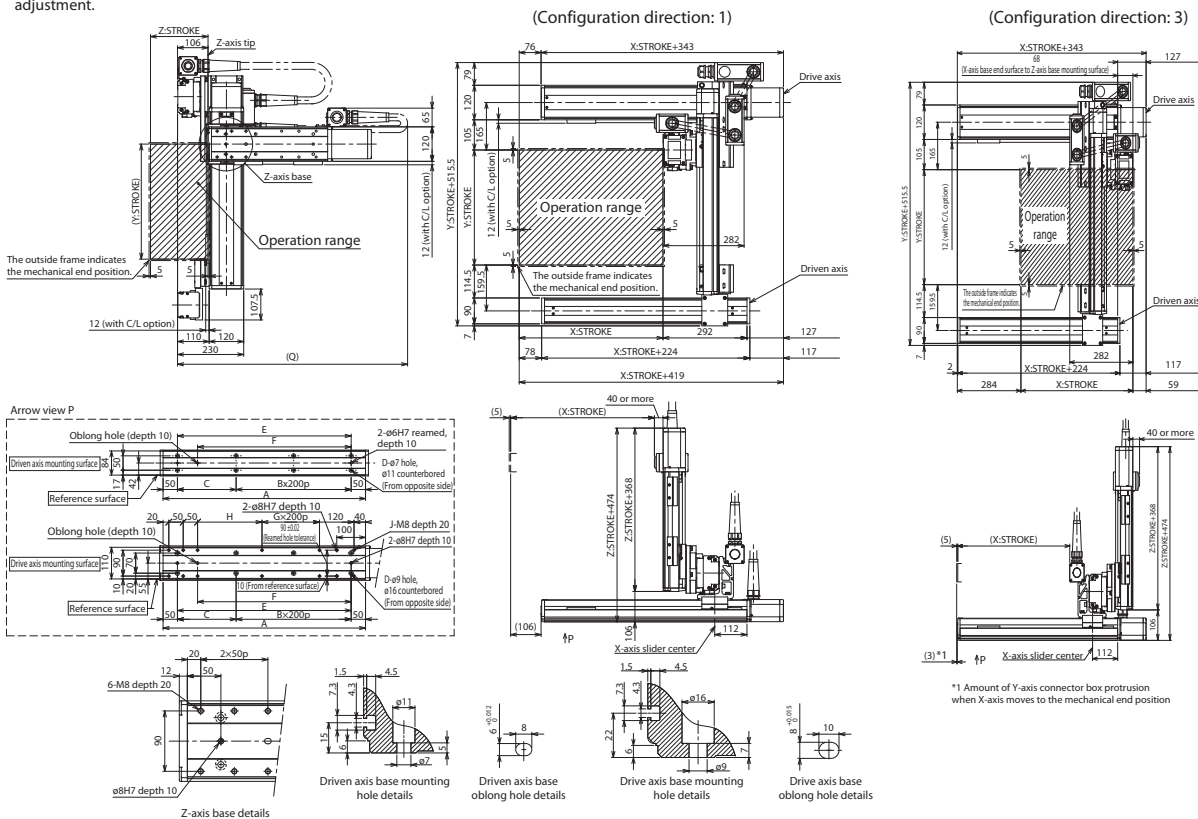
ICSB3 [ICSPB3]-GC□HS3M-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



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



Q dimension

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

| 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 | 2 | 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-GC□MS1□

ICSPB3-GC□MS1□

High-Precision Specification

±10µm Standard

±5µm High-Precision

Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

Medium Speed Type

X: Md (100W)
Y: Md (100W)
Z: SmI (60W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|---|------------------------------|--|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 10: 1000mm (Every 50mm) 30: 300mm (Every 50mm) 70: 700mm (Every 50mm) | Refer to Options table below | 10: 100mm (Every 50mm) 40: 400mm (Every 50mm) | T2: SCON XSEL XSEL-P/Q XSEL-RA/SA* *Coming soon | 3L: 3m 5L: 5m □L: Specified length | Refer to Explanation of Model Designations below |

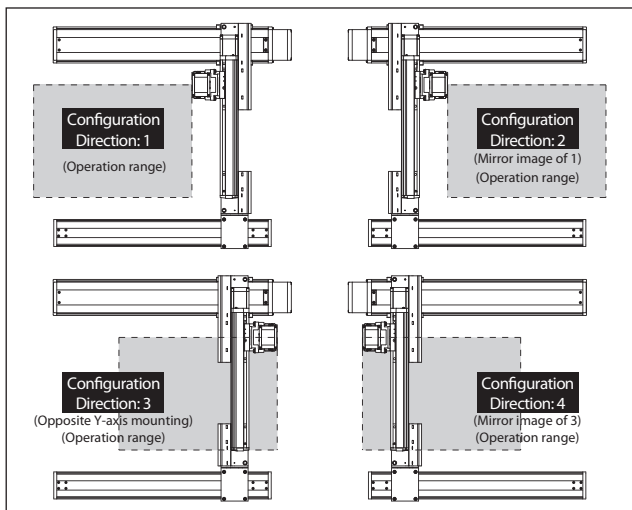
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|---------------------------------------|
| 1 | M | ICSB3[ICSPB3]-GC1MS1M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC1MS1L-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 2 | M | ICSB3[ICSPB3]-GC2MS1M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC2MS1L-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 3 | M | ICSB3[ICSPB3]-GC3MS1M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC3MS1L-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 4 | M | ICSB3[ICSPB3]-GC4MS1M-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| | L | ICSB3[ICSPB3]-GC4MS1L-①-②③④⑤⑥⑦-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 (Drive axis) | ISB[ISPB]-MXM-①-100-10-②-T2-③-④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-100-10-②-T2-③-④ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-①-60-⑤⑥-T2-⑦-⑧ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑧ in the above model names.
Note that the strokes are indicated in mm (millimeters).
* Lead is specified with ⑤ 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 ⑧ 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) | 30: 300mm ? : 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 | 100W/10mm |
| Y-axis motor output/lead | 100W/10mm |
| 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.



(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)

GC□MS1M

| Z-axis stroke | Y-axis stroke 300~700 | |
|---------------|--------------------------|-----|
| | 100 | 150 |
| 100 | 4.3 | |
| 150 | 3.9 | |
| 200 | 3.5 | |
| 250 | 3.1 | |
| 300 | 2.8 | |
| 350 | 2.4 | |
| 400 | 2.1 | |

GC□MS1L

| Z-axis stroke | Y-axis stroke 300~700 | |
|---------------|--------------------------|-----|
| | 100 | 150 |
| 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)

GC□MS1M

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

GC□MS1L

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | 600 | | | 430 | 345 | 280 |
| Y-axis | — | 600 | | | — | |
| Z-axis | 240 | | | | — | |

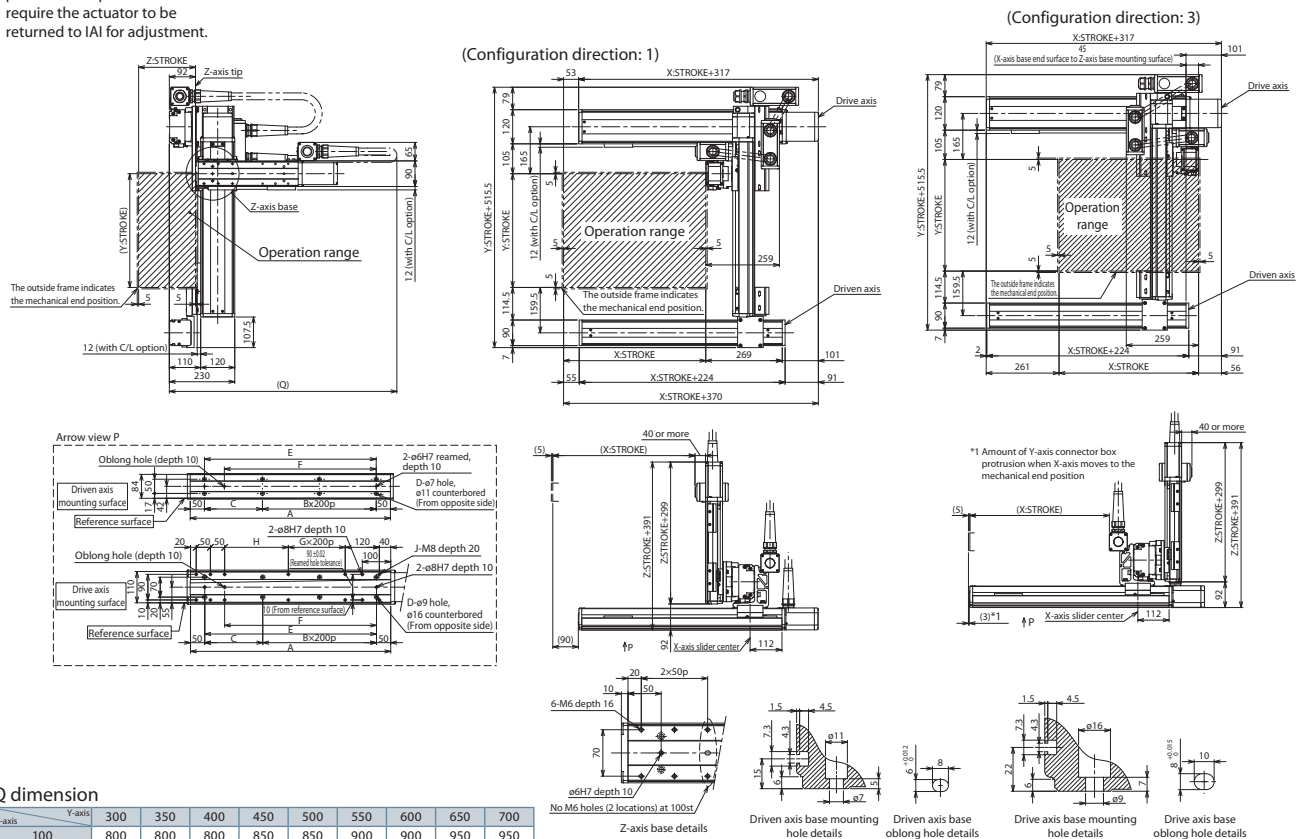
ICSB3 [ICSPB3]-GC□MS1□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



* 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 IA for adjustment.



Q dimension

| Z-axis | Y-axis | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
|--------|--------|------|------|------|------|------|------|------|------|------|
| 100 | 800 | 800 | 800 | 850 | 850 | 900 | 900 | 950 | 950 | 950 |
| 150 | 850 | 850 | 850 | 900 | 900 | 950 | 950 | 1000 | 1000 | 1000 |
| 200 | 900 | 900 | 900 | 950 | 950 | 1000 | 1000 | 1050 | 1050 | 1050 |
| 250 | 950 | 950 | 950 | 1000 | 1000 | 1050 | 1050 | 1100 | 1100 | 1100 |
| 300 | 1000 | 1000 | 1000 | 1050 | 1050 | 1100 | 1100 | 1150 | 1150 | 1150 |
| 350 | 1050 | 1050 | 1050 | 1100 | 1100 | 1150 | 1150 | 1200 | 1200 | 1200 |
| 400 | 1100 | 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 | 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 | 304 | 354 | 404 | 454 | 504 | 554 | 604 | 654 | 704 | 754 | 804 | 854 | 904 | 954 | 1004 | 1054 | 1104 |
| D | 4 | 4 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 12 | 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 | 324 | 374 | 424 | 474 | 524 | 574 | 624 | 674 | 724 | 774 | 824 | 874 | 924 |
| J | 10 | 10 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 16 | 16 | 16 | 16 | 18 |

ICSB3-GC□MS3M

ICSPB3-GC□MS3M High-Precision Specification



Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

Medium Speed Type

X: Md (100W)
Y: Md (100W)
Z: Md (200W)



Model Specification Items

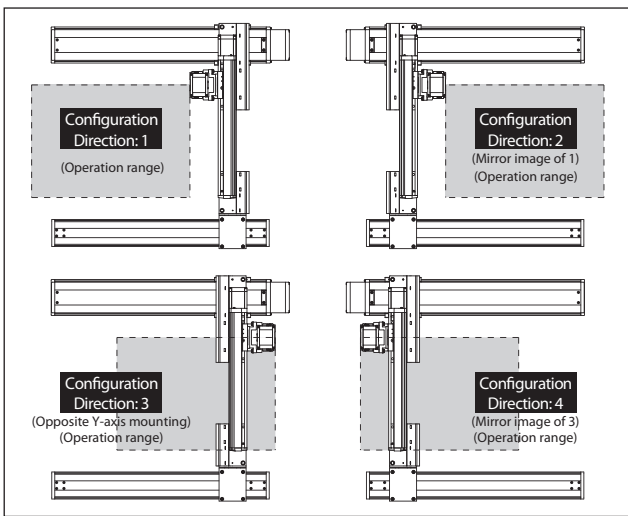
| | | | | | | | | | | | | | | | | | |
|--------|---|------|--|--------------|---------------------------|----------------------|---------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|------------------------|---|--------------|--|----------------------------------|--|
| 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 100: 1000mm (Every 50mm) | Y-axis Stroke/Option | 30: 300mm 70: 700mm (Every 50mm) | Z-axis Stroke/Option | 10: 100mm 40: 400mm (Every 50mm) | 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 | Model |
|-------------------------------|-------------------|--|
| 1 | M | ICSB3[ICSPB3]-GC1MS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 2 | M | ICSB3[ICSPB3]-GC2MS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 3 | M | ICSB3[ICSPB3]-GC3MS3M-①-②-③-④-⑤-⑥-⑦-T2-⑧-⑨ |
| 4 | M | ICSB3[ICSPB3]-GC4MS3M-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 * Items in brackets [] are for the High-Precision Specification.

| Name of axis | Model | Reference page |
|----------------------|---------------------------------|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-MXM-①-100-10-②-T2-③-④ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM01-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-100-10-④-T2-③-⑤ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-①-200-10-⑥-T2-③-⑦ | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for ① through ⑨ in the above model names.
Note that the strokes are indicated in mm (millimeters).
* Cable exit direction is specified with □ 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) | 30: 300mm 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 | ±0.01 mm [±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)

■GC□MS3M

| Z-axis stroke | Y-axis stroke | | | | | | |
|---------------|---------------|------|------|------|------|------|------|
| | 300~400 | 450 | 500 | 550 | 600 | 650 | 700 |
| 100 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.0 | 11.9 |
| 150 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.3 | 11.2 |
| 200 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 12.7 | 10.6 |
| 250 | 12.3 | 12.3 | 12.3 | 12.3 | 12.3 | 12.0 | 9.9 |
| 300 | 11.7 | 11.7 | 11.7 | 11.7 | 11.7 | 11.4 | 9.3 |
| 350 | 11.1 | 11.1 | 11.1 | 10.9 | 10.9 | 10.3 | 8.7 |
| 400 | 10.5 | 10.4 | 10.1 | 9.8 | 9.6 | 9.3 | 8.1 |

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

■GC□MS3M

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | 600 | | | 430 | 345 | 280 |
| Y-axis | — | 600 | | — | | |
| Z-axis | 600 | | | — | | |

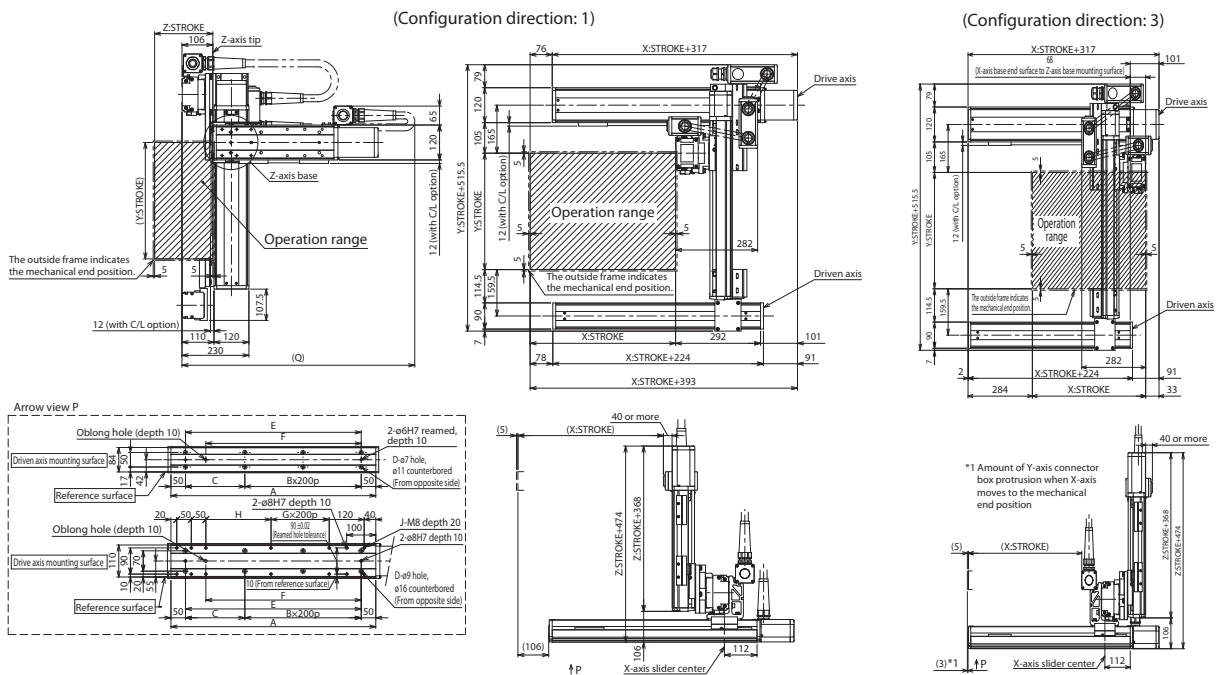
ICSB3 [ICSPB3]-GC□MS3M-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.

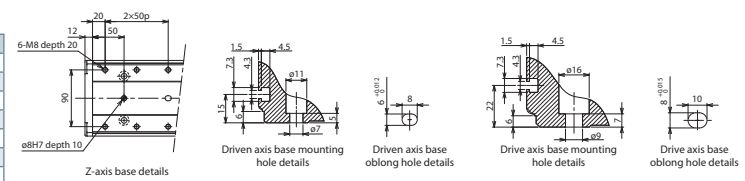


* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IA for adjustment.



Q dimension

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



| 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 | 304 | 354 | 404 | 454 | 504 | 554 | 604 | 654 | 704 | 754 | 804 | 854 | 904 | 954 | 1004 | 1054 | 1104 |
| D | 4 | 4 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 12 | 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 | 324 | 374 | 424 | 474 | 524 | 574 | 624 | 674 | 724 | 774 | 824 | 874 | 924 |
| J | 10 | 10 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 16 | 16 | 16 | 16 | 18 |

ICSB3-GD HS1

ICSPB3-GD HS1 High-Precision Specification

±10µm Standard

±5µm High-Precision

Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

High Speed Long Type

X: Md (200W)
Y: Md (100W)
Z: SmI (60W)



Model Specification Items

| | | | | | | | | | | |
|---|--------|--|---------------------------|--|-------------------------------------|-------------------------------------|---|--|--|--------------------------------|
| Series | GD HS1 | Type | WA | 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) | 30: 300mm 70: 700mm (Every 50mm) | 10: 100mm 40: 400mm (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 | |

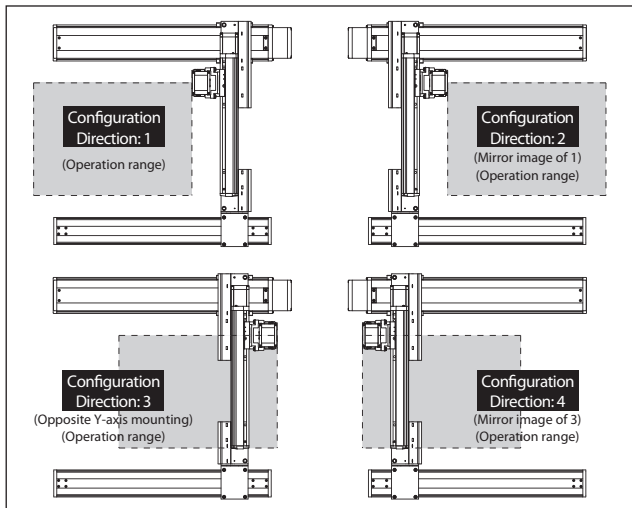
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GD1HS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GD1HS1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | M | ICSB3[ICSPB3]-GD2HS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GD2HS1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 3 | M | ICSB3[ICSPB3]-GD3HS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GD3HS1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 4 | M | ICSB3[ICSPB3]-GD4HS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GD4HS1L-[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 (Drive axis) | ISB[ISPB]-MXMX-[1]-200-20-[2]-T2-[1]-[3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM02-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXM-[1]-100-20-[2]-T2-[1]-[3] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-[1]-60-[2]-[3]-T2-[1]-[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 [2] 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 [1] 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) | 30: 300mm ? 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

| | |
|---------------------------|--|
| 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)

GD□HS1M

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|--|
| | 300~700 | |
| 100 | 4.3 | |
| 150 | 3.9 | |
| 200 | 3.5 | |
| 250 | 3.1 | |
| 300 | 2.8 | |
| 350 | 2.4 | |
| 400 | 2.1 | |

GD□HS1L

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|--|
| | 300~700 | |
| 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)

GD□HS1M

| | 100~300 | 300~400 | 450~700 | 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 | | | — | | | | | | | | | |

GD□HS1L

| | 100~300 | 300~400 | 450~700 | 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 | | | — | | | | | | | | | |

ICSB3 [ICSPB3]-GD□HS1□-CT-SC (Cable track - Self-standing cable specification)

Dimensions

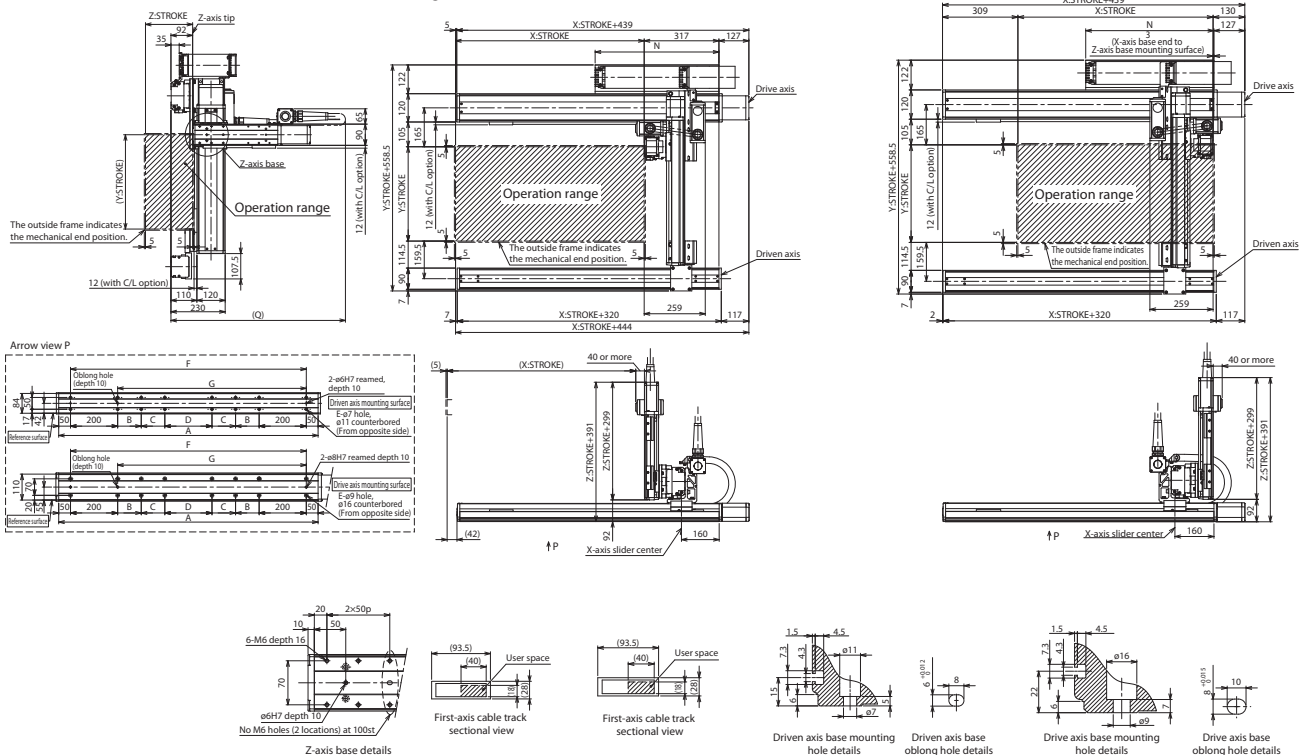
CAD drawings can be downloaded from our website.



* 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 |

Q dimension

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

ICSB3-GD HS3M

ICSPB3-GD HS3M High-Precision Specification

±10µm Standard

±5µm High-Precision

Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

High Speed Long Type

X: Md (200W)
Y: Md (100W)
Z: Md (200W)



Model Specification Items

| | | | | | | | | | | |
|---|---------|--|---------------------------|--|------------------------------|-------------------------------------|------------------------------|---|--|--|
| Series | GD HS3M | Type | WA | 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 | 30: 300mm 70: 700mm (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 |

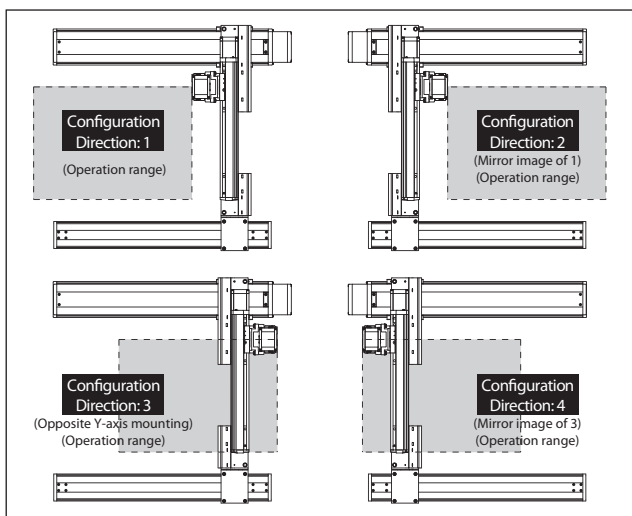
Model Specification

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

| XY configuration direction *1 | Z-axis speed type | Model |
|-------------------------------|-------------------|--|
| 1 | M | ICSB3[ICSPB3]-GD1HS3M- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| 2 | M | ICSB3[ICSPB3]-GD2HS3M- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| 3 | M | ICSB3[ICSPB3]-GD3HS3M- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| 4 | M | ICSB3[ICSPB3]-GD4HS3M- [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

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

| Name of axis | Model | Reference page |
|----------------------|---|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-MXM- [1] -200-20- [2] -T2- [3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM02-N-0-0- [2] | — |
| Y-axis | ISB[ISPB]-MXM- [1] -100-20- [4] -T2- [5] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM- [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).

* Cable exit direction is specified with [8] 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) | 30: 300mm ? 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 | 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)

GD□HS3M

| Z-axis stroke | Y-axis stroke | | | | | | | | | |
|---------------|---------------|------|------|------|------|------|------|------|------|--|
| | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | |
| 100 | 13.1 | 13.1 | 13.1 | 13.0 | 13.0 | 13.0 | 13.0 | 12.9 | 11.9 | |
| 150 | 12.5 | 12.4 | 12.4 | 12.4 | 12.4 | 12.4 | 12.3 | 12.3 | 11.2 | |
| 200 | 11.9 | 11.9 | 11.9 | 11.9 | 11.8 | 11.8 | 11.8 | 11.8 | 10.6 | |
| 250 | 11.3 | 11.3 | 11.3 | 11.2 | 11.2 | 11.2 | 11.2 | 11.1 | 9.9 | |
| 300 | 10.8 | 10.7 | 10.7 | 10.7 | 10.7 | 10.6 | 10.6 | 10.6 | 9.3 | |
| 350 | 10.2 | 10.2 | 10.2 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 8.7 | |
| 400 | 9.7 | 9.7 | 9.6 | 9.6 | 9.6 | 9.6 | 9.5 | 9.3 | 8.1 | |

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

GD□HS3M

| | 100~300 | 300~400 | 450~700 | 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]-GD□HS3M-CT-SC (Cable track - Self-standing cable specification)

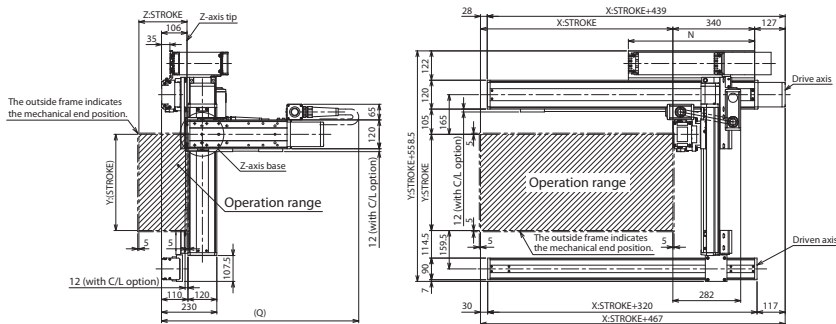
Dimensions

CAD drawings can be downloaded from our website.

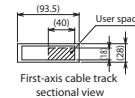
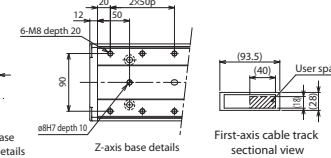
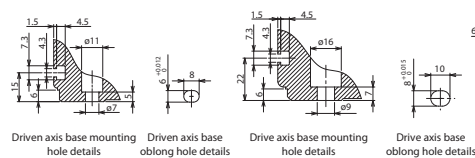
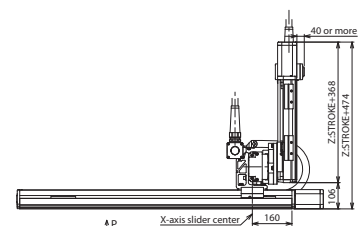
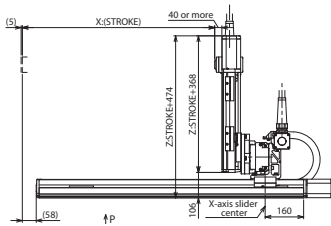
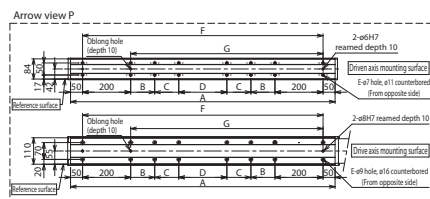
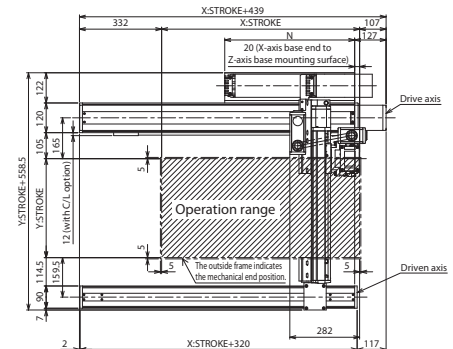


* The configuration position in the figure is the home position. To change the home position, indicate NM in the options. Note that changing the home position after purchase will require the actuator to be returned to IA for adjustment.

(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 | 600 | 650 | 700 |
| 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 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
|--------|--------|------|------|------|------|------|------|------|------|------|
| 100 | 850 | 850 | 900 | 900 | 950 | 950 | 1000 | 1000 | 1000 | 1000 |
| 150 | 900 | 900 | 950 | 950 | 1000 | 1000 | 1000 | 1050 | 1050 | 1050 |
| 200 | 950 | 950 | 1000 | 1000 | 1050 | 1050 | 1100 | 1100 | 1100 | 1100 |
| 250 | 1000 | 1000 | 1050 | 1050 | 1100 | 1100 | 1150 | 1150 | 1150 | 1150 |
| 300 | 1050 | 1050 | 1100 | 1100 | 1150 | 1150 | 1200 | 1200 | 1200 | 1200 |
| 350 | 1100 | 1100 | 1150 | 1150 | 1200 | 1200 | 1250 | 1250 | 1250 | 1250 |
| 400 | 1150 | 1150 | 1200 | 1200 | 1250 | 1250 | 1300 | 1300 | 1300 | 1300 |

ICSB3-GE□HS1□

ICSPB3-GE□HS1□

High-Precision Specification

±10µm Standard

±5µm High-Precision

Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

High Speed Type

X: Lg (400W)
Y: Md (200W)
Z: 5ml (60W)



Model Specification Items

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

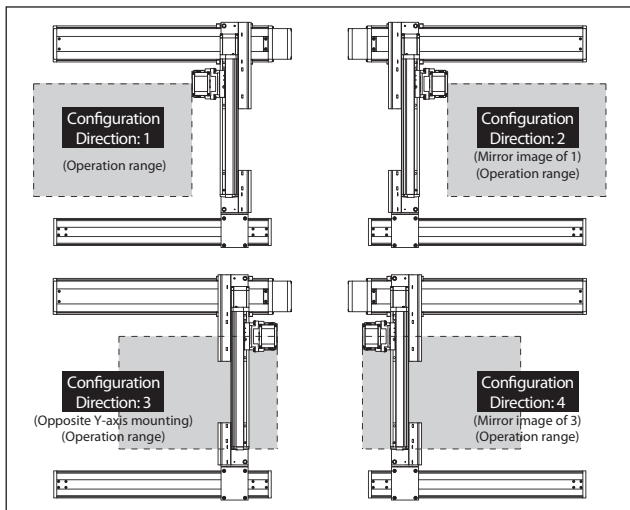
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GE1HS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GE1HS1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | M | ICSB3[ICSPB3]-GE2HS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GE2HS1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 3 | M | ICSB3[ICSPB3]-GE3HS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GE3HS1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 4 | M | ICSB3[ICSPB3]-GE4HS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GE4HS1L-[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 100: 1000mm |
| ③ | X-axis option | Refer to Options table below. |
| ④ | Y-axis stroke (Note 1) | 30: 300mm 90: 900mm |
| ⑤ | Y-axis option | Refer to Options table below. |
| ⑥ | Z-axis stroke (Note 1) | 10: 100mm 40: 400mm |
| ⑦ | Z-axis option | Refer to Options table below. |
| ⑧ | Cable length (Note 2) | 3L: 3m 5L: 5m □L: □m |
| ⑨ | Y-axis - Z-axis Cable Management | SC-SC: Self-standing cable - Self-standing cable |

Options

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

| Type | Model | Reference page |
|--|-------|-----------------|
| X-axis cable exit direction | * | See P.11, P.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.

Axis Configuration

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

| Name of axis | Model | Reference page |
|----------------------|---|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-LXM-[1]-400-20-[2]-T2-[3]-[4] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM03-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXM-[1]-200-20-[2]-T2-[3]-[4] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-[1]-60-[2]-[3]-T2-[4]-[5]-[6] | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for [1] through [6] in the above model names. Note that the strokes are indicated in mm (millimeters).
* Lead is specified with [5] 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 [6] 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/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)

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|--|
| | 300~900 | |
| 100 | 4.3 | |
| 150 | 3.9 | |
| 200 | 3.5 | |
| 250 | 3.1 | |
| 300 | 2.8 | |
| 350 | 2.4 | |
| 400 | 2.1 | |

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|--|
| | 300~900 | |
| 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)

| ICSB3 | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | | 1200 | | | 920 | 765 |
| Y-axis | — | 1200 | 860 | | 695 | — |
| Z-axis | 480 | | | | | |

| GE□HS1L | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 |
|---------|---------|---------|---------|---------|---------|----------|
| X-axis | | 1200 | | | 920 | 765 |
| Y-axis | — | 1200 | 860 | | 695 | — |
| Z-axis | 240 | | | | | |

ICSB3 [ICSPB3]-GE□HS1□-SC-SC (Self-standing cable specification)

Dimensions

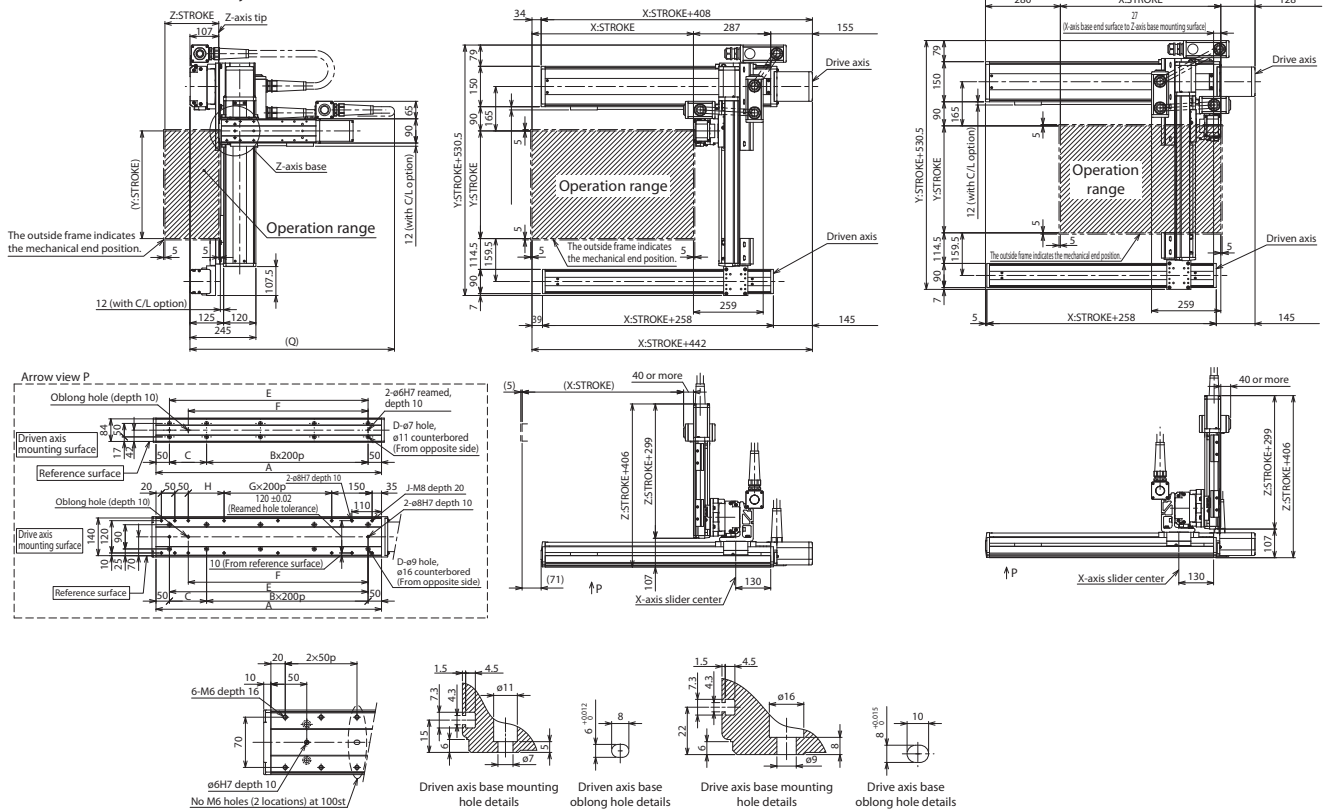
CAD drawings can be downloaded from our website.



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

(Configuration direction: 1)

(Configuration direction: 3)



Q dimension

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

| 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 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 |
| C | 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 |
| D | 4 | 4 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 16 | 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 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 |
| H | 33 | 83 | 133 | 183 | 233 | 283 | 333 | 383 | 433 | 483 | 533 | 583 | 633 | 683 | 733 | 783 | 833 | 883 | 933 | 983 | 1033 | 1083 | 1133 | 1183 | 1233 |
| J | 10 | 10 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 16 | 16 | 16 | 16 | 18 | 18 | 18 | 18 | 20 | 20 |

ICSB3-GE□HS3□

ICSPB3-GE□HS3□

High-Precision Specification

±10μm Standard

±5μm High-Precision

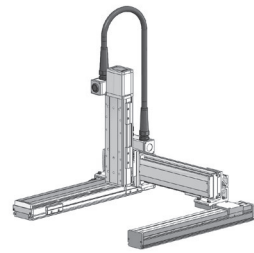
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

High Speed Type

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



Model Specification Items

| | |
|----------------------------------|---|
| Series | 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 100: 1000mm (Every 50mm) |
| Y-axis Stroke/Option | 30: 300mm 90: 900mm (Every 50mm) |
| Z-axis Stroke/Option | 10: 100mm 40: 400mm (Every 50mm) |
| 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 |

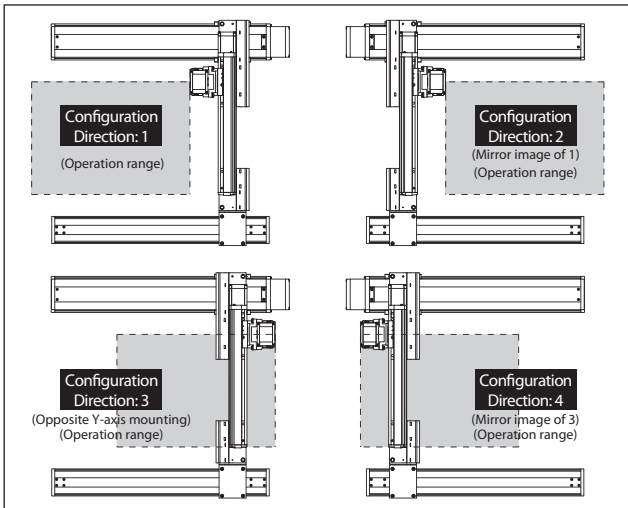
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GE1HS3M- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| | L | ICSB3[ICSPB3]-GE1HS3L- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| 2 | M | ICSB3[ICSPB3]-GE2HS3M- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| | L | ICSB3[ICSPB3]-GE2HS3L- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| 3 | M | ICSB3[ICSPB3]-GE3HS3M- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| | L | ICSB3[ICSPB3]-GE3HS3L- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| 4 | M | ICSB3[ICSPB3]-GE4HS3M- [1] - [2] - [3] - [4] - [5] - [6] - [7] -T2- [8] - [9] |
| | L | ICSB3[ICSPB3]-GE4HS3L- [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 (Drive axis) | ISB[ISPB]-LXM- [1] -400-20- [2] -T2- [3] - [4] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM03-N-0-0- [2] | — |
| Y-axis | ISB[ISPB]-MXM- [1] -200-20- [2] -T2- [3] - [4] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM- [1] -200- [2] - [3] -T2- [4] - [5] | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for [1] through [5] in the above model names.
Note that the strokes are indicated in mm (millimeters).

* Lead is specified with [6] in the above model names.
10: For Z-axis Medium Speed type
5: For Z-axis Low Speed type

* Cable exit direction is specified with [5] 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) | 30: 300mm ? : 90: 900mm |
| [5] | Y-axis option | Refer to Options table below. |
| [6] | Z-axis stroke (Note 1) | 10: 100mm ? : 40: 400mm |
| [7] | Z-axis option | Refer to Options table below. |
| [8] | Cable length (Note 2) | 3L: 3m 5L: 5m □L: □m |
| [9] | Y-axis - Z-axis Cable Management | SC-SC: Self-standing cable - Self-standing cable |

Options

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

| Type | Model | Reference page |
|--|-------|-----------------|
| X-axis cable exit direction | * | See P.11, P.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 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 (M), 5mm (L) |

Applicable Controllers

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



Notes

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

Payload (kg) (Note 3)

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

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

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

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

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

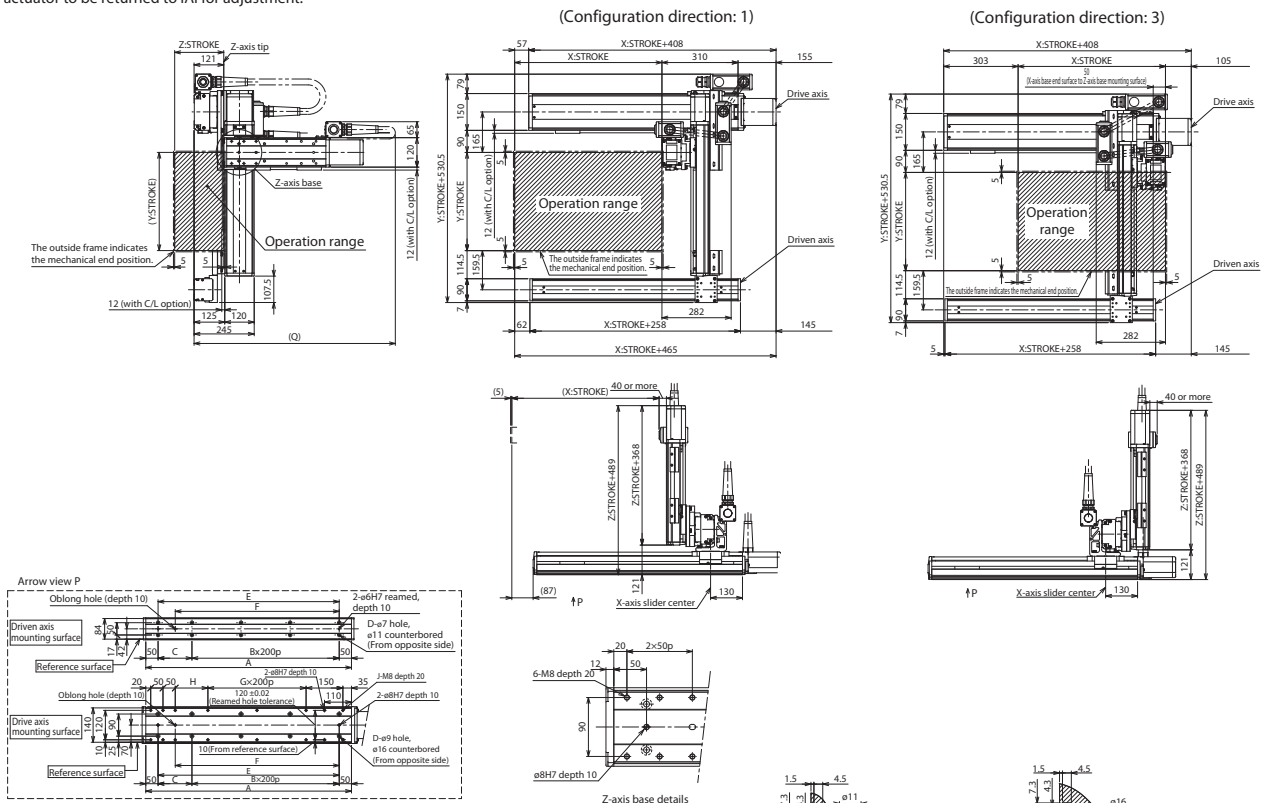
ICSB3 [ICSPB3]-GE□HS3□-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



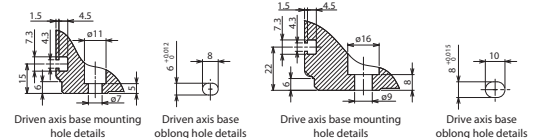
* The position in the figure is the home position with normal settings. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



Q dimension

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

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



ICSB3-GE□MS1□

ICSPB3-GE□MS1□ High-Precision Specification

±10µm Standard

±5µm High-Precision

Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

Medium Speed Type

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



Model Specification Items

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

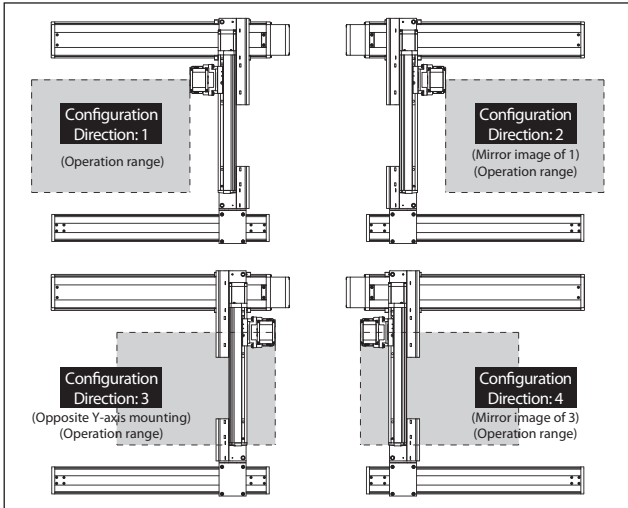
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GE1MS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GE1MS1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | M | ICSB3[ICSPB3]-GE2MS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GE2MS1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 3 | M | ICSB3[ICSPB3]-GE3MS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GE3MS1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 4 | M | ICSB3[ICSPB3]-GE4MS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GE4MS1L-[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 (Drive axis) | ISB[ISPB]-LXM-[1]-200-10-[2]-T2-[1]-[3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM03-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXM-[1]-200-10-[2]-T2-[1]-[3] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-[1]-60-[2]-[3]-T2-[1]-[2] | → Please contact IAI for more details |

* Refer to the symbols within the table Explanation of Model Designations at the upper right for [1] through [9] in the above model names.
Note that the strokes are indicated in mm (millimeters).
* Lead is specified with [3] 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 [2] 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) | 30: 300mm 90: 900mm |
| [5] | Y-axis option | Refer to Options table below. |
| [6] | Z-axis stroke (Note 1) | 10: 100mm 40: 400mm |
| [7] | Z-axis option | Refer to Options table below. |
| [8] | Cable length (Note 2) | 3L: 3m 5L: 5m □L: □m |
| [9] | Y-axis - Z-axis Cable Management | SC-SC: Self-standing cable - Self-standing cable |

Options

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

| Type | Model | Reference page |
|--|-------|-----------------|
| X-axis cable exit direction | * | See P.11, P.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/10mm |
| Y-axis motor output/lead | 200W/10mm |
| 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)

■GE□MS1M

| Z-axis stroke | Y-axis stroke 300~900 | |
|---------------|--------------------------|---------|
| | 100 | 300~900 |
| 100 | 4.3 | |
| 150 | 3.9 | |
| 200 | 3.5 | |
| 250 | 3.1 | |
| 300 | 2.8 | |
| 350 | 2.4 | |
| 400 | 2.1 | |

■GE□MS1L

| Z-axis stroke | Y-axis stroke 300~900 | |
|---------------|--------------------------|---------|
| | 100 | 300~900 |
| 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)

■GE□MS1M

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | | 600 | | 460 | 380 | |
| Y-axis | — | 600 | 430 | 345 | — | — |
| Z-axis | 480 | | | | | |

■GE□MS1L

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | | 600 | | 460 | 380 | |
| Y-axis | — | 600 | 430 | 345 | — | — |
| Z-axis | 240 | | | | | |

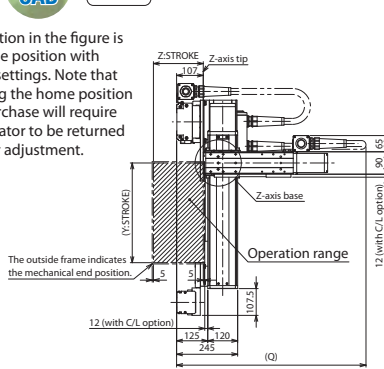
ICSB3 [ICSPB3]-GE□MS1□-SC-SC (Self-standing cable specification)

Dimensions

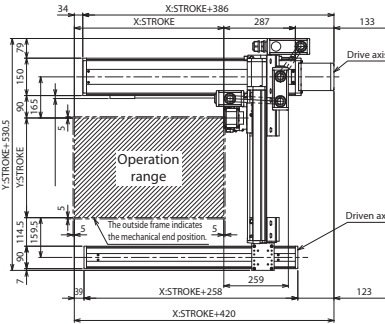
CAD drawings can be downloaded from our website.



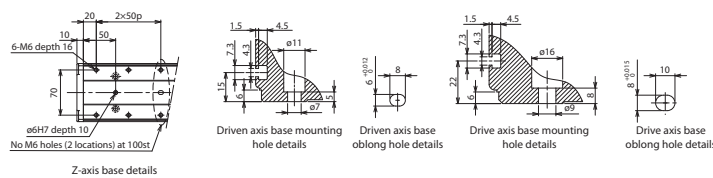
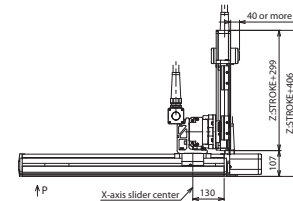
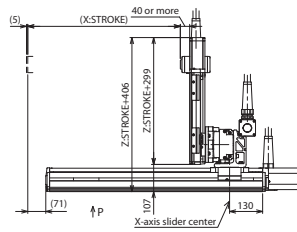
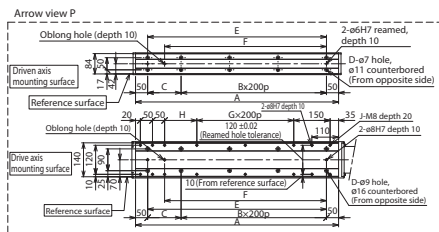
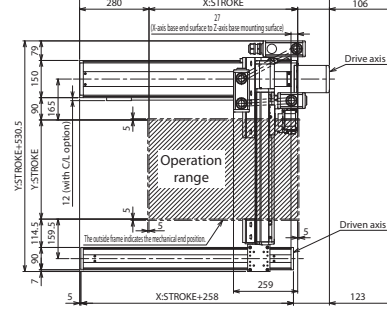
* The position in the figure is the home position with normal settings. Note that changing the home position after purchase will require the actuator to be returned to IA for adjustment.



(Configuration direction: 1)



(Configuration direction: 3)



Q dimension

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

| 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 | 338 | 388 | 438 | 488 | 538 | 588 | 638 | 688 | 738 | 788 | 838 | 888 | 938 | 988 | 1038 | 1088 | 1138 | 1188 | 1238 | 1288 | 1338 | 1388 | 1438 |
| 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 | 333 | 383 | 433 | 483 | 533 | 583 | 633 | 683 | 733 | 783 | 833 | 883 | 933 | 983 | 1033 | 1083 | 1133 | 1183 | 1233 |
| 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 |

ICSB3-GE□MS3L

ICSPB3-GE□MS3L High-Precision Specification



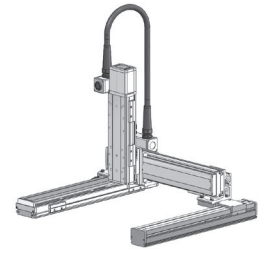
Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

Medium Speed Type

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



Model Specification Items

| | | | | | | | | | |
|---|--|---------------------------|---------------------------------------|-------------------------------------|-------------------------------------|---|--|--|----------------------------------|
| Series | GE□MS3L | WA | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis - Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 10: 100mm 100: 1000mm (Every 50mm) | 30: 300mm 90: 900mm (Every 50mm) | 10: 100mm 40: 400mm (Every 50mm) | T2: SCOM XSEL-P/Q XSEL-RA/SA* *Coming soon | 3L: 3m 5L: 5m □L: Specified length | Refer to Explanation of Model Designations below | |

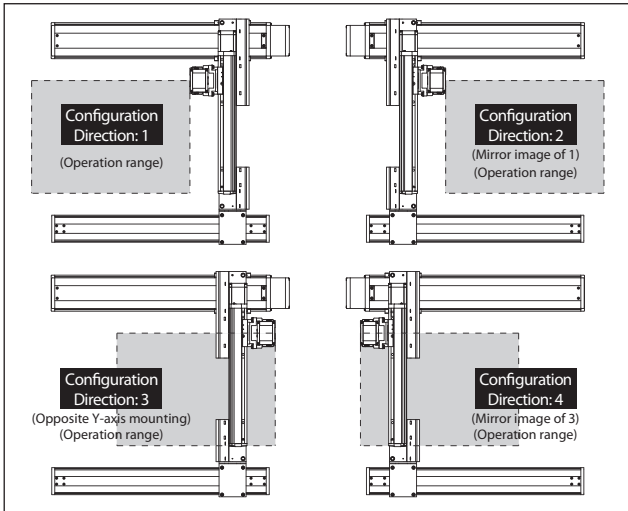
Model Specification

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

| XY configuration direction *1 | Z-axis speed type | Model |
|-------------------------------|-------------------|---------------------------------------|
| 1 | L | ICSB3[ICSPB3]-GE1MS3L-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 2 | L | ICSB3[ICSPB3]-GE2MS3L-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 3 | L | ICSB3[ICSPB3]-GE3MS3L-①-②③④⑤⑥⑦-T2-⑧-⑨ |
| 4 | L | ICSB3[ICSPB3]-GE4MS3L-①-②③④⑤⑥⑦-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

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

| Name of axis | Model | Reference page |
|----------------------|---------------------------------|---------------------------------------|
| X-axis (Drive axis) | ISB[ISPB]-LXM-①-200-10-②-T2-⑩-③ | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM03-N-0-0-② | — |
| Y-axis | ISB[ISPB]-MXM-①-200-10-④-T2-⑩-⑤ | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-①-200-5-⑥-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 ⑧ 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) | 30: 300mm ? : 90: 900mm |
| ⑤ | Y-axis option | Refer to Options table below. |
| ⑥ | Z-axis stroke (Note 1) | 10: 100mm ? : 40: 400mm |
| ⑦ | Z-axis option | Refer to Options table below. |
| ⑧ | Cable length (Note 2) | 3L: 3m 5L: 5m □L: □m |
| ⑨ | Y-axis - Z-axis Cable Management | SC-SC: Self-standing cable - Self-standing cable |

Options

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

| Type | Model | Reference page |
|--|-------|-----------------|
| X-axis cable exit direction | * | See P.11, P.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 CS] |
| 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/10mm |
| Y-axis motor output/lead | 200W/10mm |
| Z-axis motor output/lead | 200W/5mm |

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)

GE□MS3L

| Z-axis stroke | Y-axis stroke | | | | | | | | | | | | |
|---------------|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 |
| 100 | 34.3 | 34.3 | 34.3 | 34.3 | 34.3 | 34.3 | 33.1 | 29.7 | 26.7 | 23.9 | 21.4 | 19.0 | 16.9 |
| 150 | 33.6 | 33.6 | 33.6 | 33.6 | 33.6 | 33.6 | 32.4 | 29.0 | 26.0 | 23.2 | 20.7 | 18.3 | 16.2 |
| 200 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | 31.8 | 28.4 | 25.4 | 22.6 | 20.1 | 17.7 | 15.6 |
| 250 | 32.3 | 32.3 | 32.3 | 32.1 | 31.8 | 31.4 | 31.0 | 27.7 | 24.7 | 21.9 | 19.4 | 17.0 | 14.9 |
| 300 | 30.1 | 29.8 | 29.5 | 29.1 | 28.8 | 28.4 | 28.1 | 27.1 | 24.1 | 21.3 | 18.8 | 16.4 | 14.3 |
| 350 | 27.5 | 27.2 | 26.9 | 26.5 | 26.2 | 25.9 | 25.6 | 25.3 | 23.5 | 20.7 | 18.2 | 15.8 | 13.7 |
| 400 | 25.2 | 24.9 | 24.7 | 24.3 | 24.1 | 23.7 | 23.5 | 23.2 | 22.9 | 20.1 | 17.6 | 15.2 | 13.1 |

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

GE□MS3L

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 950~1000 |
|--------|---------|---------|---------|---------|---------|----------|
| X-axis | | 600 | | | 460 | 380 |
| Y-axis | — | 600 | 430 | | 345 | — |
| Z-axis | 300 | | | — | | |

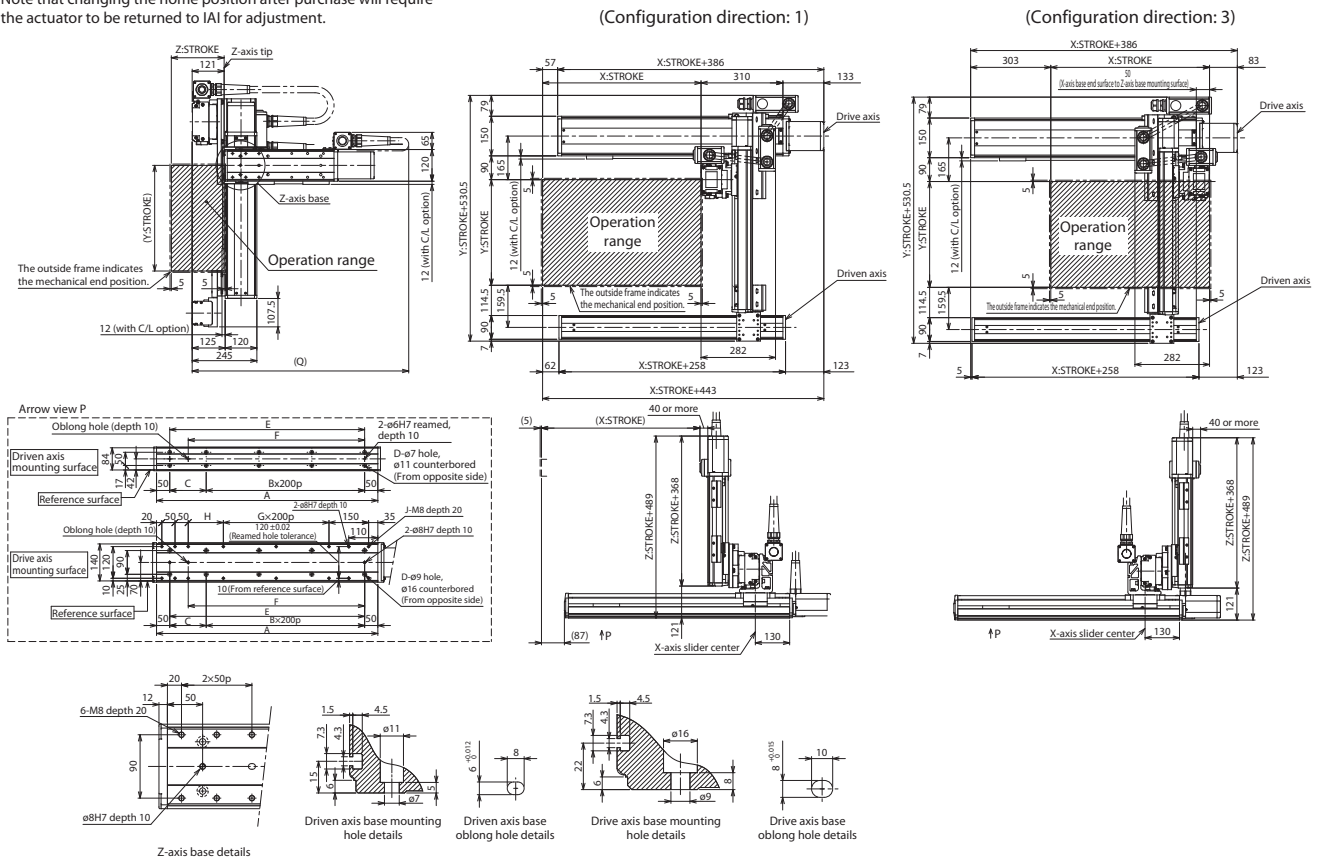
ICSB3 [ICSPB3]-GE□MS3L-SC-SC (Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



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



Q dimension

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

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

ICSB3-GF□HS1□

ICSPB3-GF□HS1□

High-Precision Specification



Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

High Speed Long Type

X: Lg (400W)
Y: Md (200W)
Z: Md (60W)



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|-------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis-Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 100: 1000mm 250: 2500mm (Every 100mm) | 30: 300mm 90: 900mm (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 |

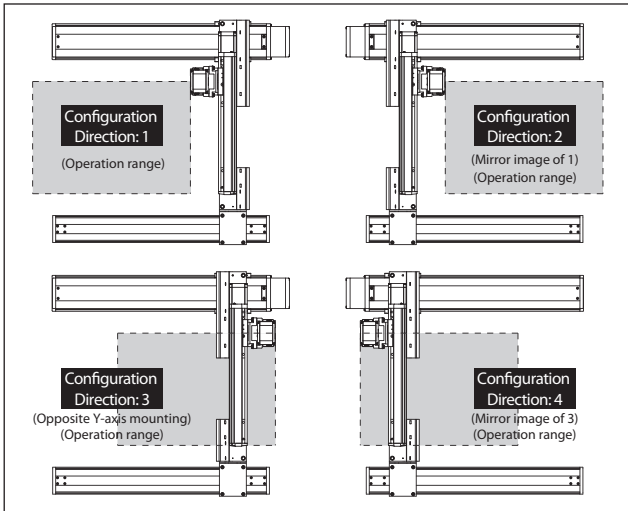
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GF1HS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GF1HS1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | M | ICSB3[ICSPB3]-GF2HS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GF2HS1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 3 | M | ICSB3[ICSPB3]-GF3HS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GF3HS1L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 4 | M | ICSB3[ICSPB3]-GF4HS1M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GF4HS1L-[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 (Drive axis) | ISB[ISPB]-LXMX-[1]-400-20-[2]-T2-[1]-[3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM04-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXM-[1]-200-20-[2]-T2-[1]-[3] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-SXM-[1]-60-[2]-[3]-T2-[1]-[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 [2] 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 [3] 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) | 30: 300mm 90: 900mm |
| [5] | Y-axis option | Refer to Options table below. |
| [6] | Z-axis stroke (Note 1) | 10: 100mm 40: 400mm |
| [7] | Z-axis option | Refer to Options table below. |
| [8] | Cable length (Note 2) | 3L: 3m 5L: 5m □L: □m |
| [9] | Y-axis-Z-axis Cable Management | 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 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

| | |
|---------------------------|--|
| 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)

GF□HS1M

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|---------|
| | 300~900 | 300~900 |
| 100 | 4.3 | |
| 150 | 3.9 | |
| 200 | 3.5 | |
| 250 | 3.1 | |
| 300 | 2.8 | |
| 350 | 2.4 | |
| 400 | 2.1 | |

GF□HS1L

| Z-axis stroke | Y-axis stroke | |
|---------------|---------------|---------|
| | 300~900 | 300~900 |
| 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)

GF□HS1M

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 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 | | 480 | 1200 | 860 | 695 | | | | | | | | | | | | | | |
| Z-axis | | | | | | | | | | | | | | | | | | | |

GF□HS1L

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 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 | | 240 | 1200 | 860 | 695 | | | | | | | | | | | | | | |
| Z-axis | | | | | | | | | | | | | | | | | | | |

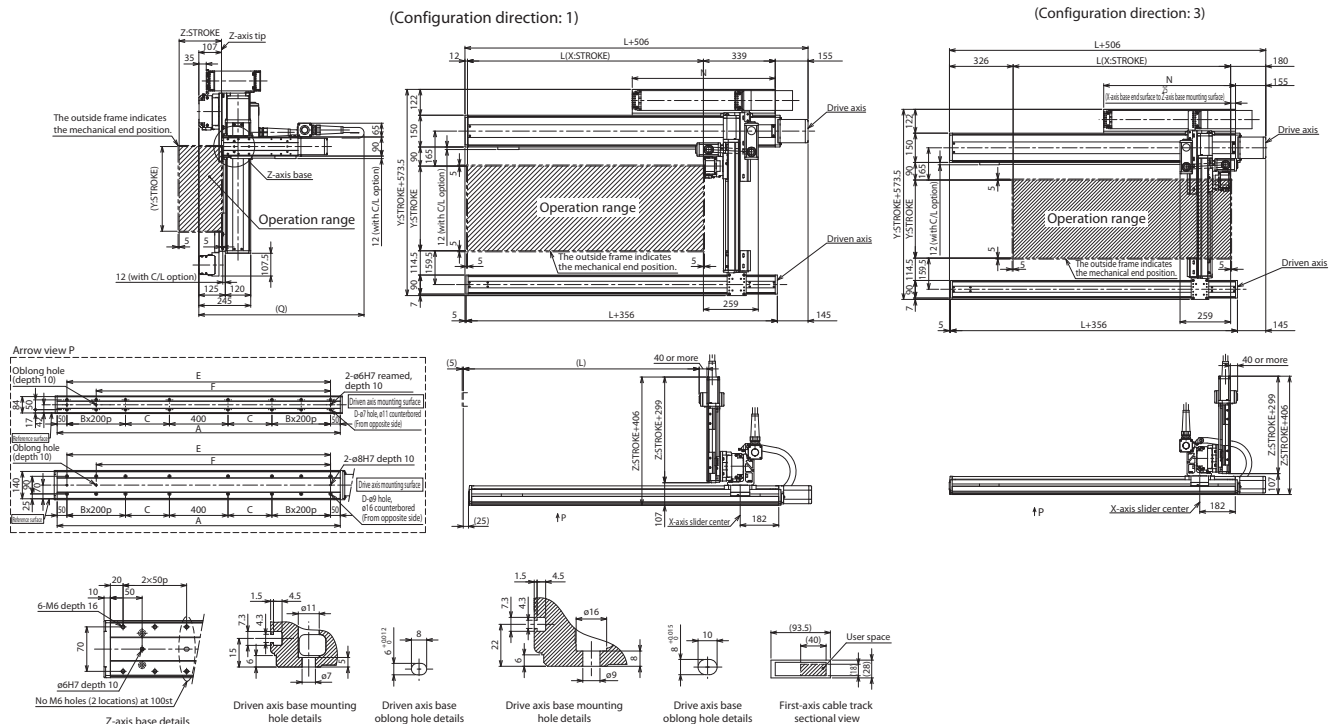
ICSB3 [ICSPB3]-GF□HS1□-CT-SC (Self-standing cable + Cable track specification)

Dimensions

CAD drawings can be downloaded from our website.



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



Q dimension

| Z-axis | Y-axis | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 |
|--------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 100 | 800 | 800 | 850 | 850 | 900 | 900 | 900 | 950 | 950 | 950 | 1000 | 1000 | 1050 | 1050 |
| 150 | 850 | 850 | 900 | 900 | 950 | 950 | 950 | 1000 | 1000 | 1000 | 1050 | 1050 | 1100 | 1100 |
| 200 | 900 | 900 | 950 | 950 | 1000 | 1000 | 1000 | 1050 | 1050 | 1050 | 1100 | 1100 | 1150 | 1150 |
| 250 | 950 | 950 | 1000 | 1000 | 1050 | 1050 | 1050 | 1100 | 1100 | 1100 | 1150 | 1150 | 1200 | 1200 |
| 300 | 1000 | 1000 | 1050 | 1050 | 1100 | 1100 | 1100 | 1150 | 1150 | 1150 | 1200 | 1200 | 1250 | 1250 |
| 350 | 1050 | 1050 | 1100 | 1100 | 1150 | 1150 | 1150 | 1200 | 1200 | 1200 | 1250 | 1250 | 1300 | 1300 |
| 400 | 1100 | 1100 | 1150 | 1150 | 1200 | 1200 | 1200 | 1250 | 1250 | 1250 | 1300 | 1300 | 1350 | 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 | 2424 | 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 | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 |
| 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-GF□HS3□

ICSPB3-GF□HS3□

High-Precision Specification

±10µm
Standard

±5µm
High Precision

Battery-less Absolute

X-Y-Z 3-axis

XYBG+ZS (Y Side Gantry Z Slider)

High Speed Long Type

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



Model Specification Items

| | | | | | | | | |
|---|--|---------------------------|--|-------------------------------------|-------------------------------------|---|--|--|
| Series | Type | Encoder Type | X-axis Stroke/Option | Y-axis Stroke/Option | Z-axis Stroke/Option | Applicable Controllers | Cable Length | Y-axis-Z-axis Cable Management |
| ICSB3: Standard 3-axis specification ICSPB3: High precision 3-axis specification | Refer to Model Specification table below | WA: Battery-less Absolute | 100: 1000mm 250: 2500mm (Every 100mm) | 30: 300mm 90: 900mm (Every 50mm) | 10: 100mm 40: 400mm (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 |

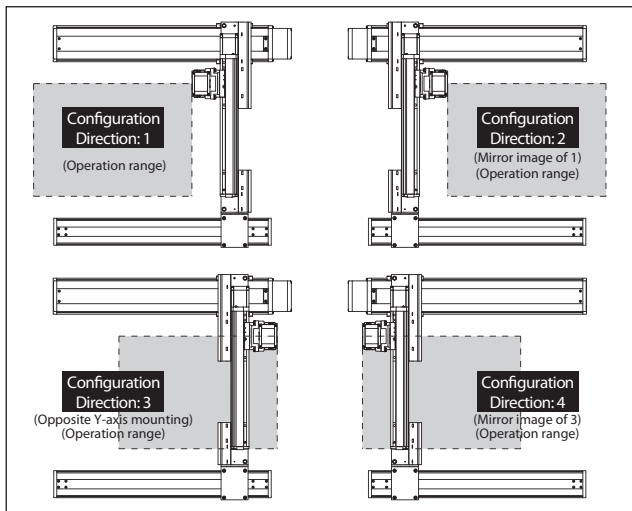
Model Specification

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

| XY configuration direction *1 | Z-axis speed type *2 | Model |
|-------------------------------|----------------------|--|
| 1 | M | ICSB3[ICSPB3]-GF1HS3M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GF1HS3L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 2 | M | ICSB3[ICSPB3]-GF2HS3M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GF2HS3L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 3 | M | ICSB3[ICSPB3]-GF3HS3M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GF3HS3L-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| 4 | M | ICSB3[ICSPB3]-GF4HS3M-[1]-[2]-[3]-[4]-[5]-[6]-[7]-T2-[8]-[9] |
| | L | ICSB3[ICSPB3]-GF4HS3L-[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 (Drive axis) | ISB[ISPB]-LXMX-[1]-400-20-[2]-T2-[1]-[3] | → Please contact IAI for more details |
| X-axis (Driven axis) | ISB-SXM04-N-0-0-[2] | — |
| Y-axis | ISB[ISPB]-MXM-[1]-200-20-[3]-T2-[1]-[3] | → Please contact IAI for more details |
| Z-axis | ISB[ISPB]-MXM-[1]-200-[4]-[5]-T2-[1]-[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.

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) | 30: 300mm 90: 900mm |
| [5] | Y-axis option | Refer to Options table below. |
| [6] | Z-axis stroke (Note 1) | 10: 100mm 40: 400mm |
| [7] | Z-axis option | Refer to Options table below. |
| [8] | Cable length (Note 2) | 3L: 3m 5L: 5m □L: □m |
| [9] | Y-axis-Z-axis Cable Management | 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 (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)

GF□HS3M

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

GF□HS3L

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

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

GF□HS3M

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 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 | | 860 | 695 | | | | | | | | | | | | | | |
| Z-axis | 600 | | | | | | | | | | | | | | | | | | |

GF□HS3L

| | 100~300 | 300~400 | 450~700 | 750~800 | 850~900 | 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 | | 860 | 695 | | | | | | | | | | | | | | |
| Z-axis | 300 | | | | | | | | | | | | | | | | | | |

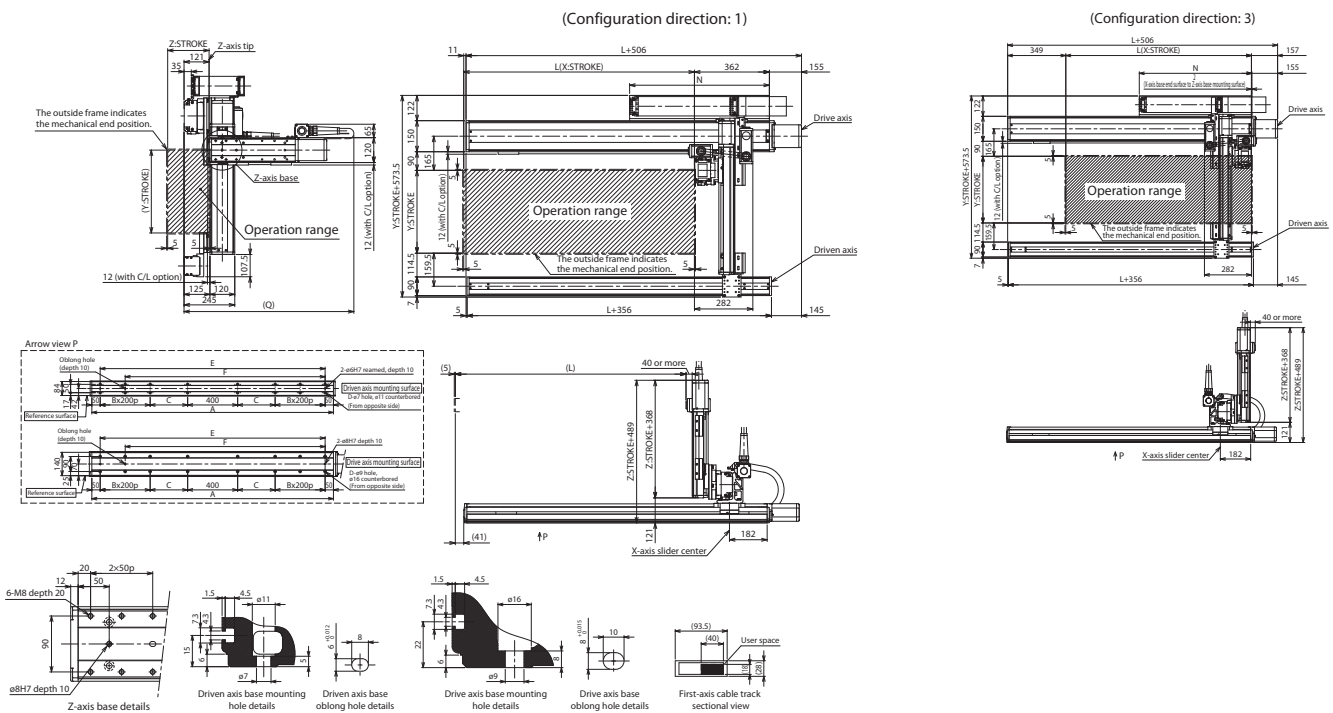
ICSB3 [ICSPB3]-GF□HS3□-CT-SC (Cable track - Self-standing cable specification)

Dimensions

CAD drawings can be downloaded from our website.



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



Q dimension

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

| 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 | 2424 | 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 | 625 | 675 | 725 | 775 | 825 | 875 | 925 | 975 |
| 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 |

Cartesian Robot Options

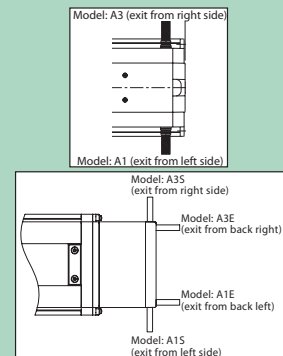
Cable exit direction

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

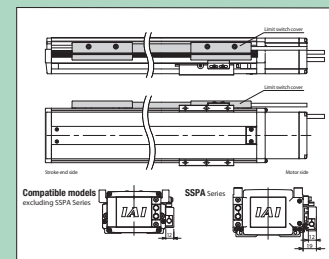
Description A sensor for performing homing at high speed. As homing is normally done by pressing the slider against the stopper on the motor side stroke end and reversing it, the homing speed is kept to 10~20mm/s. Therefore, types with long stroke take time until homing is completed. In order to shorten 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

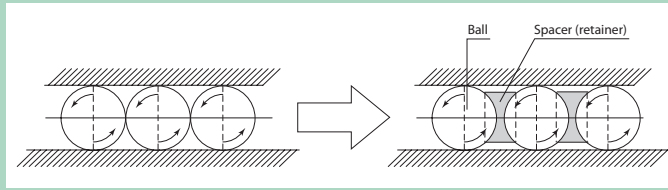
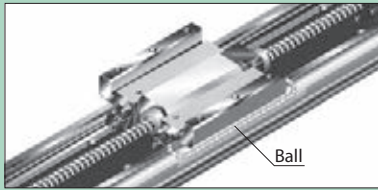
Model NM

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 Stacking 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 improvement



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