

# 2023 Additional Model Spec-sheets - ICS(P)B Cartesian Robot

## 24 Models added as of 2023-10-16

2-Axis/4-Axis Configurations		4-Axis/6-Axis Configurations	
ICSB2 ICSPB2  X-Y 2-Axis Configuration	ICSB2/ICSPB2-B1N□H 5-251	ICSB4 ICSPB4  X-Y-X-Y 4-Axis Configuration	ICSB4/ICSPB4-B3N1H 5-539
	ICSB2/ICSPB2-B1N□M 5-253		ICSB4/ICSPB4-B3N1M 5-541
ICSB3 ICSPB3  X-Y-Z 3-Axis Configuration	ICSB2/ICSPB2-B2N□H 5-255	ICSB6 ICSPB6  X-Y-Z-X-Y-Z 6-Axis Configuration	ICSB4/ICSPB4-B4N1H 5-543
	ICSB2/ICSPB2-B2N□M 5-257		ICSB4/ICSPB4-B4N1M 5-545
ICSB3 ICSPB3  X-Y-Z 3-Axis Configuration	ICSB3/ICSPB3-B1N□HB3□ 5-393	ICSB6/ICSPB6-B3N1HB3□ 5-547	ICSB6/ICSPB6-B3N1HB3□ 5-547
	ICSB3/ICSPB3-B1N□MB3□ 5-395		ICSB6/ICSPB6-B3N1MB3□ 5-549
ICSB3 ICSPB3  X-Y-Z 3-Axis Configuration	ICSB3/ICSPB3-B2N□HB3□ 5-397		ICSB6/ICSPB6-B4N1HB3□ 5-551
	ICSB3/ICSPB3-B2N□MB3□ 5-399		ICSB6/ICSPB6-B4N1MB3□ 5-553
ICSB3 ICSPB3  X-Y-Z 3-Axis Configuration	ICSB3/ICSPB3-B1N□HS3□ 5-437	ICSB6/ICSPB6-B3N1HS3M 5-555	ICSB6/ICSPB6-B3N1HS3M 5-555
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ICSB3 ICSPB3  X-Y-Z 3-Axis Configuration	ICSB3/ICSPB3-B2N□HS3□ 5-441	ICSB6/ICSPB6-B4N1HS3M 5-559	ICSB6/ICSPB6-B4N1HS3M 5-559
	ICSB3/ICSPB3-B2N□MS3□ 5-443		ICSB6/ICSPB6-B4N1MS3M 5-561

# ICSB2-B1N□H

## ICSPB2-B1N□H

### Model specification items

- B1N□H -	WA	-	T□	-	CT	-							
Series	Type	Encoder type	X-axis stroke	Y-axis stroke	Cable length	V-axis cable management							
ICSB2 Standard 2-axis spec.	Refer to Model Specification table below	WA Battery-less absolute	60 l 225	600mm 225mm (Every 50mm)	Refer to the Options table	20 l 70	200mm 700mm (Every 50mm)	Refer to the Options table	T2	SCON SSEL XSEL	3L 5L □L	3m 5m Specified length	Z-axis cable management (option)

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### Selection Notes

- (1) The strokes in the Cartesian system model names are specified in cm (centimeters).
- (2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.
- (3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis. Note that a longer stroke will result in a lower max. speed.
- (4) Values in [ ] are for the high-precision specification.

### Model specification

XY configuration direction (Note 1)	Model
1	ICSB2[ICSPB2]-B1N1H-WA-(1)(2)-(3)(4)-T□-(5)-(6)-(7)
2	ICSB2[ICSPB2]-B1N2H-WA-(1)(2)-(3)(4)-T□-(5)-(6)-(7)

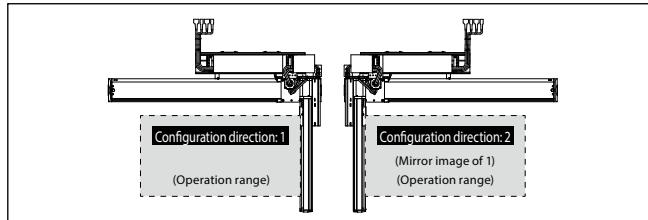
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (7) in the above model specifications.

### Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	60: 600mm l 225: 2250mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm l 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Cable length	3L: 3m 5L: 5m □L: □m
(6)	Y-axis cable management	CT: Cable track
(7)	Z-axis cable management (option) (Note 2)	CT: Cable track

(Note 2) Please specify the Z-axis cable management in the model specification only when required. For external dimensions, please contact IAI.

### XY configuration direction



### Axis Configuration

Name of axis	Model
X-axis	NSA-LXMS-WA-400-40-(1)-T□-(2)-(9)
Y-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-(8)-(4)

(Note) Refer to the symbols within the table Explanation of Model Designations for (1) through (4) in the above model numbers. Note that the strokes in single axis actuators are indicated in mm (millimeters).

(Note) Cable exit direction is specified with (8) in the above model numbers. Please contact IAI for cable exit direction.

(Note) Cable exit direction is specified with (9) in the above model numbers.

NT10: Axis configuration direction 1

NT9: Axis configuration direction 2

\* For the NSA single-axis, the models without the cable track are NT3/NT4. However, since the cable length for the cartesian robot is extended, the models are NT9/NT10.

### Maximum speed by stroke

The unit in the table is mm/s.

	200	300~500	600~700	800~2250
X-axis	-		2400	
Y-axis		1200		-

### Payload by acceleration

The unit is kg.

Acceleration (Note 3)	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
0.3	22.8	22.1	21.6	21.1	20.5	19.9	19.4	18.7	18.2	17.6	17.1
0.4	13.8	13.1	12.6	12.1	11.5	10.9	10.4	9.7	9.2	8.6	8.1
0.5	4.8	4.1	3.6	3.1	2.5	1.9	1.4	0.7	-	-	-
0.6	-	-	-	-	-	-	-	-	-	-	-
0.7	-	-	-	-	-	-	-	-	-	-	-
0.8	-	-	-	-	-	-	-	-	-	-	-

(Note 3) Payload spec is applicable when the acceleration in the X-axis and Y-axis are equal.

### Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis) (Note 4)	B
Non-motor end homing specification	NM
Guide with ball-retaining mechanism (only for Y-axis) (Note 5)	RT

(Note 4) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 5) The high-precision specification cannot be selected.

### Common Specifications

	X-axis	Y-axis
Driving system	Ball screw, equivalent to rolled C5	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]
Positioning repeatability	±0.01mm	±0.01mm [±0.005mm]
Lost motion	0.02mm or less	0.05mm or less [0.02mm or less]
Guide	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output / lead	400W/40mm	200W/20mm

### Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

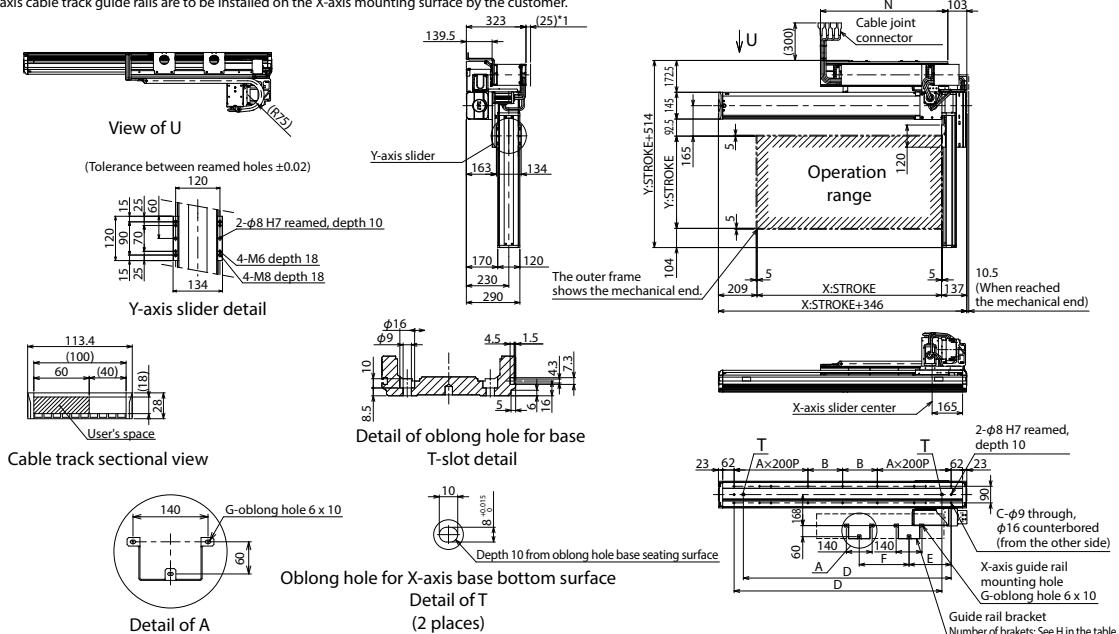
## ■ ICSB2 [ICSPB2]-B1N1H-CT (cable track specification) configuration direction 1

- \*1 The cable track may expand upward by 25mm.  
 (Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
 Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
 (Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

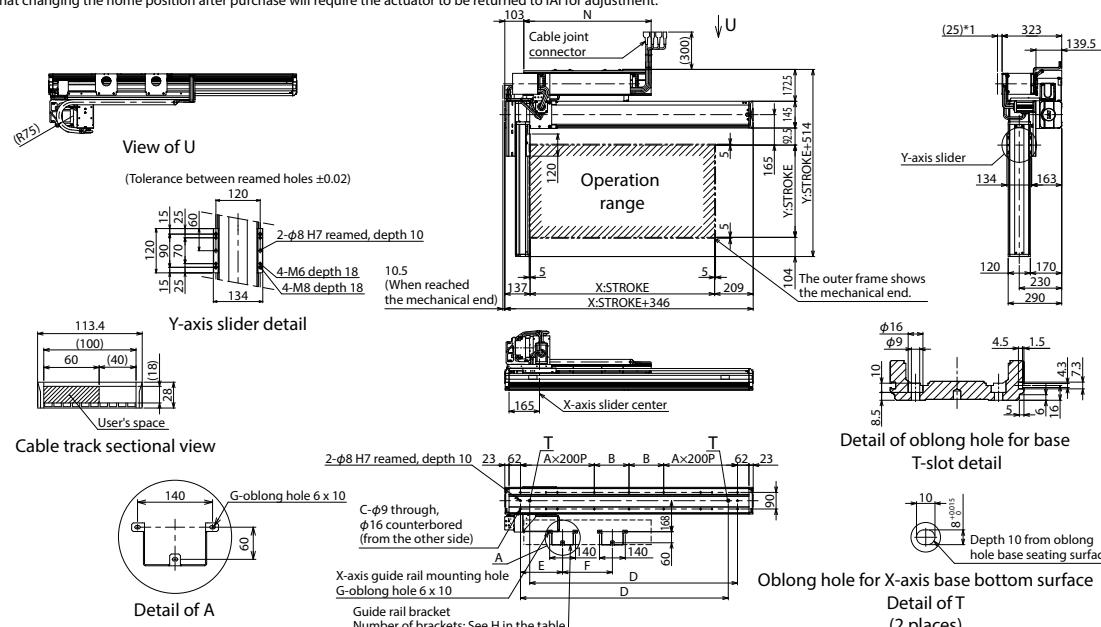
2D CAD

3D CAD



## ■ ICSB2 [ICSPB2]-B1N2H-CT (cable track specification) configuration direction 2

- \*1 The cable track may expand upward by 25mm.  
 (Note) The configuration position in the figure is the standard home position. To change the home position, choose 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	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188
C	10	10	10	10	10	10	14	14	14	14	14	14	14	14	18	18	18
D	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526
E	158	158	158	158	158	158	158	158	228	228	228	228	228	228	228	228	228
F	210	235	260	285	310	335	360	385	270	295	320	345	370	395	420	445	470
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N	490	515	540	565	590	615	640	665	690	715	740	765	790	815	840	865	890

X-axis stroke	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
A	3	3	3	3	3	4	4	4	4	4	4	4	4	5	5	5	5
B	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213
C	18	18	18	18	18	22	22	22	22	22	22	22	22	26	26	26	26
D	1576	1626	1676	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376
E	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
F	495	520	545	570	595	620	645	670	695	720	745	770	795	820	845	870	895
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N	915	940	965	990	1015	1040	1065	1090	1115	1140	1165	1190	1215	1240	1265	1290	1315

## ICSB2-B1N□M

## ICSPB2-B1N□M

## ■ Model specification items

	B1N□M	WA			T□		CT	
Series	-	-	X-axis stroke	Option	Y-axis stroke	Option	Cable length	-
ICSB2 Standard 2-axis spec.	Type Refer to Model Specification table below	Encoder type WA Battery-less absolute	60 225	600mm 2250mm (Every 50mm)	20 70	200mm 700mm (Every 50mm)	3L 5L □L Specified length	Y-axis cable management Refer to Explanation of Model Designations below

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<b>Selection Notes</b>	<ul style="list-style-type: none"> <li>(1) The strokes in the Cartesian system model names are specified in cm (centimeters).</li> <li>(2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.</li> <li>(3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis. Note that a longer stroke will result in a lower max. speed.</li> <li>(4) Values in [ ] are for the high-precision specification.</li> </ul>
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## Model specification

XY configuration direction (Note 1)	Model
1	ICSB2[ICSPB2]-B1N1M-WA-(1)(2)-(3)(4)-T□-(5)-(6)-(7)
2	ICSB2[ICSPB2]-B1N2M-WA-(1)(2)-(3)(4)-T□-(5)-(6)-(7)

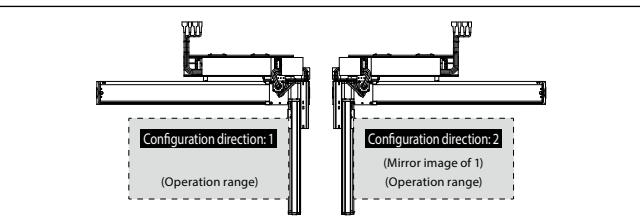
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (7) in the above model specifications.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	60: 600mm □: 2250mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm □: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Cable length	3L: 3m 5L: 5m □L: □m
(6)	Y-axis cable management	CT: Cable track
(7)	Z-axis cable management (option) (Note 2)	CT: Cable track

(Note 2) Please specify the Z-axis cable management in the model specification only when required. For external dimensions, please contact IAI.

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LXMS-WA-400-20-(1)-T□-(2)-(9)
Y-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-(8)-(4)

(Note) Refer to the symbols within the table Explanation of Model Designations for (1) through (4) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Cable exit direction is specified with (8) in the above model numbers. Please contact IAI for cable exit direction.

(Note) Cable exit direction is specified with (9) in the above model numbers.

NT10: Axis configuration direction 1

NT9: Axis configuration direction 2

\* For the NSA single-axis, the models without the cable track are NT3/NT4. However, since the cable length for the cartesian robot is extended, the models are NT9/NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

	200	300~500	600~700	800~2250
X-axis	-		1300	
Y-axis		1200		-

## Payload by acceleration

The unit is kg.

	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
Acceleration (Note 3)	0.3	45.0	45.0	45.0	45.0	43.0	39.3	36.0	33.1	30.5	19.3
	0.4	40.8	40.1	39.6	39.1	38.5	37.9	37.4	35.1	32.3	19.3
	0.5	22.8	22.1	21.6	21.1	20.5	19.9	19.4	18.7	18.2	17.1
	0.6	13.8	13.1	12.6	12.1	11.5	10.9	10.4	9.7	9.2	8.1
	0.7	4.8	4.1	3.6	3.1	2.5	1.9	1.4	0.7	-	-
	0.8	-	-	-	-	-	-	-	-	-	-

(Note 3) Payload spec is applicable when the acceleration in the X-axis and Y-axis are equal.

## Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis) (Note 4)	B
Non-motor end homing specification	NM
Guide with ball-retaining mechanism (only for Y-axis) (Note 5)	RT

(Note 4) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 5) The high-precision specification cannot be selected.

## Common Specifications

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

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

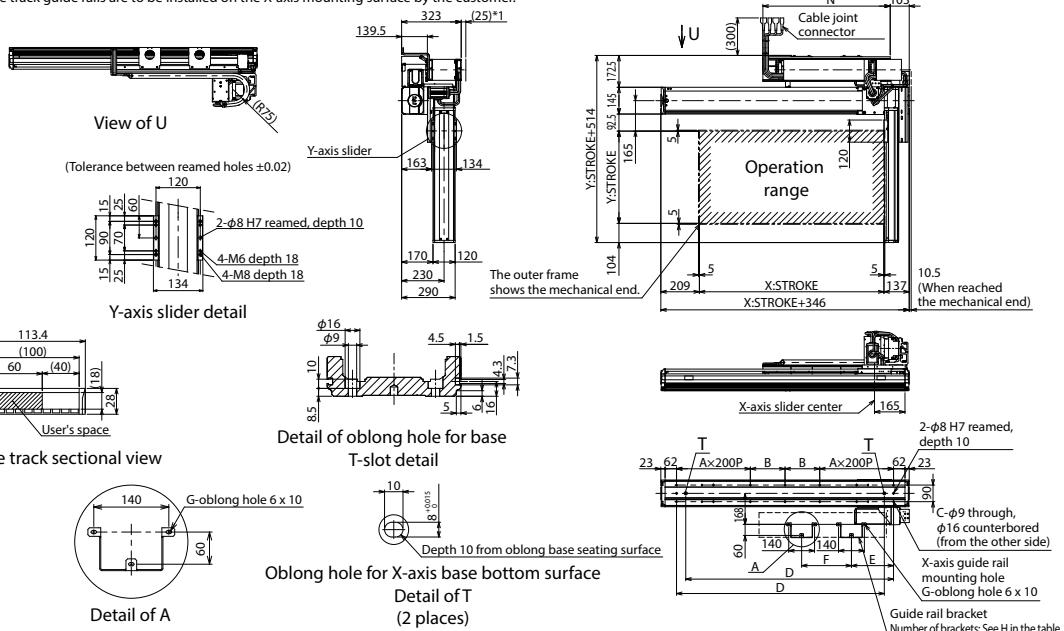
■ ICSB2 [ICSPB2] -B1N1M-CT (cable track specification) configuration direction 1

\*1 The cable track may expand upward by 25mm.

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

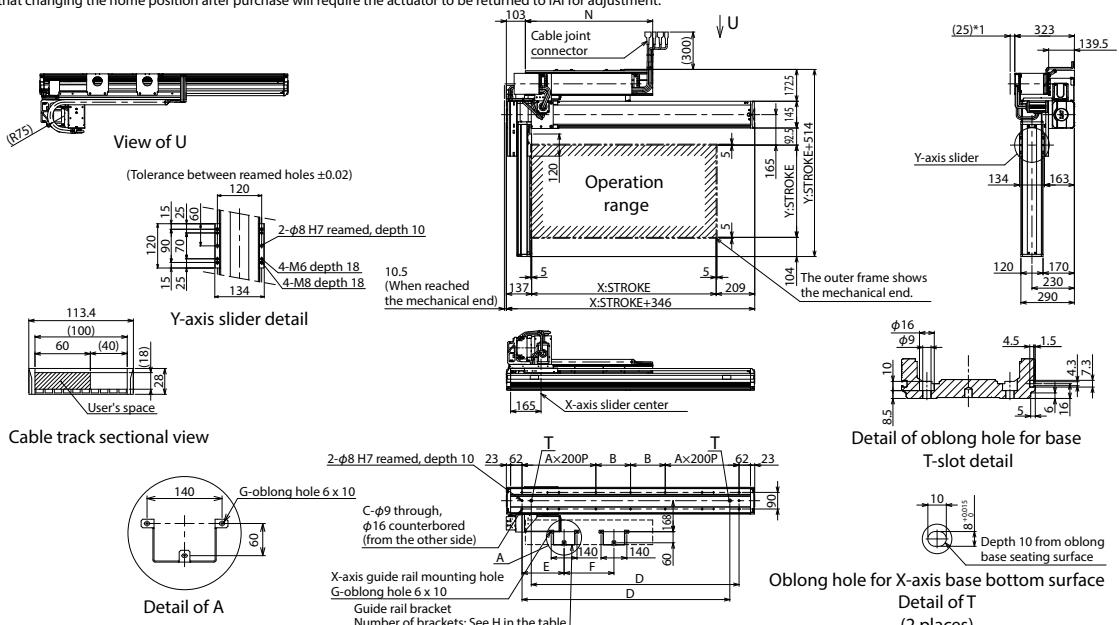


■ ICSB2 [ICSPB2]-B1N2M-CT (cable track specification) configuration direction 2

\*1 The cable track may expand upward by 25mm.

**(Note)** The configuration position in the figure is the standard home position. To change the home position, choose 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	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188
C	10	10	10	10	10	10	14	14	14	14	14	14	14	14	18	18	18
D	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526
E	158	158	158	158	158	158	158	158	228	228	228	228	228	228	228	228	228
F	210	235	260	285	310	335	360	385	270	295	320	345	370	395	420	445	470
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N	490	515	540	565	590	615	640	665	690	715	740	765	790	815	840	865	890

X-axis stroke	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
A	3	3	3	3	3	4	4	4	4	4	4	4	4	5	5	5	5
B	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213
C	18	18	18	18	18	22	22	22	22	22	22	22	22	26	26	26	26
D	1576	1626	1676	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376
E	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
F	495	520	545	570	595	620	645	670	695	720	745	770	795	820	845	870	895
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N	915	940	965	990	1015	1040	1065	1090	1115	1140	1165	1190	1215	1240	1265	1290	1315

## ICSB2-B2N□H

## ICSPB2-B2N□H

## ■ Model specification items

	B2N□H	WA			T□	CT	
Series			X-axis stroke	Option to the Options table	Y-axis stroke	Option to the Options table	
ICSB2 Standard 2-axis spec. ICSPB2 High precision 2-axis spec.	Type Refer to Model Specification table below	Encoder type WA Battery-less absolute	230 300 300mm (Every 50mm)		20 70 200mm 700mm (Every 50mm)	Applicable controllers T2 SCON SSEL XSEL T4 RCN RSEL SCON2	Cable length 3L: 3m 5L: 5m □ Specified length Y-axis cable management Refer to Explanation of Model Designations below Z-axis cable management (option)

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<b>Selection Notes</b>	(1) The strokes in the Cartesian system model names are specified in cm (centimeters). (2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m. (3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis. Note that a longer stroke will result in a lower max. speed. (4) Values in [ ] are for the high-precision specification.
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## Model specification

XY configuration direction (Note 1)	Model
1	ICSB2[ICSPB2]-B2N1H-WA-(1)(2)-(3)(4)-T□-(5)-(6)-(7)
2	ICSB2[ICSPB2]-B2N2H-WA-(1)(2)-(3)(4)-T□-(5)-(6)-(7)

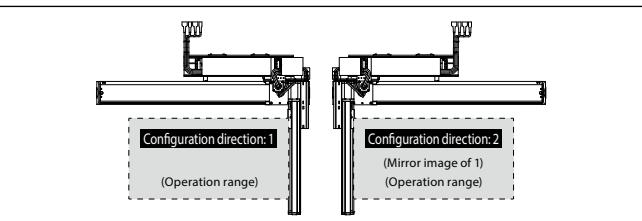
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (7) in the above model specifications.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	230: 230mm 300: 300mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Cable length	3L: 3m 5L: 5m □L: □m
(6)	Y-axis cable management	CT: Cable track
(7)	Z-axis cable management (option) (Note 2)	CT: Cable track

(Note 2) Please specify the Z-axis cable management in the model specification only when required. For external dimensions, please contact IAI.

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LXMXS-WA-400-40-(1)-T□-(2)-(9)
Y-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-(8)-(4)

(Note) Refer to the symbols within the table Explanation of Model Designations for (1) through (4) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Cable exit direction is specified with (8) in the above model numbers. Please contact IAI for cable exit direction.

(Note) Cable exit direction is specified with (9) in the above model numbers.

NT10: Axis configuration direction 1

NT9: Axis configuration direction 2

\* For the NSA single-axis, the models without the cable track are NT3/NT4. However, since the cable length for the cartesian robot is extended, the models are NT9/NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

	200~700	800~2200	2300~3000
X-axis	-	-	2400
Y-axis	1200	-	-

## Payload by acceleration

The unit is kg.

	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
Acceleration (Note 3)	0.3	22.8	22.1	21.6	21.1	20.5	19.9	19.4	18.7	18.2	17.6
	0.4	13.8	13.1	12.6	12.1	11.5	10.9	10.4	9.7	9.2	8.6
	0.5	4.8	4.1	3.6	3.1	2.5	1.9	1.4	0.7	-	-
	0.6	-	-	-	-	-	-	-	-	-	-
	0.7	-	-	-	-	-	-	-	-	-	-
	0.8	-	-	-	-	-	-	-	-	-	-

(Note 3) Payload spec is applicable when the acceleration in the X-axis and Y-axis are equal.

## Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis) (Note 4)	B
Non-motor end homing specification	NM
Guide with ball-retaining mechanism (only for Y-axis) (Note 5)	RT

(Note 4) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 5) The high-precision specification cannot be selected.

## Common Specifications

	X-axis	Y-axis
Driving system	Ball screw, equivalent to rolled C5	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]
Positioning repeatability	±0.01mm	±0.01mm [±0.005mm]
Lost motion	0.02mm or less	0.05mm or less [0.02mm or less]
Guide	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output / lead	400W/40mm	200W/20mm

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

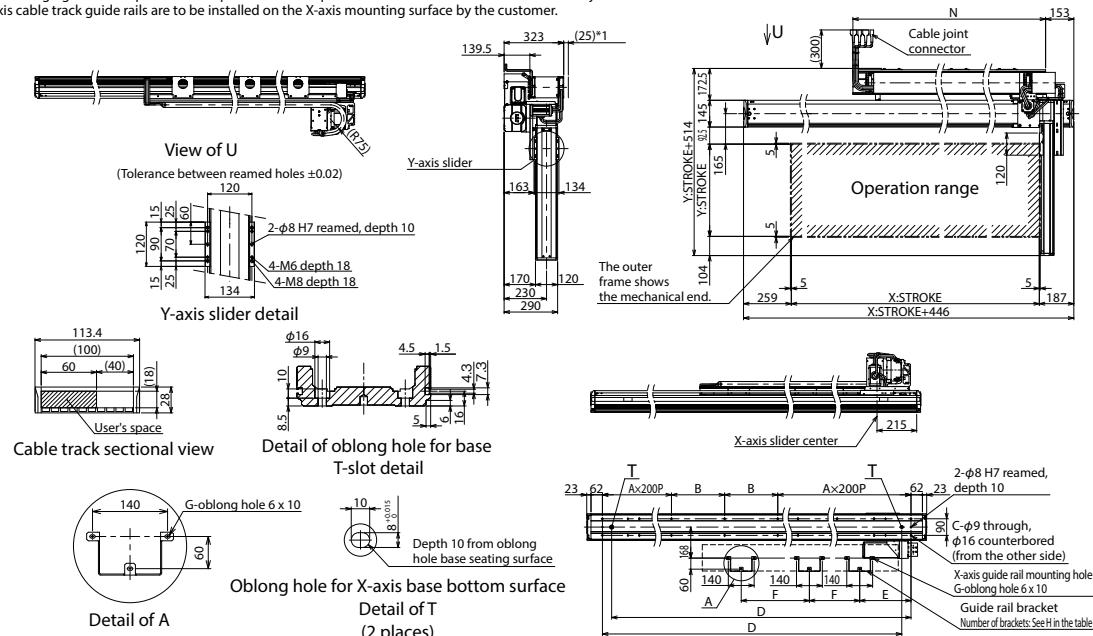
## ■ ICSB2 [ICSPB2]-B2N1H-CT (cable track specification) configuration direction 1

- \*1 The cable track may expand upward by 25mm.  
 (Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
 Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
 (Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
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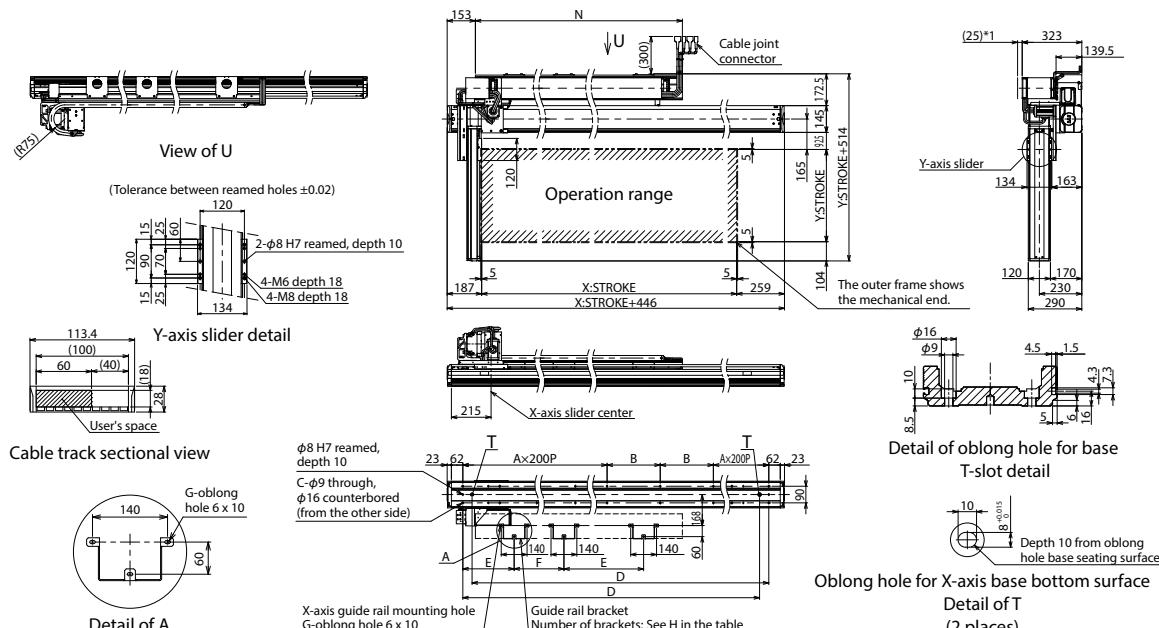
2D CAD

3D CAD



## ■ ICSB2 [ICSPB2]-B2N2H-CT (cable track specification) configuration direction 2

- \*1 The cable track may expand upward by 25mm.  
 (Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
 Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.



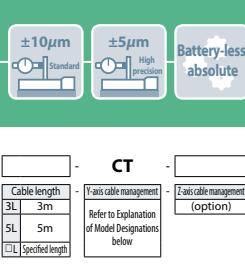
X-axis stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
A	5	5	6	6	6	6	6	6	6	6	7	7	7	7	7
B	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238
C	26	26	30	30	30	30	30	30	30	30	34	34	34	34	34
D	2526	2576	2626	2676	2726	2776	2826	2876	2926	2976	3026	3076	3126	3176	3226
E	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278
F	460	472.5	485	497.5	510	522.5	535	547.5	560	572.5	585	597.5	610	622.5	635
G	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
N	1340	1365	1390	1415	1440	1465	1490	1515	1540	1565	1590	1615	1640	1665	1690

## ICSB2-B2N□M

## ICSPB2-B2N□M

## ■ Model specification items

Series	B2N□M	WA	<td>T□</td> <td>CT</td> <td></td>	T□	CT	
ICSB2	Standard 2-axis spec.	Type	Encoder type			
ICSPB2	High precision 2-axis spec.	Refer to Model Specification table below	WA [Battery-less absolute]	X-axis stroke 230 300 i 300mm (Every 50mm)	Y-axis stroke 20 70 i 200mm 700mm (Every 50mm)	Applicable controllers T2 T4 SCON SSEL XSEL RCON RSEL SCON2

RoHS  
10

<b>Selection Notes</b>	<ul style="list-style-type: none"> <li>(1) The strokes in the Cartesian system model names are specified in cm (centimeters).</li> <li>(2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.</li> <li>(3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis. Note that a longer stroke will result in a lower max. speed.</li> <li>(4) Values in [ ] are for the high-precision specification.</li> </ul>
------------------------	---

## Model specification

XY configuration direction (Note 1)	Model
1	ICSB2[ICSPB2]-B2N1M-WA-(1)(2)-(3)(4)-T□-(5)-(6)-(7)
2	ICSB2[ICSPB2]-B2N2M-WA-(1)(2)-(3)(4)-T□-(5)-(6)-(7)

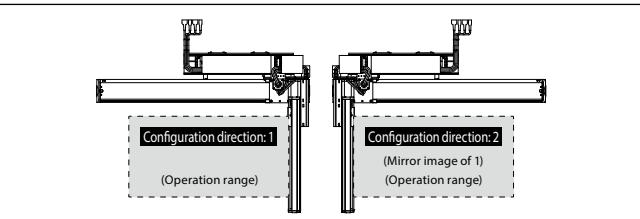
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (7) in the above model specifications.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	230: 230mm i 300: 300mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm i 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Cable length	3L: 3m 5L: 5m □L: □m
(6)	Y-axis cable management	CT: Cable track
(7)	Z-axis cable management (option) (Note 2)	CT: Cable track

(Note 2) Please specify the Z-axis cable management in the model specification only when required. For external dimensions, please contact IAI.

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LMXS-WA-400-20-(1)-T□-(2)-(9)
Y-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-(8)-(4)

(Note) Refer to the symbols within the table Explanation of Model Designations for (1) through (4) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Cable exit direction is specified with (8) in the above model numbers. Please contact IAI for cable exit direction.

(Note) Cable exit direction is specified with (9) in the above model numbers.

NT10: Axis configuration direction 1

NT9: Axis configuration direction 2

\* For the NSA single-axis, the models without the cable track are NT3/NT4. However, since the cable length for the cartesian robot is extended, the models are NT9/NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

	200~700	800~2200	2300~3000
X-axis	-	-	1300
Y-axis	1200	-	-

## Payload by acceleration

The unit is kg.

	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
Acceleration (Note 3)	0.3	45.0	45.0	45.0	45.0	45.0	43.0	39.3	36.0	33.1	30.5
	0.4	40.8	40.1	39.6	39.1	38.5	37.9	37.4	35.1	32.3	29.8
	0.5	22.8	22.1	21.6	21.1	20.5	19.9	19.4	18.7	18.2	17.1
	0.6	13.8	13.1	12.6	12.1	11.5	10.9	10.4	9.7	9.2	8.6
	0.7	4.8	4.1	3.6	3.1	2.5	1.9	1.4	0.7	-	-
	0.8	-	-	-	-	-	-	-	-	-	-

(Note 3) Payload spec is applicable when the acceleration in the X-axis and Y-axis are equal.

## Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis) (Note 4)	B
Non-motor end homing specification	NM
Guide with ball-retaining mechanism (only for Y-axis) (Note 5)	RT

(Note 4) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 5) The high-precision specification cannot be selected.

## Common Specifications

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

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

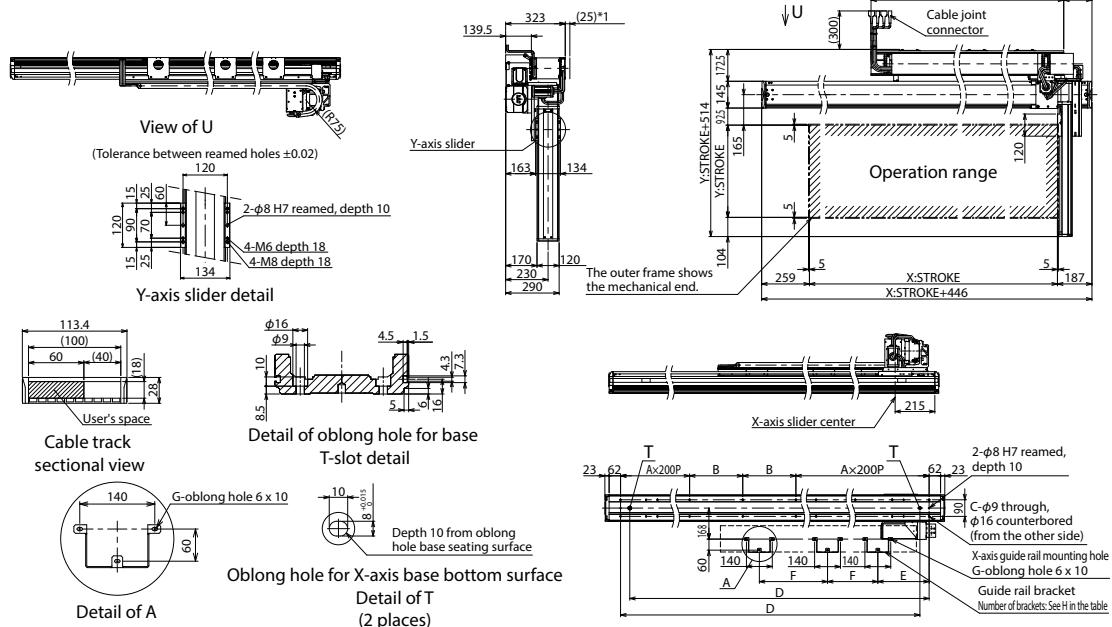
## Dimensions

## ■ ICSB2 [ICSPB2]-B2N1M-CT (cable track specification) configuration direction 1

- \*1 The cable track may expand upward by 25mm.  
 (Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
 Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
 (Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

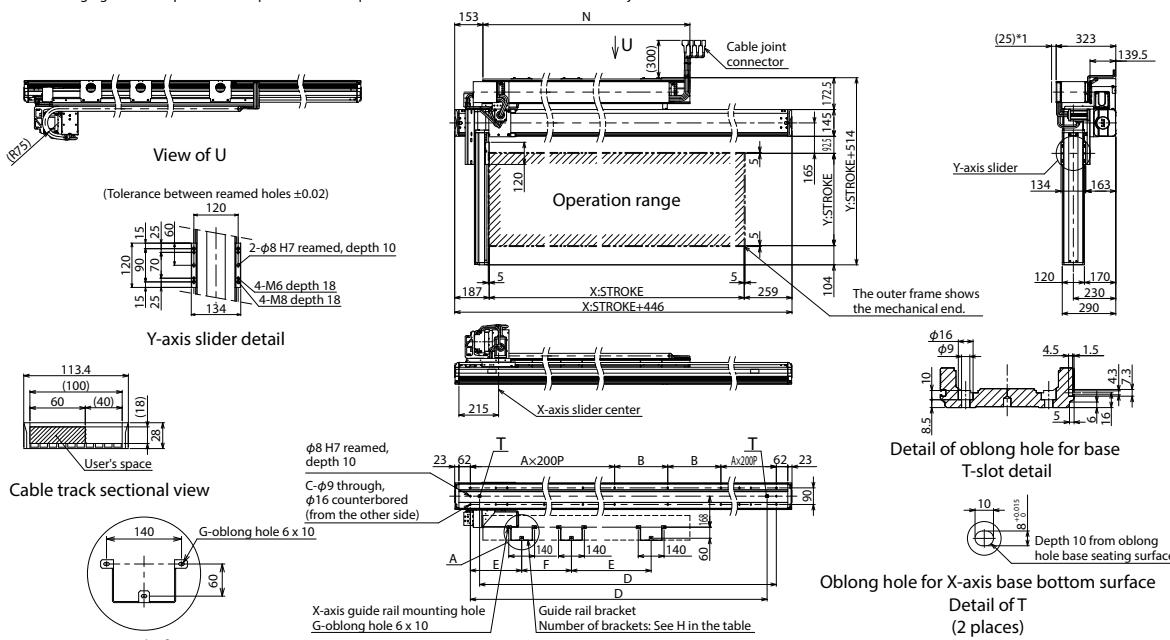
CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D CAD  
3D CAD



## ■ ICSB2 [ICSPB2]-B2N2M-CT (cable track specification) configuration direction 2

- \*1 The cable track may expand upward by 25mm.  
 (Note) The configuration position in the figure is the standard home position. To change the home position, choose 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	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
A	5	5	6	6	6	6	6	6	6	6	7	7	7	7	7
B	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238
C	26	26	30	30	30	30	30	30	30	30	34	34	34	34	34
D	2526	2576	2626	2676	2726	2776	2826	2876	2926	2976	3026	3076	3126	3176	3226
E	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278
F	460	472.5	485	497.5	510	522.5	535	547.5	560	572.5	585	597.5	610	622.5	635
G	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
N	1340	1365	1390	1415	1440	1465	1490	1515	1540	1565	1590	1615	1640	1665	1690

# ICSB3-B1N□HB3□

## ICSPB3-B1N□HB3□

### Model specification items

Series	- B1N□HB3□ -	WA				
ICSB3 Standard 3-axis spec.	Type	Encoder type	X-axis stroke	Y-axis stroke	Z-axis stroke	
ICSPB3 High precision 3-axis spec.	Refer to Model Specification table below	WA [Battery-less absolute]	60 225	600mm 2250mm z Refer to the Options table	20 70 z Refer to the Options table	10 50 100mm 500mm z Refer to the Options table

$\pm 10\mu\text{m}$ Standard	$\pm 5\mu\text{m}$ High precision	Battery-less absolute
---------------------------------	--------------------------------------	-----------------------

RoHS  
10



- (1) The strokes in the Cartesian system model names are specified in cm (centimeters).
- (2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.
- (3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed.
- (4) Values in [ ] are for the high-precision specification.

### Model specification

XY configuration direction (Note 1)	Z-axis speed type (Note 2)	Model
1	H	ICSB3[ICSPB3]-B1N1HB3H-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
	M	ICSB3[ICSPB3]-B1N1HB3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
2	H	ICSB3[ICSPB3]-B1N2HB3H-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
	M	ICSB3[ICSPB3]-B1N2HB3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

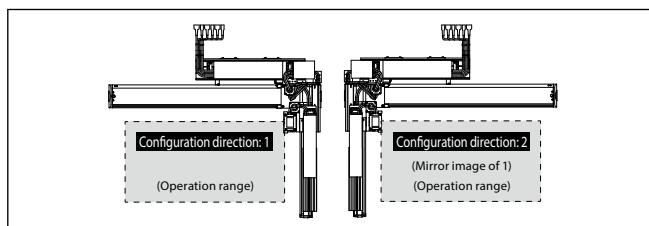
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

(Note 2) Payload and maximum speed vary depending on the Z-axis type.

### Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	60: 600mm z 225: 2250mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm z 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm z 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

### XY configuration direction



### Axis Configuration

Name of axis	Model
X-axis	NSA-LXMS-WA-400-40-(1)-T□-(2)-(11)
Y-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-(10)-(4)
Z-axis	ISB[ISPB]-MXM-WA-200-(9)-(5)-T□-(10)-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Lead is specified with (9) in the above model numbers.

20: Z-axis speed type H

10: Z-axis speed type M

(Note) Cable exit direction is specified with (10) in the above model numbers. Please contact IAI for the cable exit direction.

(Note) Cable exit direction is specified with (11) in the above model numbers.

NT10: Axis configuration direction 1

NT9: Axis configuration direction 2

\* For the NSA single-axis, the models without the cable track are NT3/NT4. However, since the cable length for the cartesian robot is extended, the models are NT9/NT10.

### Maximum speed by stroke

The unit in the table is mm/s.

#### B1N□HB3H

X-axis	100	200	300~500	600~700	800~2250
Y-axis	-		1200		-
Z-axis		1200			-

#### B1N□HB3M

X-axis	100	200	300~500	600~700	800~2250
Y-axis	-		1200		-
Z-axis		600			-

### Payload

The unit is kg.

#### B1N□HB3H

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	10.0	10.0	10.0	10.0	10.0	9.7	9.1	8.4	7.8	7.2	6.6
150	10.0	10.0	10.0	10.0	9.8	9.1	8.5	7.8	7.2	6.6	6.0
200	10.0	10.0	10.0	9.9	9.3	8.6	8.0	7.3	6.7	6.1	5.5
250	10.0	10.0	9.8	9.2	8.6	7.9	7.3	6.6	6.0	5.4	4.8
300	10.0	9.9	9.3	8.7	8.1	7.4	6.8	6.1	5.5	4.9	4.3
350	10.0	9.4	8.7	8.1	7.5	6.8	6.2	5.6	5.0	4.3	3.7
400	9.5	8.8	8.2	7.6	7.0	6.3	5.7	5.0	4.4	3.8	3.2
450	8.9	8.2	7.6	7.0	6.4	5.7	5.1	4.4	3.8	3.2	2.6
500	8.3	7.6	7.0	6.4	5.8	5.1	4.5	3.8	3.2	2.6	2.0

#### B1N□HB3M

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	12.9	12.2	11.6	11.0	10.4	9.7	9.1	8.4	7.8	7.2	6.6
150	12.3	11.6	11.0	10.4	9.8	9.1	8.5	7.8	7.2	6.6	6.0
200	11.8	11.1	10.5	9.9	9.3	8.6	8.0	7.3	6.7	6.1	5.5
250	11.1	10.4	9.8	9.2	8.6	7.9	7.3	6.6	6.0	5.4	4.8
300	10.6	9.9	9.3	8.7	8.1	7.4	6.8	6.1	5.5	4.9	4.3
350	10.0	9.4	8.7	8.1	7.5	6.8	6.2	5.6	5.0	4.3	3.7
400	9.5	8.8	8.2	7.6	7.0	6.3	5.7	5.0	4.4	3.8	3.2
450	8.9	8.2	7.6	7.0	6.4	5.7	5.1	4.4	3.8	3.2	2.6
500	8.3	7.6	7.0	6.4	5.8	5.1	4.5	3.8	3.2	2.6	2.0

(Note) Values are for operation at the rated acceleration. Refer to the "Selection Notes."

### Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 3)	B
Non-motor end specification	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 4)	RT

(Note 3) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 4) The high-precision specification cannot be selected.

### Common Specifications

	X-axis	Y-axis	Z-axis
Driving system	Ball screw, equivalent to rolled C5	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]
Positioning repeatability	$\pm 0.01\text{mm}$	$\pm 0.01\text{mm} [\pm 0.005\text{mm}]$	$\pm 0.01\text{mm} [\pm 0.005\text{mm}]$
Lost motion	0.02mm or less	0.05mm or less [0.02mm or less]	0.05mm or less [0.02mm or less]
Guide	Integrated with base	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output / lead	400W/40mm	200W/20mm	200W/20mm (H), 10mm (M)

### Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

**ICSB3 [ICSPB3]-B1N1HB3□-CT-CT (cable track specification) configuration direction 1**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

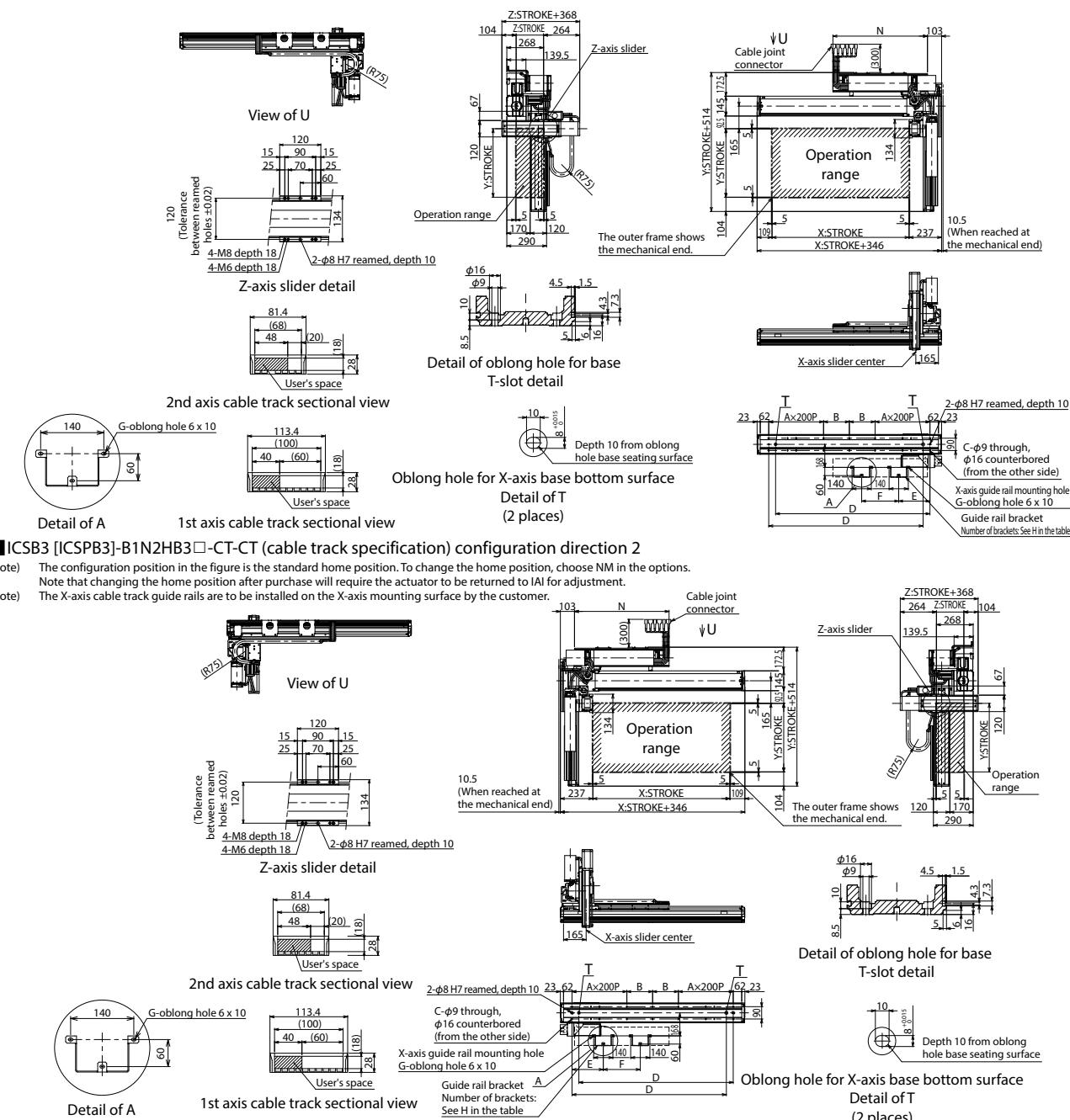
Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

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2D CAD

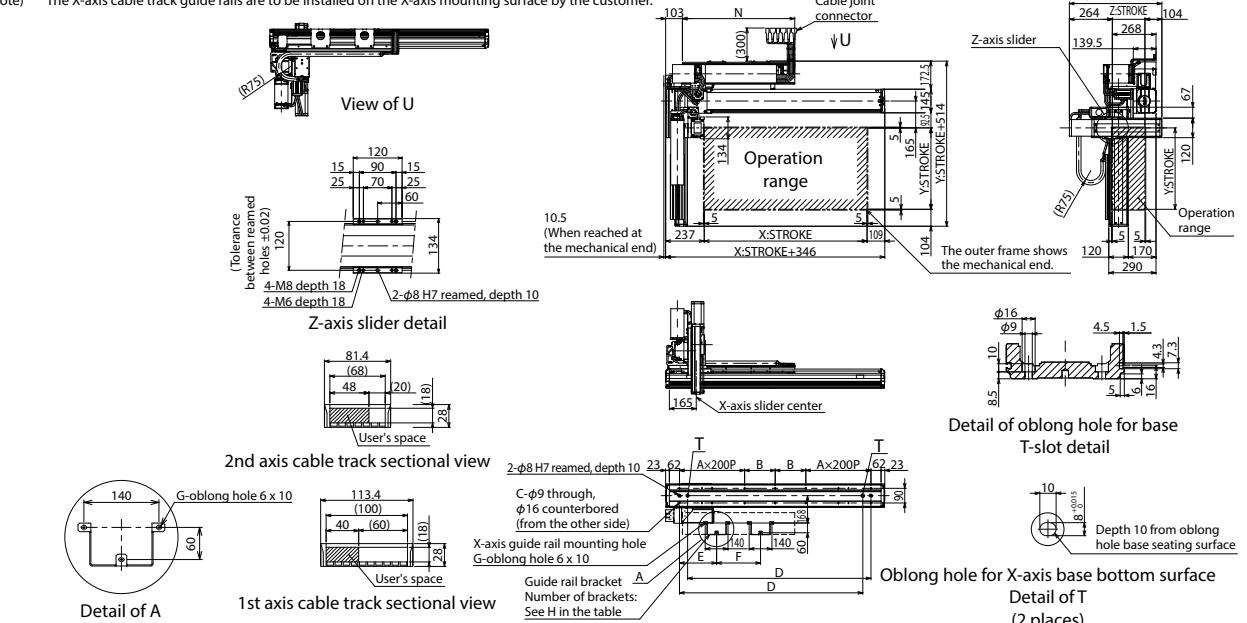
3D CAD

**ICSB3 [ICSPB3]-B1N2HB3□-CT-CT (cable track specification) configuration direction 2**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.



X-axis stroke	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188
C	10	10	10	10	10	10	14	14	14	14	14	14	14	14	18	18	18
D	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526
E	158	158	158	158	158	158	158	158	228	228	228	228	228	228	228	228	228
F	210	235	260	285	310	335	360	385	270	295	320	345	370	395	420	445	470
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N	490	515	540	565	590	615	640	665	690	715	740	765	790	815	840	865	890

X-axis stroke	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
A	3	3	3	3	3	4	4	4	4	4	4	4	4	5	5	5	5
B	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213
C	18	18	18	18	18	22	22	22	22	22	22	22	22	26	26	26	26
D	1576	1626	1676	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376
E	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
F	495	520	545	570	595	620	645	670	695	720	745	770	795	820	845	870	895
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N	915	940	965	990	1015	1040	1065	1090	1115	1140	1165	1190	1215	1240	1265	1290	1315



## Dimensions

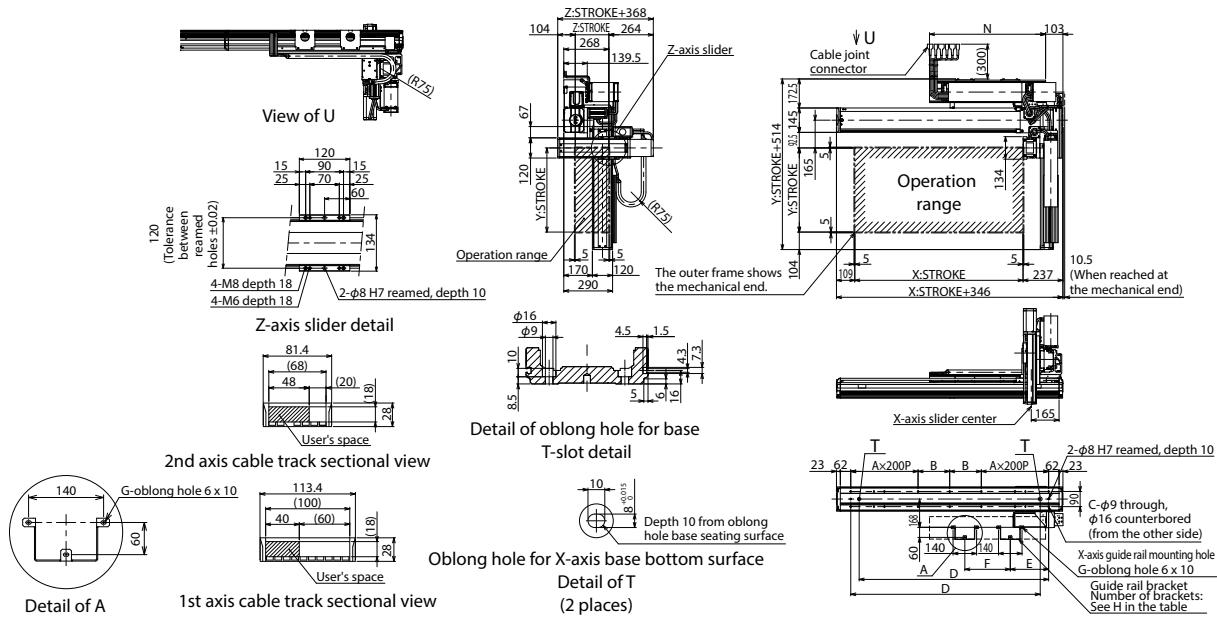
## ■ ICSB3 [ICSPB3]-B1N1MB3□-CT-CT (cable track specification) configuration direction 1

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
 Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
 (Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

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[www.intelligentactuator.com](http://www.intelligentactuator.com)

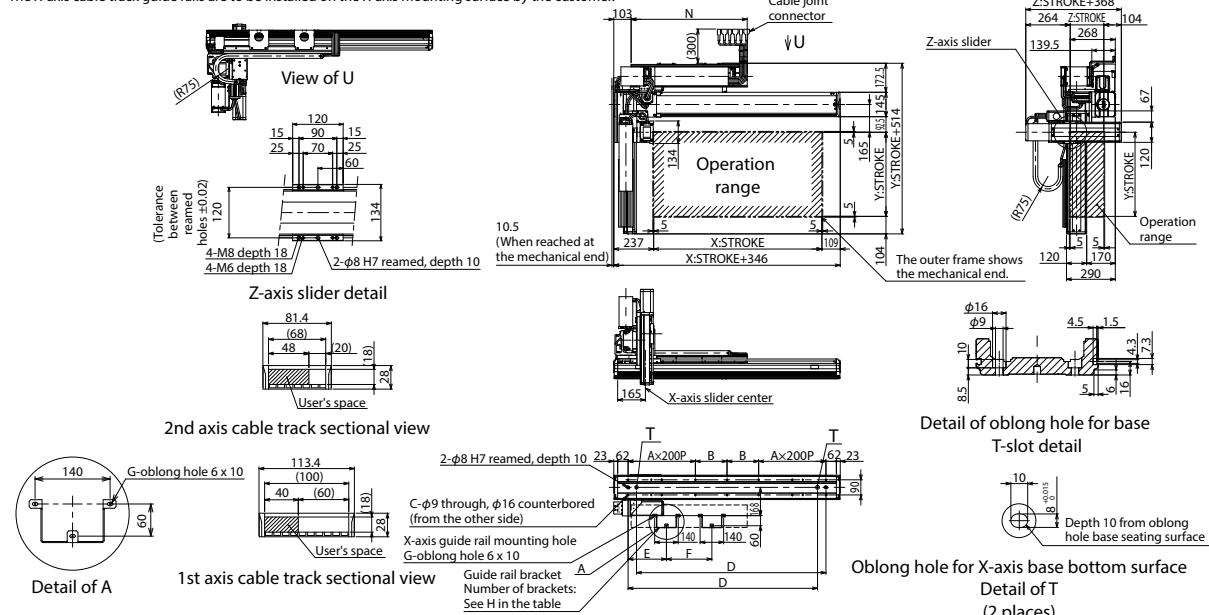
2D CAD

3D CAD



## ■ ICSB3 [ICSPB3]-B1N2MB3□-CT-CT (cable track specification) configuration direction 2

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
 Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
 (Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.



X-axis stroke	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188
C	10	10	10	10	10	10	14	14	14	14	14	14	14	14	18	18	18
D	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526
E	158	158	158	158	158	158	158	158	228	228	228	228	228	228	228	228	228
F	210	235	260	285	310	335	360	385	270	295	320	345	370	395	420	445	470
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N	490	515	540	565	590	615	640	665	690	715	740	765	790	815	840	865	890

X-axis stroke	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
A	3	3	3	3	3	4	4	4	4	4	4	4	4	5	5	5	5
B	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213
C	18	18	18	18	18	22	22	22	22	22	22	22	22	26	26	26	26
D	1576	1626	1676	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376
E	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
F	495	520	545	570	595	620	645	670	695	720	745	770	795	820	845	870	895
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N	915	940	965	990	1015	1040	1065	1090	1115	1140	1165	1190	1215	1240	1265	1290	1315

## ICSB3-B2N□HB3□

## ICSPB3-B2N□HB3□

## ■ Model specification items

	- B2N□HB3□ -	WA						
Series	Type	Encoder type	X-axis stroke	Option	Y-axis stroke	Option	Z-axis stroke	
ICSB3 Standard 3-axis spec.	Refer to Model Specification table below	WA Battery-less absolute	230 300	200mm 70	200mm 700mm (Every 50mm)	Refer to the Options table	10 50	100mm 500mm (Every 50mm)
ICSPB3 High precision 3-axis spec.								
	T□							
	Applicable controllers		Cable length		Y-axis and Z-axis cable management			
	T2 SCON SSEL XSEL		3L 3m		Refer to Explanation of Model Designations below			
			5L 5m					
			□ Specified length					
	RCON RSEL SCON2							

RoHS 10



<b>Selection Notes</b>	(1) The strokes in the Cartesian system model names are specified in cm (centimeters). (2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m. (3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed. (4) Values in [ ] are for the high-precision specification.
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## Model specification

XY configuration direction (Note 1)	Z-axis speed type (Note 2)	Model
1	H	ICSB3[ICSPB3]-B2N1HB3H-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
	M	ICSB3[ICSPB3]-B2N1HB3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
2	H	ICSB3[ICSPB3]-B2N2HB3H-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
	M	ICSB3[ICSPB3]-B2N2HB3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

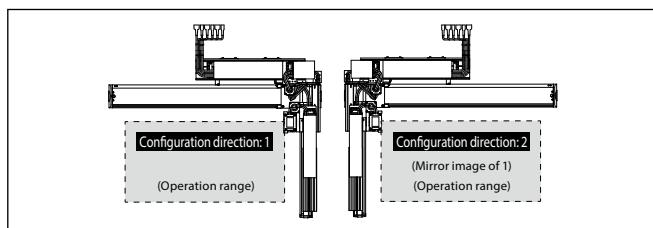
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

(Note 2) Payload and maximum speed vary depending on the Z-axis type.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	230: 230mm 300: 300mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LXMXS-WA-400-40-(1)-T□-(2)-(11)
Y-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-(10)-(4)
Z-axis	ISB[ISPB]-MXM-WA-200-(9)-(5)-T□-(10)-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Lead is specified with (9) in the above model numbers.

20: Z-axis speed type H

10: Z-axis speed type M

(Note) Cable exit direction is specified with (10) in the above model numbers. Please contact IAI for the cable exit direction.

(Note) Cable exit direction is specified with (11) in the above model numbers.

NT10: Axis configuration direction 1

NT9: Axis configuration direction 2

\* For the NSA single-axis, the models without the cable track are NT3/NT4. However, since the cable length for the cartesian robot is extended, the models are NT9/NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

## ■ B2N□HB3H

X-axis	100	200	300~500	600~700	800~2200	2300~3000
Y-axis	-		1200			2400
Z-axis		1200			-	

## ■ B2N□HB3M

X-axis	100	200	300~500	600~700	800~2200	2300~3000
Y-axis	-		1200			2400
Z-axis		600			-	

## Payload

The unit is kg.

## ■ B2N□HB3H

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	10.0	10.0	10.0	10.0	10.0	9.7	9.1	8.4	7.8	7.2	6.6
150	10.0	10.0	10.0	10.0	9.8	9.1	8.5	7.8	7.2	6.6	6.0
200	10.0	10.0	10.0	9.9	9.3	8.6	8.0	7.3	6.7	6.1	5.5
250	10.0	10.0	9.8	9.2	8.6	7.9	7.3	6.6	6.0	5.4	4.8
300	10.0	9.9	9.3	8.7	8.1	7.4	6.8	6.1	5.5	4.9	4.3
350	10.0	9.4	8.7	8.1	7.5	6.8	6.2	5.6	5.0	4.3	3.7
400	9.5	8.8	8.2	7.6	7.0	6.3	5.7	5.0	4.4	3.8	3.2
450	8.9	8.2	7.6	7.0	6.4	5.7	5.1	4.4	3.8	3.2	2.6
500	8.3	7.6	7.0	6.4	5.8	5.1	4.5	3.8	3.2	2.6	2.0

## ■ B2N□HB3M

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	12.9	12.2	11.6	11.0	10.4	9.7	9.1	8.4	7.8	7.2	6.6
150	12.3	11.6	11.0	10.4	9.8	9.1	8.5	7.8	7.2	6.6	6.0
200	11.8	11.1	10.5	9.9	9.3	8.6	8.0	7.3	6.7	6.1	5.5
250	11.1	10.4	9.8	9.2	8.6	7.9	7.3	6.6	6.0	5.4	4.8
300	10.6	9.9	9.3	8.7	8.1	7.4	6.8	6.1	5.5	4.9	4.3
350	10.0	9.4	8.7	8.1	7.5	6.8	6.2	5.6	5.0	4.3	3.7
400	9.5	8.8	8.2	7.6	7.0	6.3	5.7	5.0	4.4	3.8	3.2
450	8.9	8.2	7.6	7.0	6.4	5.7	5.1	4.4	3.8	3.2	2.6
500	8.3	7.6	7.0	6.4	5.8	5.1	4.5	3.8	3.2	2.6	2.0

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

## Option

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 3)	B
Non-motor end specification	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 4)	RT

(Note 3) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 4) The high-precision specification cannot be selected.

## Common Specifications

	X-axis	Y-axis	Z-axis
Driving system	Ball screw, equivalent to rolled C5	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]
Positioning repeatability	±0.01mm	±0.01mm [±0.005mm]	±0.01mm [±0.005mm]
Lost motion	0.02mm or less	0.05mm or less [0.02mm or less]	0.05mm or less [0.02mm or less]
Guide	Integrated with base	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output/lead	400W/40mm	200W/20mm	200W/20mm (H), 10mm (M)

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

## ■ ICSB3 [ICSPB3]-B2N1HB3□-CT-CT (cable track specification) configuration direction 1

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

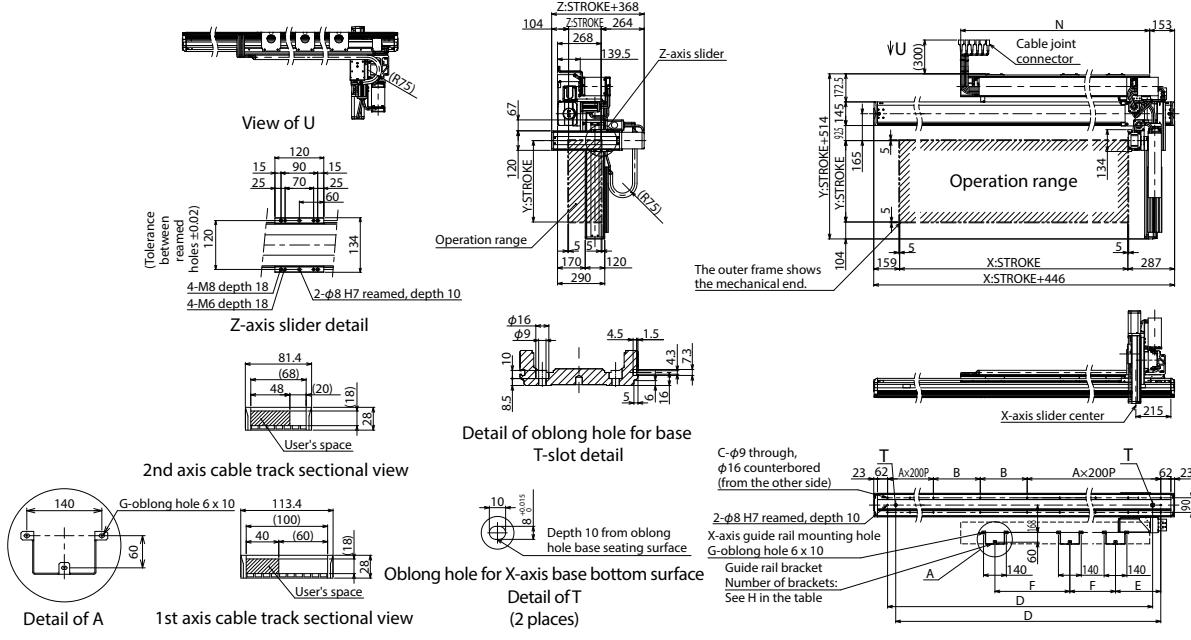
Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D CAD

3D CAD

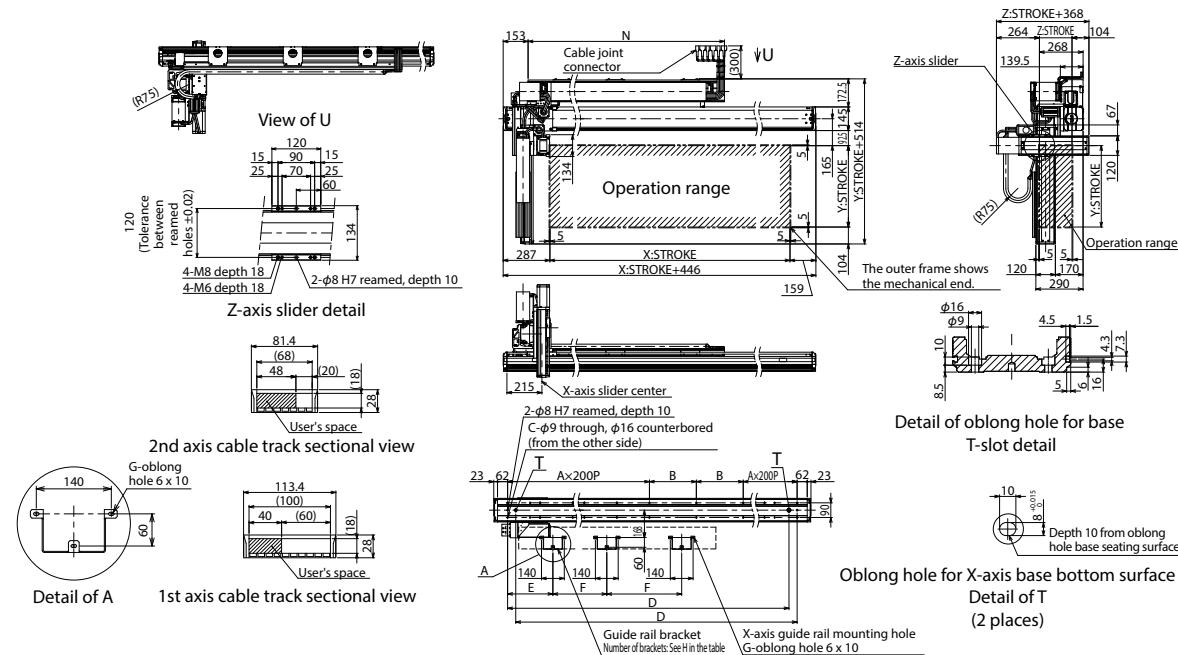


## ■ ICSB3 [ICSPB3]-B2N2HB3□-CT-CT (cable track specification) configuration direction 2

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.



X-axis stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
A	5	5	6	6	6	6	6	6	6	6	7	7	7	7	7
B	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238
C	26	26	30	30	30	30	30	30	30	30	34	34	34	34	34
D	2526	2576	2626	2676	2726	2776	2826	2876	2926	2976	3026	3076	3126	3176	3226
E	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278
F	460	472.5	485	497.5	510	522.5	535	547.5	560	572.5	585	597.5	610	622.5	635
G	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
N	1340	1365	1390	1415	1440	1465	1490	1515	1540	1565	1590	1615	1640	1665	1690

# ICSB3-B2N□MB3□

## ICSPB3-B2N□MB3□

### Model specification items

B2N□MB3□		WA						T□			
Series		Type	Encoder type	X-axis stroke	Option	Y-axis stroke	Option	Z-axis stroke	Option	Applicable controllers	
ICSB3	Standard 3-axis spec.	Refer to Model Specification table below	WA [Battery-less absolute]	230 300	2300mm 3000mm (Every 50mm)	Refer to the Options table	20 70	200mm 700mm (Every 50mm)	Refer to the Options table	T2 T4	SCON SSEL XSEL RCON RSEL SCON2
ICSPB3	High precision 3-axis spec.									Cable length	3L 5L □L Specified length
										Y-axis and Z-axis cable management	Refer to Explanation of Model Designations below

**RoHS 10**



- (1) The strokes in the Cartesian system model names are specified in cm (centimeters).
- (2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.
- (3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed.
- (4) Values in [ ] are for the high-precision specification.

### Model specification

XY configuration direction (Note 1)	Z-axis speed type (Note 2)	Model
1	H	ICSB3[ICSPB3]-B2N1MB3H-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
	M	ICSB3[ICSPB3]-B2N1MB3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
2	H	ICSB3[ICSPB3]-B2N2MB3H-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
	M	ICSB3[ICSPB3]-B2N2MB3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

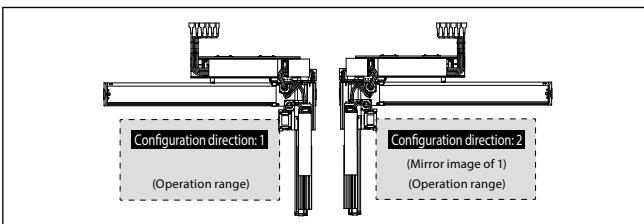
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

(Note 2) Payload and maximum speed vary depending on the Z-axis type.

### Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	230: 2300mm 300: 3000mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

### XY configuration direction



### Axis Configuration

Name of axis	Model
X-axis	NSA-LXMXS-WA-400-20-(1)-T□-(2)-(11)
Y-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-(10)-(4)
Z-axis	ISB[ISPB]-MXM-WA-200-(9)-(5)-T□-(10)-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Lead is specified with (9) in the above model numbers.

20: Z-axis speed type H

10: Z-axis speed type M

(Note) Cable exit direction is specified with (10) in the above model numbers. Please contact IAI for the cable exit direction.

(Note) Axis exit direction is specified with (11) in the above model numbers.

NT10: Axis configuration direction 1

NT9: Axis configuration direction 2

\* For the NSA single-axis, the models without the cable track are NT3/NT4. However, since the cable length for the cartesian robot is extended, the models are NT9/NT10.

### Maximum speed by stroke

The unit in the table is mm/s.

#### B2N□MB3H

X-axis	100	200	300~500	600~700	800~2200	2300~3000
Y-axis	-	-	-	1200	-	1300
Z-axis	1200	-	-	-	-	-

#### B2N□MB3M

X-axis	100	200	300~500	600~700	800~2200	2300~3000
Y-axis	-	-	-	1200	-	1300
Z-axis	600	-	-	-	-	-

### Payload

The unit is kg.

#### B2N□MB3H

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100											8.9
150											8.4
200											7.9
250											7.4
300											6.9
350											6.4
400											5.9
450											5.4
500											4.8

#### B2N□MB3M

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100											20.0
150											20.0
200											20.0
250											19.6
300											19.0
350											18.4
400											17.7
450											17.1
500											4.8

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

### Option

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 3)	B
Non-motor end specification	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 4)	RT

(Note 3) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 4) The high-precision specification cannot be selected.

### Common Specifications

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

### Applicable controllers

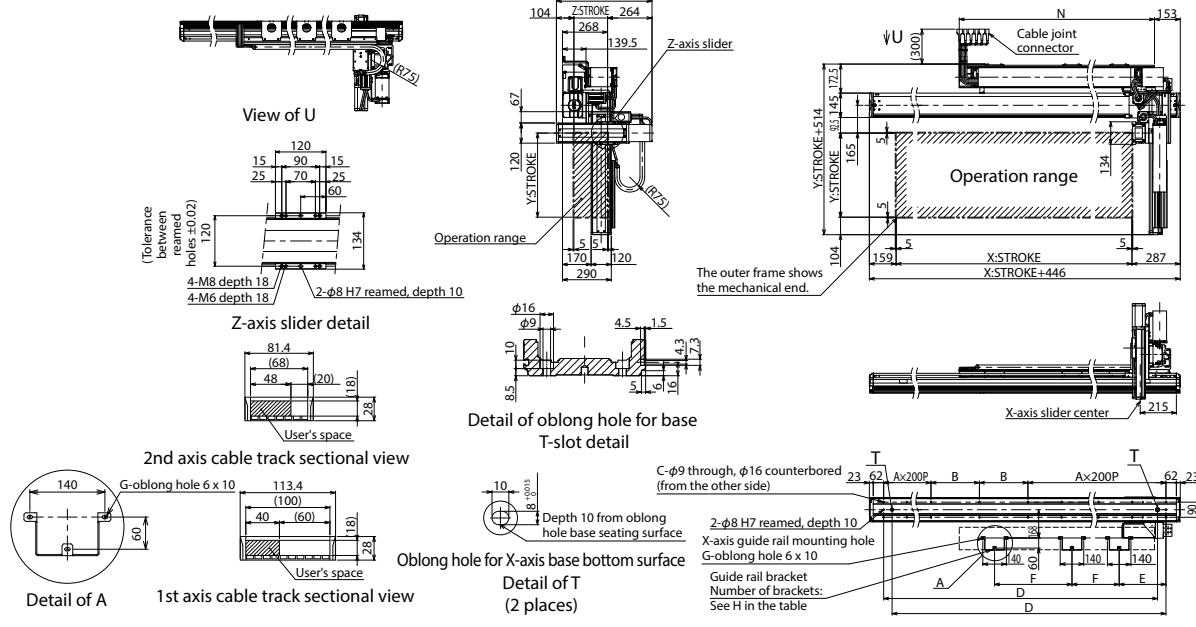
Please contact IAI. The controllers need to be purchased separately.

## Dimensions

■ ICSB3 [ICSPB3]-B2N1MB3□-CT-CT (cable track specification) configuration direction 1

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

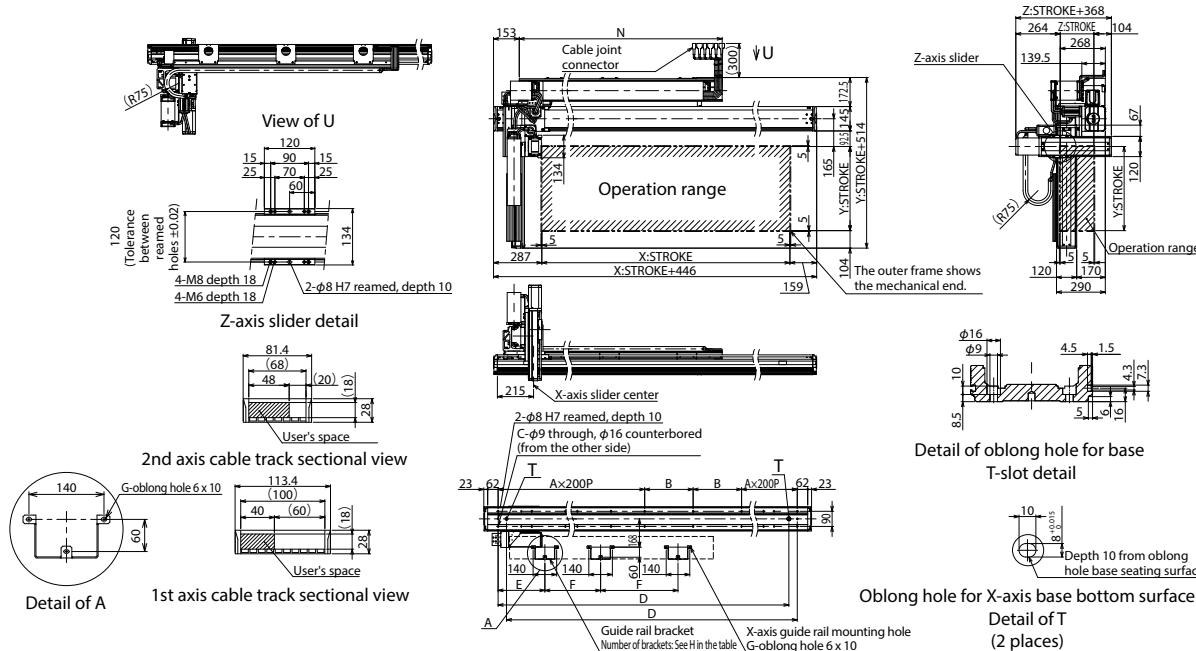
(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.



■ ICSB3 [ICSPB3]-B2N2MB3□-CT-CT (cable track specification) configuration direction 2

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

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.



X-axis stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
A	5	5	6	6	6	6	6	6	6	7	7	7	7	7	7
B	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238
C	26	26	30	30	30	30	30	30	30	30	34	34	34	34	34
D	2526	2576	2626	2676	2726	2776	2826	2876	2926	2976	3026	3076	3126	3176	3226
E	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278
F	460	472.5	485	497.5	510	522.5	535	547.5	560	572.5	585	597.5	610	622.5	635
G	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
N	1340	1365	1390	1415	1440	1465	1490	1515	1540	1565	1590	1615	1640	1665	1690



## Dimensions

## ■ ICSB3 [ICSPB3]-B1N1HS3M-CT-CT (cable track specification) configuration direction 1

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

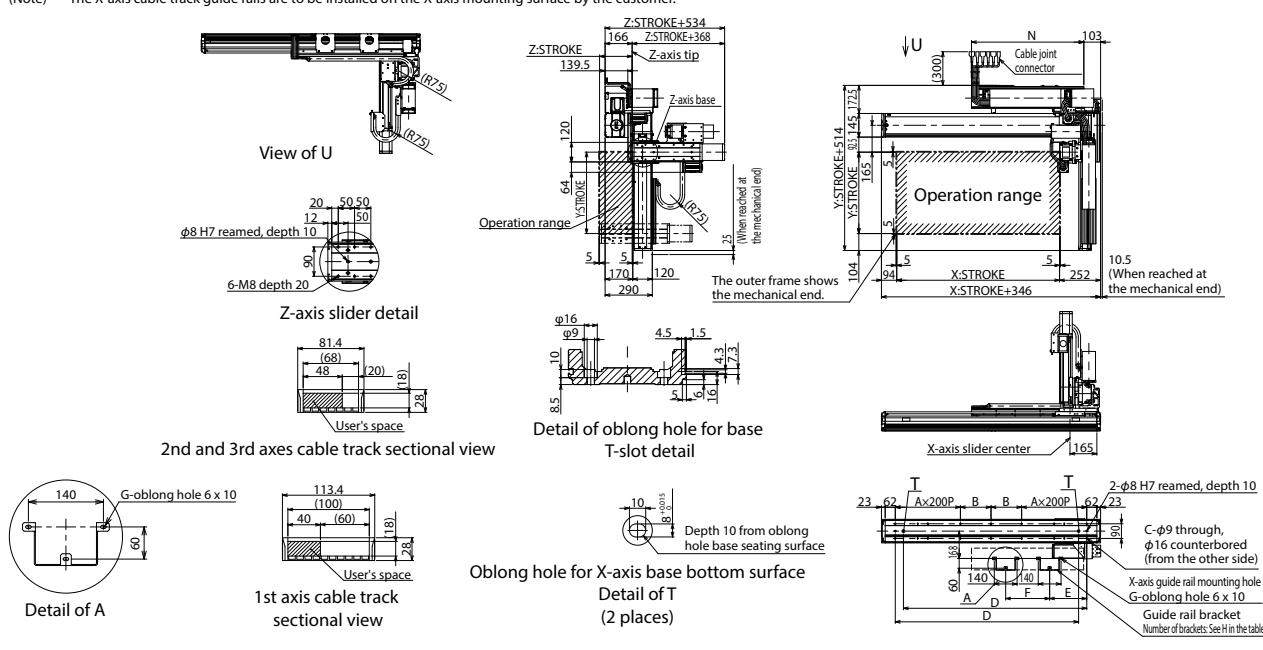
Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D CAD

3D CAD

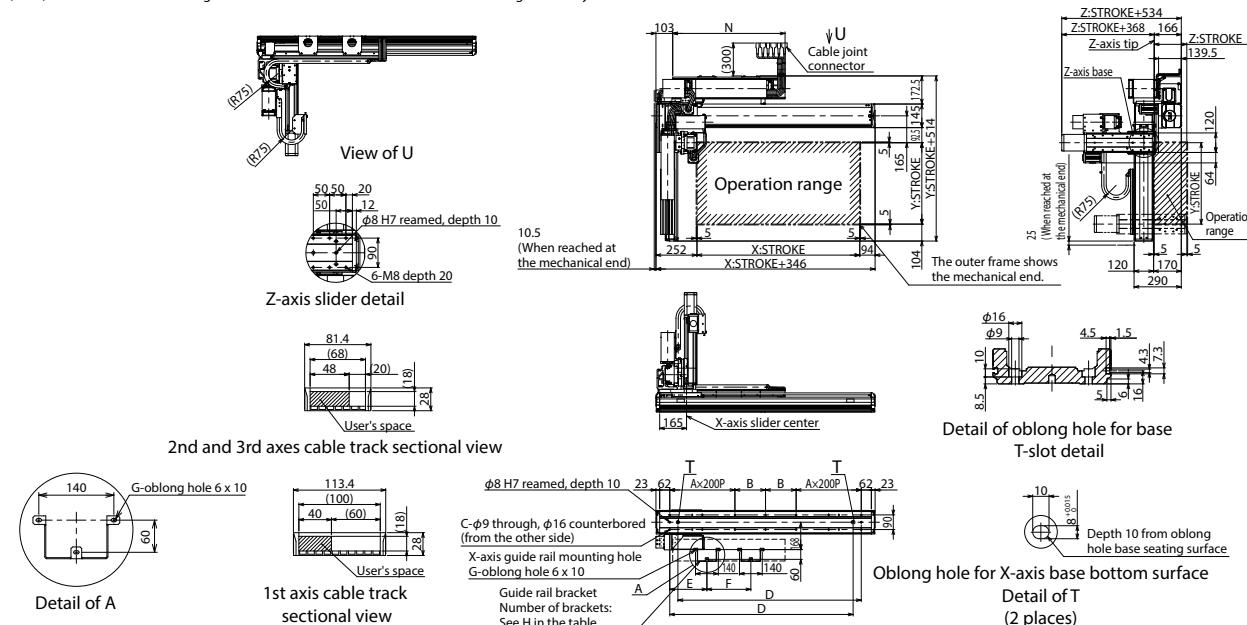


## ■ ICSB3 [ICSPB3]-B1N2HS3M-CT-CT (cable track specification) configuration direction 2

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.



X-axis stroke	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188
C	10	10	10	10	10	10	14	14	14	14	14	14	14	14	18	18	18
D	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526
E	158	158	158	158	158	158	158	158	158	158	158	158	158	158	228	228	228
F	210	235	260	285	310	335	360	385	270	295	320	345	370	395	420	445	470
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N	490	515	540	565	590	615	640	665	690	715	740	765	790	815	840	865	890

X-axis stroke	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
A	3	3	3	3	3	4	4	4	4	4	4	4	4	5	5	5	5
B	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213
C	18	18	18	18	18	22	22	22	22	22	22	22	22	26	26	26	26
D	1576	1626	1676	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376
E	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
F	495	520	545	570	595	620	645	670	695	720	745	770	795	820	845	870	895
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N	915	940	965	990	1015	1040	1065	1090	1115	1140	1165	1190	1215	1240	1265	1290	1315

## ICSB3-B1N□MS3M

## ICSPB3-B1N□MS3M

## ■ Model specification items

Series	B1N□MS3M	WA				T□	
ICSB3 Standard 3-axis spec. ICSPB3 High precision 3-axis spec.	Type Refer to Model Specification table below	Encoder type WA [Battery-less absolute]	X-axis stroke 60 600mm 225 2250mm (Every 50mm)	Option i i 70 700mm (Every 50mm)	Y-axis stroke 20 200mm i i 70 700mm (Every 50mm)	Z-axis stroke 10 100mm i i 50 500mm (Every 50mm)	Option Refer to the Options table Refer to the Options table Refer to the Options table
						Applicable controllers T2 SCON SSEL XSEL T4 RCON RSEL SCON2	Cable length 3L 3m 5L 5m □L [specified length] [Axis and Z-axis cable management] Refer to Explanation of Model Designations below

RoHS  
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<b>Selection Notes</b>	(1) The strokes in the Cartesian system model names are specified in cm (centimeters). (2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m. (3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed. (4) Values in [ ] are for the high-precision specification.
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## Model specification

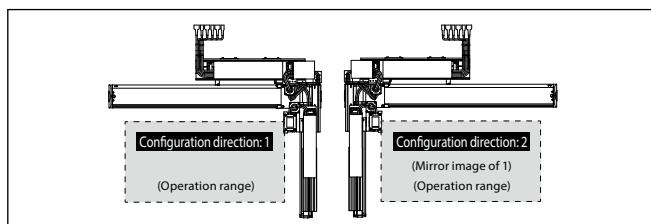
XY configuration direction (Note 1)	Model
1	ICSB3[ICSPB3]-B1N1MS3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
2	ICSB3[ICSPB3]-B1N2MS3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	60: 600mm i 225: 2250mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm i 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm i 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LXMS-WA-400-20-(1)-T□-(2)-(10)
Y-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-(9)-(4)
Z-axis	ISB[ISPB]-MXM-WA-200-10-(5)-T□-(9)-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Cable exit direction is specified with (9) in the above model numbers. Please contact IAI for the cable exit direction.

(Note) Cable exit direction is specified with (10) in the above model numbers.

NT10: Axis configuration direction 1

NT9: Axis configuration direction 2

\* For the NSA single-axis, the models without the cable track are NT3/NT4. However, since the cable length for the cartesian robot is extended, the models are NT9/NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

	100	200	300~500	600~700	800~2250
X-axis	-	-	-	2400	
Y-axis	-	-	1200	-	-
Z-axis	-	600	-	-	-

## Payload

The unit is kg.

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
150	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
200	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
250	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
300	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
350	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
400	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
450	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
500	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes".

## Option

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 2)	B
Non-motor end specification	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 3)	RT

(Note 2) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 3) The high-precision specification cannot be selected.

## Common Specifications

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

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

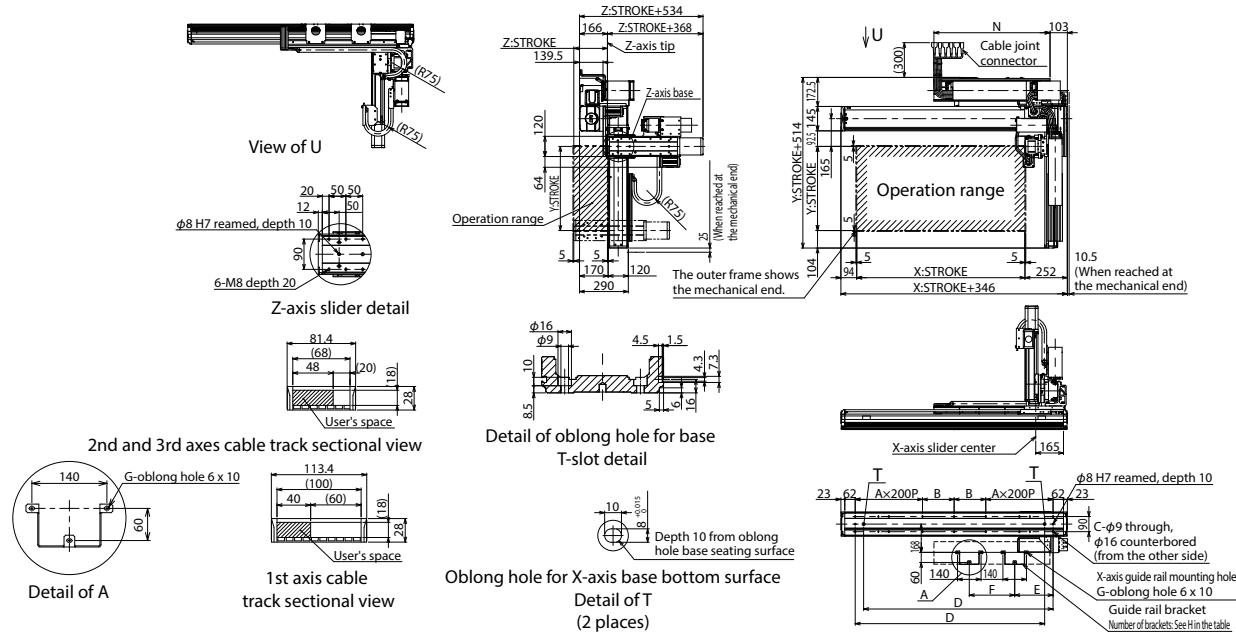
## ■ ICSB3 [ICSPB3]-B1N1MS3M-CT-CT (cable track specification) configuration direction 1

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

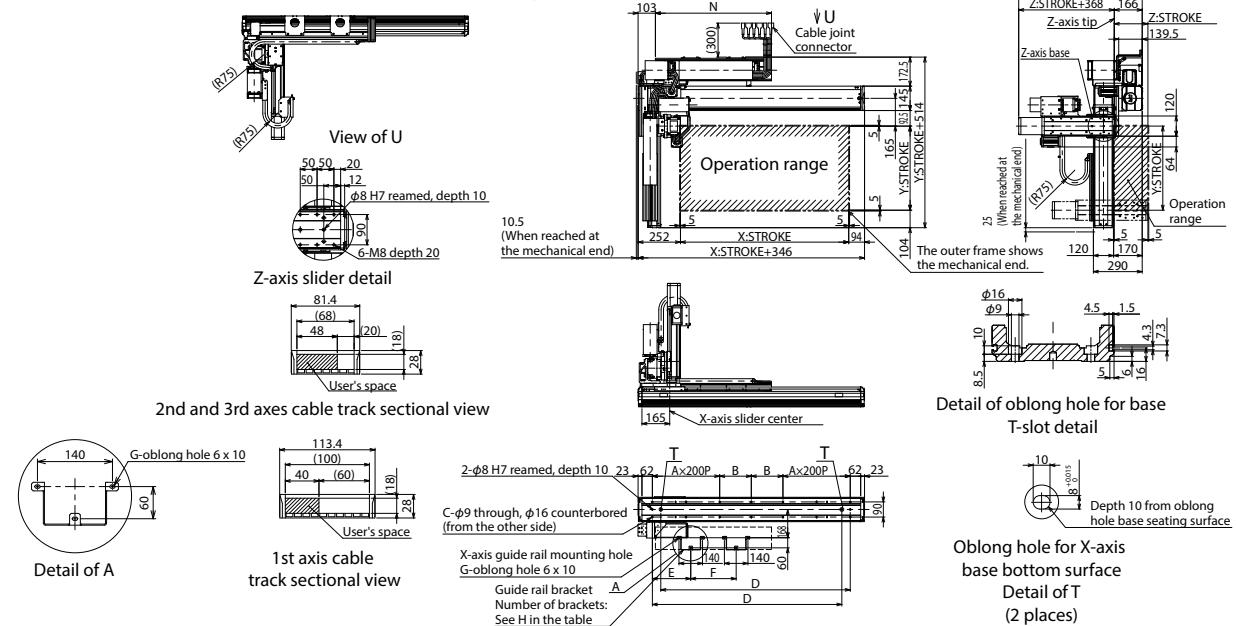
2D CAD

3D CAD



## ■ ICSB3 [ICSPB3]-B1N2MS3M-CT-CT (cable track specification) configuration direction 2

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.



X-axis stroke	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188
C	10	10	10	10	10	10	14	14	14	14	14	14	14	14	18	18	18
D	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526
E	158	158	158	158	158	158	158	158	228	228	228	228	228	228	228	228	228
F	210	235	260	285	310	335	360	385	270	295	320	345	370	395	420	445	470
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N	490	515	540	565	590	615	640	665	690	715	740	765	790	815	840	865	890

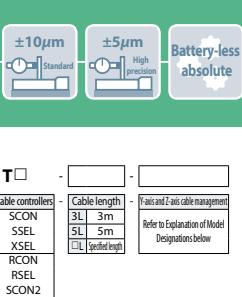
X-axis stroke	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
A	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5
B	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213
C	18	18	18	18	18	22	22	22	22	22	22	22	22	26	26	26	26
D	1576	1626	1676	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376
E	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
F	495	520	545	570	595	620	645	670	695	720	745	770	795	820	845	870	895
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N	915	940	965	990	1015	1040	1065	1090	1115	1140	1165	1190	1215	1240	1265	1290	1315

# ICSB3-B2N□HS3M

## ICSPB3-B2N□HS3M

### ■ Model specification items

- Series	- B2N□HS3M	- WA	- [ ]	- [ ]	- [ ]	- T□	- [ ]
- Type	- Encoder type	- X-axis stroke	- Option	- Y-axis stroke	- Option	- Z-axis stroke	- Option
ICSB3 Standard 3-axis spec. ICSPB3 High precision 3-axis spec.	Refer to Model Specification table below	WA [Battery-less absolute]	230: 230mm 300: 300mm (Every 50mm)	Refer to the Options table	20: 200mm 70: 700mm (Every 50mm)	10: 100mm 50: 500mm (Every 50mm)	Refer to the Options table



**RoHS 10**



<b>Selection Notes</b>	<ul style="list-style-type: none"> <li>(1) The strokes in the Cartesian system model names are specified in cm (centimeters).</li> <li>(2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.</li> <li>(3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed.</li> <li>(4) Values in [ ] are for the high-precision specification.</li> </ul>
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### Model specification

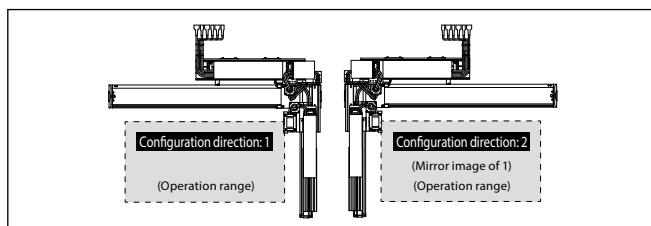
XY configuration direction (Note 1)	Model
1	ICSB3[ICSPB3]-B2N1HS3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
2	ICSB3[ICSPB3]-B2N2HS3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

### ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	230: 230mm 300: 300mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

### XY configuration direction



### Axis Configuration

Name of axis	Model
X-axis	NSA-LXMXS-WA-400-40-(1)-T□-(2)-(10)
Y-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-(9)-(4)
Z-axis	ISB[ISPB]-MXM-WA-200-10-(5)-T□-(9)-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Cable exit direction is specified with (9) in the above model numbers. Please contact IAI for the cable exit direction.

(Note) Cable exit direction is specified with (10) in the above model numbers.

NT10: Axis configuration direction 1

NT9: Axis configuration direction 2

\* For the NSA single-axis, the models without the cable track are NT3/NT4. However, since the cable length for the cartesian robot is extended, the models are NT9/NT10.

### Maximum speed by stroke

The unit in the table is mm/s.

	100	200	300~500	600~700	800~2200	2300~3000
X-axis						2400
Y-axis	-	1200				-
Z-axis	600				-	

### Payload

The unit is kg.

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	12.8	12.1	11.5	10.9	10.4	9.7	9.1	8.4	7.8	7.2	6.7
150	12.2	11.5	10.9	10.3	9.7	9.0	8.5	7.8	7.2	6.6	6.0
200	11.6	10.9	10.4	9.8	9.2	8.5	7.9	7.2	6.7	6.1	5.5
250	11.0	10.3	9.7	9.1	8.6	7.9	7.3	6.6	6.0	5.4	4.9
300	10.4	9.8	9.2	8.6	8.0	7.3	6.8	6.1	5.5	4.9	4.3
350	9.9	9.2	8.6	8.1	7.5	6.8	6.2	5.5	5.0	4.4	3.8
400	9.4	8.7	8.1	7.5	6.9	6.3	5.7	5.0	4.4	3.8	3.2
450	8.7	8.1	7.5	6.9	6.3	5.6	5.0	4.4	3.8	3.2	2.6
500	8.2	7.5	6.9	6.3	5.8	5.1	4.5	3.8	3.2	2.7	2.1

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

### Option

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 2)	B
Non-motor end specification	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 3)	RT

(Note 2) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 3) The high-precision specification cannot be selected.

### Common Specifications

	X-axis	Y-axis	Z-axis
Driving system	Ball screw, equivalent to C10	Ball screw, rolled equivalent to C10 (equivalent to rolled C5)	Ball screw, rolled equivalent to C10 (equivalent to rolled C5)
Positioning repeatability	±0.01mm	±0.01mm (±0.005mm)	±0.01mm (±0.005mm)
Lost motion	0.02mm or less	0.05mm or less (0.02mm or less)	0.05mm or less (0.02mm or less)
Guide	Integrated with base	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output / lead	400W/40mm	200W/20mm	200W/10mm

### Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

**■ICSB3 [ICSPB3]-B2N1HS3M-CT-CT (cable track specification) configuration direction 1**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

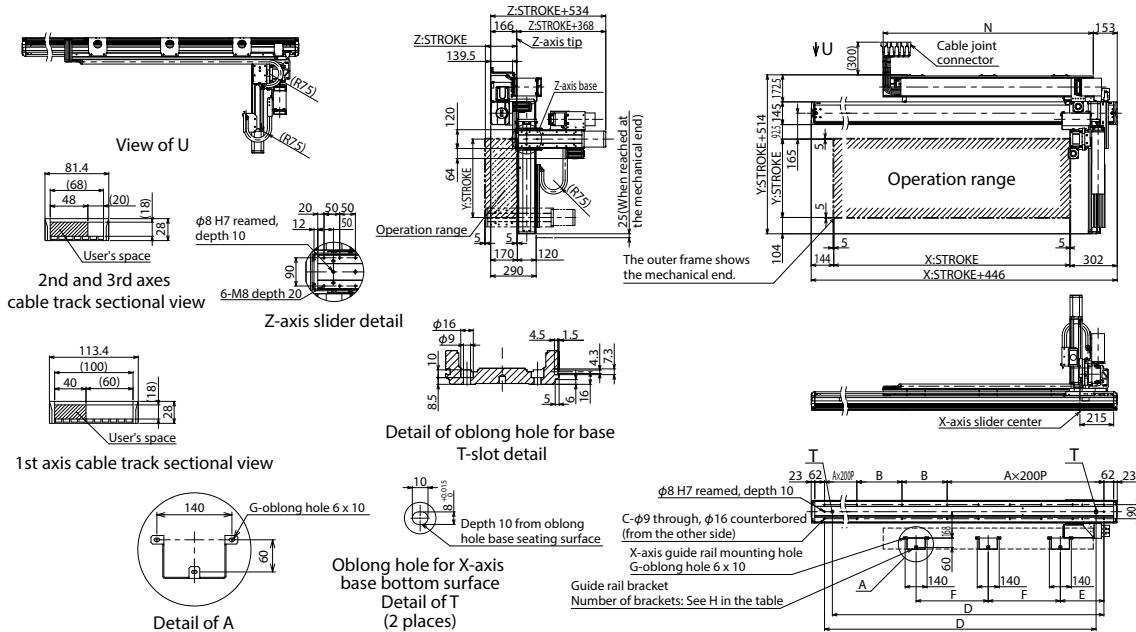
Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D CAD

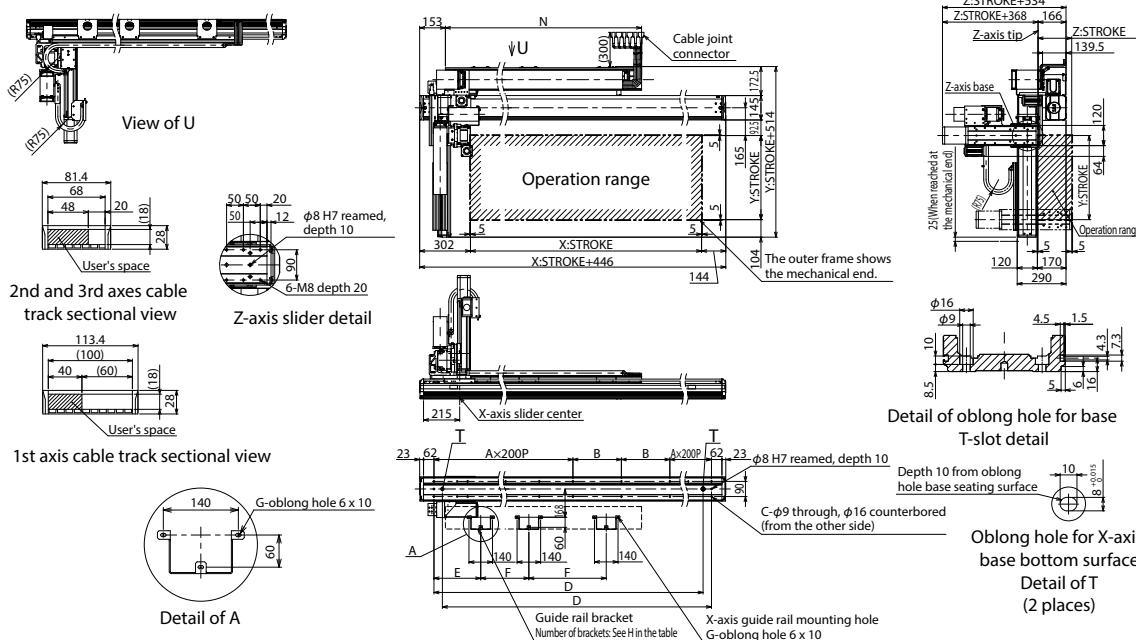
3D CAD

**■ICSB3 [ICSPB3]-B2N2HS3M-CT-CT (cable track specification) configuration direction 2**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.



X-axis stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
A	5	5	6	6	6	6	6	6	6	6	7	7	7	7	7
B	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238
C	26	26	30	30	30	30	30	30	30	30	34	34	34	34	34
D	2526	2576	2626	2676	2726	2776	2826	2876	2926	2976	3026	3076	3126	3176	3226
E	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278
F	460	472.5	485	497.5	510	522.5	535	547.5	560	572.5	585	597.5	610	622.5	635
G	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
N	1340	1365	1390	1415	1440	1465	1490	1515	1540	1565	1590	1615	1640	1665	1690

## ICSB3-B2N□MS3M

## ICSPB3-B2N□MS3M

## ■ Model specification items

	B2N□MS3M	WA				T□		
Series	-	Type	Encoder type	X-axis stroke Option	Y-axis stroke Option	Z-axis stroke Option	Applicable controllers	Cable length
ICSB3 [Standard 3-axis spec.]	[Refer to Model specification table below]	WA [Battery-less absolute]		230 300 3000mm (Every 50mm)	200 200mm (Every 50mm)	100mm 50 500mm (Every 50mm)	T2 SCON SSEL XSEL	3L 3m 5L 5m □L Specified length

RoHS  
10

## Selection Notes



- (1) The strokes in the Cartesian system model names are specified in cm (centimeters).
- (2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.
- (3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed.
- (4) Values in [ ] are for the high-precision specification.

## Model specification

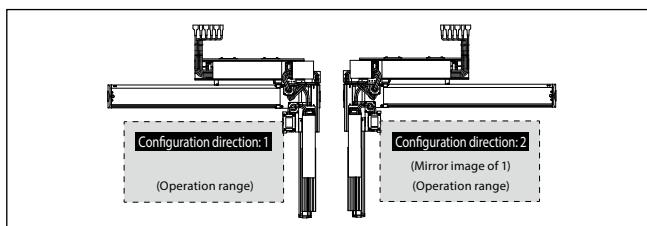
XY configuration direction (Note 1)	Model
1	ICSB3[ICSPB3]-B2N1MS3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
2	ICSB3[ICSPB3]-B2N2MS3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	230: 2300mm 300: 3000mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LXMXS-WA-400-20-(1)-T□-(2)-(10)
Y-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-(9)-(4)
Z-axis	ISB[ISPB]-MXM-WA-200-10-(5)-T□-(9)-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Cable exit direction is specified with (9) in the above model numbers. Please contact IAI for the cable exit direction.

(Note) Cable exit direction is specified with (10) in the above model numbers.

NT10: Axis configuration direction 1

NT9: Axis configuration direction 2

\* For the NSA single-axis, the models without the cable track are NT3/NT4. However, since the cable length for the cartesian robot is extended, the models are NT9/NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

	100	200	300~500	600~700	800~2200	2300~3000
X-axis	-	-	-	-	-	1300
Y-axis	-	1200	-	-	-	-
Z-axis	600	-	-	-	-	-

## Payload

The unit is kg.

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
150	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
200	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
250	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
300	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
350	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
400	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
450	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
500	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

## Option

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 2)	B
Non-motor end specification	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 3)	RT

(Note 2) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 3) The high-precision specification cannot be selected.

## Common Specifications

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

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

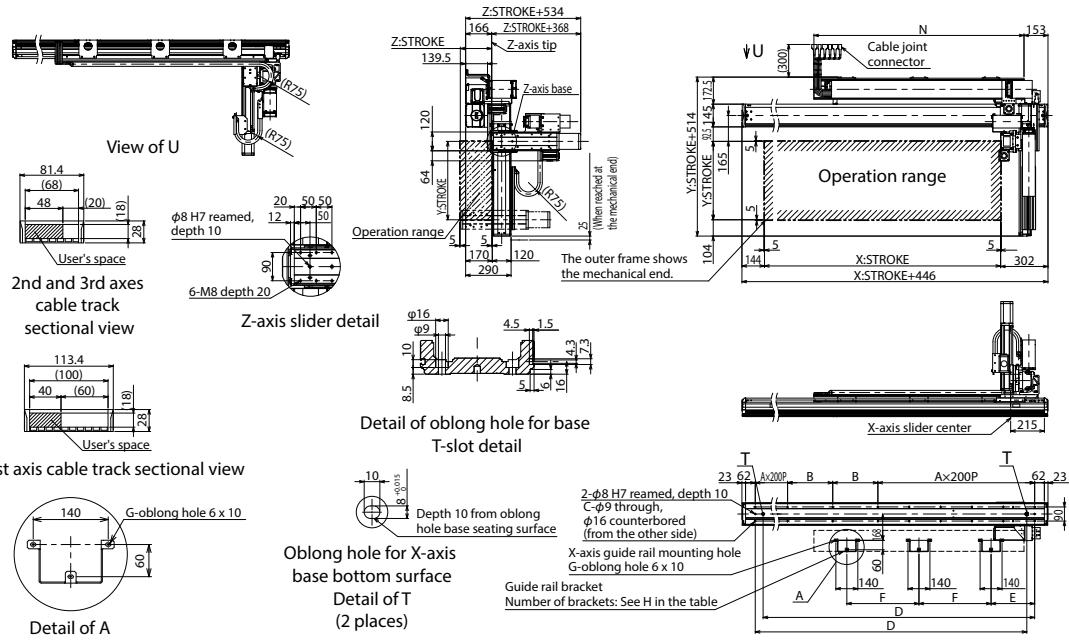
Dimensions

■ ICSB3 [ICSPB3]-B2N1MS3M-CT-CT (cable track specification) configuration direction 1

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

The configuration position in the figure is the standard home position. To change the home position, choose **Move Home**. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

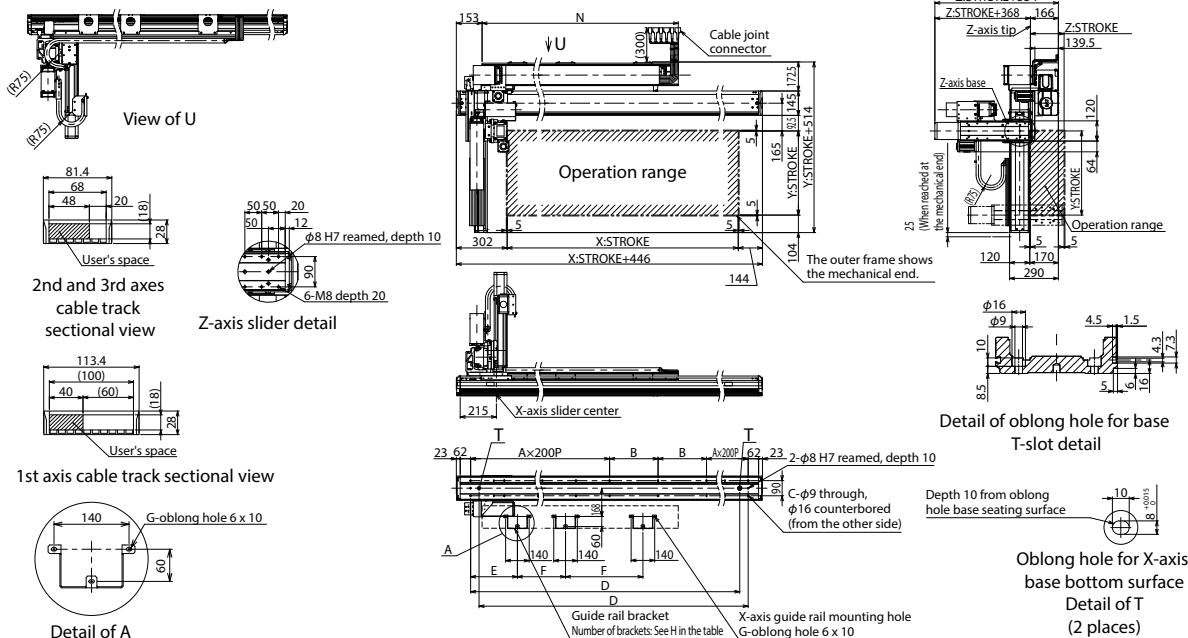


■ ICSB3 [ICSPB3]-B2N2MS3M-CT-CT (cable track specification) configuration direction 2

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.



X-axis stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
A	5	5	6	6	6	6	6	6	6	7	7	7	7	7	7
B	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238
C	26	26	30	30	30	30	30	30	30	30	34	34	34	34	34
D	2526	2576	2626	2676	2726	2776	2826	2876	2926	2976	3026	3076	3126	3176	3226
E	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278
F	460	472.5	485	497.5	510	522.5	535	547.5	560	572.5	585	597.5	610	622.5	635
G	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
N	1340	1365	1390	1415	1440	1465	1490	1515	1540	1565	1590	1615	1640	1665	1690

## ICSB4-B3N1H

## ICSPB4-B3N1H

## ■ Model specification items

	B3N1H	WA						
Series	-	-	X-axis stroke	Option	-	T□	-	-
ICSB4 Standard 4-axis spec.	Type	Encoder type	30 z 225	300mm (Every 50mm)	Y1 axis/Y2 axis stroke	20 z 70	200mm (Every 50mm)	Refer to the Options table
ICSPB6 High precision 4-axis spec.	Refer to Model Specification table below	WA [Battery-less absolute]			Applicable controllers	T2	SCON SSEL XSEL	Cable length
						T4	RCON RSEL SCON2	3L 5L □ Specified length
								3m 5m
								Refer to cable management of Model Designations below
								2-axis cable management (option)

RoHS  
10

- Selection Notes**
- (1) The strokes in the Cartesian system model names are specified in cm (centimeters).
- (2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.
- (3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis. Note that a longer stroke will result in a lower max. speed.
- (4) Values in [ ] are for the high-precision specification.

## Model specification

XY configuration direction (Note 1)	Model
1	ICSB4[ICSPB4]-B3N1H-WA-(1)(2)-(3)(4)-T□-(5)-(6)-(7)

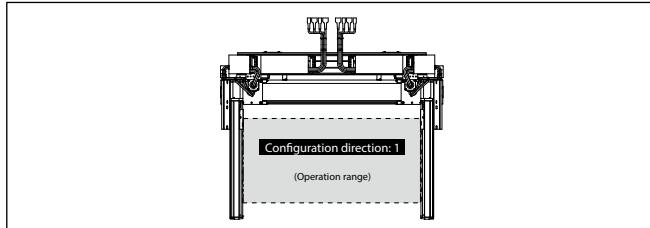
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (7) in the above model specifications.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	30: 300mm z 225: 2250mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm z 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Cable length	3L: 3m 5L: 5m □L: □m
(6)	Y-axis cable management	CT: Cable track
(7)	Z-axis cable management (option) (Note 2)	CT: Cable track

(Note 2) Please specify the Z-axis cable management in the model specification only when required. For external dimensions, see P. 5-576.

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LXMM-WA-400-40-(1)T□-(2)-NT10
Y1-axis	ISB[ISPB]-MXM-WA-200-20-(3)T□-A1S-(4)
Y2-axis	ISB[ISPB]-MXM-WA-200-20-(3)T□-A3S-(4)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (4) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) For the NSA single-axis, the model without the cable track is NT4. However, since the cable length for the cartesian robot is extended, the model is NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

	200	300~700	800~2250
X-axis	-	2400	
Y-axis	1200	-	

## Payload

The unit is kg.

Acceleration (Note 3)	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
0.3	22.8	22.1	21.6	21.1	20.5	19.9	19.4	18.7	18.2	17.6	17.1
0.4	13.8	13.1	12.6	12.1	11.5	10.9	10.4	9.7	9.2	8.6	8.1
0.5	4.8	4.1	3.6	3.1	2.5	1.9	1.4	0.7	-	-	-
0.6	-	-	-	-	-	-	-	-	-	-	-
0.7	-	-	-	-	-	-	-	-	-	-	-
0.8	-	-	-	-	-	-	-	-	-	-	-

(Note 3) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

## Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis) (Note 4)	B
Non-motor end specification (only for Y-axis)	NM
Guide with ball-retaining mechanism (only for Y-axis) (Note 5)	RT

(Note 4) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 5) The high-precision specification cannot be selected.

## Common Specifications

	X-axis	Y-axis
Driving system	Ball screw, equivalent to rolled C5	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]
Positioning repeatability	±0.01mm	±0.01mm [±0.005mm]
Lost motion	0.02mm or less	0.05mm or less [0.02mm or less]
Guide	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output / lead	400W/40mm	200W/20mm

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

**ICSB4 [ICSPB4]-B3N1H-CT (cable track specification)**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

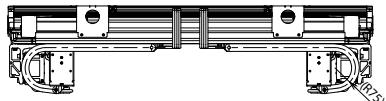
Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

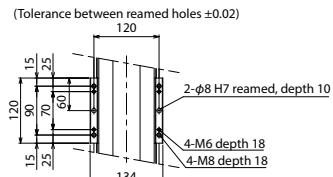
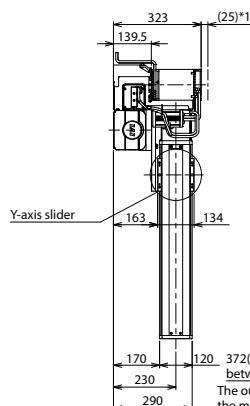
CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D CAD

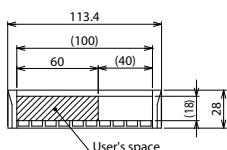
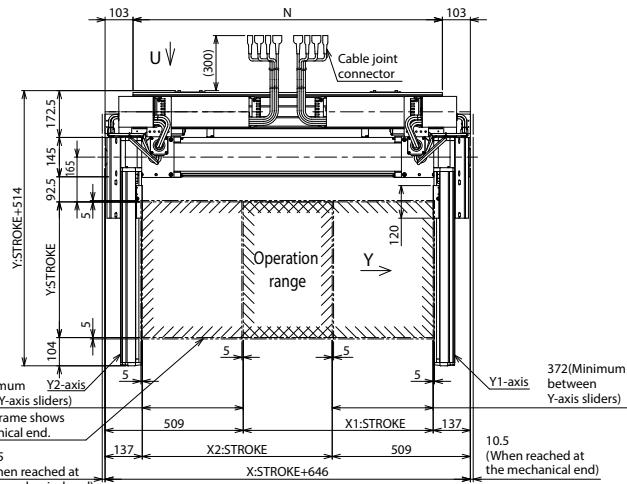
3D CAD



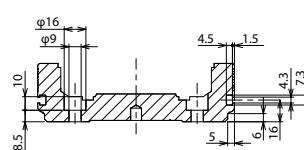
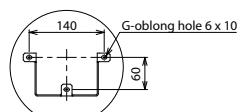
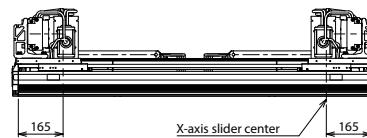
View of U

Y-axis slider detail  
(2 places)

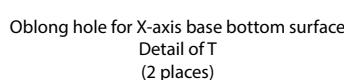
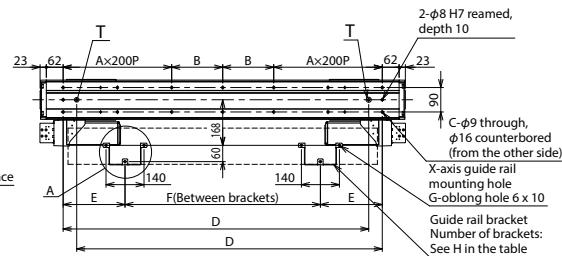
View of Y



Cable track sectional view

Detail of oblong hole for base  
T-slot detail

Detail of A

Oblong hole for X-axis base bottom surface  
Detail of T  
(2 places)

X-axis stroke	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238	263
C	10	10	10	10	10	10	14	14	14	14	14	14	14	14	14	18	18	18	18	18
D	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526	1576	1626	1676
E	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
F	320	370	420	470	520	570	620	670	720	770	820	870	920	485	510	535	560	585	610	635
G	6	6	6	6	6	6	6	6	6	6	6	6	6	9	9	9	9	9	9	
H	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	
N	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640	1690

X-axis stroke	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
A	3	3	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6
B	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163
C	18	18	22	22	22	22	22	22	22	22	22	26	26	26	26	26	26	26	30	30
D	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376	2426	2476	2526	2576	2626	2676
E	228	228	228	228	228	228	228	228	228	228	228	234	228	224	234	228	224	234	228	224
F	660	685	710	735	760	785	810	835	860	885	910	620	640	660	670	690	710	720	740	760
G	9	9	9	9	9	9	9	9	9	9	9	12	12	12	12	12	12	12	12	
H	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	
N	1740	1790	1840	1890	1940	1990	2040	2090	2140	2190	2240	2290	2340	2390	2440	2490	2540	2590	2640	2690

## ICSB4-B3N1M

## ICSPB4-B3N1M

## ■ Model specification items

Series	B3N1M	WA			T□		
ICSB6	Standard 4-axis spec.	Type	Encoder type	Y1 axis/Y2 axis stroke	Applicable controllers	Cable length	Z-axis cable management
ICSPB6	High precision 4-axis spec.	Refer to Model Specification table below	WA [Battery-less absolute]	30 225mm l 2250mm (Every 50mm)	T2 T4 SCON SSEL XSEL RCON RSEL SCON2	3L 5L 3m 5m □L □m	Refer to the Options table Refer to the Options table Refer to the Options table Refer to Explanation of Model Designations below □L Specified length



<b>Selection Notes</b>	<ul style="list-style-type: none"> <li>(1) The strokes in the Cartesian system model names are specified in cm (centimeters).</li> <li>(2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.</li> <li>(3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis. Note that a longer stroke will result in a lower max. speed.</li> <li>(4) Values in [ ] are for the high-precision specification.</li> </ul>
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## Model specification

XY configuration direction (Note 1)	Model
1	ICSB4[ICSPB4]-B3N1M-WA-(1)(2)-(3)(4)-T□-(5)-(6)-(7)

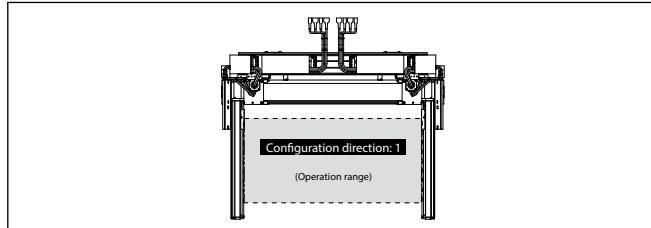
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (7) in the above model specifications.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	30: 300mm l 225: 2250mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm l 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Cable length	3L: 3m 5L: 5m □L: □m
(6)	Y-axis cable management	CT: Cable track
(7)	Z-axis cable management (option) (Note 2)	CT: Cable track

(Note 2) Please specify the Z-axis cable management in the model specification only when required. For external dimensions, see P. 5-576.

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LXMM-WA-400-20-(1)T□-(2)-NT10
Y1-axis	ISB[ISPB]-MXM-WA-200-20-(3)T□-A15-(4)
Y2-axis	ISB[ISPB]-MXM-WA-200-20-(3)T□-A35-(4)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (4) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) For the NSA single-axis, the model without the cable track is NT4. However, since the cable length for the cartesian robot is extended, the model is NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

	200	300~700	800~2250
X-axis	-	1300	
Y-axis	1200	-	

## Payload

The unit is kg.

Acceleration (Note 3)	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
0.3	45.0	45.0	45.0	45.0	45.0	43.0	39.3	36.0	33.1	30.5	19.3
0.4	40.8	40.1	39.6	39.1	38.5	37.9	37.4	35.1	32.3	29.8	19.3
0.5	22.8	22.1	21.6	21.1	20.5	19.9	19.4	18.7	18.2	17.6	17.1
0.6	13.8	13.1	12.6	12.1	11.5	10.9	10.4	9.7	9.2	8.6	8.1
0.7	4.8	4.1	3.6	3.1	2.5	1.9	1.4	0.7	-	-	-
0.8	-	-	-	-	-	-	-	-	-	-	-

(Note 3) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

## Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis) (Note 4)	B
Non-motor end specification (only for Y-axis)	NM
Guide with ball-retaining mechanism (only for Y-axis) (Note 5)	RT

(Note 4) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 5) The high-precision specification cannot be selected.

## Common Specifications

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

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

Dimensions

■ ICSB4 [ICSPB4]-B3N1M-CT (cable track specification)

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

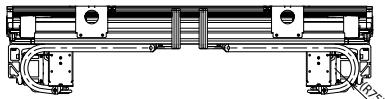
The configuration position in the figure is the standard home position. To change the home position, choose **Move Home**. Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

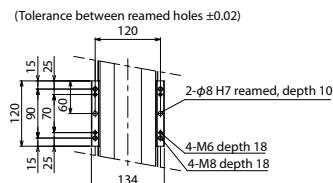
CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D  
CAD

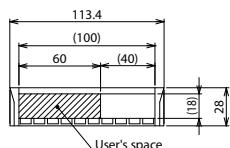
3D  
CAD



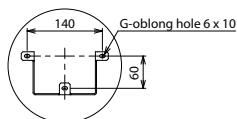
View of U



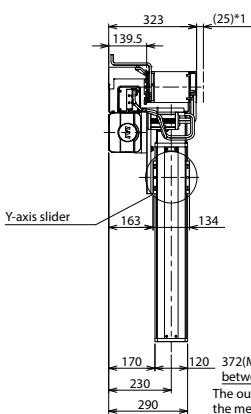
Y-axis slider detail  
(2 places)



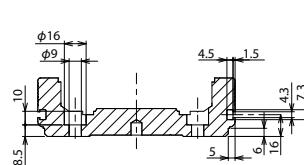
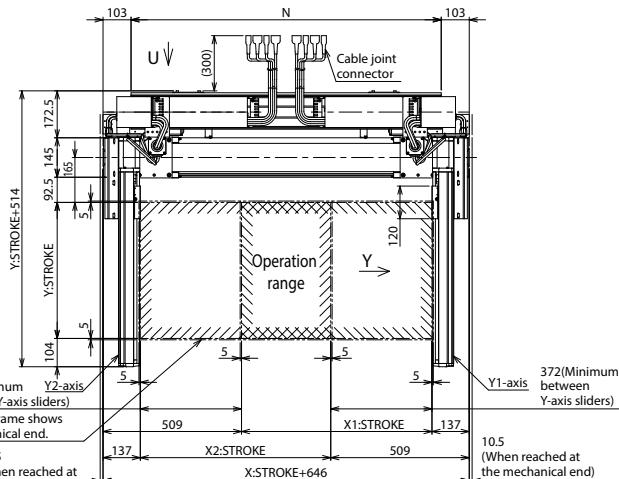
### Cable track sectional view



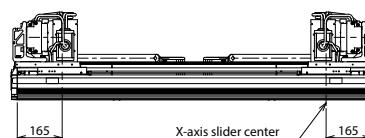
### Detail of A



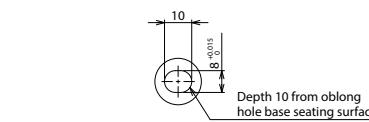
## View of V



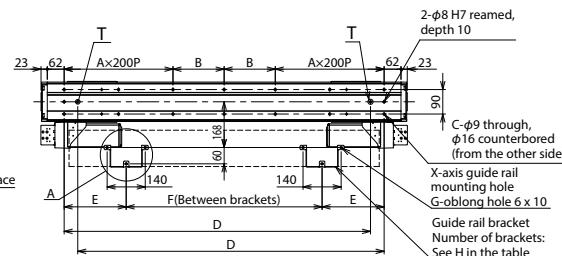
Detail of oblong hole for base  
T-slot detail



### X-axis slider center



**Oblong hole for X-axis base bottom surface**  
**Detail of T**  
(2 sides)



X-axis stroke	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238	263
C	10	10	10	10	10	10	14	14	14	14	14	14	14	14	18	18	18	18	18	18
D	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526	1576	1626	1676
E	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
F	320	370	420	470	520	570	620	670	720	770	820	870	920	485	510	535	560	585	610	635
G	6	6	6	6	6	6	6	6	6	6	6	6	6	9	9	9	9	9	9	9
H	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
N	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640	1690

X-axis stroke	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
A	3	3	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	6	6
B	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163
C	18	18	22	22	22	22	22	22	22	22	26	26	26	26	26	26	26	26	30	30
D	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376	2426	2476	2526	2576	2626	2676
E	228	228	228	228	228	228	228	228	228	228	228	234	228	224	234	228	224	234	228	224
F	660	685	710	735	760	785	810	835	860	885	910	620	640	660	670	690	710	720	740	760
G	9	9	9	9	9	9	9	9	9	9	9	12	12	12	12	12	12	12	12	12
H	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4
N	1740	1790	1840	1890	1940	1990	2040	2090	2140	2190	2240	2290	2340	2390	2440	2490	2540	2590	2640	2690

## ICSB4-B4N1H

## ICSPB4-B4N1H

## ■ Model specification items

Series	B4N1H	WA			T□		
ICSB6	Standard 4-axis spec.	Type	Encoder type	Y1 axis/Y2 axis stroke	Applicable controllers	Cable length	Z-axis cable management
ICSPB6	High precision 4-axis spec.	Refer to Model Specification table below	WA [Battery-less absolute]	30mm 270mm (Every 50mm)	T2 T4 SCON SSEL XSEL RCON RSEL SCON2	3L 5L 3m 5m [Specified length]	Refer to the Options table Refer to the Options table



<b>Selection Notes</b>	<ul style="list-style-type: none"> <li>(1) The strokes in the Cartesian system model names are specified in cm (centimeters).</li> <li>(2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.</li> <li>(3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis. Note that a longer stroke will result in a lower max. speed.</li> <li>(4) Values in [ ] are for the high-precision specification.</li> </ul>
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## Model specification

XY configuration direction (Note 1)	Model
1	ICSB4[ICSPB4]-B4N1H-WA-(1)(2)-(3)(4)-T□-(5)-(6)-(7)

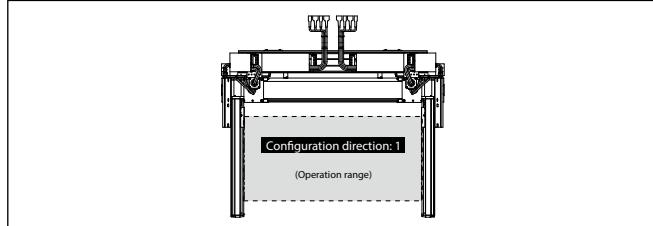
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (7) in the above model specifications.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	230: 230mm l 270: 270mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm l 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Cable length	3L: 3m 5L: 5m □L: □m
(6)	Y-axis cable management	CT: Cable track
(7)	Z-axis cable management (option) (Note 2)	CT: Cable track

(Note 2) Please specify the Z-axis cable management in the model specification only when required. For external dimensions, see P. 5-576.

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LMXM-WA-400-40-(1)-T□-(2)-NT10
Y1-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A1S-(4)
Y2-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A3S-(4)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (4) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) For the NSA single-axis, the model without the cable track is NT4. However, since the cable length for the cartesian robot is extended, the model is NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

	200~700	800~2200	2300~2700
X-axis	-	-	2400
Y-axis	1200	-	-

## Payload

The unit is kg.

Acceleration (Note 3)	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
0.3	22.8	22.1	21.6	21.1	20.5	19.9	19.4	18.7	18.2	17.6	17.1
0.4	13.8	13.1	12.6	12.1	11.5	10.9	10.4	9.7	9.2	8.6	8.1
0.5	4.8	4.1	3.6	3.1	2.5	1.9	1.4	0.7	-	-	-
0.6	-	-	-	-	-	-	-	-	-	-	-
0.7	-	-	-	-	-	-	-	-	-	-	-
0.8	-	-	-	-	-	-	-	-	-	-	-

(Note 3) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

## Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis) (Note 4)	B
Non-motor end specification (only for Y-axis)	NM
Guide with ball-retaining mechanism (only for Y-axis) (Note 5)	RT

(Note 4) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 5) The high-precision specification cannot be selected.

## Common Specifications

	X-axis	Y-axis
Driving system	Ball screw, equivalent to rolled C5	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]
Positioning repeatability	±0.01mm	±0.01mm [±0.005mm]
Lost motion	0.02mm or less	0.05mm or less [0.02mm or less]
Guide	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output / lead	400W/40mm	200W/20mm

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

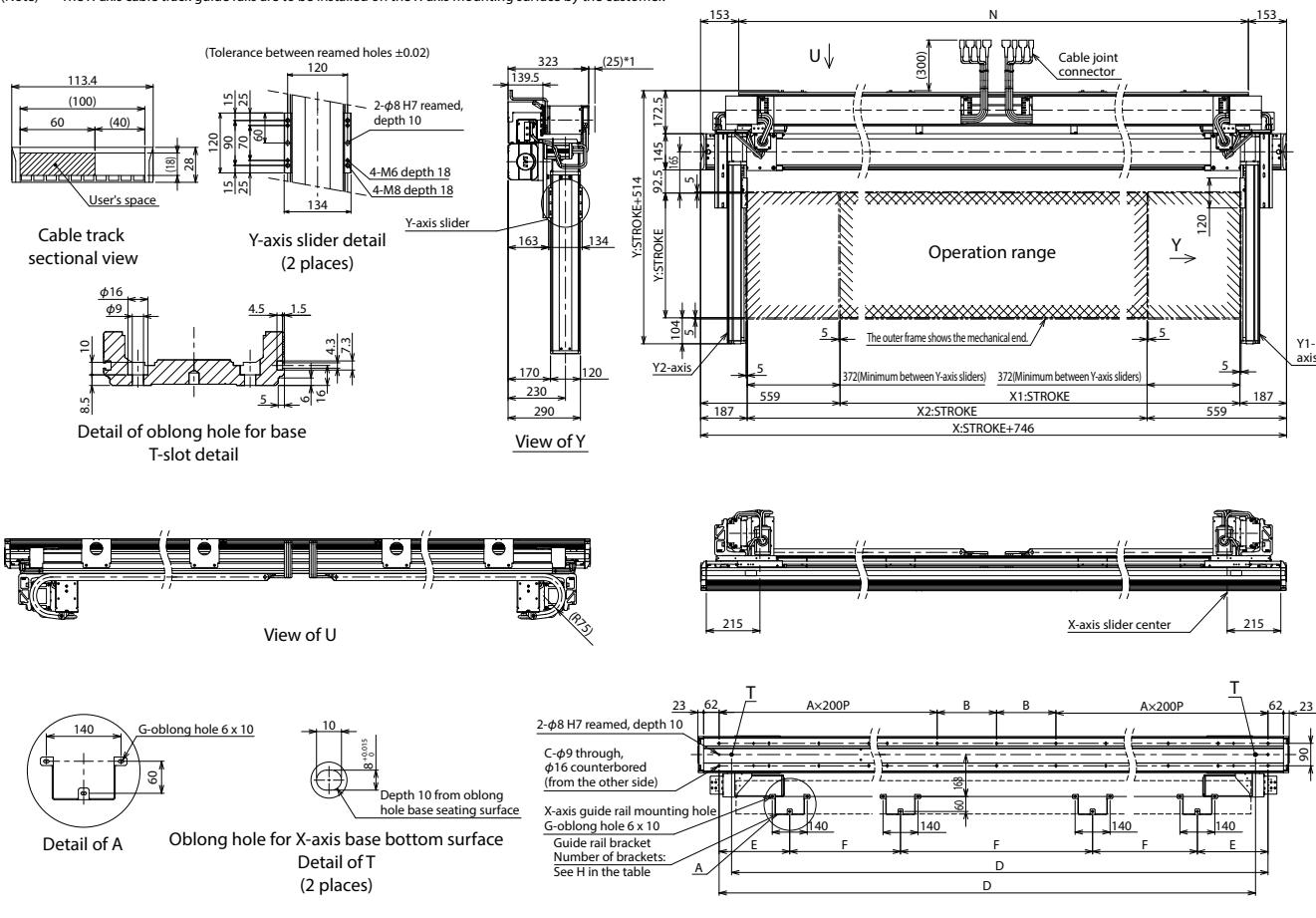
## Dimensions

**ICSB4 [ICSPB4]-B4N1H-CT (cable track specification)**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
 Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
 (Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D CAD  
3D CAD



X-axis stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700
A	6	6	6	6	7	7	7	7	7
B	238	263	288	313	138	163	188	213	238
C	30	30	30	30	34	34	34	34	34
D	2826	2876	2926	2976	3026	3076	3126	3176	3226
E	284	279	274	284	279	274	284	279	274
F	770	790	810	820	840	860	870	890	910
G	12	12	12	12	12	12	12	12	12
H	4	4	4	4	4	4	4	4	4
N	2740	2790	2840	2890	2940	2990	3040	3090	3140



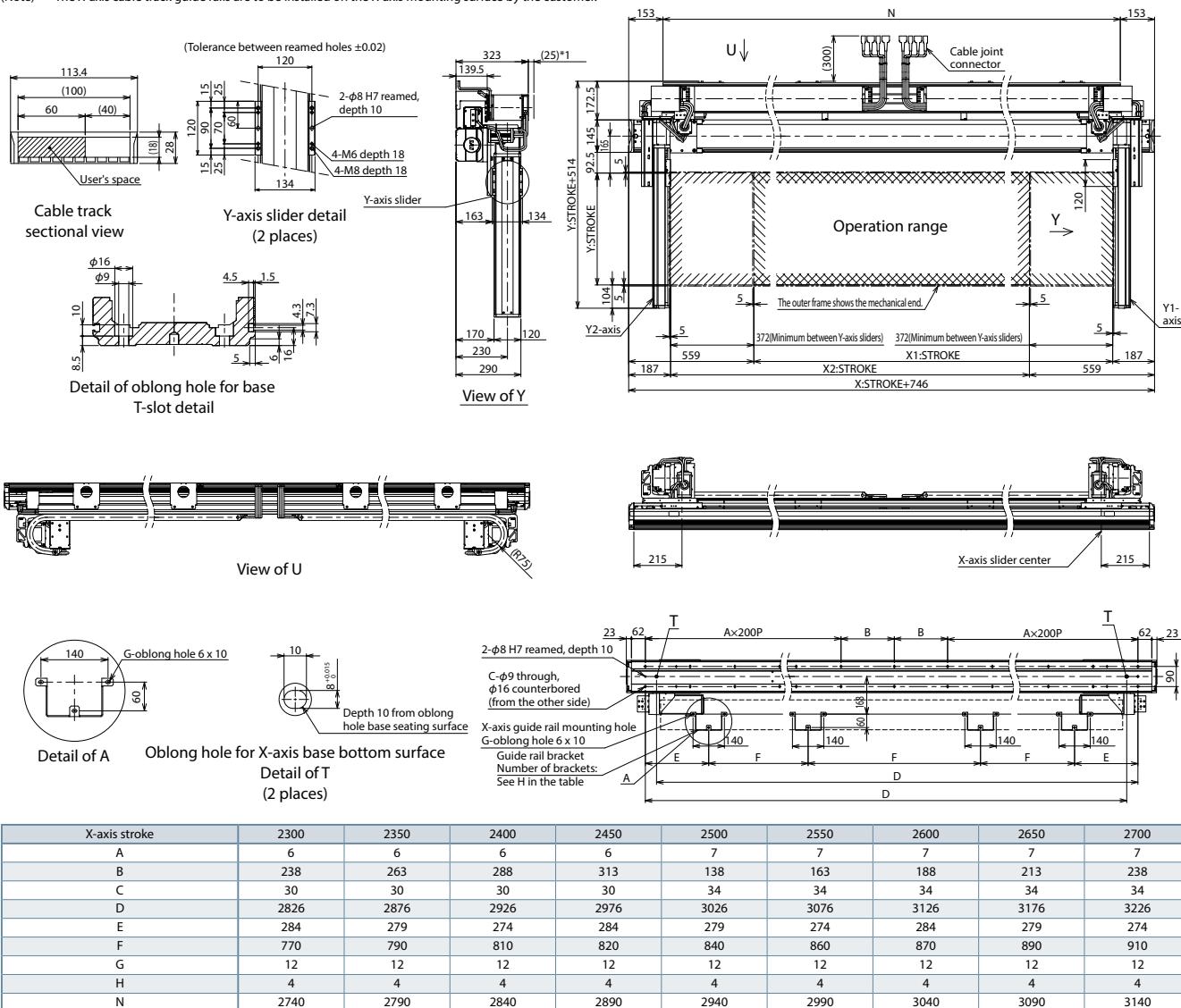
## Dimensions

**ICSB4 [ICSPB4]-B4N1M-CT (cable track specification)**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
 Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
 (Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D CAD  
3D CAD



## ICSB6-B3N1HB3□

## ICSPB6-B3N1HB3□

## ■ Model specification items

B3N1HB3□ - WA					
Series	Type	Encoder type	X-axis stroke	Y-axis stroke	Z-axis stroke
ICSB6 Standard 6-axis spec.	Refer to Model Specification table below	WVA Battery-less absolute	30 300mm 225 Refer to the Options table	20 200mm 70 Refer to the Options table	10 100mm 50 Refer to the Options table
ICSPB6 High precision 6-axis spec.					

$\pm 10\mu\text{m}$ Standard	$\pm 5\mu\text{m}$ High precision	Battery-less absolute
T□		



RoHS 10

<b>Selection Notes</b> 	(1) The strokes in the Cartesian system model names are specified in cm (centimeters).
	(2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.
	(3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed.
	(4) Values in [ ] are for the high-precision specification.
<b>Model specification</b>	

XY configuration direction (Note 1)	Z-axis speed type (Note 2)	Model
1	H	ICSB6[ICSPB6]-B3N1HB3H-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
	M	ICSB6[ICSPB6]-B3N1HB3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

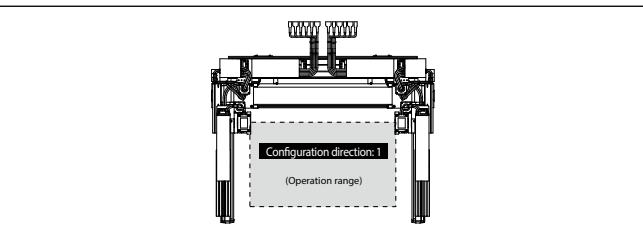
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

(Note 2) Payload and maximum speed vary depending on the Z-axis type.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	30: 300mm 225: 2250mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

## XY configuration direction



## Axis Configuration

Name of axis	Model	Reference page
X-axis	NSA-LXMM-WA-400-40-(1)-T□-(2)-NT10	3-563
Y1-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A1S-(4)	3-415
Y2-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A3S-(4)	3-415
Z1-axis	ISB[ISPB]-MXM-WA-200-(9)-(3)-T□-A3S-(6)	3-415
Z2-axis	ISB[ISPB]-MXM-WA-200-(9)-(3)-T□-A1S-(6)	3-415

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Lead is specified with (9) in the above model numbers.

20: Z-axis speed type H

10: Z-axis speed type M

(Note) For the NSA single-axis, the model without the cable track is NT4. However, since the cable length for the cartesian robot is extended, the model is NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

## ■ B3N1HB3H

X-axis	100	200	300~500	600~700	800~2250
X-axis	-			2400	
Y-axis	-		1200		-
Z-axis		1200			-

## ■ B3N1HB3M

X-axis	100	200	300~500	600~700	800~2250
X-axis	-	-		2400	
Y-axis	-		1200		-
Z-axis		600			-

## Payload

The unit is kg.

## ■ B3N1HB3H

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	10.0	10.0	10.0	10.0	10.0	9.7	9.1	8.4	7.8	7.2	6.6
150	10.0	10.0	10.0	10.0	9.8	9.1	8.5	7.8	7.2	6.6	6.0
200	10.0	10.0	10.0	9.9	9.3	8.6	8.0	7.3	6.7	6.1	5.5
250	10.0	10.0	9.8	9.2	8.6	7.9	7.3	6.6	6.0	5.4	4.8
300	10.0	9.9	9.3	8.7	8.1	7.4	6.8	6.1	5.5	4.9	4.3
350	10.0	9.4	8.7	8.1	7.5	6.8	6.2	5.6	5.0	4.3	3.7
400	9.5	8.8	8.2	7.6	7.0	6.3	5.7	5.0	4.4	3.8	3.2
450	8.9	8.2	7.6	7.0	6.4	5.7	5.1	4.4	3.8	3.2	2.6
500	8.3	7.6	7.0	6.4	5.8	5.1	4.5	3.8	3.2	2.6	2.0

## ■ B3N1HB3M

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	12.9	12.2	11.6	11.0	10.4	9.7	9.1	8.4	7.8	7.2	6.6
150	12.3	11.6	11.0	10.4	9.8	9.1	8.5	7.8	7.2	6.6	6.0
200	11.8	11.1	10.5	9.9	9.3	8.6	8.0	7.3	6.7	6.1	5.5
250	11.1	10.4	9.8	9.2	8.6	7.9	7.3	6.6	6.0	5.4	4.8
300	10.6	9.9	9.3	8.7	8.1	7.4	6.8	6.1	5.5	4.9	4.3
350	10.0	9.4	8.7	8.1	7.5	6.8	6.2	5.6	5.0	4.3	3.7
400	9.5	8.8	8.2	7.6	7.0	6.3	5.7	5.0	4.4	3.8	3.2
450	8.9	8.2	7.6	7.0	6.4	5.7	5.1	4.4	3.8	3.2	2.6
500	8.3	7.6	7.0	6.4	5.8	5.1	4.5	3.8	3.2	2.6	2.0

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

## Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model	Reference page
AQ seal (standard equipment)	AQ	5-563
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 3)	B	5-563
Non-motor end specification (only for Y-axis/Z-axis)	NM	5-565
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 4)	RT	5-566

(Note 3) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 4) The high-precision specification cannot be selected.

## Common Specifications

	X-axis	Y-axis	Z-axis
Driving system	Ball screw, equivalent to rolled C5	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]
Positioning repeatability	$\pm 0.01\text{mm}$	$\pm 0.01\text{mm} [\pm 0.005\text{mm}]$	$\pm 0.01\text{mm} [\pm 0.005\text{mm}]$
Lost motion	0.02mm or less	0.05mm or less [0.02mm or less]	0.05mm or less [0.02mm or less]
Guide	Integrated with base	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output / lead	400W/40mm	200W/20mm	200W/20mm (H), 10mm (M)

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

**ICSB6 [ICSPB6]-B3N1HB3□-CT-CT (cable track specification)**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

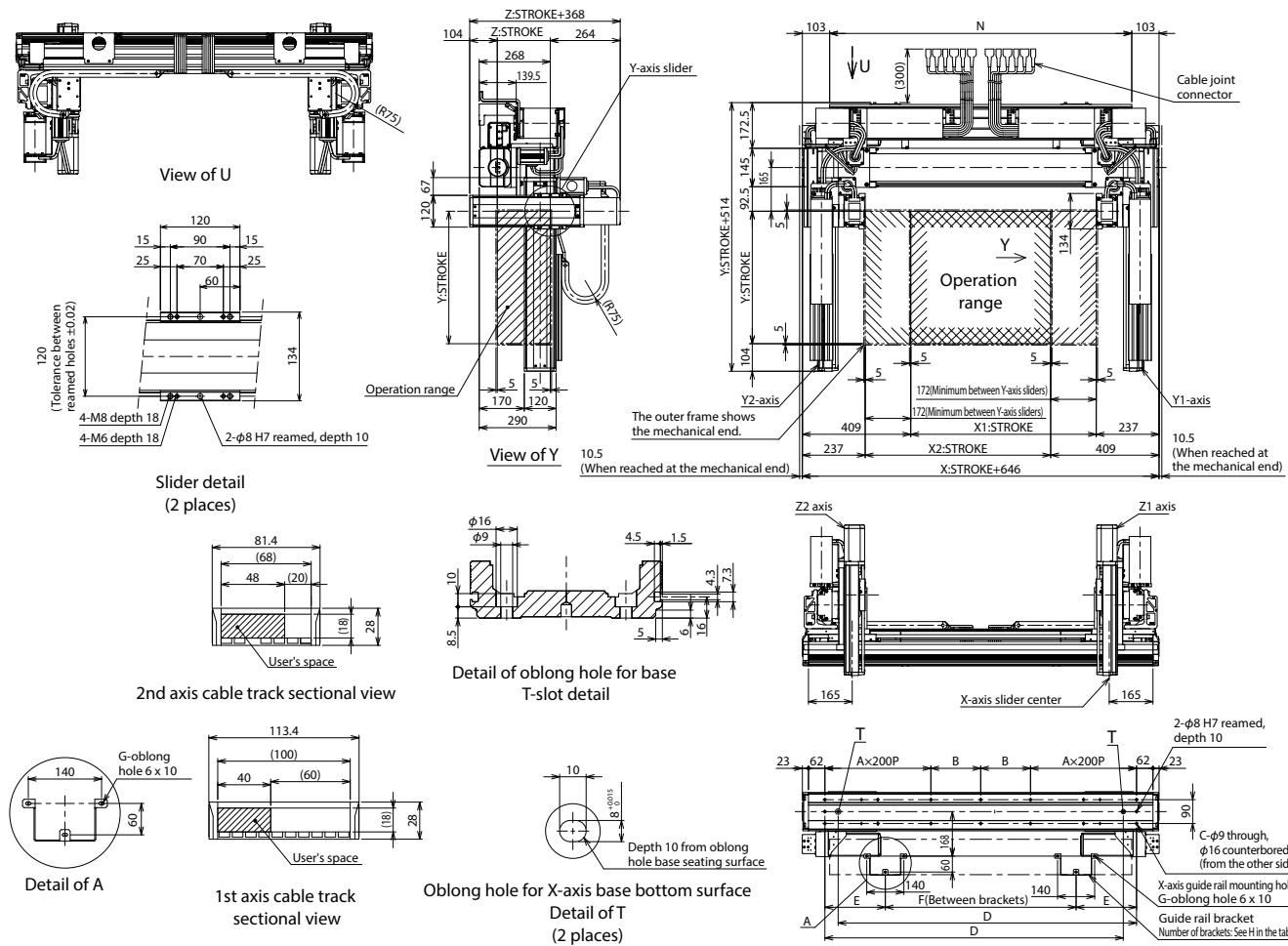
Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D CAD

3D CAD



X-axis stroke	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238	263
C	10	10	10	10	10	10	10	14	14	14	14	14	14	14	14	18	18	18	18	18
D	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526	1576	1626	1676
E	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
F	320	370	420	470	520	570	620	670	720	770	820	870	920	485	510	535	560	585	610	635
G	6	6	6	6	6	6	6	6	6	6	6	6	6	9	9	9	9	9	9	9
H	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
N	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640	1690

X-axis stroke	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
A	3	3	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6
B	288	313	138	163	188	213	238	263	288	313	338	163	188	213	238	263	288	313	138	163
C	18	18	22	22	22	22	22	22	22	22	22	26	26	26	26	26	26	26	30	30
D	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376	2426	2476	2526	2576	2626	2676
E	228	228	228	228	228	228	228	228	228	228	228	234	228	224	234	228	224	234	228	224
F	660	685	710	735	760	785	810	835	860	885	910	620	640	660	670	690	710	720	740	760
G	9	9	9	9	9	9	9	9	9	9	9	12	12	12	12	12	12	12	12	12
H	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4
N	1740	1790	1840	1890	1940	1990	2040	2090	2140	2190	2240	2290	2340	2390	2440	2490	2540	2590	2640	2690

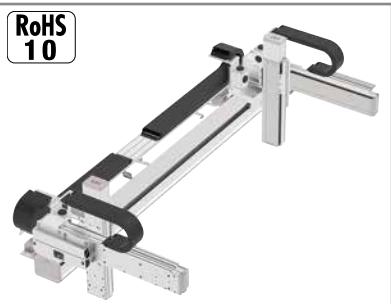
# ICSB6-B3N1MB3□

## ICSPB6-B3N1MB3□

### ■ Model specification items

B3N1MB3□ - WA							
Series	Type	Encoder type	X-axis stroke	Option	Y-axis stroke	Option	Z-axis stroke
ICSB6 Standard 6-axis spec.	Refer to Model Specification table below	WVA Battery-less absolute	30 300mm 225 (Every 50mm)	Refer to the Options table	20 200mm 70 (Every 50mm)	Refer to the Options table	10 100mm 50 (Every 50mm)
ICSPB6 High precision 6-axis spec.							

$\pm 10\mu\text{m}$ Standard	$\pm 5\mu\text{m}$ High precision	Battery-less absolute
T□		



**RoHS 10**

- Selection Notes**
- (1) The strokes in the Cartesian system model names are specified in cm (centimeters).  
(2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.  
(3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed.  
(4) Values in [ ] are for the high-precision specification.

### Model specification

XY configuration direction (Note 1)	Z-axis speed type (Note 2)	Model
1	H	ICSB6[ICSPB6]-B3N1MB3H-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
	M	ICSB6[ICSPB6]-B3N1MB3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

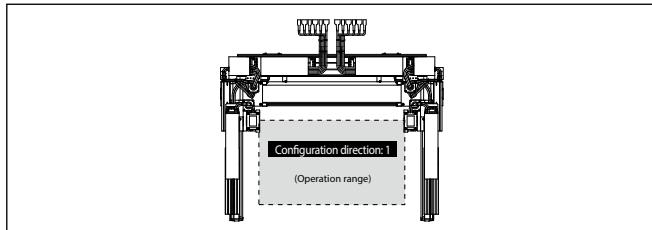
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

(Note 2) Payload and maximum speed vary depending on the Z-axis type.

### ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	30: 300mm 225: 2250mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

### XY configuration direction



### Axis Configuration

Name of axis	Model
X-axis	NSA-LXMM-WA-400-20-(1)-T□-(2)-NT10
Y1-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A1S-(4)
Y2-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A3S-(4)
Z1-axis	ISB[ISPB]-MXM-WA-200-(9)-(3)-T□-A3S-(6)
Z2-axis	ISB[ISPB]-MXM-WA-200-(9)-(3)-T□-A1S-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Lead is specified with (9) in the above model numbers.  
20: Z-axis speed type H

(Note) For the NSA single-axis, the model without the cable track is NT4. However, since the cable length for the cartesian robot is extended, the model is NT10.

### Maximum speed by stroke

The unit in the table is mm/s.

### ■ B3N1MB3H

X-axis	100	200	300~500	600~700	800~2250
Y-axis	-			1300	
Z-axis			1200		-
			1200		-

### ■ B3N1MB3M

X-axis	100	200	300~500	600~700	800~2250
Y-axis	-			1300	
Z-axis			1200		-
		600			-

### Payload

The unit is kg.

### ■ B3N1MB3H

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100											8.9
150											8.4
200											7.9
250											7.4
300											6.9
350											6.4
400											5.9
450											5.4
500											4.8

### ■ B3N1MB3M

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100											20.0
150											20.0
200											20.0
250											20.0
300											19.6
350											19.0
400											18.4
450											17.7
500											17.1

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

### Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 3)	B
Non-motor end specification (only for Y-axis/Z-axis)	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 4)	RT

(Note 3) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 4) The high-precision specification cannot be selected.

### Common Specifications

Driving system	X-axis		Y-axis		Z-axis	
	Ball screw, equivalent to rolled C5	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]
Positioning repeatability	$\pm 0.01\text{mm}$	$\pm 0.01\text{mm} [\pm 0.005\text{mm}]$				
Lost motion	0.02mm or less	0.05mm or less [0.02mm or less]				
Guide	Integrated with base	Integrated with base	Integrated with base	Integrated with base	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output / lead	400W/20mm	200W/20mm	200W/20mm	200W/20mm	200W/20mm	200W/20mm

### Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

#### ■ ICSB6 [ICSPB6]-B3N1MB3□-CT-CT (cable track specification)

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

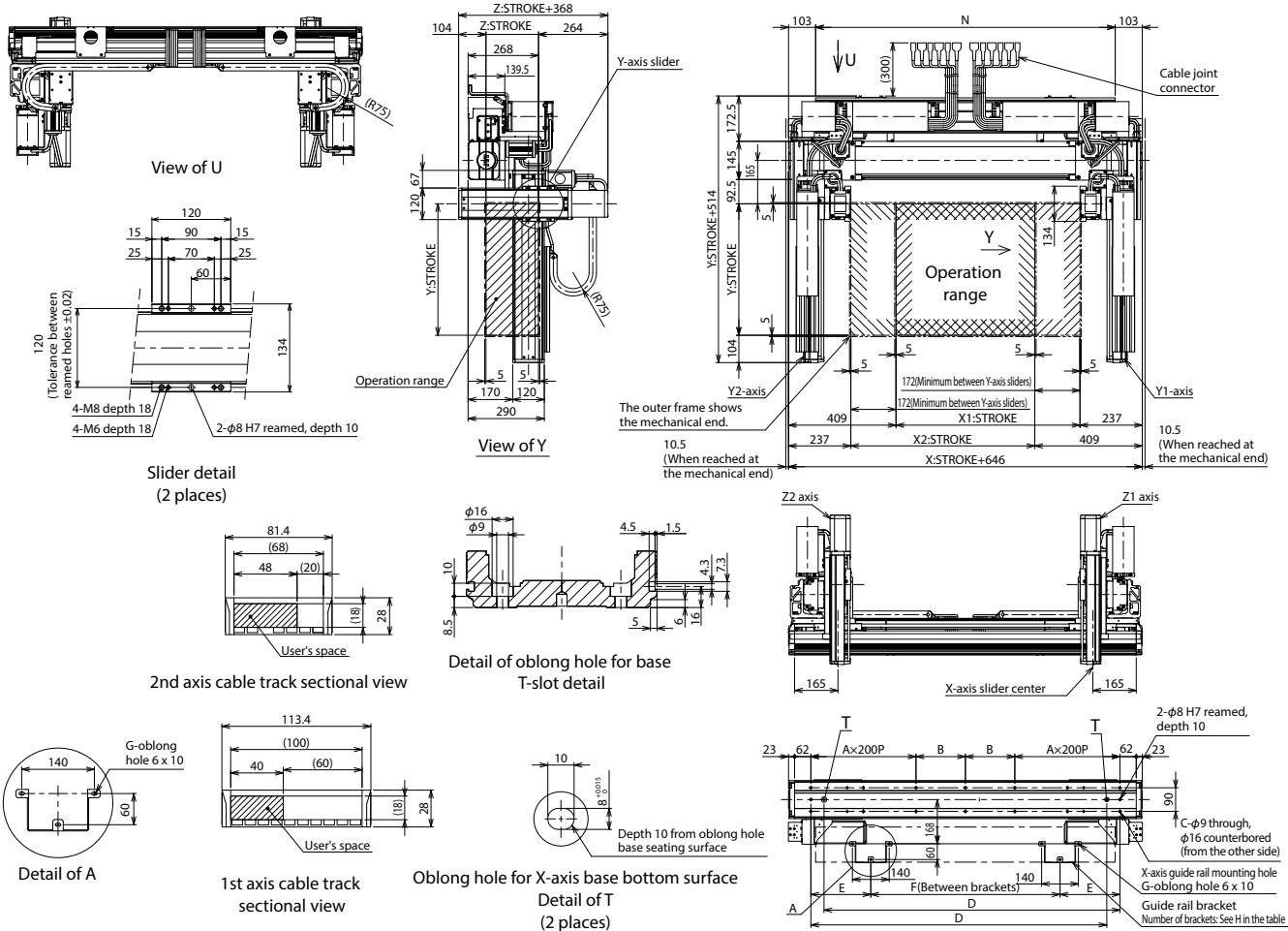
Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D  
CAD

**3D  
CAD**



X-axis stroke	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238	263
C	10	10	10	10	10	10	14	14	14	14	14	14	14	14	18	18	18	18	18	18
D	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526	1576	1626	1676
E	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
F	320	370	420	470	520	570	620	670	720	770	820	870	920	485	510	535	560	585	610	635
G	6	6	6	6	6	6	6	6	6	6	6	6	6	9	9	9	9	9	9	9
H	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
N	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640	1690

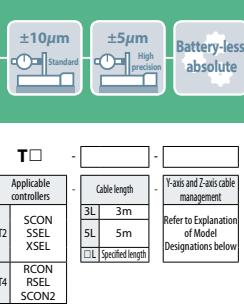
X-axis stroke	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
A	3	3	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	6	6
B	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163
C	18	18	22	22	22	22	22	22	22	22	26	26	26	26	26	26	26	26	30	30
D	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376	2426	2476	2526	2576	2626	2676
E	228	228	228	228	228	228	228	228	228	228	234	228	224	234	228	224	234	228	224	224
F	660	685	710	735	760	785	810	835	860	885	910	620	640	660	670	690	710	720	740	760
G	9	9	9	9	9	9	9	9	9	9	9	12	12	12	12	12	12	12	12	12
H	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4
N	1740	1790	1840	1890	1940	1990	2040	2090	2140	2190	2240	2290	2340	2390	2440	2490	2540	2590	2640	2690

## ICSB6-B4N1HB3□

## ICSPB6-B4N1HB3□

## ■ Model specification items

B4N1HB3□ - WA								
Series	Type	Encoder type	X-axis stroke	Option	Y-axis stroke	Option	Z-axis stroke	Option
ICSB6 Standard 6-axis spec.	Refer to Model Specification table below	WA Battery-less absolute	230mm J 270	2300mm i 2700mm (Every 50mm)	20mm J 70	200mm i 700mm (Every 50mm)	10mm i 50	100mm i 500mm (Every 50mm)
ICSPB6 High precision 6-axis spec.								



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<b>Selection Notes</b> 	(1) The strokes in the Cartesian system model names are specified in cm (centimeters). (2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m. (3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed. (4) Values in [ ] are for the high-precision specification.
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## Model specification

XY configuration direction (Note 1)	Z-axis speed type (Note 2)	Model
1	H	ICSB6[ICSPB6]-B4N1HB3H-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
	M	ICSB6[ICSPB6]-B4N1HB3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

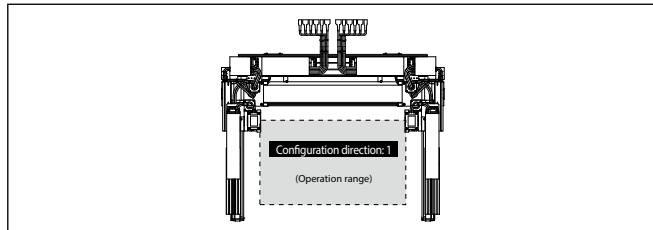
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

(Note 2) Payload and maximum speed vary depending on the Z-axis type.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	230: 2300mm i 270: 2700mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm i 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm i 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LXMXM-WA-400-40-(1)-T□-(2)-NT10
Y1-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A1S-(4)
Y2-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A3S-(4)
Z1-axis	ISB[ISPB]-MXM-WA-200-(9)-(3)-T□-A3S-(6)
Z2-axis	ISB[ISPB]-MXM-WA-200-(9)-(3)-T□-A1S-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Lead is specified with (9) in the above model numbers.

20: Z-axis speed type H

10: Z-axis speed type M

(Note) For the NSA single-axis, the model without the cable track is NT4. However, since the cable length for the cartesian robot is extended, the model is NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

## ■ B4N1HB3H

X-axis	100	200	300~500	600~700	800~2200	2300~2700
Y-axis	-		1200			2400
Z-axis		1200			-	

## ■ B4N1HB3M

X-axis	100	200	300~500	600~700	800~2200	2300~2700
Y-axis	-		1200			2400
Z-axis		600			-	

## Payload

The unit is kg.

## ■ B4N1HB3H

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	10.0	10.0	10.0	10.0	10.0	9.7	9.1	8.4	7.8	7.2	6.6
150	10.0	10.0	10.0	10.0	9.8	9.1	8.5	7.8	7.2	6.6	6.0
200	10.0	10.0	10.0	9.9	9.3	8.6	8.0	7.3	6.7	6.1	5.5
250	10.0	10.0	9.8	9.2	8.6	7.9	7.3	6.6	6.0	5.4	4.8
300	10.0	9.9	9.3	8.7	8.1	7.4	6.8	6.1	5.5	4.9	4.3
350	10.0	9.4	8.7	8.1	7.5	6.8	6.2	5.6	5.0	4.3	3.7
400	9.5	8.8	8.2	7.6	7.0	6.3	5.7	5.0	4.4	3.8	3.2
450	8.9	8.2	7.6	7.0	6.4	5.7	5.1	4.4	3.8	3.2	2.6
500	8.3	7.6	7.0	6.4	5.8	5.1	4.5	3.8	3.2	2.6	2.0

## ■ B4N1HB3M

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	12.9	12.2	11.6	11.0	10.4	9.7	9.1	8.4	7.8	7.2	6.6
150	12.3	11.6	11.0	10.4	9.8	9.1	8.5	7.8	7.2	6.6	6.0
200	11.8	11.1	10.5	9.9	9.3	8.6	8.0	7.3	6.7	6.1	5.5
250	11.1	10.4	9.8	9.2	8.6	7.9	7.3	6.6	6.0	5.4	4.8
300	10.6	9.9	9.3	8.7	8.1	7.4	6.8	6.1	5.5	4.9	4.3
350	10.0	9.4	8.7	8.1	7.5	6.8	6.2	5.6	5.0	4.3	3.7
400	9.5	8.8	8.2	7.6	7.0	6.3	5.7	5.0	4.4	3.8	3.2
450	8.9	8.2	7.6	7.0	6.4	5.7	5.1	4.4	3.8	3.2	2.6
500	8.3	7.6	7.0	6.4	5.8	5.1	4.5	3.8	3.2	2.6	2.0

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

## Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 3)	B
Non-motor end specification (only for Y-axis/Z-axis)	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 4)	RT

(Note 3) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 4) The high-precision specification cannot be selected.

## Common Specifications

	X-axis	Y-axis	Z-axis
Driving system	Ball screw, equivalent to rolled C5	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]	Ball screw, rolled equivalent to C10 [equivalent to rolled C5]
Positioning repeatability	±0.01mm	±0.01mm [±0.005mm]	±0.01mm [±0.005mm]
Lost motion	0.02mm or less	0.05mm or less [0.02mm or less]	0.05mm or less [0.02mm or less]
Guide	Integrated with base	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output / lead	400W/40mm	200W/20mm	200W/20mm (H), 10mm (M)

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

**ICSB6 [ICSPB6]-B4N1HB3□-CT-CT (cable track specification)**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

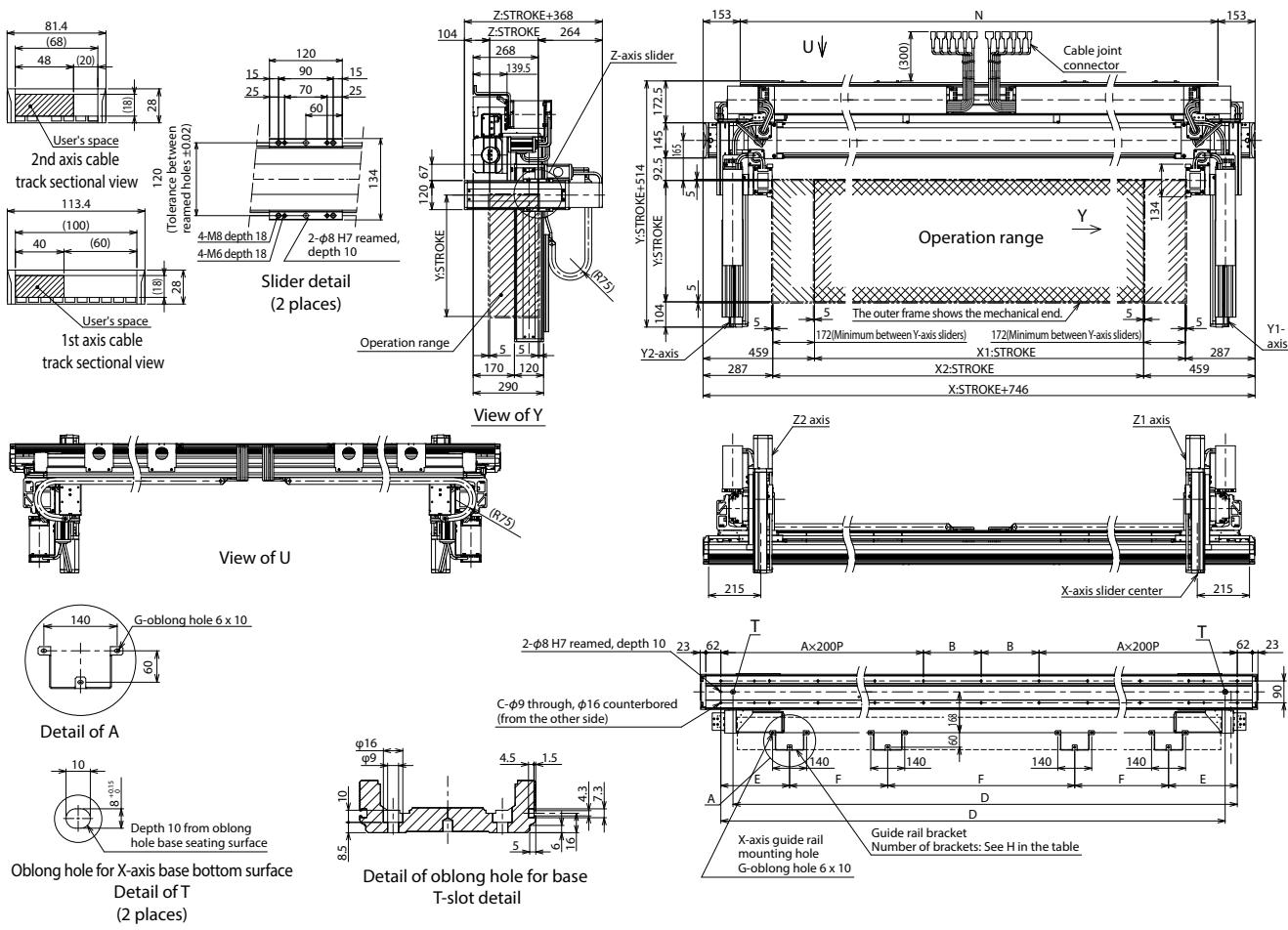
Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D CAD

3D CAD



X-axis stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700
A	6	6	6	6	7	7	7	7	7
B	238	263	288	313	138	163	188	213	238
C	30	30	30	30	34	34	34	34	34
D	2826	2876	2926	2976	3026	3076	3126	3176	3226
E	284	279	274	284	279	274	284	279	274
F	770	790	810	820	840	860	870	890	910
G	12	12	12	12	12	12	12	12	12
H	4	4	4	4	4	4	4	4	4
N	2740	2790	2840	2890	2940	2990	3040	3090	3140

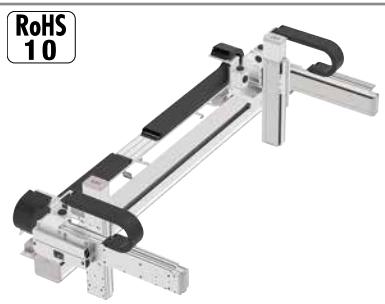
## ICSB6-B4N1MB3□

## ICSPB6-B4N1MB3□

## ■ Model specification items

Series	- B4N1MB3 -	WA	[ ]	[ ]	[ ]	[ ]
ICSB6 Standard 6-axis spec	Refer to Model Specification table below	Type	Encoder type	X-axis stroke	Option	Y-axis stroke
ICSPB6 High precision 6-axis spec	WA [Battery-less absolute]	230mm	i 270mm (Every 50mm)	20mm	i 70mm (Every 50mm)	10mm

Standard	High precision	Battery-less absolute



RoHS 10

<b>Selection Notes</b> 	(1) The strokes in the Cartesian system model names are specified in cm (centimeters). (2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m. (3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed. (4) Values in [ ] are for the high-precision specification.
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## Model specification

XY configuration direction (Note 1)	Z-axis speed type (Note 2)	Model
1	H	ICSB6[ICSPB6]-B4N1MB3H-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)
	M	ICSB6[ICSPB6]-B4N1MB3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

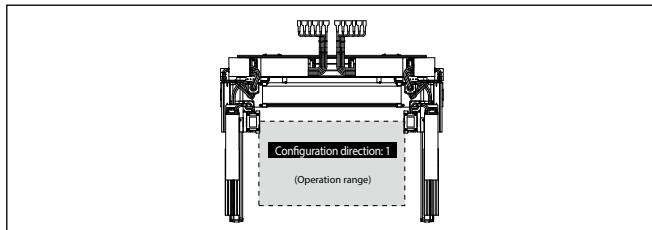
(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

(Note 2) Payload and maximum speed vary depending on the Z-axis type.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	230: 230mm i 270: 270mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm i 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm i 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LXMXM-WA-400-20-(1)-T□-(2)-NT10
Y1-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A1S-(4)
Y2-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A3S-(4)
Z1-axis	ISB[ISPB]-MXM-WA-200-(9)-(3)-T□-A3S-(6)
Z2-axis	ISB[ISPB]-MXM-WA-200-(9)-(3)-T□-A1S-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) Lead is specified with (9) in the above model numbers.

20: Z-axis speed type H

10: Z-axis speed type M

(Note) For the NSA single-axis, the model without the cable track is NT4. However, since the cable length for the cartesian robot is extended, the model is NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

## ■ B4N1MB3H

X-axis	100	200	300~500	600~700	800~2200	2300~2700
Y-axis	-		1200			1300
Z-axis		1200			-	

## ■ B4N1MB3M

X-axis	100	200	300~500	600~700	800~2200	2300~2700
Y-axis	-	1200			-	
Z-axis	600				-	

## Payload

The unit is kg.

## ■ B4N1MB3H

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100											8.9
150											8.4
200											7.9
250											7.4
300											6.9
350											6.4
400											5.9
450											5.4
500											4.8

## ■ B4N1MB3M

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100											20.0
150											20.0
200											20.0
250											19.6
300											19.0
350											18.4
400											17.7
450											17.1
500											4.8

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

## Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 3)	B
Non-motor end specification (only for Y-axis/Z-axis)	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 4)	RT

(Note 3) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 4) The high-precision specification cannot be selected.

## Common Specifications

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

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

**ICSB6 [ICSPB6]-B4N1MB3□-CT-CT (cable track specification)**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.

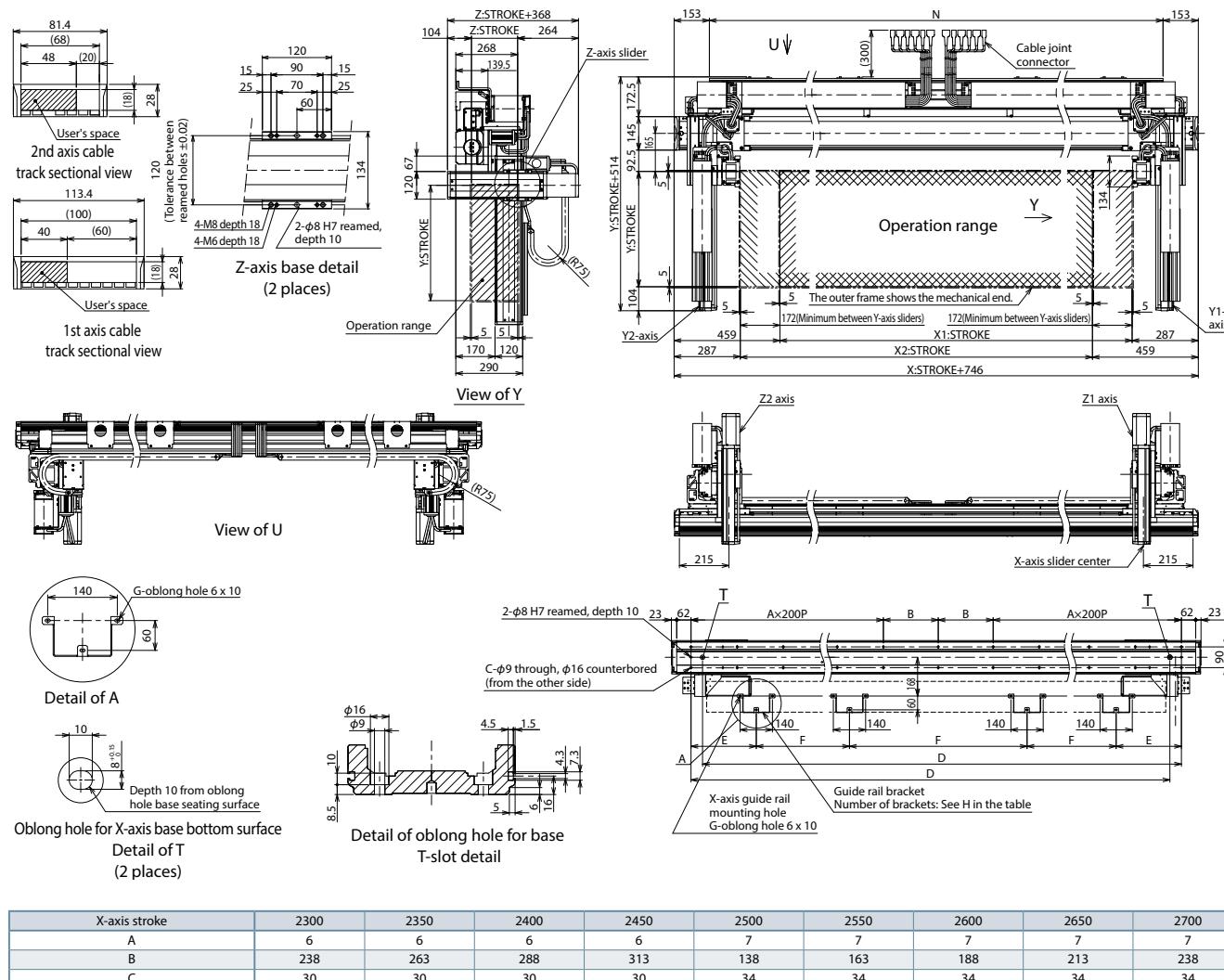
Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.

(Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D CAD

3D CAD



## ICSB6-B3N1HS3M

## ICSPB6-B3N1HS3M

## ■ Model specification items

Series	- B3N1HS3M -	WA			
ICSB6 Standard 6-axis spec.	Type	Encoder type	X-axis stroke	Y-axis stroke	Z-axis stroke
ICSPB6 High precision 6-axis spec.	Refer to Model specification table below	WA [Battery-less absolute]	230mm 225mm Every 50mm	20mm 70mm Every 50mm	10mm 50mm Every 50mm

$\pm 10\mu\text{m}$	$\pm 5\mu\text{m}$	Battery-less absolute
Standard	High precision	

RoHS  
10

<b>Selection Notes</b>	(1) The strokes in the Cartesian system model names are specified in cm (centimeters). (2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m. (3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed. (4) Values in [ ] are for the high-precision specification.
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## Model specification

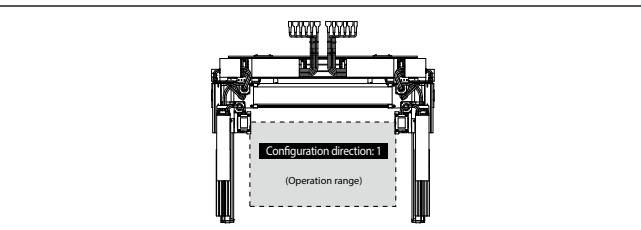
XY configuration direction (Note 1)	Model
1	ICSB6[ICSPB6]-B3N1HS3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	30: 300mm 225: 2250mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LXMM-WA-400-40-(1)-T□-(2)-NT10
Y1-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A1S-(4)
Y2-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A3S-(4)
Z1-axis	ISB[ISPB]-MXM-WA-200-10-(3)-T□-A3S-(6)
Z2-axis	ISB[ISPB]-MXM-WA-200-10-(3)-T□-A1S-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) For the NSA single-axis, the model without the cable track is NT4. However, since the cable length for the cartesian robot is extended, the model is NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

	100	200	300~500	600~700	800~2250
X-axis	-		2400		
Y-axis	-		1200		-
Z-axis		600		-	

RoHS  
10

## Payload

The unit is kg.

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	12.8	12.1	11.5	10.9	10.4	9.7	9.1	8.4	7.8	7.2	6.7
150	12.2	11.5	10.9	10.3	9.7	9.0	8.5	7.8	7.2	6.6	6.0
200	11.6	10.9	10.4	9.8	9.2	8.5	7.9	7.2	6.7	6.1	5.5
250	11.0	10.3	9.7	9.1	8.6	7.9	7.3	6.6	6.0	5.4	4.9
300	10.4	9.8	9.2	8.6	8.0	7.3	6.8	6.1	5.5	4.9	4.3
350	9.9	9.2	8.6	8.1	7.5	6.8	6.2	5.5	5.0	4.4	3.8
400	9.4	8.7	8.1	7.5	6.9	6.3	5.7	5.0	4.4	3.8	3.2
450	8.7	8.1	7.5	6.9	6.3	5.6	5.0	4.4	3.8	3.2	2.6
500	8.2	7.5	6.9	6.3	5.8	5.1	4.5	3.8	3.2	2.7	2.1

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

## Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 2)	B
Non-motor end specification (only for Y-axis/Z-axis)	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 3)	RT

(Note 2) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 3) The high-precision specification cannot be selected.

## Common Specifications

Driving system	X-axis	Y-axis	Z-axis
	Ball screw, equivalent to rolled C5	Ball screw, rolled equivalent to C10 (equivalent to rolled C5)	Ball screw, rolled equivalent to C10 (equivalent to rolled C5)
Positioning repeatability	$\pm 0.01\text{mm}$	$\pm 0.01\text{mm} [\pm 0.005\text{mm}]$	$\pm 0.01\text{mm} [\pm 0.005\text{mm}]$
Lost motion	0.02mm or less	0.05mm or less [0.02mm or less]	0.05mm or less [0.02mm or less]
Guide	Integrated with base	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output/lead	400W/40mm	200W/20mm	200W/10mm

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

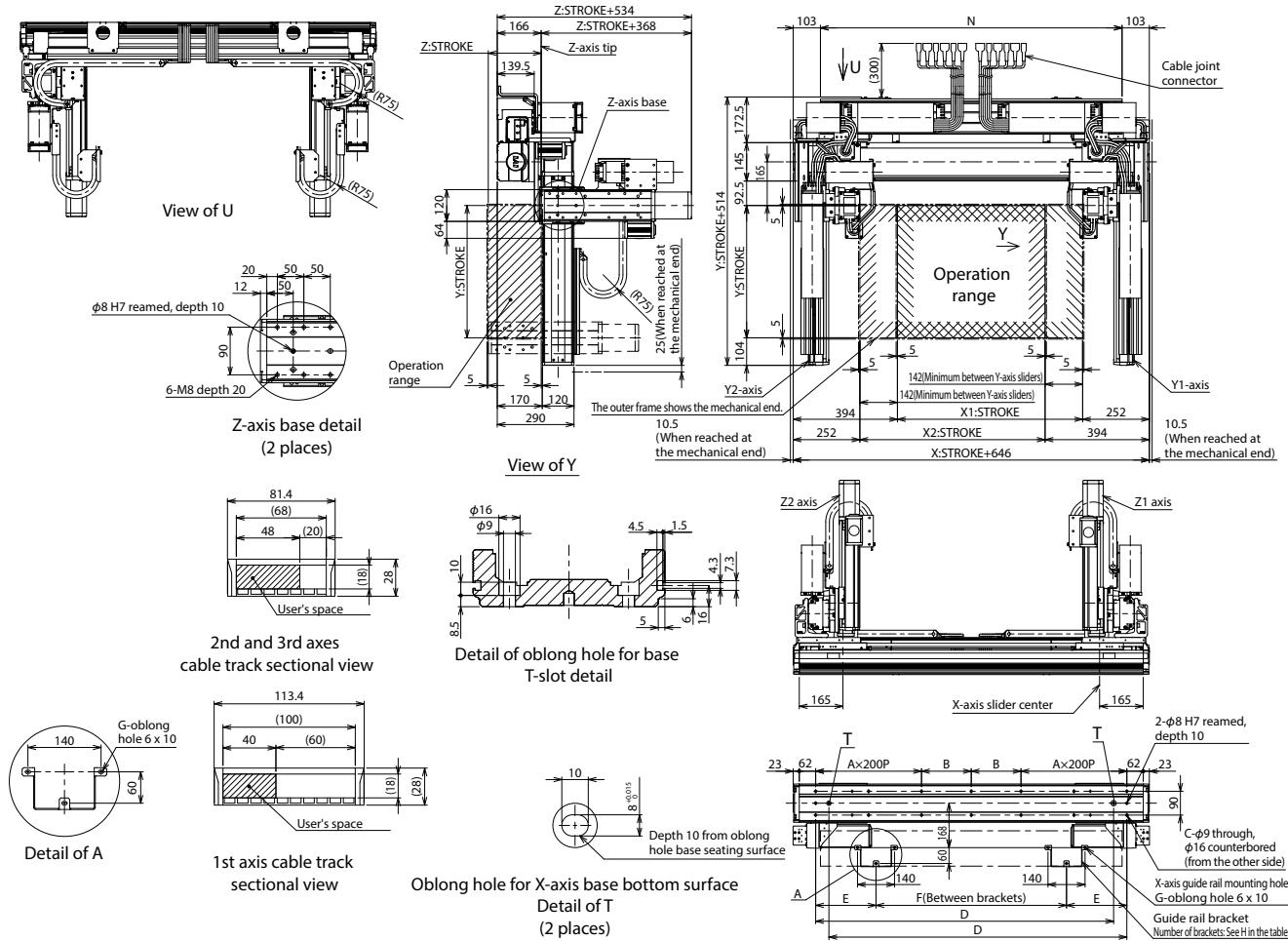
**ICSB6 [ICSPB6]-B3N1HS3M-CT-CT (cable track specification)**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
 Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
 (Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D CAD

3D CAD



X-axis stroke	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238	263
C	10	10	10	10	10	10	10	14	14	14	14	14	14	14	14	18	18	18	18	18
D	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526	1576	1626	1676
E	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
F	320	370	420	470	520	570	620	670	720	770	820	870	920	485	510	535	560	585	610	635
G	6	6	6	6	6	6	6	6	6	6	6	6	6	9	9	9	9	9	9	9
H	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
N	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640	1690

X-axis stroke	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
A	3	3	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	6	6
B	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163
C	18	18	22	22	22	22	22	22	22	22	26	26	26	26	26	26	26	26	30	30
D	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376	2426	2476	2526	2576	2626	2676
E	228	228	228	228	228	228	228	228	228	228	234	234	234	234	234	234	234	234	228	224
F	660	685	710	735	760	785	810	835	860	885	910	620	640	660	670	690	710	720	740	760
G	9	9	9	9	9	9	9	9	9	9	12	12	12	12	12	12	12	12	12	12
H	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4
N	1740	1790	1840	1890	1940	1990	2040	2090	2140	2190	2240	2290	2340	2390	2440	2490	2540	2590	2640	2690

## ICSB6-B3N1MS3M

## ICSPB6-B3N1MS3M

## ■ Model specification items

Series	B3N1MS3M	WA			
ICSB6 Standard 6-axis spec.		Type	Encoder type	X-axis stroke	Option
ICSPB6 High precision 6-axis spec.		Refer to Model Specification table below	WA [Battery-less absolute]	230mm 225mm Every 50mm	Refer to the Options table

$\pm 10\mu\text{m}$	$\pm 5\mu\text{m}$	Battery-less absolute
Standard	High precision	

RoHS  
10

<b>Selection Notes</b>	<ul style="list-style-type: none"> <li>(1) The strokes in the Cartesian system model names are specified in cm (centimeters).</li> <li>(2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.</li> <li>(3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed.</li> <li>(4) Values in [ ] are for the high-precision specification.</li> </ul>
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## Model specification

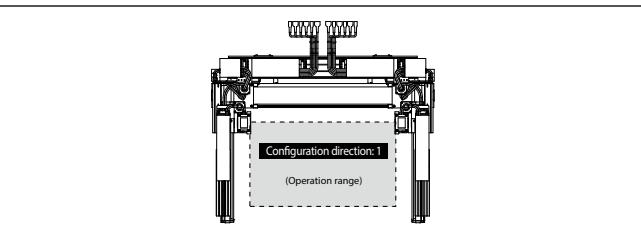
XY configuration direction (Note 1)	Model
1	ICSB6[ICSPB6]-B3N1MS3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	30: 300mm 225: 2250mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LXMM-WA-400-20-(1)-T□-(2)-NT10
Y1-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A1S-(4)
Y2-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A3S-(4)
Z1-axis	ISB[ISPB]-MXM-WA-200-10-(3)-T□-A3S-(6)
Z2-axis	ISB[ISPB]-MXM-WA-200-10-(3)-T□-A1S-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) For the NSA single-axis, the model without the cable track is NT4. However, since the cable length for the cartesian robot is extended, the model is NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

	100	200	300~500	600~700	800~2250
X-axis	-		1300		
Y-axis	-		1200		-
Z-axis	600		-		

## Payload

The unit is kg.

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
150	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
200	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
250	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
300	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
350	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
400	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
450	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
500	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes".

## Options

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 2)	B
Non-motor end specification (only for Y-axis/Z-axis)	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 3)	RT

(Note 2) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 3) The high-precision specification cannot be selected.

## Common Specifications

Driving system	X-axis	Y-axis	Z-axis
	Ball screw, equivalent to rolled C5	Ball screw, rolled equivalent to C10 (equivalent to rolled C5)	Ball screw, rolled equivalent to C10 (equivalent to rolled C5)
Positioning repeatability	$\pm 0.01\text{mm}$	$\pm 0.01\text{mm} [\pm 0.005\text{mm}]$	$\pm 0.01\text{mm} [\pm 0.005\text{mm}]$
Lost motion	0.02mm or less	0.05mm or less [0.02mm or less]	0.05mm or less [0.02mm or less]
Guide	Integrated with base	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output/lead	400W/20mm	200W/20mm	200W/10mm

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

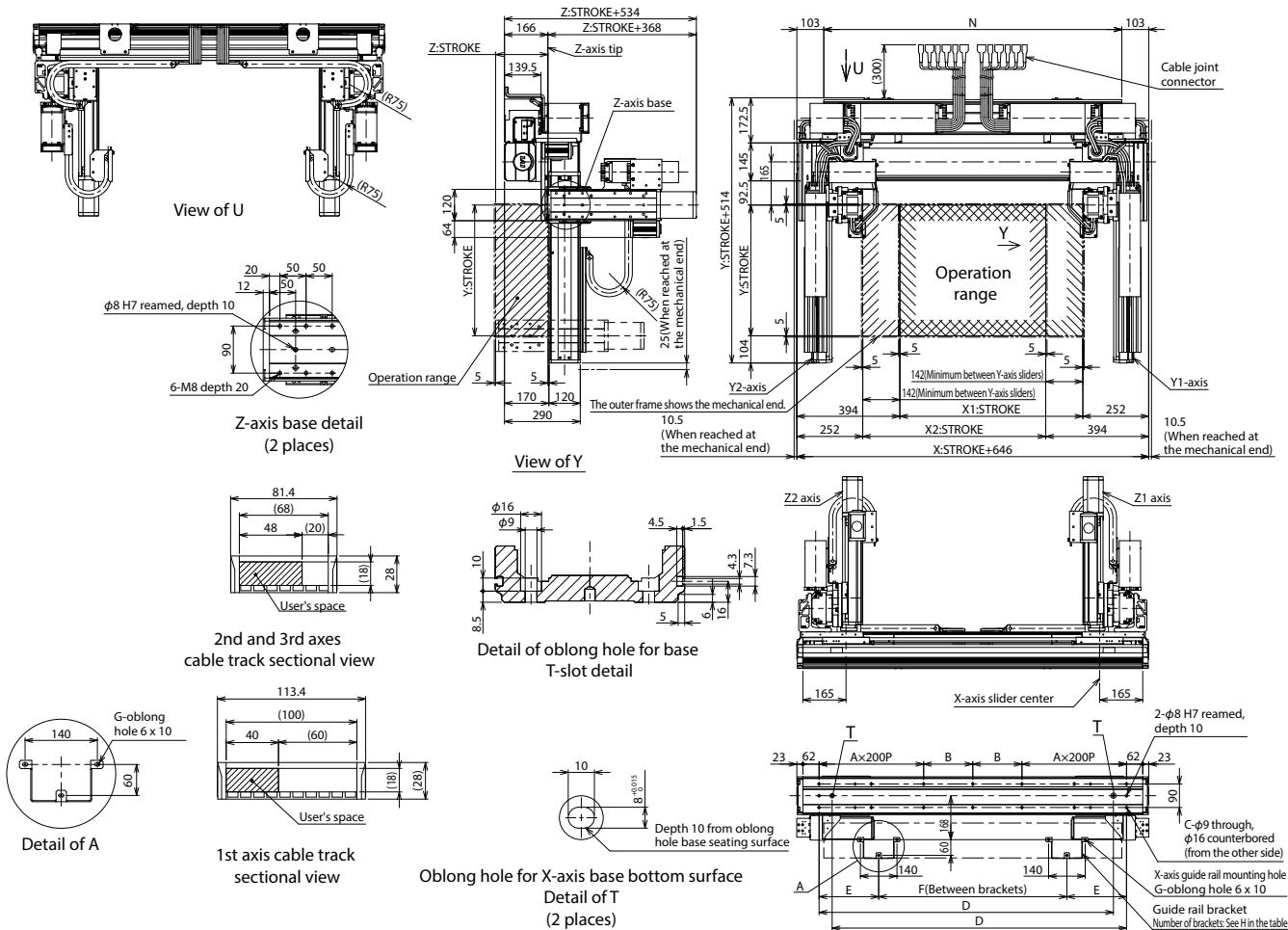
**ICSB6 [ICSPB6]-B3N1MS3M-CT-CT (cable track specification)**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
 Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
 (Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

CAD drawings can be downloaded from our website.  
[www.intelligentactuator.com](http://www.intelligentactuator.com)

2D CAD

3D CAD



X-axis stroke	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
A	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	
B	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238	263
C	10	10	10	10	10	10	10	14	14	14	14	14	14	14	14	18	18	18	18	18
D	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526	1576	1626	1676
E	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
F	320	370	420	470	520	570	620	670	720	770	820	870	920	485	510	535	560	585	610	635
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6	9	9	9	9	9	9
H	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3
N	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640	1690

X-axis stroke	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
A	3	3	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	6	6
B	288	313	138	163	188	213	238	263	288	313	138	163	188	213	238	263	288	313	138	163
C	18	18	22	22	22	22	22	22	22	22	26	26	26	26	26	26	26	26	30	30
D	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376	2426	2476	2526	2576	2626	2676
E	228	228	228	228	228	228	228	228	228	228	234	234	234	234	234	234	234	234	228	224
F	660	685	710	735	760	785	810	835	860	885	910	620	640	660	670	690	710	720	740	760
G	9	9	9	9	9	9	9	9	9	9	12	12	12	12	12	12	12	12	12	12
H	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4
N	1740	1790	1840	1890	1940	1990	2040	2090	2140	2190	2240	2290	2340	2390	2440	2490	2540	2590	2640	2690

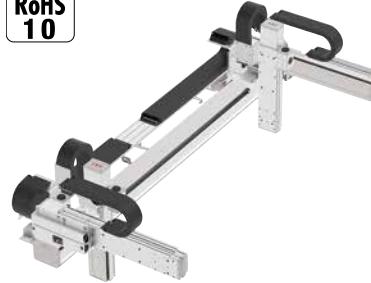
## ICSB6-B4N1HS3M

## ICSPB6-B4N1HS3M

## ■ Model specification items

B4N1HS3M		WA							
Series	Type	Encoder type	X-axis stroke	Option	Y-axis stroke	Option	Z-axis stroke	Option	T□
ICSB6 Standard 6-axis spec. ICSPB6 High precision 6-axis spec.	Refer to Model Specification table below	WA [Battery-less absolute]	230 270	2300mm 2700mm (Every 50mm)	20 70	200mm 700mm (Every 50mm)	10 50	100mm 500mm (Every 50mm)	Applicable controllers T2 T4

$\pm 10\mu\text{m}$ Standard	$\pm 5\mu\text{m}$ High precision	Battery-less absolute
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RoHS  
10

<b>Selection Notes</b>	<ul style="list-style-type: none"> <li>(1) The strokes in the Cartesian system model names are specified in cm (centimeters).</li> <li>(2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m.</li> <li>(3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed.</li> <li>(4) Values in [ ] are for the high-precision specification.</li> </ul>
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## Model specification

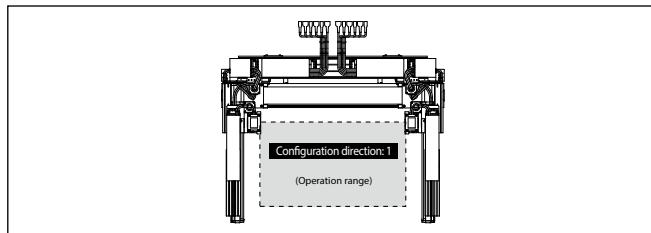
XY configuration direction (Note 1)	Model
1	ICSB6[ICSPB6]-B4N1HS3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	230: 2300mm 270: 2700mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LXMXM-WA-400-40-(1)-T□-(2)-NT10
Y1-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A1S-(4)
Y2-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A3S-(4)
Z1-axis	ISB[ISPB]-MXM-WA-200-10-(3)-T□-A3S-(6)
Z2-axis	ISB[ISPB]-MXM-WA-200-10-(3)-T□-A1S-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) For the NSA single-axis, the model without the cable track is NT4. However, since the cable length for the cartesian robot is extended, the model is NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

	100	200	300~500	600~700	800~2200	2300~2700
X-axis				-		2400
Y-axis	-		1200		-	
Z-axis		600			-	

## Payload

The unit is kg.

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	12.8	12.1	11.5	10.9	10.4	9.7	9.1	8.4	7.8	7.2	6.7
150	12.2	11.5	10.9	10.3	9.7	9.0	8.5	7.8	7.2	6.6	6.0
200	11.6	10.9	10.4	9.8	9.2	8.5	7.9	7.2	6.7	6.1	5.5
250	11.0	10.3	9.7	9.1	8.6	7.9	7.3	6.6	6.0	5.4	4.9
300	10.4	9.8	9.2	8.6	8.0	7.3	6.8	6.1	5.5	4.9	4.3
350	9.9	9.2	8.6	8.1	7.5	6.8	6.2	5.5	5.0	4.4	3.8
400	9.4	8.7	8.1	7.5	6.9	6.3	5.7	5.0	4.4	3.8	3.2
450	8.7	8.1	7.5	6.9	6.3	5.6	5.0	4.4	3.8	3.2	2.6
500	8.2	7.5	6.9	6.3	5.8	5.1	4.5	3.8	3.2	2.7	2.1

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes".

## Option

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 2)	B
Non-motor end specification (only for Y-axis/Z-axis)	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 3)	RT

(Note 2) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 3) The high-precision specification cannot be selected.

## Common Specifications

	X-axis	Y-axis	Z-axis
Driving system	Ball screw, equivalent to rolled C5	Ball screw, rolled equivalent to C10 (equivalent to rolled C5)	Ball screw, rolled equivalent to C10 (equivalent to rolled C5)
Positioning repeatability	$\pm 0.01\text{mm}$	$\pm 0.01\text{mm} [\pm 0.005\text{mm}]$	$\pm 0.01\text{mm} [\pm 0.005\text{mm}]$
Lost motion	0.02mm or less	0.05mm or less [0.02mm or less]	0.05mm or less [0.02mm or less]
Guide	Integrated with base	Integrated with base	Integrated with base
Base	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment	Material: Aluminum with white alumite treatment
Motor output/lead	400W/40mm	200W/20mm	200W/10mm

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

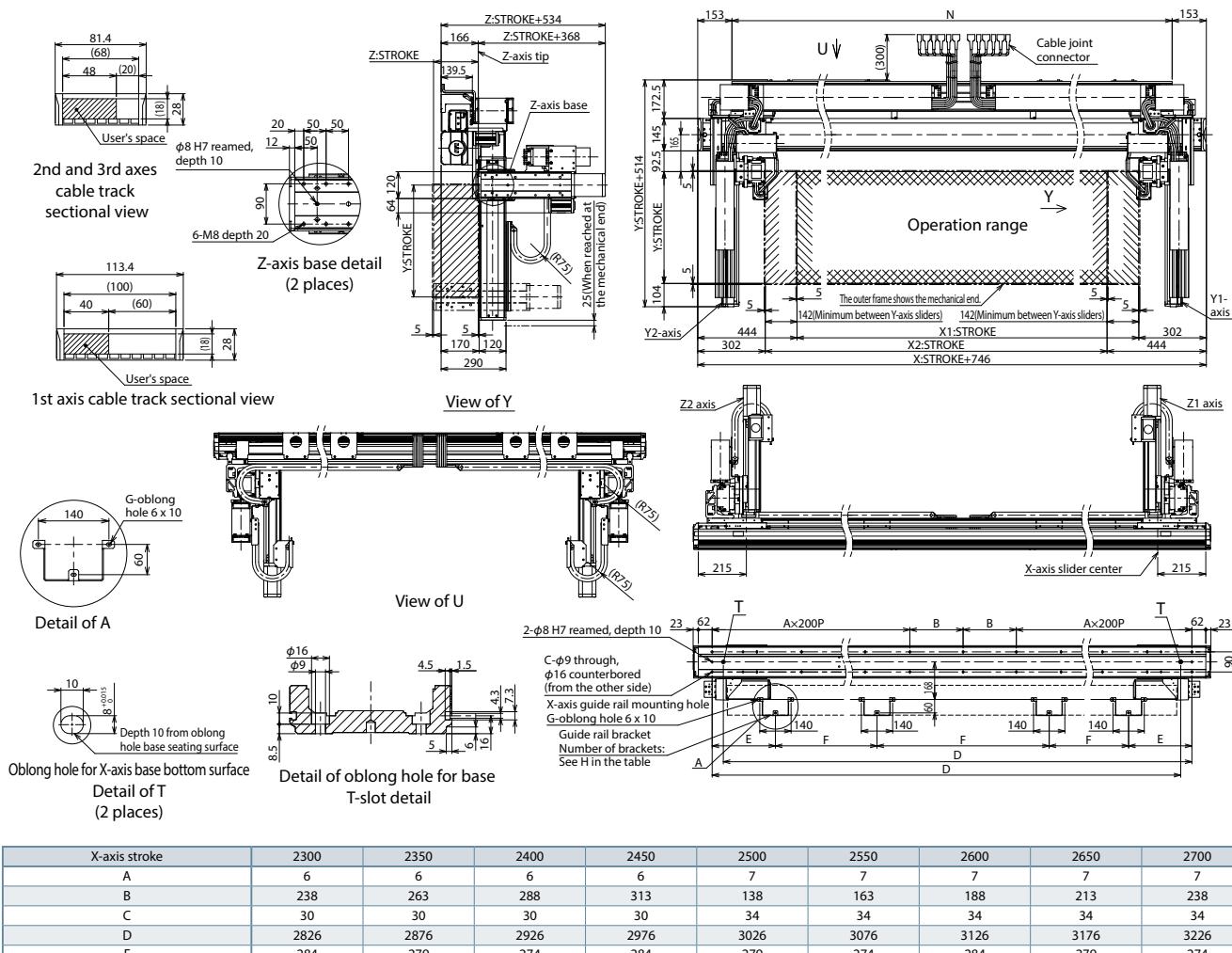
**ICSB6 [ICSPB6]-B4N1HS3M-CT-CT (cable track specification)**

(Note) The configuration position in the figure is the standard home position. To change the home position, choose NM in the options.  
 Note that changing the home position after purchase will require the actuator to be returned to IAI for adjustment.  
 (Note) The X-axis cable track guide rails are to be installed on the X-axis mounting surface by the customer.

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2D CAD

3D CAD



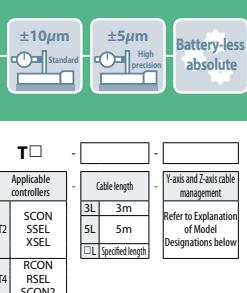
X-axis stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700
A	6	6	6	6	7	7	7	7	7
B	238	263	288	313	138	163	188	213	238
C	30	30	30	30	34	34	34	34	34
D	2826	2876	2926	2976	3026	3076	3126	3176	3226
E	284	279	274	284	279	274	284	279	274
F	770	790	810	820	840	860	870	890	910
G	12	12	12	12	12	12	12	12	12
H	4	4	4	4	4	4	4	4	4
N	2740	2790	2840	2890	2940	2990	3040	3090	3140

## ICSB6-B4N1MS3M

## ICSPB6-B4N1MS3M

## ■ Model specification items

B4N1MS3M		WA						
Series	Type	Encoder type	X-axis stroke	Option	Y-axis stroke	Option	Z-axis stroke	Option
ICSB6	Standard 6-axis spec.	Refer to Model Specification table below	230 270	2300mm 2700mm (Every 50mm)	Refer to the Options table	20 70	200mm 700mm (Every 50mm)	Refer to the Options table
ICSPB6	High precision 6-axis spec.	WA [Battery-less absolute]				10 50	100mm 500mm (Every 50mm)	Refer to the Options table



RoHS 10



Selection Notes	(1) The strokes in the Cartesian system model names are specified in cm (centimeters). (2) The cable length is the length between the X-axis connector box (SC) or from the X-axis pigtail cable (CT) and the controller. The standard lengths are 3m or 5m, but other lengths can also be specified in meters. The maximum length is 20m. (3) The rated acceleration is 0.3G for the X-axis and 0.4G for the Y-axis/Z-axis. Note that a longer stroke will result in a lower max. speed. (4) Values in [ ] are for the high-precision specification.
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## Model specification

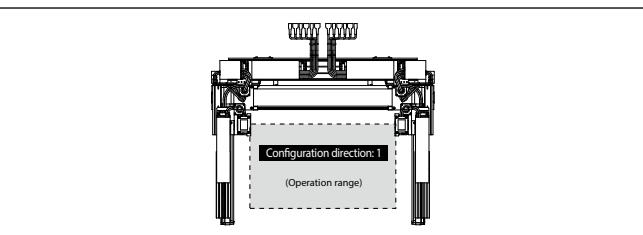
XY configuration direction (Note 1)	Model
1	ICSB6[ICSPB6]-B4N1MS3M-WA-(1)(2)-(3)(4)-(5)(6)-T□-(7)-(8)

(Note 1) Refer to the following diagram for the XY configuration direction. Refer to the table below for details of (1) to (8) in the above model specifications.

## ■ Explanation of Model Designations

No.	Description	Notation
(1)	X-axis stroke	230: 2300mm 270: 2700mm
(2)	X-axis option	Refer to the Options table
(3)	Y-axis stroke	20: 200mm 70: 700mm
(4)	Y-axis option	Refer to the Options table
(5)	Z-axis stroke	10: 100mm 50: 500mm
(6)	Z-axis option	Refer to the Options table
(7)	Cable length	3L: 3m 5L: 5m □L: □m
(8)	Y-axis and Z-axis cable management	CT-CT: Cable track - Cable track

## XY configuration direction



## Axis Configuration

Name of axis	Model
X-axis	NSA-LMXMX-WA-400-20-(1)-T□-(2)-NT10
Y1-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A1S-(4)
Y2-axis	ISB[ISPB]-MXM-WA-200-20-(3)-T□-A3S-(4)
Z1-axis	ISB[ISPB]-MXM-WA-200-10-(3)-T□-A3S-(6)
Z2-axis	ISB[ISPB]-MXM-WA-200-10-(3)-T□-A1S-(6)

(Note) Refer to the symbols within the table Explanation of Model Designations at the upper right for (1) through (6) in the above model numbers. Note that strokes in single axis actuators are indicated in mm (millimeters).

(Note) For the NSA single-axis, the model without the cable track is NT4. However, since the cable length for the cartesian robot is extended, the model is NT10.

## Maximum speed by stroke

The unit in the table is mm/s.

	100	200	300~500	600~700	800~2200	2300~2700
X-axis				-		1300
Y-axis	-		1200		-	
Z-axis	600				-	

## Payload

The unit is kg.

Z-axis stroke	Y-axis stroke										
	200	250	300	350	400	450	500	550	600	650	700
100	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
150	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
200	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
250	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
300	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
350	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
400	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
450	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
500	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2

(Note) Values are for operations at the rated acceleration. Refer to the "Selection Notes."

## Option

The option codes should be entered after the stroke for each axis. Standard options must still be called out in the model number. When selecting multiple options, specify them in alphabetical order.

Type	Model
AQ seal (standard equipment)	AQ
Brake (only for Y-axis/Z-axis (equipped standard in Z-axis)) (Note 2)	B
Non-motor end specification (only for Y-axis/Z-axis)	NM
Guide with ball-retaining mechanism (only for Y-axis/Z-axis) (Note 3)	RT

(Note 2) The Y-axis with brake option increases the length of the motor unit. Refer to the axis configuration page for details.

(Note 3) The high-precision specification cannot be selected.

## Common Specifications

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

## Applicable controllers

Please contact IAI. The controllers need to be purchased separately.

## Dimensions

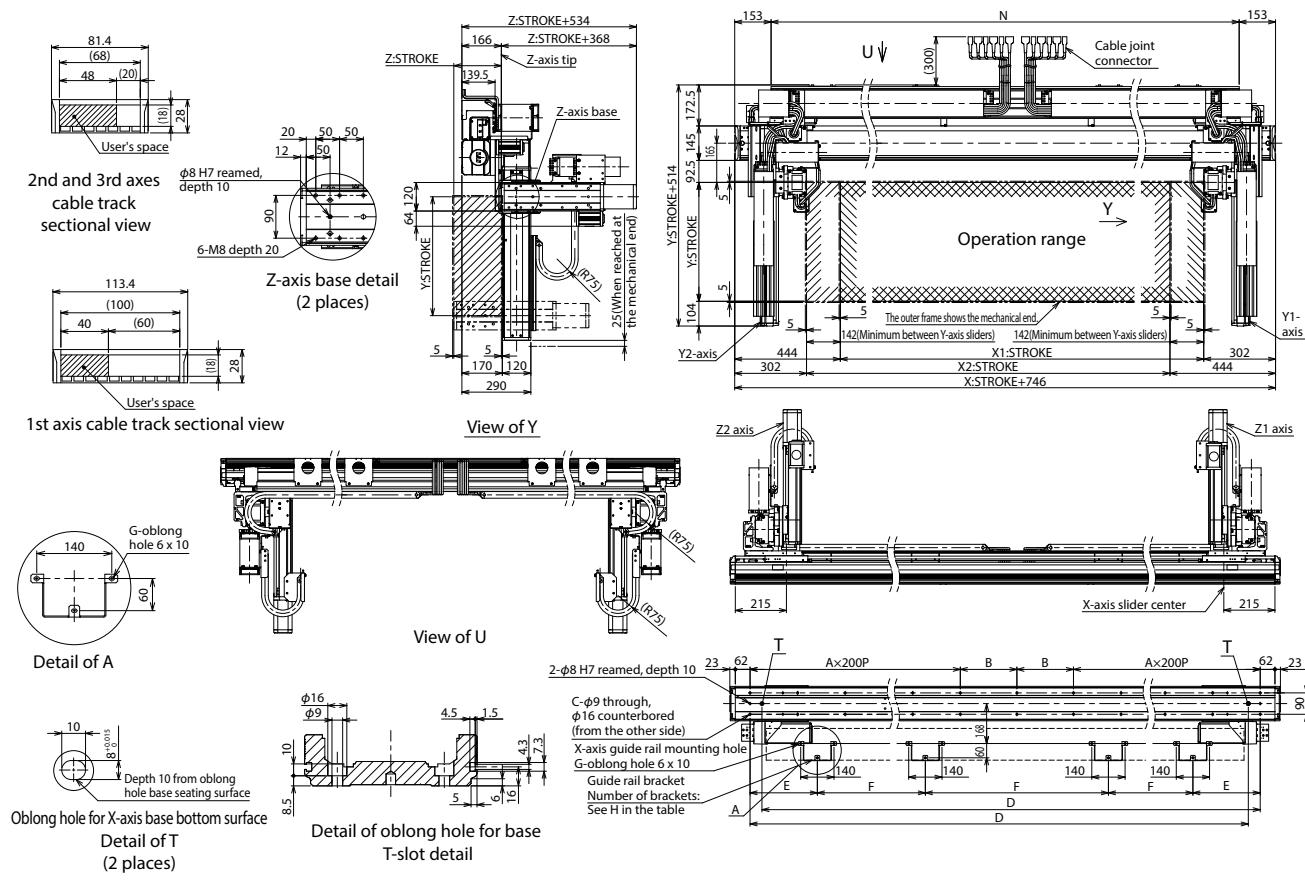
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G	12	12	12	12	12	12	12	12	12
H	4	4	4	4	4	4	4	4	4
N	2740	2790	2840	2890	2940	2990	3040	3090	3140