

**IAI**

Quality and Innovation

Single-axis Robot

# ISB/SSPA Series



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# A major revamp of the single-axis robot IS series with improvements all around—from preciseness, rigidity and payload capacity to speed and acceleration/deceleration.

## 1. Improved preciseness

■ The positioning repeatability is twice as high as with a similar conventional product.

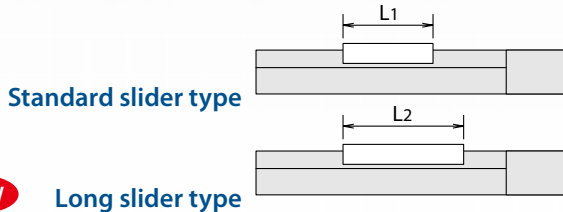
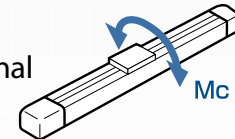
	Conventional product	ISB series
• Standard specification	±0.02 mm	→ ±0.01 mm
• High-precision specification	±0.01 mm	→ ±0.005 mm

■ Due to an improved preciseness of the guide, the dynamic straightness of the slider is now 0.015 mm/m or less. (\*)

\* Based on the SSPA of high straightness, precision specification. Refer to P. 10 for details.

## 2. Improved rigidity

■ Long slider types, each with a longer slider, have been added. Each time is 10 to 20% more rigid in Mc direction compared to a conventional product of the same size.



Type	Standard slider (L1)	Long slider (L2)
Small <b>S</b>	90mm	110mm
Medium <b>M</b>	120mm	150mm
Large <b>L</b>	150mm	180mm

■ A steel-base series (SSPA) has been added.

- The payload is 1.5 times as high as, and Mc-direction rigidity is 34% higher than, a conventional product of the same size (ISA-LXM).
- The same payload and Mc-direction rigidity are achieved at a cross-section area of just 60% that of a conventional product of an extra-large type (ISA-WXM).

	Comparison with conventional product of same size	Comparison with conventional product of same payload and Mc-direction rigidity
<p><b>NEW</b></p> <p>Steel-base type <b>SSPA-LXM</b></p>	<p>Payload 1.5 times Mc-direction rigidity 34% higher</p>	<p>Compact size with a cross-section area of just 60%</p>
<p>Conventional product</p>	<p>Large type <b>ISA-LXM</b></p>	<p>Extra-large type <b>ISA-WXM</b></p>

### 3. Full lineup including the simple, dustproof specification and the cleanroom specification

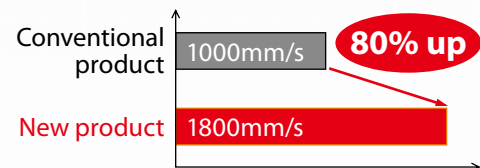


### 4. Increased payload and maximum stroke

- The payload has increased by approx. 10% with all models.
- The maximum stroke has become longer with all models except for those with the mid-support mechanism.

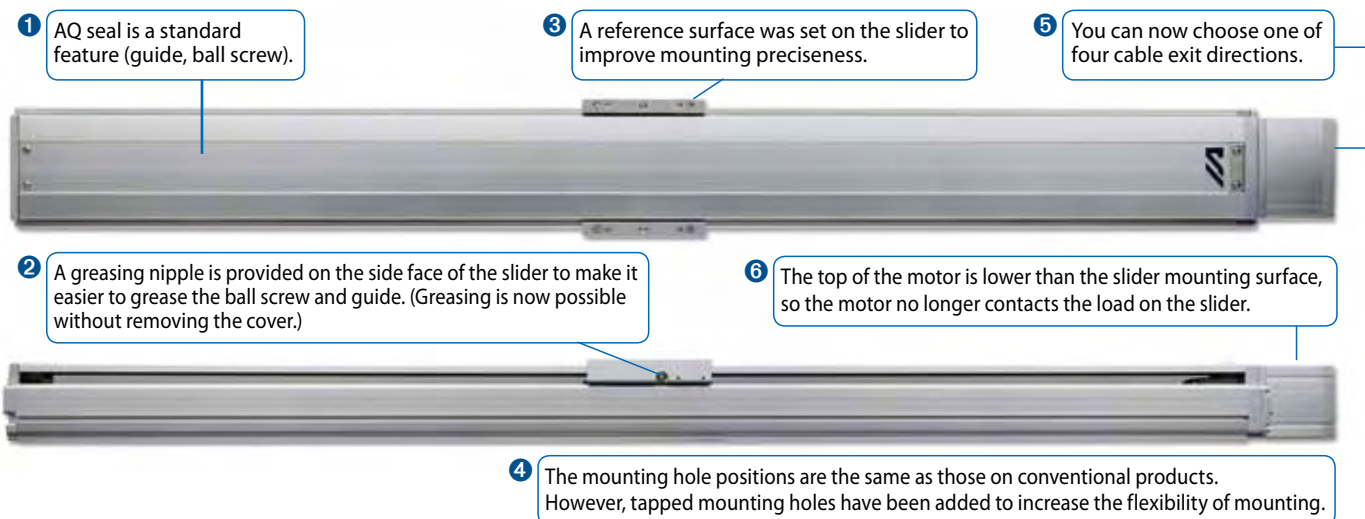
### 5. Higher speed and acceleration/deceleration

- The rated acceleration has increased from 0.3 G to 0.4 G, while the maximum acceleration has increased from 1.0 G to 1.2 G.
- The maximum speed of 2500 mm/s (\*) is now possible.  
(\* ) Based on the SSPA of lead 50.
- The maximum speed has increased from 1000 mm/s to 1800 mm/s with M/L-size types of the simple, dustproof specification or cleanroom specification.

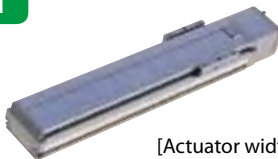
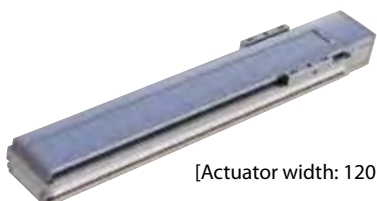

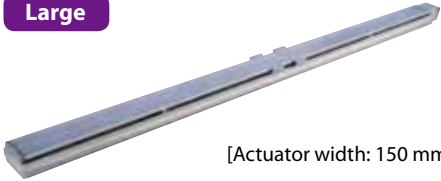



### 6. Easier to use

- 1 AQ seal is a standard feature.
- 2 Easier to grease the ball screw and guide.
- 3 A reference surface is set on the slider.
- 4 Greater flexibility of mounting.
- 5 Four cable exit directions to choose from.
- 6 The top of the motor does not contact the load on the slider.



Product Specification List

Use environment	Base material	Series name [Positioning repeatability (mm)]	Actuator size	Slider type (slider length) (Note 1)	Type
Standard	Aluminum base	<b>ISB</b> (Standard specification) [±0.01]  <b>ISPB</b> (High precision specification) [±0.005]	<b>Small</b>  [Actuator width: 90 mm]	Standard [90mm]	<b>SXM</b>
				Long [110mm]	<b>SXL</b>
			<b>Medium</b>  [Actuator width: 120 mm]	Standard [120mm]	<b>MXM</b>
				Long [150mm]	<b>MXL</b>
				With mid-support [120mm]	<b>MXMX</b>
			<b>Large</b>  [Actuator width: 150 mm]	Standard [150mm]	<b>LXM</b>
				Long [180mm]	<b>LXL</b>
				With mid-support [150mm]	<b>LXMX</b>
			<b>Large</b>  [Actuator width: 150 mm]	Double sliders with mid-support [250mm]	<b>LXUWX</b>
			<b>Large</b>  [Actuator width: 155 mm]	Standard [150mm]	<b>LXM</b>

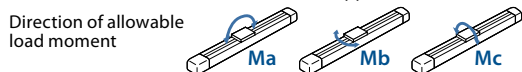
(Note 1) When the slider is longer, the dynamic allowable moment becomes more than that of the standard slider. When mid-support is provided, high-speed movement is possible, even over a long stroke, because deflection of the ball screw can be suppressed.

(Note 2) If the stroke is short, the maximum speed may not be reached. When the stroke increases, the maximum speed will drop to prevent reaching a dangerous speed. For details, refer to the page explaining the specifications of each model.

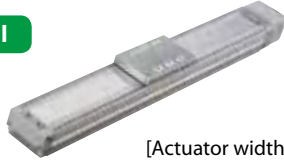
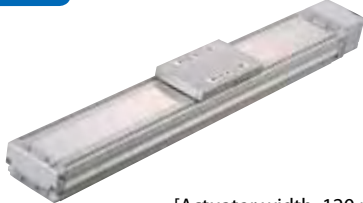

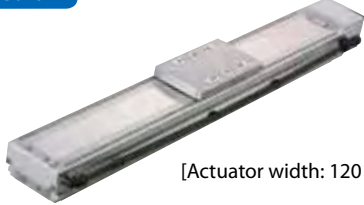
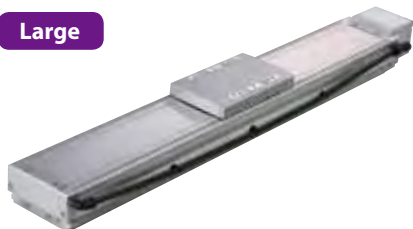
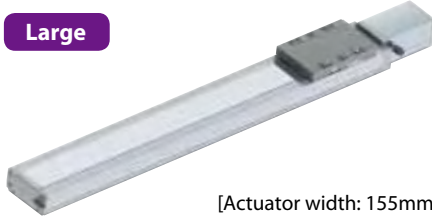
(Note 3) The maximum payload is the value when the actuator is operated at the rated acceleration. The maximum payload will drop if the acceleration is raised. For details, refer to "Table of Payload by Acceleration" on P. 7. The values in ( ) are payloads when a guide with ball retention mechanism (RT) is used.

	Stroke (mm)	Motor output (W)	Ball screw lead (mm)	Maximum speed (mm/s) (Note 2)	Maximum payload (kg) (Note 3)		Dynamic allowable moment (N-m) (Note 4)			Reference page
					Horizontal	Vertical	Ma	Mb	Mc	
	100~900 (in 50mm increments)	60	16	960	13	3.5 (3.0)	28.4	40.2	65.7	P.14
			8	480	27	7 (6.5)				
			4	240	55	14 (13.5)				
	130~880 (in 50mm increments)	60	16	960	13	3.5	39.7	56.7	76.3	P.15
			8	480	27	7				
			4	240	55	14				
	100~1100 (in 50mm increments)	100	30	1800	15	2.5 (2.0)	69.6	99.0	161.7	P.16
			20	1200	23	5 (4.5)				
			10	600	45	10 (9.5)				
			5	300	85	20 (19.5)				
		200	30	1800	30	6				P.17
			20	1200	45	10				
			10	600	90	20				
	120~1070 (in 50mm increments)	100	30	1800	15	2.5	105.3	150.4	193.7	P.18
			20	1200	23	5				
			10	600	45	10				
			5	300	85	20				
		200	30	1800	30	6				P.19
			20	1200	45	10				
			10	600	90	20				
	800~2000 (in 100mm increments)	200	30	1800	30	Designed exclusively for horizontal use	69.6	99.0	161.7	P.20
			20	1200	45					
	100~1300 (in 50mm increments)	200	40	2400	15	4 (3.0)	104.9	149.9	248.9	P.21
			20	1200	45	10 (9.0)				
			10	600	90	20 (19.0)				
		400	40	2400	40	10				P.22
			20	1200	90	20				
			10	600	120	40				
	120~1270 (in 50mm increments)	200	40	2400	15	4	137.8	196.8	278.5	P.23
			20	1200	45	10				
			10	600	90	20				
		400	40	2400	40	10				P.24
			20	1200	90	20				
			10	600	120	40				
	1000~2500 (in 100mm increments)	200	20	1200	45	Designed exclusively for horizontal use	104.9	149.9	248.9	P.25
		400	40	2400	40					P.26
			20	1200	90					
	1000~2500 (in 100mm increments)	200	20	1200	45	Designed exclusively for horizontal use	179.3	254.8	247.0	P.27
			400	40	2400					40
		20		1200	90					
			100~1500 (in 50mm increments)	750	50					2500
	25	1250			120	25 (23.0)				

Note 4) The value of moment allowed to be applied when the traveling life of the actuator is set to 10,000 km.



Product Specification List

Use environment	Base material	Series name [Positioning repeatability (mm)]	Actuator size	Slider type (slider length) (Note 1)	Type
Simple, dustproof	Aluminum base	<b>ISDB</b> (Standard specification) [±0.01]  <b>ISPDB</b> (High precision specification) [±0.005]	<b>Small</b>  [Actuator width: 90 mm]	Standard [154mm]	<b>S</b>
			<b>Medium</b>  [Actuator width: 120 mm]	Standard [194mm]	<b>M</b>
			<b>Large</b>  [Actuator width: 150 mm]	With mid-support [194mm]	<b>MX</b>
				Standard [224mm]	<b>L</b>
			With mid-support [224mm]	<b>LX</b>	
			Cleanroom	Aluminum base	<b>ISDBCR</b> (Standard specification) [±0.01]  <b>ISPDBCR</b> (High precision specification) [±0.005]
<b>Medium</b>  [Actuator width: 120 mm]	Standard [194mm]	<b>M</b>			
<b>Large</b>  [Actuator width: 150 mm]	With mid-support [192mm]	<b>MX</b>			
	Standard [224mm]	<b>L</b>			
With mid-support [220mm]	<b>LX</b>				
Steel base	<b>SSPDACR</b> (High precision specification) [±0.005]	<b>Large</b>  [Actuator width: 155mm]		Standard [230mm]	<b>L</b>

(Note 1) When a mid-support is provided, high-speed movement is possible, even over a long stroke, because deflection of the ball screw can be suppressed.

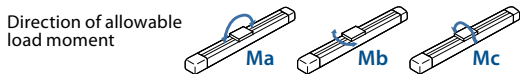
(Note 2) If the stroke is short, the maximum speed may not be reached. When the stroke increases, the maximum speed will drop to prevent reaching a dangerous speed.

For details, refer to the page explaining the specifications of each model.

(Note 3) The maximum payload is the value when the actuator is operated at the rated acceleration. The maximum payload will drop if the acceleration is raised. For details, refer to "Table of Payload by Acceleration" on P. 7. The values in ( ) are payloads when a guide with ball retention mechanism (RT) is used.

	Stroke (mm)	Motor output (W)	Ball screw lead (mm)	Maximum speed (mm/s) (Note 2)	Maximum payload (kg) (Note 3)		Dynamic allowable moment (N-m) (Note 4)			Reference page
					Horizontal	Vertical	Ma	Mb	Mc	
	100~800 (in 50mm increments)	60	16	960	13	3 (2.5)	28.4	40.2	65.7	P.31
8			480	27	6 (5.5)					
4			240	55	14 (13.5)					
	100~1100 (in 50mm increments)	100	30	1800	15	2 (1.5)	69.6	99.0	161.7	P.32
20			1200	23	4 (3.5)					
10			600	45	10 (9.5)					
5			300	85	20 (19.5)					
200		30	1800	30	6	P.33				
		20	1200	45	10					
		10	600	90	20					
	800~1600 (in 100mm increments)	200	30	1800	30	Designed exclusively for horizontal use	69.6	99.0	161.7	P.34
20			1200	45						
	100~1300 (in 50mm increments)	200	40	1800	15	2.5 (1.5)	104.9	149.9	248.9	P.35
20			1200	45	9 (8.0)					
10			600	90	20 (19.0)					
400		40	1800	40	8	P.36				
		20	1200	90	20					
		10	600	120	40					
	1000~1600 (in 100mm increments)	200	40	1800	15	Designed exclusively for horizontal use	104.9	149.9	248.9	P.37
20			1200	45						
400		40	1800	40	P.38					
		20	1200	90						
	100~800 (in 50mm increments)	60	16	960	13	3 (2.5)	28.4	40.2	65.7	P.40
8			480	27	6 (5.5)					
4			240	55	14 (13.5)					
	100~1100 (in 50mm increments)	100	30	1800	15	2 (1.5)	69.6	99.0	161.7	P.41
20			1200	23	4 (3.5)					
10			600	45	10 (9.5)					
5			300	85	20 (19.5)					
200		30	1800	30	6	P.42				
		20	1200	45	10					
		10	600	90	20					
	800~2000 (in 100mm increments)	200	30	1800	30	Designed exclusively for horizontal use	69.6	99.0	161.7	P.43
20			1200	45						
	100~1300 (in 50mm increments)	200	40	1800	15	2.5 (1.5)	104.9	149.9	248.9	P.44
20			1200	45	9 (8.0)					
10			600	90	20 (19.0)					
400		40	1800	40	8	P.45				
		20	1200	90	20					
		10	600	120	40					
	1000~2500 (in 100mm increments)	200	40	1800	15	Designed exclusively for horizontal use	104.9	149.9	248.9	P.46
20			1200	45						
400		40	1800	40	P.47					
		20	1200	90						
	100~1500 (in 50mm increments)	750	50	1600	60	12 (10.0)	138.8	138.8	334.5	P.48
25			1100	120	25 (23.0)					

(Note 4) The value of moment allowed to be applied when the traveling life of the actuator is set to 10,000 km.







\*The selections for each item vary depending on the type. For details, check the page explaining each type.

● Standard type

Example) **ISB** — **MXM** — **A** — **200** — **30** — **1100** — **T2** — **M** — **A3E**

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

**ISB** Aluminum base, standard specification  
**ISPB** Aluminum base, high precision specification  
**SSPA** Steel base, high precision specification

**MXM** Small, X-axis, standard type  
**SXM** Small, X-axis, standard type  
**SXL** Small, X-axis, long slider type  
**MXL** Medium, X-axis, long slider type  
**MXMX** Medium, X-axis, mid-support type  
**LXM** Large, X-axis, standard type  
**LXL** Large, X-axis, long slider type  
**LXMX** Large, X-axis, mid-support type  
**LXUWX** Large, X-axis, mid-support type, double-slider type

**A** Absolute type  
**I** Incremental type

60	60W
100	100W
200	200W
400	400W
750	750W

100	100mm
?	?
2500	2500mm

\* Varies depending on the model.

4	4mm
5	5mm
8	8mm
10	10mm
16	16mm
20	20mm
25	25mm
30	30mm
40	40mm
50	50mm

\* The selectable leads vary depending on the model.

**T1** XSEL-J/K  
**T2** XSEL-P/Q  
**SSEL**  
**SCON**

**N** None  
**S** 3m  
**M** 5m  
**X□□** Specified length

\* The standard cable is a robot cable.

A1S	Cable exit from the left
A1E	Cable exit from the rear left
A3S	Cable exit from the right
A3E	Cable exit from the rear right
AQ	AQ seal (standard feature)
B	Brake
C	Creep sensor
CL	Creep sensor on opposite side
L	Home limit switch
LL	Home limit switch on opposite side
LM	Master axis specification
LLM	Master axis specification (sensor on opposite side)
NM	Non-motor side specification
RT	Guide with ball retention mechanism
S	Slave axis specification
ST	High straightness, precision specification

Be sure to specify the AQ seal option (AQ). For the cable exit direction, be sure to specify an applicable code (A1S/A1E/A3S/A3E).

● Simple, dustproof type

Example) **ISDB** — **M** — **A** — **200** — **20** — **500** — **T2** — **M** — **B**

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

**ISDB** Standard specification  
**ISPDB** High precision specification

**S** Small, standard type  
**M** Medium, standard type  
**MX** Medium, mid-support type  
**L** Large, standard type  
**LX** Large, mid-support type

**A** Absolute type  
**I** Incremental type

60	60W
100	100W
200	200W
400	400W

100	100mm
?	?
1600	1600mm

\* Varies depending on the model.

4	4mm
5	5mm
8	8mm
10	10mm
16	16mm
20	20mm
30	30mm
40	40mm

\* The selectable leads vary depending on the model.

**T1** XSEL-J/K  
**T2** XSEL-P/Q  
**SSEL**  
**SCON**

**N** None  
**S** 3m  
**M** 5m  
**X□□** Specified length

\* The standard cable is a robot cable.

A1S	Cable exit from the left
A1E	Cable exit from the rear left
A3S	Cable exit from the right
A3E	Cable exit from the rear right
AQ	AQ seal (standard feature)
B	Brake
C	Creep sensor
CL	Creep sensor on opposite side
L	Home limit switch
LL	Home limit switch on opposite side
LM	Master axis specification
LLM	Master axis specification (sensor on opposite side)
NM	Non-motor side specification
RT	Guide with ball retention mechanism
S	Slave axis specification
ST	High straightness, precision specification

Be sure to specify the AQ seal option (AQ). For the cable exit direction, be sure to specify an applicable code (A1S/A1E/A3S/A3E).

● Cleanroom type

Example) **ISDBCR** — **M** — **A** — **200** — **20** — **500** — **T2** — **M** — **RT**

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

**ISDBCR** Aluminum base, standard specification  
**ISPDBCR** Aluminum base, high precision specification  
**SSPDACR** Steel base, high precision specification

**S** Small, standard type  
**M** Medium, standard type  
**MX** Medium, mid-support type  
**L** Large, standard type  
**LX** Large, mid-support type

**A** Absolute type  
**I** Incremental type

60	60W
100	100W
200	200W
400	400W
750	750W

100	100mm
?	?
2500	2500mm

\* Varies depending on the model.

4	4mm
5	5mm
8	8mm
10	10mm
16	16mm
20	20mm
25	25mm
30	30mm
40	40mm
50	50mm

\* The selectable leads vary depending on the model.

**T1** XSEL-J/K  
**T2** XSEL-P/Q  
**SSEL**  
**SCON**

**N** None  
**S** 3m  
**M** 5m  
**X□□** Specified length

\* The standard cable is a robot cable.

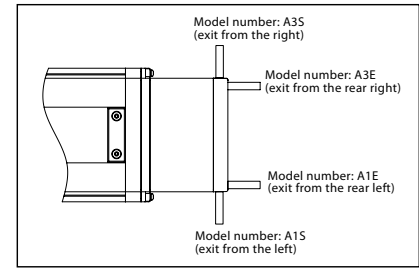
A1S	Cable exit from the left
A1E	Cable exit from the rear left
A3S	Cable exit from the right
A3E	Cable exit from the rear right
AQ	AQ seal (standard feature)
B	Brake
C	Creep sensor
CL	Creep sensor on opposite side
L	Home limit switch
LL	Home limit switch on opposite side
LM	Master axis specification
LLM	Master axis specification (sensor on opposite side)
NM	Non-motor side specification
RT	Guide with ball retention mechanism
S	Slave axis specification
ST	High straightness, precision specification
VR	Suction tube joint on opposite side

Be sure to specify the AQ seal option (AQ). For the cable exit direction, be sure to specify an applicable code (A1S/A1E/A3S/A3E).

## Cable Exit Direction

### Model number Option **A1S/A1E/A3S/A3E**

You can choose one of four cable exit directions.  
\* Be sure to specify one of four model numbers.



## AQ seal (lubrication unit)

### Model number option **AQ**

This unit prevents foreign objects from entering the ball screw and sliding part of the guide, while continuously supplying an appropriate amount of lubricating oil. (Standard feature on all models)  
\* Be sure to specify the model number option.

## Brake

### Model number option **B**

When the actuator is used vertically, this mechanism holds the slider in place in the event that the power or servo is turned off, so that the slider will not drop and cause damage to the load. When the brake is equipped, the motor cover becomes longer than the specification without the brake. (Refer to the external view of each model.)

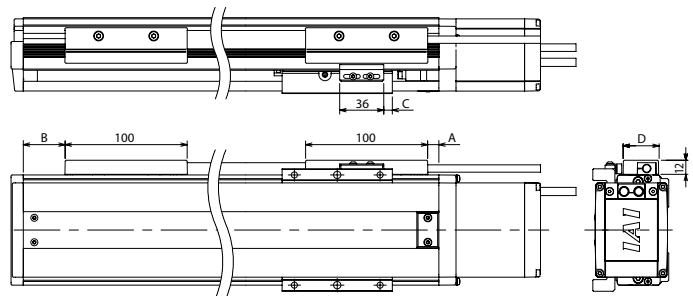
## Creep sensor

### Model number option **C (standard) /CL (opposite side)**

This sensor shortens the time required for home return. During the home return, the slider moves to the mechanical end at low speed, so actuators with a long stroke take a longer time to complete the home return. The creep sensor is installed near the mechanical end so that the slider can be moved at high speed to the sensor position and when the sensor actuates, the speed is reduced to the specified low level. This way, the time of home return can be shortened. With the standard option (C), this sensor is installed on the right side of the actuator as viewed from the motor. Select the opposite side option (CL) if you want to install the sensor on the opposite side. The external dimensions vary depending on whether or not the sensor and cover are installed. When the creep sensor alone is installed, there is an additional sensor only on the home side and the dimensions change accordingly. If the home limit switch is also used, the dimensions conform to those of the specification with home limit switch.

### Dimensions with Creep Sensor and Home Limit Switch Installed

The following dimensions apply when the sensor and switch are installed.



\* The above dimensions apply when both the limit switch and creep sensor are installed. If the creep sensor alone is installed, the dimensions on the sensor side (home side) will vary.

Series	Type	A	B	C	D
ISB ISPBB	SXM type	9	34	7	29
	SXL type	19	44	17	29
	MXM type	18	78	2	34.5
	MXL type	33	93	17	34.5
	MXMX type	66	126	2	34.5
	LXM type	36	94	17	42.5
	LXL type	41	119	22	42.5
	LXMX type	88	140	17	42.5
LXUWX type	83	245	12	42.5	
SSPA	LXM type	19.5 (16.5)	86 (83)	24	42.5
ISDB ISPDB	S type	10	60	37	29
	M type	20	89	46	34.5
	MX type	68	137	46	34.5
	L type	31	119	57	42.5
	LX type	77	165	57	42.5
ISDBCR ISPDBCR	S type	10	60	37	29
	M type	20	89	46	34.5
	MX type	68	137	45	34.5
	L type	31	119	57	42.5
LX type	77	165	55	42.5	
SSPADCR	LXM type	44.5 (41.5)	111 (108)	64	42.5

\* The values in ( ) represent dimensions when the creep sensor alone is installed.

## Home limit switch

### Model number option **L (standard) /LL (opposite side)**

Normally actuators adopt the "contact" home return mechanism whereby the slider moves until it contacts the stopper at the mechanical end, upon which the slider reverses its course and moves until the Z-phase is detected, and the detected phase is set as the home. The home limit switch is a convenient option that lets you adjust the reversing position or check whether or not the slider has reversed. With the standard option (L), this switch is installed on the right side of the actuator as viewed from the motor. Select the opposite side option (LL) if you want to install the switch on the opposite side. The external dimensions vary depending on whether or not the sensor and cover are installed.

## Non-motor side specification

### Model number option **NM**

Normally the home return is implemented on the motor side, but this direction can be set to the non-motor side as well. To change the home return direction, specify it in your order because the encoder must be adjusted.

## Guide with ball retention mechanism

### Model number option **RT**

A spacer (retainer) is inserted between guide balls (made of steel) to reduce noise and for a longer operating life.

\*This option is not available for long slider types (SXL/MXL/LXL).

\*Take note that the payload will vary if the actuator is used vertically. (Refer to the model/specification table of each model.)

## Master axis specification for synchronized operation

Model number option **LM** (standard) /**LLM** (opposite side)

Synchronized operation is a function to move two actuator axes of the same specification—one master axis and one slave axis—in identical manners, with the slave axis following the master axis at very high-speed control. If you want to use synchronized operation, specify “LM” for the master axis and “S” for the slave axis.

## Slave axis specification

Model number option **S**

Enter this model number to specify the slave axis in synchronized operation.

## High straightness, precision specification

Model number option **ST**

This specification represents a precision actuator of high traveling preciseness in terms of dynamic parallelism (horizontal/vertical) and dynamic straightness (horizontal/vertical) of the slider.

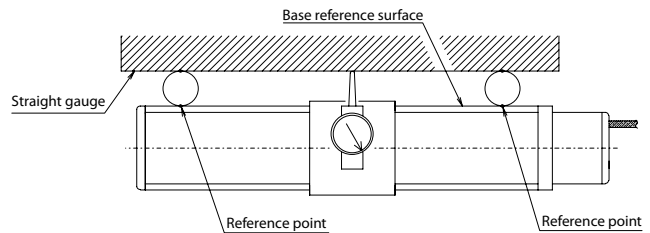
		Aluminum base		Steel base	
		Without high straightness, precision specification	With high straightness, precision specification (*)	Without high straightness, precision specification	With high straightness, precision specification (*)
<b>1</b>	Dynamic parallelism [mm/m or less]	0.05	0.03	0.05	0.03
<b>2</b>	Dynamic straightness [mm/m or less]	0.05	0.020	0.05	0.015

(\*)The method of preciseness measurement conforms to IAI's inspection standard.

### 1 Dynamic parallelism (horizontal/vertical)

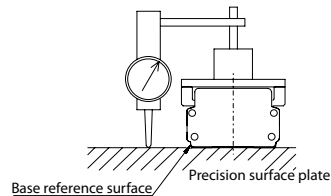
#### ① Parallelism of the base reference surface and the slider motion (horizontal)

With the base affixed on a precision surface plate, an indicator on the slider is caused to contact a straight gauge placed in parallel with two points at both ends of the base reference surface, and then the actuator is moved over the entire stroke. Parallelism of the base reference surface and the slider motion represents the maximum difference between the measured values.



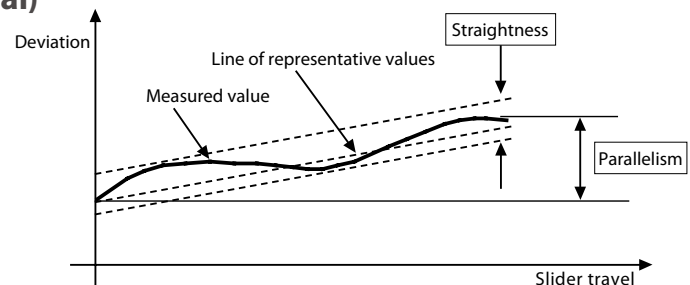
#### ② Parallelism of the base mounting surface and the slider motion (vertical)

With the base affixed on a precision surface plate, an indicator on the slider is caused to contact the surface plate, and then the actuator is moved over the entire stroke. Parallelism of the base mounting surface and the slider motion represents the maximum difference between the measured values.



### 2 Dynamic straightness (horizontal/vertical)

With the base affixed on a precision surface plate, an indicator on the slider is caused to contact a straight gauge placed in parallel with two points at both ends of the base reference surface, and then the actuator is moved over the entire stroke. Parallelism of the base reference surface and the slider motion represents the maximum difference between the measured values.



## Suction tube joint on opposite side

Model number option **VR**

On standard cleanroom actuators, the vacuum joint is installed on the left side of the actuator as viewed from the motor. Specify this option if you want to have this joint on the opposite side.

**[Duty]**

The duty represents the utilization ratio of the actuator (time during which the actuator is operating in each cycle). Since an estimation for applicable duty varies depending on the operating conditions (transferring mass, acceleration/deceleration, etc.), calculate the load factor LF and acceleration/deceleration time ratio  $t_{od}$  using the formula on the right and read off an appropriate duty from the graph.

$$\text{Duty} = \frac{\text{Operating time}}{\text{Operating time} + \text{Stopped time}} (\%)$$

**How to calculate duty**

1 Calculate the load factor LF using the formula below:

$$\text{Load factor: LF} = \frac{M \times \alpha_r}{M_r \times \alpha} (\%)$$

- Payload at rated acceleration:  $M_r$
- Actual transferring mass:  $M$
- Rated acceleration/deceleration:  $\alpha_r$
- Actual acceleration/deceleration:  $\alpha$

(Note) Refer to the model number/specification table of each model for the payload at rated acceleration and rated acceleration/deceleration.

2 Calculate the acceleration/deceleration time ratio  $t_{od}$  using the formula below:

$$\text{Acceleration/deceleration time ratio } t_{od} = \frac{\text{Acceleration time} + \text{Deceleration time}}{\text{Operating time}} (\%)$$

$$\text{Acceleration time} = \frac{\text{Speed (mm/s)}}{\text{Acceleration (mm/s}^2\text{)}} (\text{sec})$$

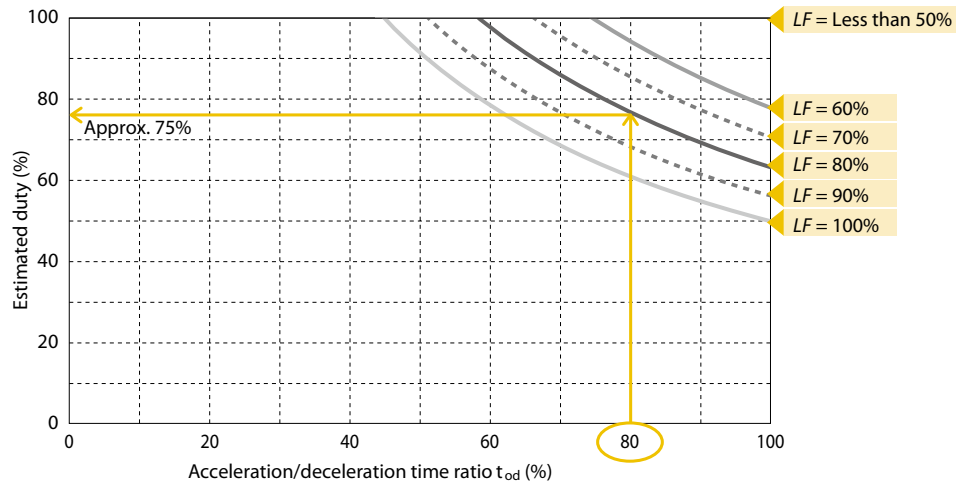
$$\text{Deceleration time} = \frac{\text{Speed (mm/s)}}{\text{Deceleration (mm/s}^2\text{)}} (\text{sec})$$

$$\text{Acceleration (mm/s}^2\text{)} = \text{Acceleration (G)} \times 9,800 \text{ mm/s}^2$$

$$\text{Deceleration (mm/s}^2\text{)} = \text{Deceleration (G)} \times 9,800 \text{ mm/s}^2$$

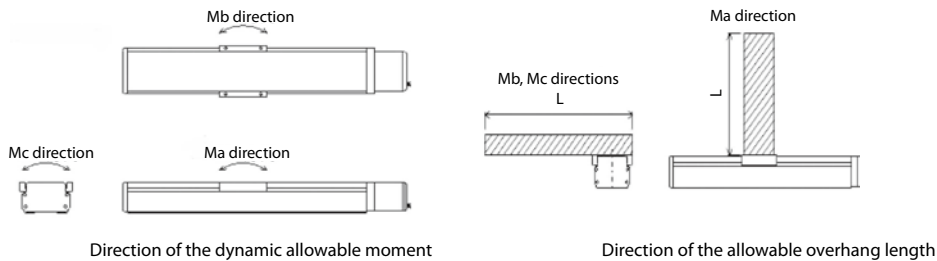
3 Read off the estimated duty from the calculated load factor LF and acceleration/deceleration time ratio  $t_{od}$ .

Example. When the load factor LF is 80% and acceleration/deceleration time ratio  $t_{od}$  is 80%, an estimation for duty is approx. 75%.



**[Dynamic allowable moment and overhang load length]**


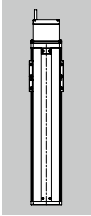
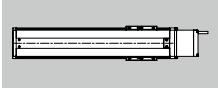

The dynamic allowable moment, calculated from the traveling life of the guide, is the maximum offset load that can be applied to the slider. The traveling life will decrease when the allowable value is exceeded, so use an auxiliary guide, etc., if it is used within the allowable value or the allowable value is exceeded. The overhang load length represents the maximum length that can overhang from the slider when the requirement for dynamic allowable moment is met. Take note that if the specified overhang load length is exceeded, vibration, etc., may occur.



**[Mounting]**

Check the mounting orientation of each model in the table below.

○: Installable —: Not installable

Mounting orientation		Horizontal, flat	Vertical Note 1	On side	Ceiling-mounted
					
Series	Type				
<b>ISB ISPb</b>	SXM, SXL, MXM, MXL, LXM, LXL	○	○	○	○
	MXMX, LXMX, LXUWX	○	—	—	—
<b>SSPA</b>	LXM	○	○	○	○
<b>ISDB ISPDB</b>	S, M, L	○	○	○ Note 2	○ Note 2
	MX, LX	○	—	—	—
<b>SSPDACR</b>	L	○	○	—	—

Note 1 When installing the actuator vertically, bring the motor to the top whenever possible. If the actuator is mounted with the motor at the bottom, problems won't occur during normal operation, but if the actuator is stopped for a prolonged period of time, grease may separate depending on the ambient environment (especially when the ambient temperature is high), in which case base oil may flow into the motor unit and could cause problems on rare occasions.

Note 2 If an actuator with stainless sheet whose stroke is over 400 mm is installed on its side or is mounted on the ceiling, the stainless sheet may become slacked or shift. If the actuator is used continuously in this condition, the stainless sheet may break or other problems may occur. Inspect the stainless sheet daily and make adjustment as necessary.  
[For the stainless sheet adjustment procedure, refer to "Replacing/Adjusting the Stainless Sheet" in the operation manual.]

# Standard Type

## ISB / ISPB / SSPA

<b>ISB ISPB</b>	Standard (High Precision) Type	Small	X-axis, Standard Type	Width: 90mm	ISB (ISPB)-SXM	<b>P.14</b>		
			X-axis, Long Slider Type	Width: 90mm	ISB (ISPB)-SXL	<b>P.15</b>		
		Medium	X-axis, Standard Type	Width: 120mm	ISB (ISPB)-MXM-100	<b>P.16</b>		
				Width: 120mm	ISB (ISPB)-MXM-200	<b>P.17</b>		
			X-axis, Long Slider Type	Width: 120mm	ISB (ISPB)-MXL-100	<b>P.18</b>		
				Width: 120mm	ISB (ISPB)-MXL-200	<b>P.19</b>		
			X-axis, Mid-Support Type	Width: 120mm	ISB (ISPB)-MXMX-200	<b>P.20</b>		
		Large	X-axis, Standard Type	Width: 150mm	ISB (ISPB)-LXM-200	<b>P.21</b>		
				Width: 150mm	ISB (ISPB)-LXM-400	<b>P.22</b>		
			X-axis, Long Slider Type	Width: 150mm	ISB (ISPB)-LXL-200	<b>P.23</b>		
				Width: 150mm	ISB (ISPB)-LXL-400	<b>P.24</b>		
			X-axis, Mid-Support Type	Width: 150mm	ISB (ISPB)-LXMX-200	<b>P.25</b>		
				Width: 150mm	ISB (ISPB)-LXMX-400	<b>P.26</b>		
			X-axis, Mid-Support, Double-Slider Type	Width: 150mm	ISB (ISPB)-LXUWX-200	<b>P.27</b>		
				Width: 150mm	ISB (ISPB)-LXUWX-400	<b>P.28</b>		
		<b>SSPA</b>	High Precision Type	Large	X-axis, High-Rigidity, Steel-Base Type	Width: 155mm	SSPA-LXM-750	<b>P.29</b>

# ISB-SXM

Single-axis robot/Small, X-axis, standard slider type/Actuator width: 90mm/60W  
Straight shape

# ISPB-SXM

Single-axis robot/Small, X-axis, standard slider type/Actuator width: 90mm/60W  
Straight shape **High precision specification**



### Model Specification Items

Series	SXM	Encoder type	60	Lead	Stroke	Applicable controller	Cable length	Options
ISB: Standard specification ISPB: High precision specification		A: Absolute specification I: Incremental specification	60: 60W	16: 16mm 8: 8mm 4: 4mm	100: 100mm 900: 900mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P.8 for the details of items comprising the model number.

### Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)**		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-SXM-①-60-16-②-③-④-⑤	Absolute Incremental	60	16	100~900	1~960	0.4	1.2	0.4	0.8	13	3.5	3.5	2	53.1
8			1~480		0.4	0.7	0.4	0.6	27	12	7	5	106.1	
4			1~240		0.2	0.5	0.2	0.4	55	30	14	12	212.3	

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).  
\*\*If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 0.5kg. (Please also refer to P.7).

### Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

### Common Specifications

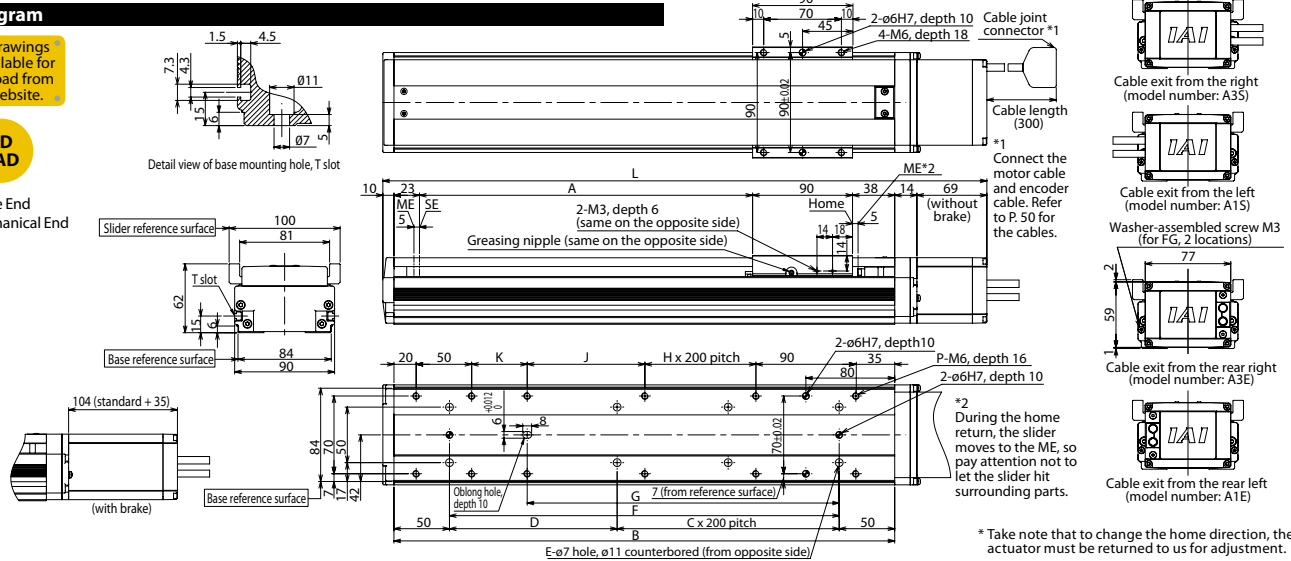
Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw φ12mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 28.4N·m Mb: 40.2N·m Mc: 65.7N·m
Overhang load length	Ma direction: 450mm max. Mb, Mc directions: 450mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

### Diagram

CAD drawings are available for download from our website.

2D CAD

SE: Stroke End  
ME: Mechanical End



\* Take note that to change the home direction, the actuator must be returned to us for adjustment.

### Dimensions, Mass and Maximum Speed by Stroke

Stroke	*If the brake is equipped, the mass increases by 0.3 kg.														*The maximum speed (mm/s) varies depending on the stroke.				
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900		
L	without brake	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094	1144	
	with brake	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129	1179	
A	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900		
B	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051		
C	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4		
D	151	201	251	101	151	201	251	101	151	201	251	101	151	201	251	101	151		
E	4	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12		
F	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951		
G	131	131	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881		
H	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3		
J	56	56	106	156	206	256	106	156	206	256	106	156	206	256	106	156	206		
K	0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50		
P	8	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16		
Mass (kg)	3.0	3.4	3.8	4.2	4.5	4.9	5.2	5.6	5.9	6.3	6.6	7.0	7.3	7.7	8.0	8.4	8.7		
Maximum speed (mm/s)	Lead 16															655			415
	Lead 8															330			210
	Lead 4															165			100

### Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes				→P49
SCON	1 axis		Positioner pulse train control		→P49



(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4)  
(Note 5) When the traveling life is 10,000km.  
(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISB-SXL

Single-axis robot/Small, X-axis, long slider type/Actuator width: 90mm/60W  
Straight shape

# ISPB-SXL

Single-axis robot/Small, X-axis, long slider type/Actuator width: 90mm/60W  
Straight shape **High precision specification**



Model Specification Items	Series	SXL Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISB: Standard specification ISPB: High precision specification			A: Absolute specification I: Incremental specification	60: 60W	16: 16mm 8: 8mm 4: 4mm	130: 130mm ? 880: 880mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-SXL-①-60-16-②-③-④-⑤	Absolute Incremental	60	16	130~880	1~960	0.4	1.2	0.4	0.8	13	3.5	3.5	2	53.1
ISB[ISPB]-SXL-①-60-8-②-③-④-⑤			8		1~480	0.4	0.7	0.4	0.6	27	12	7	5	106.1
ISB[ISPB]-SXL-①-60-4-②-③-④-⑤			4		1~240	0.2	0.5	0.2	0.4	55	30	14	12	212.3

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Master axis specification	LM	→P10
AQ seal (standard feature)	AQ	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Brake	B	→P9	Slave axis specification	S	→P10
Creep sensor	C	→P9	High straightness, precision specification	ST	→P10
Creep sensor on opposite side	CL	→P9			

## Common Specifications

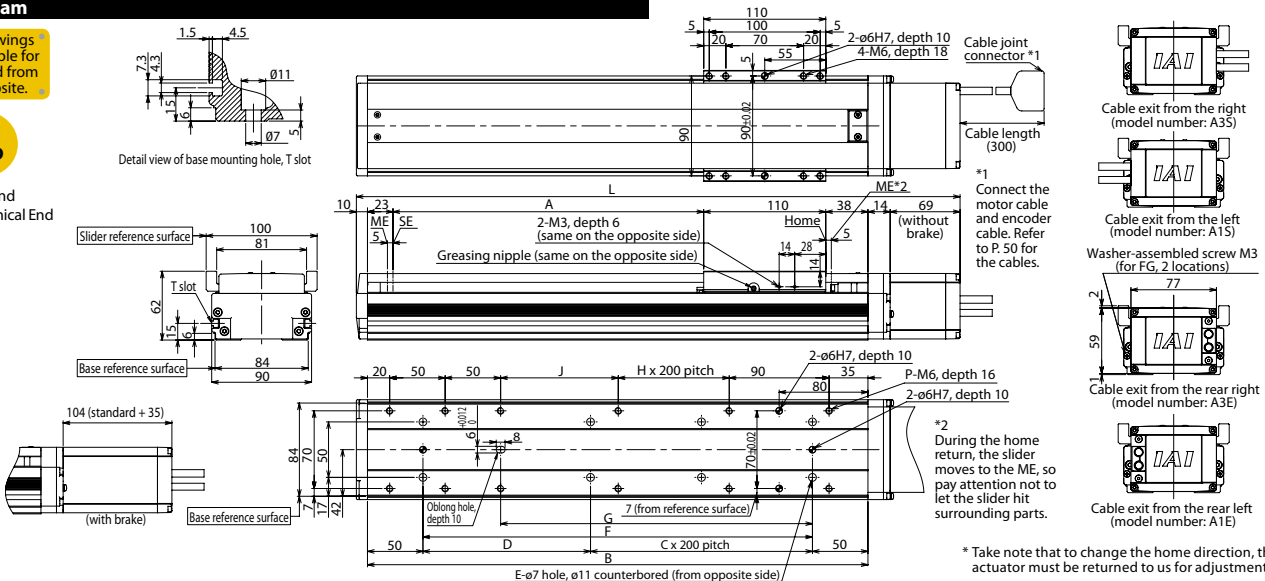
Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screwφ12mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 39.7N·m Mb: 56.7N·m Mc: 76.3N·m
Overhang load length	Ma direction: 550mm max. Mb, Mc directions: 550mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

CAD drawings are available for download from our website.

## 2D CAD

SE: Stroke End  
ME: Mechanical End



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	L	Mass (kg)															
		130	180	230	280	330	380	430	480	530	580	630	680	730	780	830	880
without brake	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094	1144	
	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129	1179	
with brake	130	180	230	280	330	380	430	480	530	580	630	680	730	780	830	880	
A	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	
B	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	
C	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	
D	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	
E	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	
F	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	
G	131	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881	
H	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	
J	56	106	156	206	256	306	356	406	456	506	556	606	656	706	756	806	
P	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	
Mass (kg)	3.1	3.5	3.9	4.3	4.6	5.0	5.3	5.7	6.0	6.4	6.7	7.1	7.4	7.8	8.1	8.5	
Maximum speed (mm/s)	Lead 16	960															
	Lead 8	480															
	Lead 4	240															
		655															
		515															
		330															
		260															
		165															
		130															
		415															
		210															
		100															

\*If the brake is equipped, the mass increases by 0.3 kg. \*The maximum speed (mm/s) varies depending on the stroke.

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes				→P49
SCON	1 axis				→P49

**CAUTION**

(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)



# ISB-MXM-100

Single-axis robot/Medium, X-axis, standard slider type/Actuator width: 120mm/100W Straight shape

# ISPB-MXM-100

Single-axis robot/Medium, X-axis, standard slider type/Actuator width: 120mm/100W Straight shape **High precision specification**



## Model Specification Items

Series	MXM	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISB: Standard specification ISPB: High precision specification		A: Absolute specification I: Incremental specification	100: 100W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	100: 100mm 1100: 1100mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)**		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-MXM-①-100-30-②-③-④-⑤	Absolute Incremental	100	30	100~1100	1~1800	0.4	1.2	0.4	1.2	15	3	2.5	1	56.6
ISB[ISPB]-MXM-①-100-20-②-③-④-⑤			20		1~1200	0.4	1.2	0.4	1	23	6	5	2.5	84.9
ISB[ISPB]-MXM-①-100-10-②-③-④-⑤			10		1~600	0.4	0.7	0.4	0.6	45	20	10	7	169.8
ISB[ISPB]-MXM-①-100-5-②-③-④-⑤			5		1~300	0.2	0.5	0.2	0.4	85	45	20	15	339.7

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).  
\*\*If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 0.5kg. (Please also refer to P.7).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A15	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A35	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

## Common Specifications

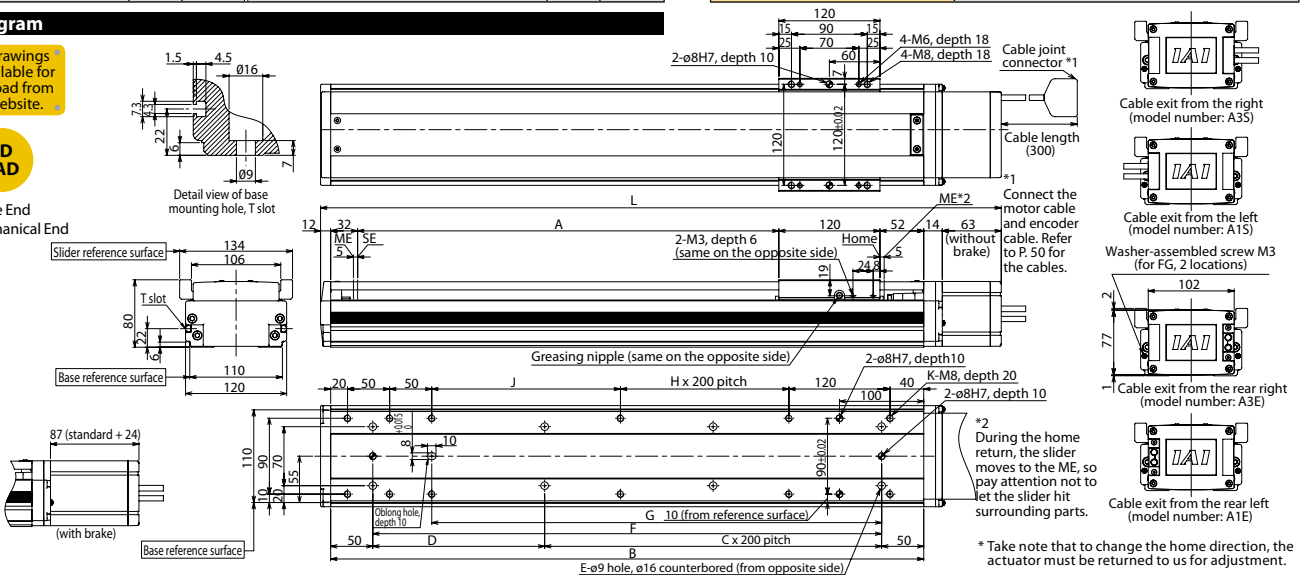
Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw Ø16mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm (0.02mm) max.
Dynamic allowable load moment (Note 5)	Ma: 69.6N·m Mb: 99.0N·m Mc: 161.7N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

CAD drawings are available for download from our website.

2D CAD

SE: Stroke End  
ME: Mechanical End



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	L																					
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
without brake	393	443	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193	1243	1293	1343	1393	
with brake	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	1367	1417	
A	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
B	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	
C	0	0	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	4	5	5	5	
D	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	
E	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	
F	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	
G	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	
H	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	
J	24	74	124	174	224	274	324	374	424	474	524	574	624	674	724	774	824	874	924	974	1024	
K	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	
Mass (kg)	6.0	6.6	7.2	7.9	8.5	9.2	9.8	10.4	11.0	11.7	12.3	13.0	13.6	14.2	14.8	15.5	16.1	16.8	17.4	18.1	18.7	
Maximum speed (mm/s)	Lead 30																1290	1045			860	690
	Lead 20																860	695			570	460
	Lead 10																430	345			280	230
	Lead 5																215	170			140	115

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes				→P49
SCON	1 axis				→P49

**CAUTION**

(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISB-MXM-200

Single-axis robot/Medium, X-axis, standard slider type/Actuator  
width: 120mm/200W Straight shape

# ISPB-MXM-200

Single-axis robot/Medium, X-axis, standard slider type/Actuator  
width: 120mm/200W Straight shape **High precision specification**



Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISB: Standard specification ISPB: High precision specification	MXM	200	A: Absolute specification I: Incremental specification	200: 200W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	100: 100mm 1100: 1100mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-MXM-[1]-200-30-[2]-[3]-[4]-[5]	Absolute Incremental	200	30	100~1100	1~1800	0.4	1.2	0.4	1.2	30	9	6	2	113.9
ISB[ISPB]-MXM-[1]-200-20-[2]-[3]-[4]-[5]			20		1~1200	0.4	1.2	0.4	1	45	12	10	5	170.9
ISB[ISPB]-MXM-[1]-200-10-[2]-[3]-[4]-[5]			10		1~600	0.4	0.7	0.4	0.6	90	40	20	15	341.8
ISB[ISPB]-MXM-[1]-200-5-[2]-[3]-[4]-[5]			5		1~300	0.2	0.5	0.2	0.4	110	80	40	30	683.6

\* In the above model numbers, [1] indicates the encoder type, [2] indicates the stroke, [3] indicates the applicable controller, [4] indicates the cable length, and [5] indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A15	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

## Common Specifications

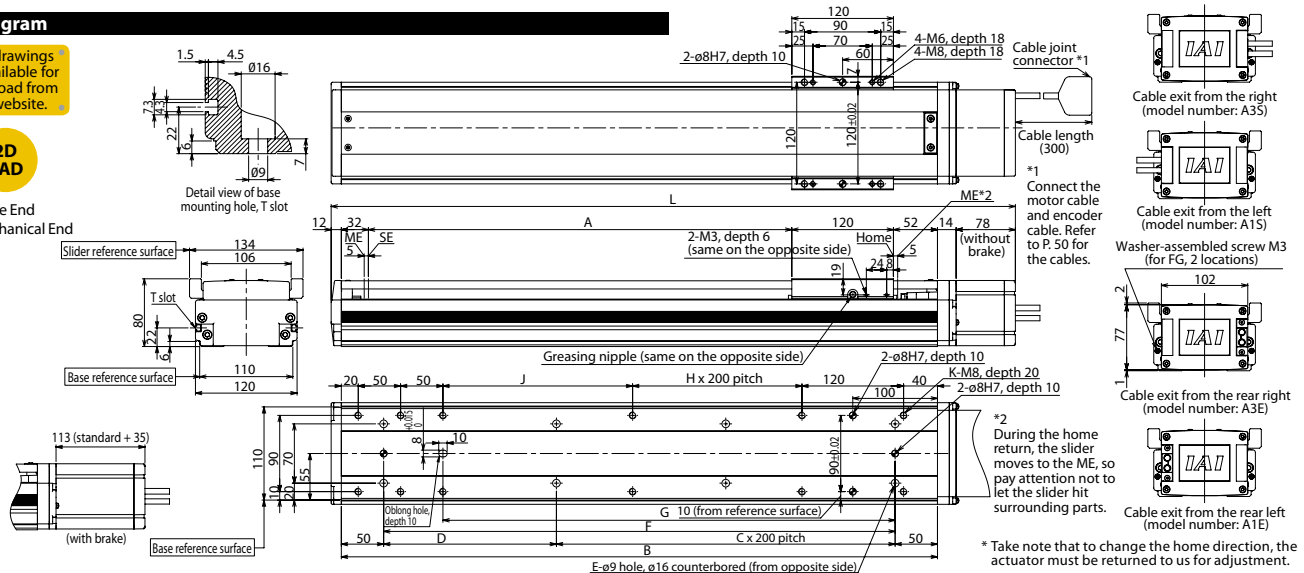
Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screw Ø16mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 69.6N·m Mb: 99.0N·m Mc: 161.7N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

CAD drawings are available for download from our website.

### 2D CAD

SE: Stroke End  
ME: Mechanical End



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	L											Maximum speed (mm/s)									
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
without brake	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358	1408
with brake	443	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193	1243	1293	1343	1393	1443
A	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
B	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304
C	0	0	1	1	1	1	2	2	2	3	3	3	3	4	4	4	4	4	5	5	5
D	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
E	4	4	6	6	6	6	8	8	8	10	10	10	10	10	12	12	12	12	14	14	14
F	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
G	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134
H	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4
J	24	74	124	174	224	274	324	374	424	474	524	574	624	674	724	774	824	874	924	974	1024
K	10	10	10	10	10	12	12	12	12	14	14	14	14	14	16	16	16	16	18	18	18
Mass (kg)	6.4	7.1	7.7	8.4	9.0	9.6	10.2	10.9	11.5	12.2	12.8	13.4	14.0	14.7	15.3	16.0	16.6	17.3	17.9	18.5	19.1
Maximum speed (mm/s)	Lead 30												1290				860	690			
	Lead 20												860				570	460			
	Lead 10												430				280	230			
	Lead 5												215				140	115			

\* If the brake is equipped, the mass increases by 0.6kg. \* The maximum speed (mm/s) varies depending on the stroke.

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			→P49	
SSEL	2 axes			Single-phase 100/200 VAC	→P49
SCON	1 axis			Positioner pulse train control	→P49

**CAUTION**

(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISB-MXL-100

Single-axis robot/Medium, X-axis, long slider type/Actuator width: 120mm/100W Straight shape

# ISPB-MXL-100

Single-axis robot/Medium, X-axis, long slider type/Actuator width: 120mm/100W Straight shape **High precision specification**



## Model Specification Items

Series	MXL	100	Lead	Stroke	Applicable controller	Cable length	Options
ISB: Standard specification ISPB: High precision specification	A: Absolute specification I: Incremental specification	100: 100W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	120: 120mm 1070: 1070mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-MXL-①-100-30-②-③-④-⑤	Absolute Incremental	100	30	120~1070	1~1800	0.4	1.2	0.4	1.2	15	3	2.5	1	56.6
ISB[ISPB]-MXL-①-100-20-②-③-④-⑤			20		1~1200	0.4	1.2	0.4	1	23	6	5	2.5	84.9
ISB[ISPB]-MXL-①-100-10-②-③-④-⑤			10		1~600	0.4	0.7	0.4	0.6	45	20	10	7	169.8
ISB[ISPB]-MXL-①-100-5-②-③-④-⑤			5		1~300	0.2	0.5	0.2	0.4	85	45	20	15	339.7

\* In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A15	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A35	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Master axis specification	LM	→P10
AQ seal (standard feature)	AQ	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Brake	B	→P9	Slave axis specification	S	→P10
Creep sensor	C	→P9	High straightness, precision specification	ST	→P10
Creep sensor on opposite side	CL	→P9			

## Common Specifications

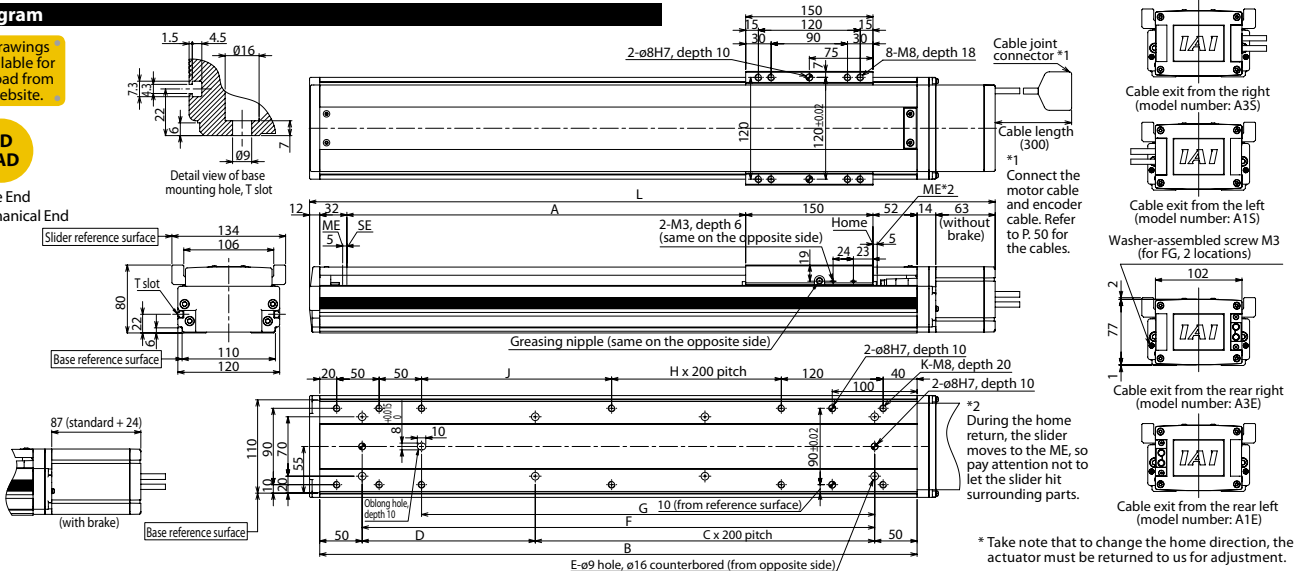
Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screw φ16mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 105.3N·m Mb: 150.4N·m Mc: 193.7N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

\* CAD drawings are available for download from our website.

### 2D CAD

SE: Stroke End  
ME: Mechanical End



## Dimensions, Mass and Maximum Speed by Stroke

\*If the brake is equipped, the mass increases by 0.5kg. \*The maximum speed (mm/s) varies depending on the stroke.

Stroke	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	
L	without brake	443	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193	1243	1293	1343	1393
	with brake	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	1367	1417
A	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	
B	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	
C	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	
D	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	
E	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	
F	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	
G	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	
H	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	
J	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	
K	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	
Mass (kg)	6.3	6.9	7.5	8.2	8.8	9.5	10.1	10.7	11.3	12.0	12.6	13.3	13.9	14.5	15.1	15.8	16.4	17.1	17.7	18.4	
Maximum speed (mm/s)	Lead 30					1800								1290	1045		860		690		
	Lead 20					1200								860	695		570		460		
	Lead 10					600								430	345		280		230		
	Lead 5					300								215	170		140		115		

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P49
SSEL	2 axes		Positioner pulse train control	→P49	
SCON	1 axis			→P49	

**CAUTION**

(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISB-MXL-200

Single-axis robot/Medium, X-axis, long slider type/Actuator width: 120mm/200W Straight shape

# ISPB-MXL-200

Single-axis robot/Medium, X-axis, long slider type/Actuator width: 120mm/200W Straight shape **High precision specification**



Model Specification Items	Series	MXL	Encoder type	200	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	ISB: Standard specification ISPB: High precision specification	A: Absolute specification I: Incremental specification	200: 200W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	120: 120mm 1070: 1070mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.		

\* Refer to P.8 for the details of items comprising the model number.

### Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-MXL-[1]-200-30-[2]-[3]-[4]-[5]	Absolute/Incremental	200	30	120~1070	1~1800	0.4	1.2	0.4	1.2	30	9	6	2	113.9
ISB[ISPB]-MXL-[1]-200-20-[2]-[3]-[4]-[5]			20		1~1200	0.4	1.2	0.4	1	45	12	10	5	170.9
ISB[ISPB]-MXL-[1]-200-10-[2]-[3]-[4]-[5]			10		1~600	0.4	0.7	0.4	0.6	90	40	20	15	341.8
ISB[ISPB]-MXL-[1]-200-5-[2]-[3]-[4]-[5]			5		1~300	0.2	0.5	0.2	0.4	110	80	40	30	683.6

\*1.0G=9800mm/sec<sup>2</sup>  
 \* In the above model numbers, [1] indicates the encoder type, [2] indicates the stroke, [3] indicates the applicable controller, [4] indicates the cable length, and [5] indicates the option(s).

### Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Master axis specification	LM	→P10
AQ seal (standard feature)	AQ	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Brake	B	→P9	Slave axis specification	S	→P10
Creep sensor	C	→P9	High straightness, precision specification	ST	→P10
Creep sensor on opposite side	CL	→P9			

### Common Specifications

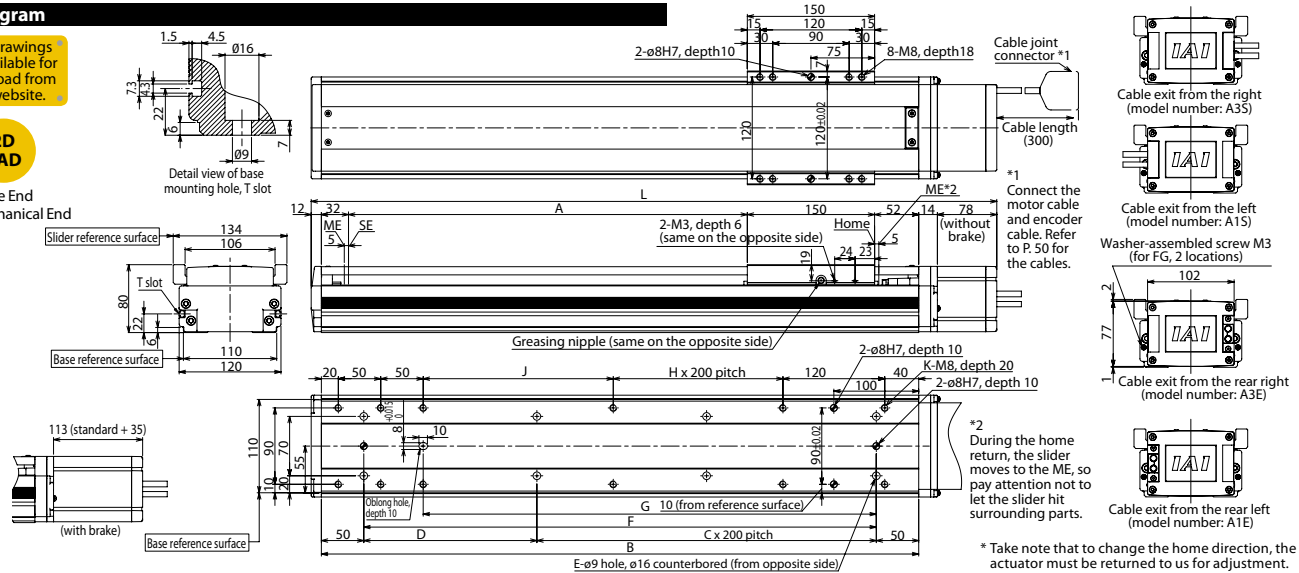
Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screwφ16mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 105.3N·m Mb: 150.4N·m Mc: 193.7N·m
Overhanging load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

### Diagram

\* CAD drawings are available for download from our website.

### 2D CAD

SE: Stroke End  
ME: Mechanical End



### Dimensions, Mass and Maximum Speed by Stroke

Stroke	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070				
	L	without brake	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358	1408		
	with brake	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193	1243	1293	1343	1393	1443			
A		120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070			
B		354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304			
C		0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5			
D		254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204			
E		4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14			
F		254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204			
G		184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134			
H		0	0	0	0	0	1	1	1	2	2	2	2	3	3	3	3	3	4	4	4			
J		74	124	174	224	274	324	374	424	474	524	574	624	674	724	774	824	874	924	974	1024			
K		10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18			
Mass (kg)		6.7	7.4	8.0	8.7	9.3	9.9	10.5	11.2	11.8	12.5	13.1	13.7	14.3	15.0	15.6	16.3	16.9	17.6	18.2	18.9			
Maximum speed (mm/s)	Lead 30	1800																			1290	1045	860	690
	Lead 20	1200																			860	695	570	460
	Lead 10	600																			430	345	280	230
	Lead 5	300																			215	170	140	115

### Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/Incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			→P49	
SSEL	2 axes			→P49	
SCON	1 axis			→P49	

**CAUTION**

(Note 1) Refer to P.7 for the relationship of acceleration and payload. (Notes 2, 3, 4)

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISB-MXMX-200

Single-axis robot/Medium, X-axis, mid-support type/Actuator width: 120mm/200W Straight shape

# ISPB-MXMX-200

Single-axis robot/Medium, X-axis, mid-support type/Actuator width: 120mm/200W Straight shape **High precision specification**

## Model Specification Items

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISB: Standard specification ISPB: High precision specification	MXMX	200	200: 200W	30: 30mm 20: 20mm	800: 800mm 2000: 2000mm (in 100mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.



\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 100mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-MXMX-①-200-30-②-③-④-⑤	Absolute	200	30	800~2000	1~1800	0.4	Designed exclusively for horizontal use		30	Designed exclusively for horizontal use		113.9		
ISB[ISPB]-MXMX-①-200-20-②-③-④-⑤	Incremental		20		1~1200	0.4			45			170.9		

\* In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

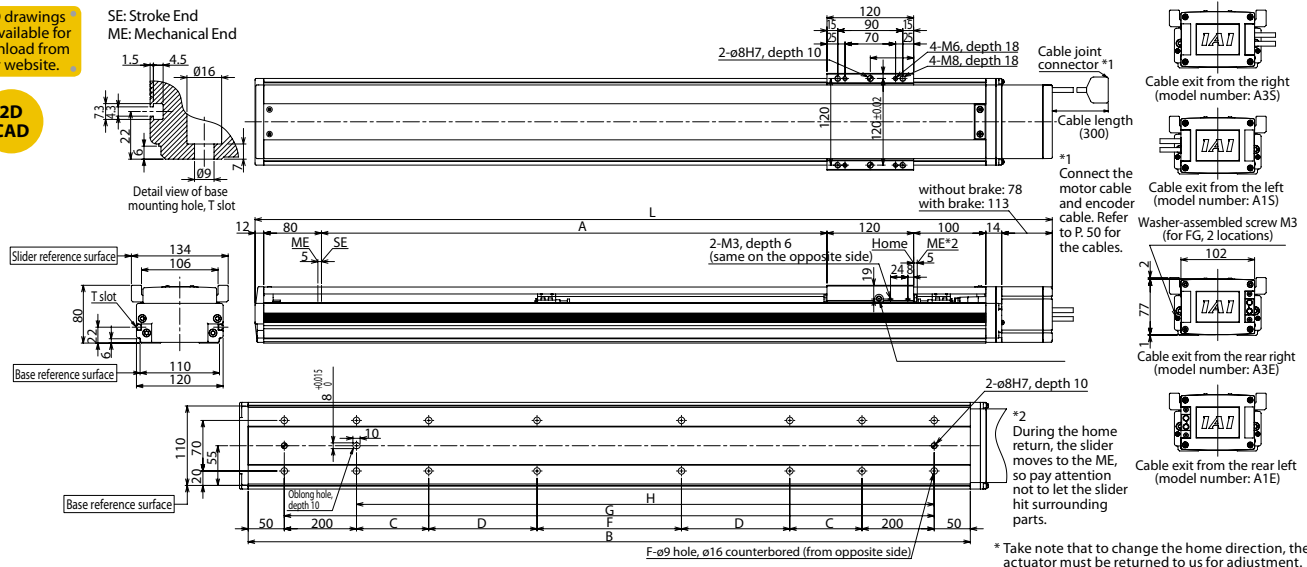
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screwφ16mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 69.6N·m Mb: 99.0N·m Mc: 161.7N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

\* CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

\* If the brake is equipped, the mass increases by 0.6kg. \* The maximum speed (mm/s) varies depending on the stroke.

Stroke	Maximum speed (mm/s)													
	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	
L	without brake	1204	1304	1404	1504	1604	1704	1804	1904	2004	2104	2204	2304	2404
	with brake	1239	1339	1439	1539	1639	1739	1839	1939	2039	2139	2239	2339	2439
A	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	
B	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
C	200	200	200	250	300	350	400	450	500	550	200	200	200	
D	0	0	0	0	0	0	0	0	0	0	400	450	500	
E	200	300	400	400	400	400	400	400	400	400	400	400	400	
F	12	12	12	12	12	12	12	12	12	12	16	16	16	
G	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	
H	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	
Mass (kg)	16.5	17.8	19.1	20.3	21.6	22.9	24.1	25.4	26.7	28.0	29.2	30.5	31.8	
Maximum speed (mm/s)	Lead 30	1800												
	Lead 20	1200												

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes				→P49
SCON	1 axis				Positioner pulse train control

**CAUTION**

(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISB-LXM-200

Single-axis robot/Large, X-axis, standard slider type/Actuator width: 150mm/200W Straight shape

# ISPB-LXM-200

Single-axis robot/Large, X-axis, standard slider type/Actuator width: 150mm/200W Straight shape **High precision specification**



Model Specification Items	Series	LXM	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	ISB: Standard specification ISPB: High precision specification	200: 200W	A: Absolute specification I: Incremental specification	40: 40mm 20: 20mm 10: 10mm	100: 100mm 1300: 1300mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.	

\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)**		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-LXM-①-200-40-②-③-④-⑤	Absolute/Incremental	200	40	100~1300	1~2400	0.4	1.2	0.4	1.2	15	6	4	1.6	85.5
ISB[ISPB]-LXM-①-200-20-②-③-④-⑤			20		1~1200	0.4	1.2	0.4	1	45	12	10	5	170.9
ISB[ISPB]-LXM-①-200-10-②-③-④-⑤			10		1~600	0.4	0.7	0.4	0.6	90	40	20	14	341.8

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

\*\*If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 1.0 kg. (Please also refer to P.7).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

## Common Specifications

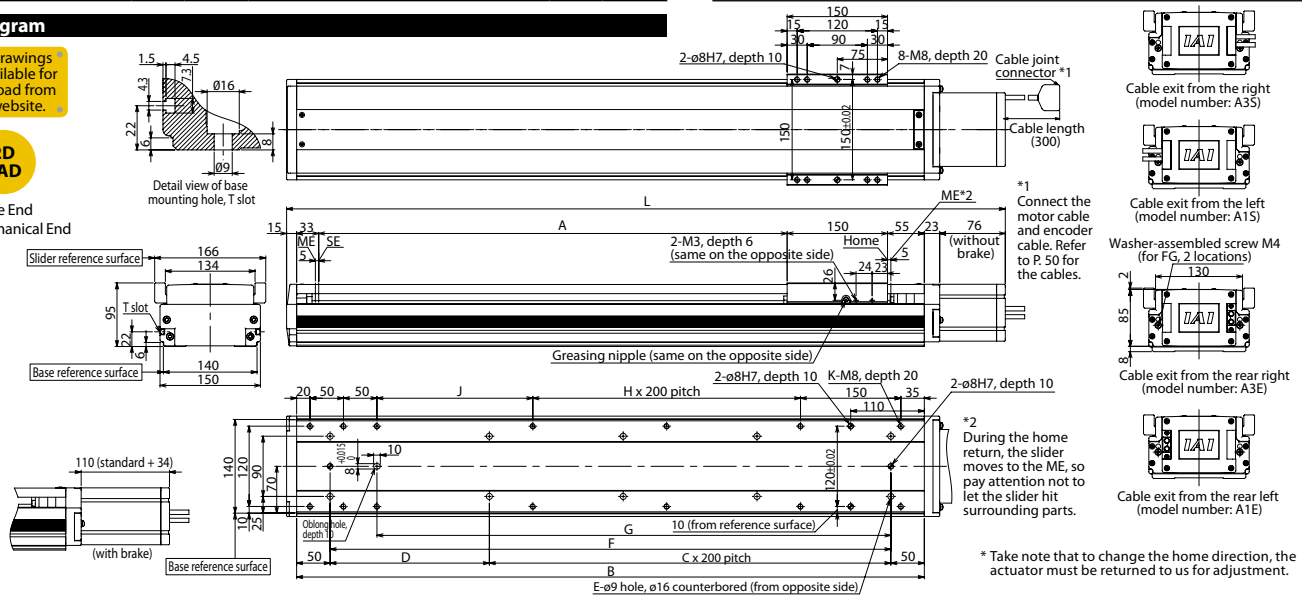
Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 104.9N·m Mb: 149.9N·m Mc: 248.9N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

CAD drawings are available for download from our website.

2D CAD

SE: Stroke End  
ME: Mechanical End



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	
L	without brake	452	502	552	602	652	702	752	802	852	902	952	1002	1052	1102	1152	1202	1252	1302	1352	1402	1452	1502	1552	1602	1652
	with brake	486	536	586	636	686	736	786	836	886	936	986	1036	1086	1136	1186	1236	1286	1336	1386	1436	1486	1536	1586	1636	1686
A	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	
B	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	1488	1538	
C	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	5	5	5	5	6	6	6	6	
D	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	
E	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	
F	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	
G	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368	
H	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	4	4	4	4	5	5	5	5	
J	33	83	133	183	233	283	333	383	433	483	533	583	633	683	733	783	833	883	933	983	1033	1083	1133	1183	1233	
K	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20	
Mass (kg)	9.4	10.3	11.1	12.0	12.8	13.7	14.6	15.5	16.3	17.2	18.0	18.9	19.8	20.7	21.5	22.4	23.2	24.1	25.0	25.9	26.7	27.6	28.4	29.3	30.2	
Maximum speed (mm/s)	Lead 40																		1840	1530	1290	1100	880			
	Lead 20																		920	765	645	550	440			
	Lead 10																		460	380	320	270	220			

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/Incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P49
SSEL	2 axes			→P49	
SCON	1 axis			Positioner pulse train control	→P49

**CAUTION**

(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISB-LXM-400

Single-axis robot/Large, X-axis, standard slider type/Actuator width: 150mm/400W Straight shape

# ISPB-LXM-400

Single-axis robot/Large, X-axis, standard slider type/Actuator width: 150mm/400W Straight shape **High precision specification**



Model Specification Items	Series	LXM Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISB: Standard specification ISPB: High precision specification			A: Absolute specification I: Incremental specification	400: 400W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 1300: 1300mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-LXM-①-400-40-②-③-④-⑤	Absolute/Incremental	400	40	100~1300	1~2400	0.4	1.2	0.4	1.2	40	15	10	4	169.6
20			1~1200		0.4	1.2	0.4	1	90	24	20	10	339.1	
10			1~600		0.4	0.7	0.4	0.6	120	60	40	30	678.3	

\*1.0G=9800mm/sec<sup>2</sup>

\* In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

## Common Specifications

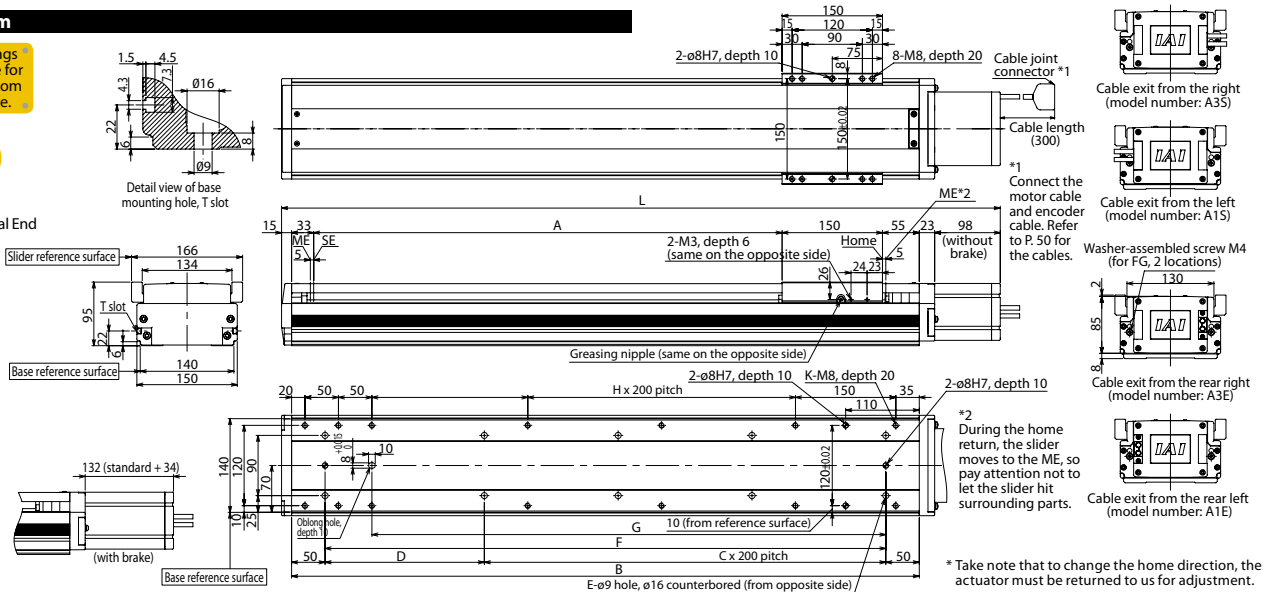
Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screwφ20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 104.9N·m Mb: 149.9N·m Mc: 248.9N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

\* CAD drawings are available for download from our website.

2D CAD

SE: Stroke End  
ME: Mechanical End



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	Stroke (mm)																				Mass (kg)			Maximum speed (mm/s)		
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	
L	without brake	474	524	574	624	674	724	774	824	874	924	974	1024	1074	1124	1174	1224	1274	1324	1374	1424	1474	1524	1574	1624	1674
	with brake	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358	1408	1458	1508	1558	1608	1658	1708
A	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	
B	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	1488	1538	
C	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	
D	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	
E	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	
F	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	
G	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368	
H	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	
J	33	83	133	183	233	283	333	383	433	483	533	583	633	683	733	783	833	883	933	983	1033	1083	1133	1183	1233	
K	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20	
Mass (kg)	9.8	10.7	11.6	12.5	13.3	14.2	15.0	15.9	16.8	17.7	18.5	19.4	20.2	21.1	22.0	22.9	23.7	24.6	25.4	26.3	27.2	28.1	28.9	29.8	30.6	
Maximum speed (mm/s)	Lead 40																					1840	1530	1290	1100	880
	Lead 20																					920	765	645	550	440
	Lead 10																					460	380	320	270	220

\* If the brake is equipped, the mass increases by 06kg. \* The maximum speed (mm/s) varies depending on the stroke.

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/Incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P49
SSEL	2 axes			Single-phase 200 VAC	→P49
SCON	1 axis			Positioner pulse train control	→P49



(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.  
(Note 5) When the traveling life is 10,000km.  
(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISB-LXL-200

Single-axis robot/Large, X-axis, long slider type/Actuator width: 150mm/200W Straight shape

# ISPB-LXL-200

Single-axis robot/Large, X-axis, long slider type/Actuator width: 150mm/200W Straight shape **High precision specification**



### Model Specification Items

Series	LXL	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISB: Standard specification ISPB: High precision specification		A: Absolute specification I: Incremental specification	200: 200W	40: 40mm 20: 20mm 10: 10mm	120: 120mm ? 1270: 1270mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P.8 for the details of items comprising the model number.

### Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-LXL-①-200-40-②-③-④-⑤	Absolute Incremental	200	40	100~1270	1~2400	0.4	1.2	0.4	1.2	15	6	4	1.6	85.5
ISB[ISPB]-LXL-①-200-20-②-③-④-⑤			20		1~1200	0.4	1.2	0.4	1	45	12	10	5	170.9
ISB[ISPB]-LXL-①-200-10-②-③-④-⑤			10		1~600	0.4	0.7	0.4	0.6	90	40	20	14	341.8

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

### Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Master axis specification	LM	→P10
AQ seal (standard feature)	AQ	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Brake	B	→P9	Slave axis specification	S	→P10
Creep sensor	C	→P9	High straightness, precision specification	ST	→P10
Creep sensor on opposite side	CL	→P9			

### Common Specifications

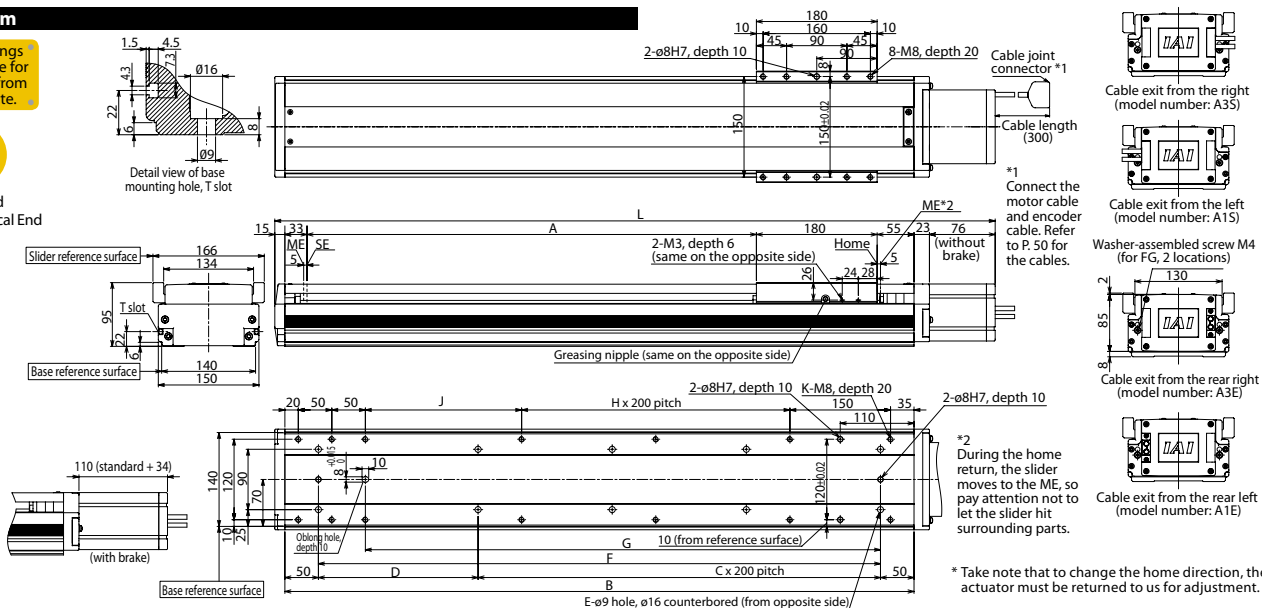
Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screwφ20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 137.8N·m Mb: 196.8N·m Mc: 278.5N·m
Overhang load length	Ma direction: 900mm max. Mb, Mc directions: 900mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

### Diagram

\* CAD drawings are available for download from our website.

2D CAD

SE: Stroke End  
ME: Mechanical End



### Dimensions, Mass and Maximum Speed by Stroke

Stroke	L																								
	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	
without brake	502	552	602	652	702	752	802	852	902	952	1002	1052	1102	1152	1202	1252	1302	1352	1402	1452	1502	1552	1602	1652	
with brake	536	586	636	686	736	786	836	886	936	986	1036	1086	1136	1186	1236	1286	1336	1386	1436	1486	1536	1586	1636	1686	
A	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	
B	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	1488	1538	
C	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	
D	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	
E	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	
F	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	
G	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368	
H	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	
J	83	133	183	233	283	333	383	433	483	533	583	633	683	733	783	833	883	933	983	1033	1083	1133	1183	1233	
K	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20	
Mass (kg)	9.8	10.7	11.5	12.4	13.2	14.1	15.0	15.9	16.7	17.6	18.4	19.3	20.2	21.1	21.9	22.8	23.6	24.5	25.4	26.3	27.1	28.0	28.8	29.7	
Maximum speed (mm/s)	Lead 40																					1840	1530	1100	880
	Lead 20																					920	765	550	440
	Lead 10																					460	380	320	220

### Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P49
SSEL	2 axes				→P49
SCON	1 axis				→P49

**CAUTION**

(Note 1) Refer to P.7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)



# ISB-LXL-400

Single-axis robot/Large, X-axis, long slider type/Actuator width: 150mm/400W Straight shape

# ISPB-LXL-400

Single-axis robot/Large, X-axis, long slider type/Actuator width: 150mm/400W Straight shape **High precision specification**



### Model Specification Items

Series	LXL	Encoder type	400	Motor type	400: 400W	Lead	40: 40mm 20: 20mm 10: 10mm	Stroke	120: 120mm 1270: 1270mm (in 50mm increments)	Applicable controller	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	Cable length	N: None S: 3m M: 5m X□□: Specified length	Options	Refer to the options table below.
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\* Refer to P.8 for the details of items comprising the model number.

### Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-LXL-①-400-40-②-③-④-⑤	Absolute/Incremental	400	40	100~1270	1~2400	0.4	1.2	0.4	1.2	40	15	10	4	169.6
ISB[ISPB]-LXL-①-400-20-②-③-④-⑤			20		1~1200	0.4	1.2	0.4	1	90	24	20	10	339.1
ISB[ISPB]-LXL-①-400-10-②-③-④-⑤			10		1~600	0.4	0.7	0.4	0.6	120	60	40	30	678.3

\* In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

### Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Master axis specification	LM	→P10
AQ seal (standard feature)	AQ	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Brake	B	→P9	Slave axis specification	S	→P10
Creep sensor	C	→P9	High straightness, precision specification	ST	→P10
Creep sensor on opposite side	CL	→P9			

### Common Specifications

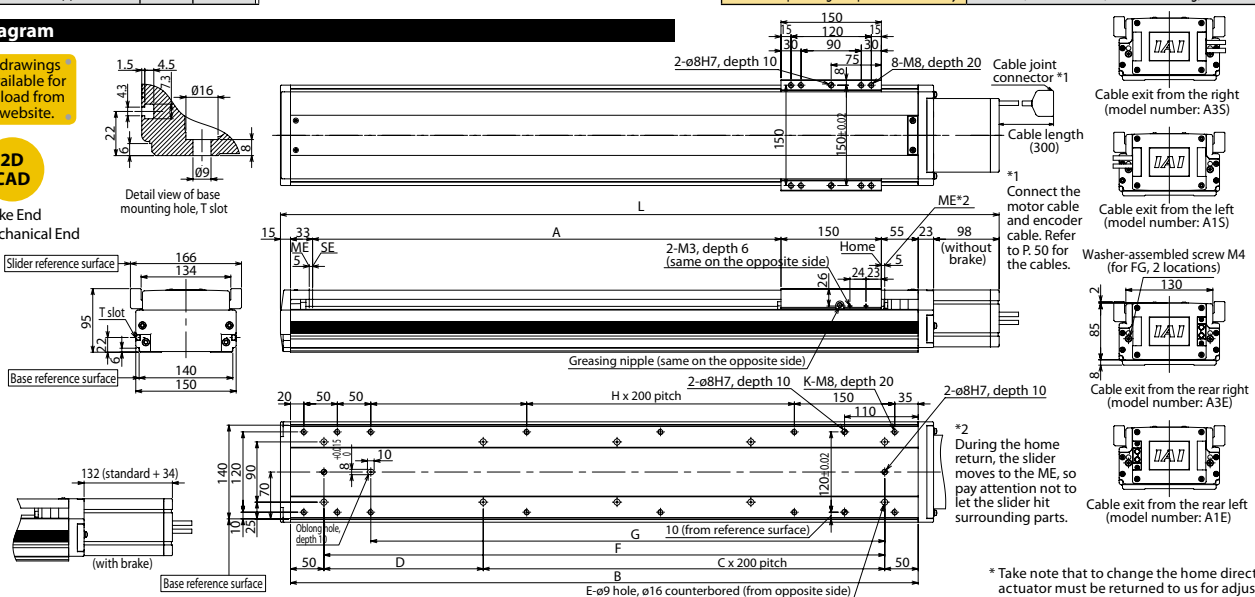
Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screwφ20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm (0.02mm) max.
Dynamic allowable load moment (Note 5)	Ma: 137.8N·m Mb: 196.8N·m Mc: 278.5N·m
Overhang load length	Ma direction: 900mm max. Mb, Mc directions: 900mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

### Diagram

CAD drawings are available for download from our website.

### 2D CAD

SE: Stroke End  
ME: Mechanical End



\* Take note that to change the home direction, the actuator must be returned to us for adjustment.

### Dimensions, Mass and Maximum Speed by Stroke

Stroke	Lead (mm)																				Mass (kg)	Maximum speed (mm/s)					
	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070		1120	1170	1220	1270	Lead 40	Lead 20
L without brake	524	574	624	674	724	774	824	874	924	974	1024	1074	1124	1174	1224	1274	1324	1374	1424	1474	1524	1574	1624	1674	1840	1530	1290
L with brake	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358	1408	1458	1508	1558	1608	1658	1708	920	765	645
A	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	460	380	320
B	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	1488	1538			
C	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6			
D	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438			
E	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16			
F	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438			
G	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368			
H	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5			
J	83	133	183	233	283	333	383	433	483	533	583	633	683	733	783	833	883	933	983	1033	1083	1133	1183	1233			
K	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20			
Mass (kg)	10.2	11.1	12.0	12.9	13.7	14.6	15.4	16.3	17.2	18.1	18.9	19.8	20.6	21.5	22.4	23.3	24.1	25.0	25.8	26.7	27.6	28.5	29.3	30.2			
Maximum speed (mm/s)																											

\* If the brake is equipped, the mass increases by 0.6kg. \* The maximum speed (mm/s) varies depending on the stroke.

### Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/Incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P49
SSEL	2 axes			Single-phase 200 VAC	→P49
SCON	1 axis			Positioner pulse train control	→P49



(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.  
 (Note 5) When the traveling life is 10,000km.  
 (Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
 (Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISB-LXXM-200

Single-axis robot/Large, X-axis, mid-support type/Actuator width: 150mm/200W Straight shape

# ISPB-LXXM-200

Single-axis robot/Large, X-axis, mid-support type/Actuator width: 150mm/200W Straight shape **High precision specification**



Model Specification Items	Series	LXXM	Type	200	Lead	20	Stroke	100: 100mm 2500: 2500mm (in 100mm increments)	Applicable controller	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	Cable length	N: None S: 3m M: 5m X□□: Specified length	Options	Refer to the options table below.
	ISB: Standard specification ISPB: High precision specification	A: Absolute specification I: Incremental specification	200: 200W	20: 20mm	100: 100mm 2500: 2500mm (in 100mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.						

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 100mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-LXXM-①-200-20-②-③-④-⑤	Absolute Incremental	200	20	1000~2500	1~1200	0.4		Designed exclusively for horizontal use		45		Designed exclusively for horizontal use		170.9

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

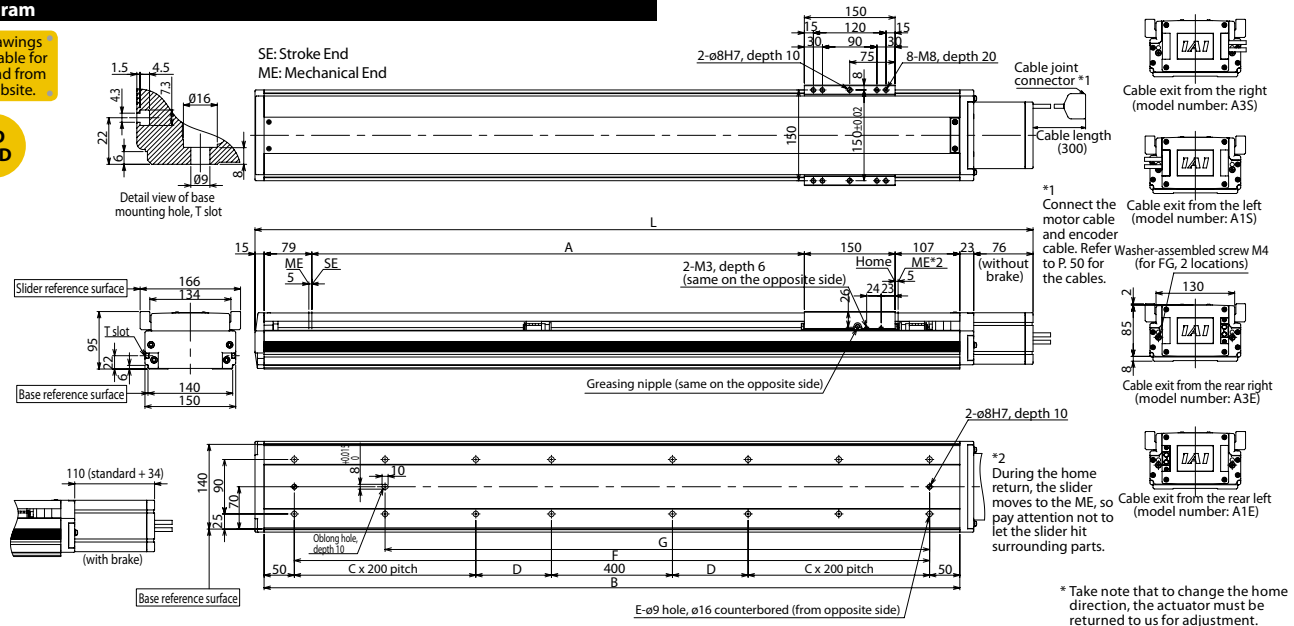
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screwφ20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 104.9N·m Mb: 149.9N·m Mc: 248.9N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

\* CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

\*If the brake is equipped, the mass increases by 0.6kg. \*The maximum speed (mm/s) varies depending on the stroke.

Stroke	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500												
L	without brake	1464	1564	1664	1764	1864	1964	2064	2164	2264	2364	2464	2564	2664	2764	2864	2964											
	with brake	1498	1598	1698	1798	1898	1998	2098	2198	2298	2398	2498	2598	2698	2798	2898	2998											
A	1014	1114	1214	1314	1414	1514	1614	1714	1814	1914	2014	2114	2214	2314	2414	2514												
B	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850												
C	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3												
D	225	275	325	375	425	475	525	575	625	675	725	775	825	875	925	975												
E	12	12	12	12	12	12	12	12	16	16	16	16	20	20	20	20												
F	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750												
G	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550												
Mass (kg)	27.3	29.0	30.8	32.5	34.3	36.1	37.8	39.6	41.3	43.1	44.8	46.6	48.3	50.1	51.8	53.6												
Maximum speed (mm/s) Lead 20	1200		1150		1000		950		830		740		650		590		540		490		440		410		370		340	

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P49
SSEL	2 axes			→P49	
SCON	1 axis			Positioner pulse train control	→P49

**CAUTION**

(Note 1) Refer to P.7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISB-LXMX-400 Single-axis robot/Large, X-axis, mid-support type/Actuator width: 150mm/400W Straight shape

# ISPB-LXMX-400 Single-axis robot/Large, X-axis, mid-support type/Actuator width: 150mm/400W Straight shape High precision specification



## Model Specification Items

Series	LXMX	Type	400	Lead	40: 40mm 20: 20mm	Stroke	100: 100mm 2500: 2500mm (in 100mm increments)	Applicable controller	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	Cable length	N: None S: 3m M: 5m X□□: Specified length	Options	Refer to the options table below.
--------	------	------	-----	------	----------------------	--------	---	-----------------------	--	--------------	--	---------	-----------------------------------

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 100mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-LXMX-1-400-40-2-3-4-5	Absolute	400	40	1000~2500	1~2400	0.4	Designed exclusively for horizontal use		40	Designed exclusively for horizontal use		169.6		
ISB[ISPB]-LXMX-1-400-20-2-3-4-5	Incremental		20		1~1200	0.4			90			339.1		

\*In the above model numbers, 1 indicates the encoder type, 2 indicates the stroke, 3 indicates the applicable controller, 4 indicates the cable length, and 5 indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

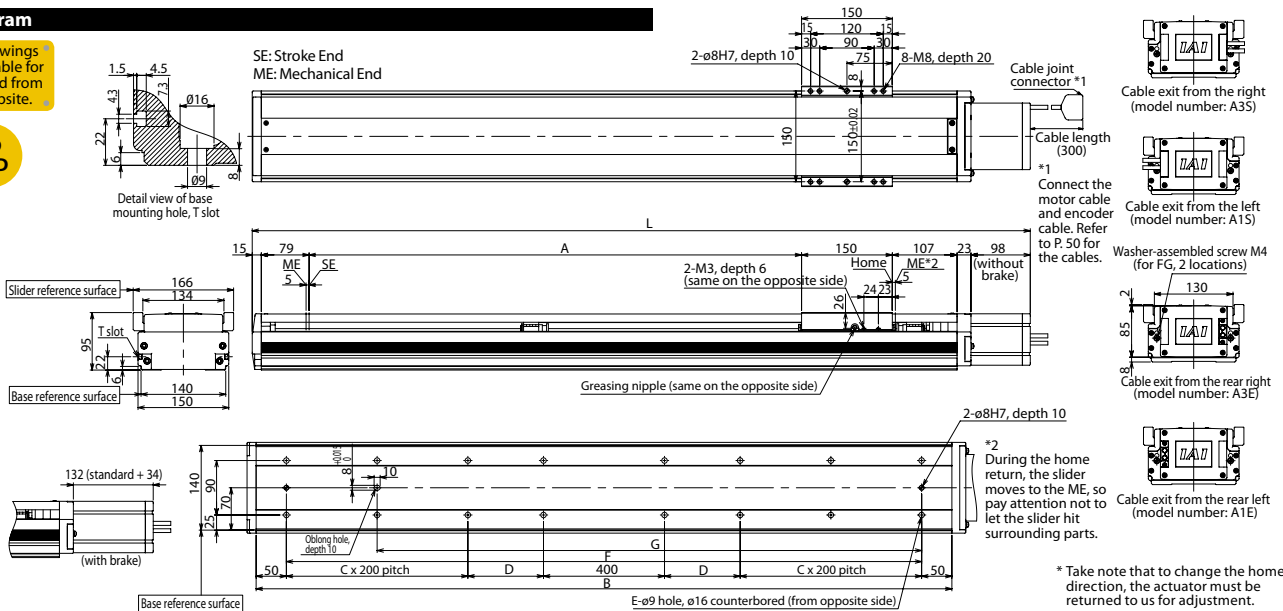
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screwφ20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 104.9N·m Mb: 149.9N·m Mc: 248.9N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

\* CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	L																
	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	
L	without brake	1486	1586	1686	1786	1886	1986	2086	2186	2286	2386	2486	2586	2686	2786	2886	2986
	with brake	1520	1620	1720	1820	1920	2020	2120	2220	2320	2420	2520	2620	2720	2820	2920	3020
A	1014	1114	1214	1314	1414	1514	1614	1714	1814	1914	2014	2114	2214	2314	2414	2514	
B	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850	
C	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3	
D	225	275	325	375	425	475	525	575	625	675	725	775	825	875	925	975	
E	12	12	12	12	12	12	12	12	16	16	16	16	20	20	20	20	
F	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	
G	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	
Mass (kg)	27.7	29.5	31.3	33.0	34.8	36.5	38.3	40.0	41.8	43.5	45.3	47.0	48.8	50.6	52.3	54.1	
Maximum speed (mm/s)	Lead 40		2400	2300	2000	1900	1660	1480	1300	1180	1080	980	880	820	740	680	
	Lead 20		1200		1150	1000	950	830	740	650	590	540	490	440	410	370	340

\*If the brake is equipped, the mass increases by 0.6kg. \*The maximum speed (mm/s) varies depending on the stroke.

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P49
SSEL	2 axes				→P49
SCON	1 axis		Positioner pulse train control	Single-phase 200 VAC	→P49



(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.  
 (Note 5) When the traveling life is 10,000km.  
 (Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
 (Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISB-LXUWX-200

Single-axis robot/Large, X-axis, mid-support, double-slider type/  
Actuator width: 150mm/200W Straight shape

# ISPB-LXUWX-200

Single-axis robot/Large, X-axis, mid-support, double-slider type/Actuator  
width: 150mm/200W Straight shape **High precision specification**



Model Specification Items	Series	LXUWX	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	ISB: Standard specification ISPB: High precision specification	A: Absolute specification I: Incremental specification	200: 200W 20: 20mm	1000: 1000mm 2500: 2500mm (in 100 mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.		

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 100mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-LXUWX-①-200-20-②-③-④-⑤	Absolute Incremental	200	20	1000~2500	1~1200	0.4		Designed exclusively for horizontal use		45		Designed exclusively for horizontal use	170.1	

\*1.0G=9800mm/sec<sup>2</sup>

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

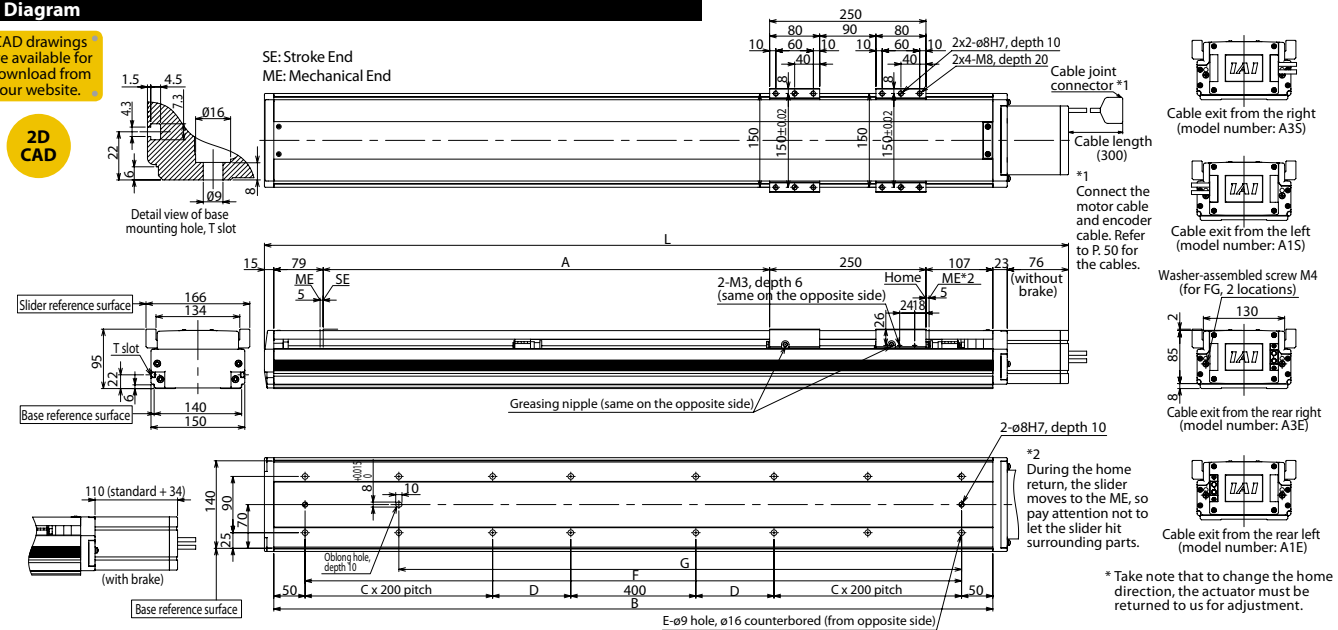
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screwφ20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 179.3N·m Mb: 254.8N·m Mc: 247.0N·m
Overhang load length	Ma direction: 1250mm max. Mb, Mc directions: 1250mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

\* CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

\*If the brake is equipped, the mass increases by 0.6kg. \*The maximum speed (mm/s) varies depending on the stroke.

Stroke	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	
L	without brake	1564	1664	1764	1864	1964	2064	2164	2264	2364	2464	2564	2664	2764	2864	2964	3064
	with brake	1598	1698	1798	1898	1998	2098	2198	2298	2398	2498	2598	2698	2798	2898	2998	3098
A	1014	1114	1214	1314	1414	1514	1614	1714	1814	1914	2014	2114	2214	2314	2414	2514	
B	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850	2950	
C	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	3	
D	275	325	375	425	475	525	575	625	675	725	775	825	875	925	975	1025	
E	12	12	12	12	12	12	12	16	16	16	16	20	20	20	20	20	
F	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850	
G	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	
Mass (kg)	30.4	32.1	33.9	35.6	37.4	39.1	40.9	42.6	44.4	46.1	47.9	49.7	51.4	53.2	54.9	56.7	
Maximum speed (mm/s) Lead 20		1200		1150	1000	950	830	740	650	590	540	490	440	410	370	340	

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P49
SSEL	2 axes			Positioner pulse train control	→P49
SCON	1 axis				→P49

**CAUTION**

(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISB-LXUWX-400

Single-axis robot/Large, X-axis, mid-support, double-slider type/  
Actuator width: 150mm/400W Straight shape

# ISPB-LXUWX-400

Single-axis robot/Large, X-axis, mid-support, double-slider type/Actuator  
width: 150mm/400W Straight shape **High precision specification**



## Model Specification Items

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISB: Standard specification ISPB: High precision specification	LXUWX	A: Absolute specification I: Incremental specification	400: 400W 20: 20mm	40: 40mm 20: 20mm	1000: 1000mm 2500: 2500mm (in 100mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 100mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISB[ISPB]-LXUWX-①-400-40-②-③-④-⑤	Absolute	400	40	1000~2500	1~2400	0.4	Designed exclusively for horizontal use	40	Designed exclusively for horizontal use	169.6				
ISB[ISPB]-LXUWX-①-400-20-②-③-④-⑤	Incremental	400	20	1000~2500	1~1200	0.4	Designed exclusively for horizontal use	90	Designed exclusively for horizontal use	339.1				

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

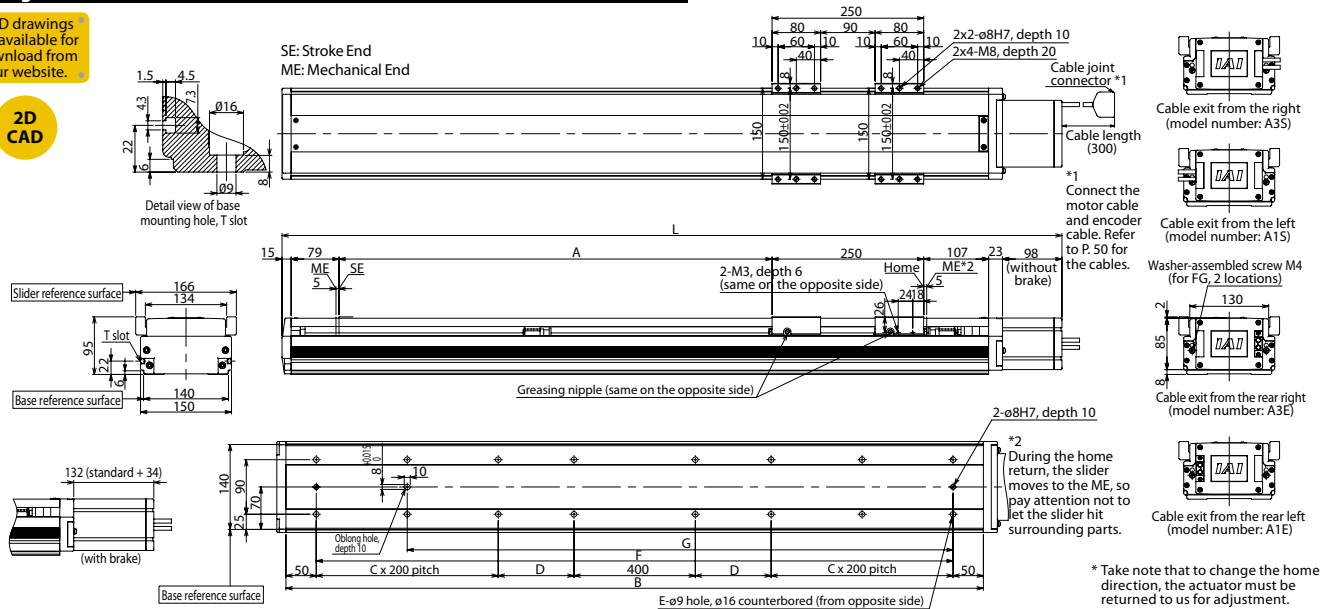
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screwφ20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 179.3N·m Mb: 254.8N·m Mc: 247.0N·m
Overhang load length	Ma direction: 1250mm max. Mb, Mc directions: 1250mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

\* CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	*If the brake is equipped, the mass increases by 0.6kg. *The maximum speed (mm/s) varies depending on the stroke.																
	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	
L	without brake	1586	1686	1786	1886	1986	2086	2186	2286	2386	2486	2586	2686	2786	2886	2986	3086
	with brake	1620	1720	1820	1920	2020	2120	2220	2320	2420	2520	2620	2720	2820	2920	3020	3120
A	1014	1114	1214	1314	1414	1514	1614	1714	1814	1914	2014	2114	2214	2314	2414	2514	
B	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850	2950	
C	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3	
D	275	325	375	425	475	525	575	625	675	725	775	825	875	925	975	1025	
E	12	12	12	12	12	12	12	16	16	16	16	20	20	20	20	20	
F	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850	
G	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	
Mass (kg)	30.8	32.6	34.3	36.1	37.8	39.6	41.4	43.1	44.9	46.6	48.4	50.1	51.9	53.6	55.4	57.1	
Maximum speed (mm/s)	Lead 40	2400		2300	2000	1900	1660	1480	1300	1180	1080	980	880	820	740	680	
	Lead 20	1200		1150	1000	950	830	740	650	590	540	490	440	410	370	340	

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P49
SSEL	2 axes			Single-phase 200 VAC	→P49
SCON	1 axis			Positioner pulse train control	→P49



(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPB series. Other specification values apply commonly to the ISB and ISPB.  
(Note 5) When the traveling life is 10,000km.  
(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# SSPA-LXM-750

Single-axis robot/Large, X-axis, high-rigidity, steel-base type/Actuator width: 155mm/750W Straight shape **High precision specification**



Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	SSPA: High precision specification	LXM	A: Absolute specification I: Incremental specification	750: 750W 50: 50mm 25: 25mm	100: 100mm 1500: 1500mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.	

\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)**		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
SSPA-LXM-①-750-50-②-③-④-⑤	Absolute	750	50	100~1500	1~2500	0.4	1.2	0.4	1.2	60	20	12	4	255
SSPA-LXM-①-750-25-②-③-④-⑤	Incremental	750	25	100~1500	1~1250	0.4	1.2	0.4	1.2	120	40	25	8	510

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).  
\*\*If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 2.0kg. (Please also refer to P.7).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

## Common Specifications

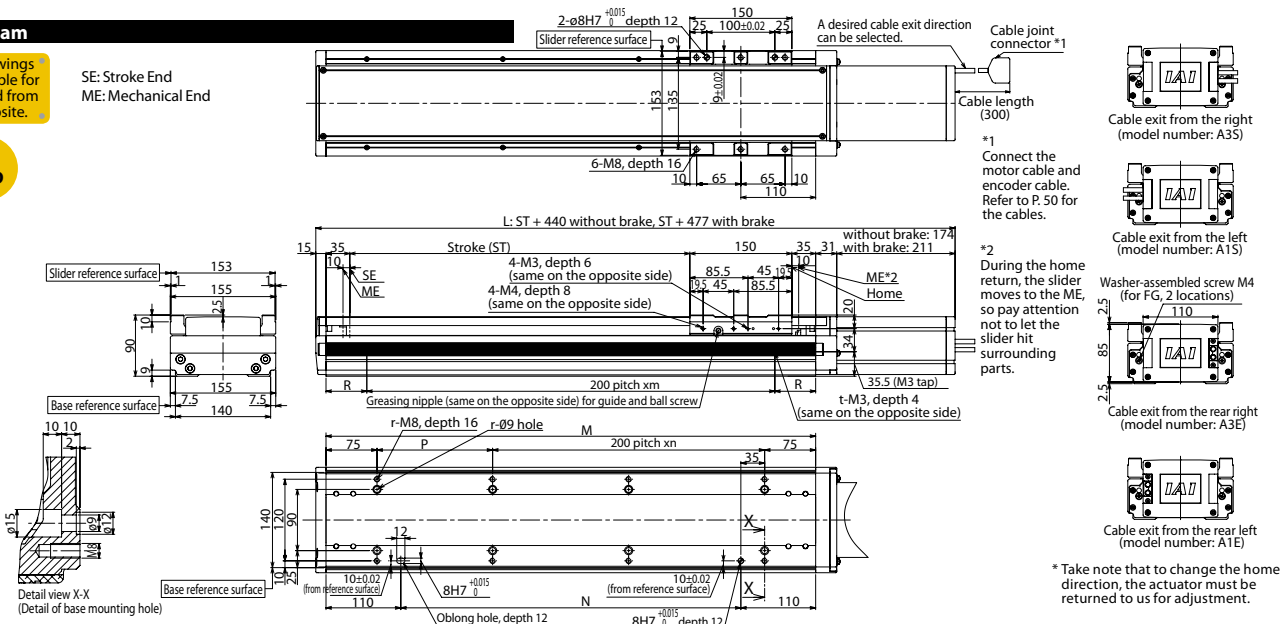
Positioning repeatability	±0.005mm
Drive method	Ball screwφ25mm, equivalent to rolled C5
Lost Motion (Note 4)	0.02mm max.
Dynamic allowable load moment (Note 2)	Ma: 138.8N·m Mb: 138.8N·m Mc: 334.5N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 3)	0.015mm/m max.
Base	Material: Cast iron with coating
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 4)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

CAD drawings are available for download from our website.

SE: Stroke End  
ME: Mechanical End

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	Stroke (mm)																				Mass (kg)	Maximum speed (mm/s)								
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050			1100							
L	without brake	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640	1690	1740	1790	1840	1890	1940
	with brake	577	627	677	727	777	827	877	927	977	1027	1077	1127	1177	1227	1277	1327	1377	1427	1477	1527	1577	1627	1677	1727	1777	1827	1877	1927	1977
M	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	1320	1370	1420	1470	1520	1570	1620	1670	1720	
N	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
P	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	1320	1370	1420	1470	1520	1570	
R	60	85	110	135	160	185	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735	760	
m	1	1	2	2	2	2	3	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7	8	8	
n	0	0	1	1	1	1	2	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	
r	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	
t	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	
Mass (kg)	21.0	23.0	25.0	26.5	28.0	29.5	31.0	33.0	35.0	36.5	38.0	39.5	41.0	43.0	45.0	46.5	48.0	49.5	51.0	52.5	54.0	56.0	58.0	59.5	61.0	62.5	64.0	66.0	68.0	
Maximum speed (mm/s)	Lead 50	2500																				2320	1950	1660	1440	1250	1100			
	Lead 25	1250																				1160	970	830	720	620	550			

\*If the brake is equipped, the mass increases by 1.0kg. \*The maximum speed (mm/s) varies depending on the stroke.

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/incremental	Program	Single/three-phase 200VAC	→P49
X-SEL-K	4 axes			Single-phase 100/200VAC	→P49
X-SEL-J *(note 5)	4 axes			Single-phase 200VAC	→P49
SSEL	2 axes			Single-phase 200VAC	→P49
SCON	1 axis			Positioner pulse train control	→P49

**CAUTION**

(Note 1) Refer to P. 7 for the relationship of acceleration and payload.  
 (Note 2) When the traveling life is 10,000 km.  
 (Note 3) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
 (Note 4) The maximum cable length is 30 m. Specify a desired length in meters. (Example. X08 = 8 m)  
 (Note 5) If the actuator is to be used vertically, use a controller other than the XSEL-J type.

# Simple, Dustproof Type

## ISDB / ISPDB

<b>ISDB ISPDB</b>	Simple, Dustproof Type	Small	Standard Type	Width: 90mm	ISDB (ISPDB)-S	<b>P.31</b>
		Medium	Standard Type	Width: 120mm	ISDB (ISPDB)-M-100	<b>P.32</b>
				Width: 120mm	ISDB (ISPDB)-M-200	<b>P.33</b>
			Mid-Support Type	Width: 120mm	ISDB (ISPDB)-MX-200	<b>P.34</b>
				Width: 150mm	ISDB (ISPDB)-L-200	<b>P.35</b>
		Large	Standard Type	Width: 150mm	ISDB (ISPDB)-L-400	<b>P.36</b>
				Width: 150mm	ISDB (ISPDB)-LX-200	<b>P.37</b>
			Mid-Support Type	Width: 150mm	ISDB (ISPDB)-LX-400	<b>P.38</b>
Width: 150mm	ISDB (ISPDB)-LX-400			<b>P.38</b>		

# ISDB-S

Single-axis robot/Small, dustproof type/Actuator width: 90mm/60W  
Straight shape

# ISPDB-S

Single-axis robot/Small, dustproof type/Actuator width: 90mm/60W  
Straight shape **High precision specification**



Model Specification Items	Series	S Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISDB: Standard specification ISPDB: High precision specification		S	A: Absolute specification I: Incremental specification	60: 60W	16: 16mm 8: 8mm 4: 4mm	100: 100mm ? : 800: 800mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□: Specified length	Refer to the options table below.

\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)**		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISDB [ISPDB]-S-①-60-16-②-③-④-⑤	Absolute Incremental	60	16	100~800	1~960	0.4	1.0	0.4	0.8	13	4.5	3	2	53.1
ISDB [ISPDB]-S-①-60-8-②-③-④-⑤					1~480	0.4	0.7	0.4	0.6	27	12	6	5	106.1
ISDB [ISPDB]-S-①-60-4-②-③-④-⑤					1~240	0.2	0.5	0.2	0.4	55	30	14	12	212.3

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).  
\*\*If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 0.5kg. (Please also refer to P. 7).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

## Common Specifications

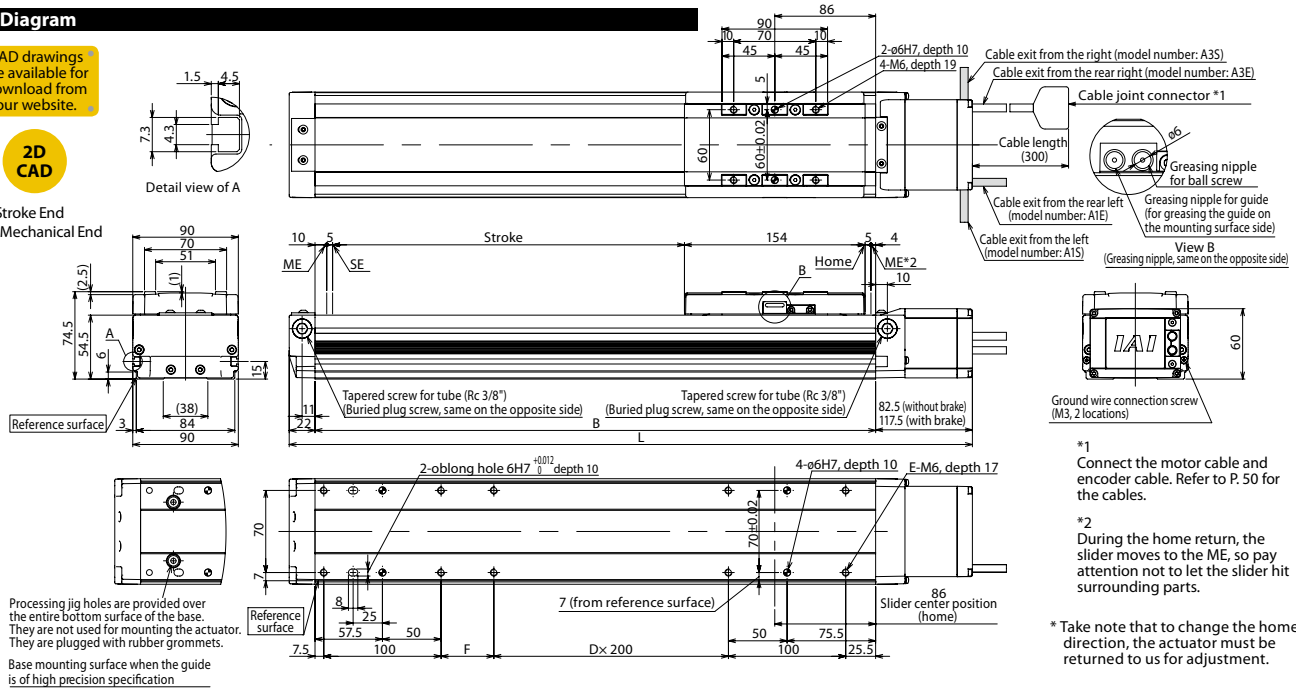
Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw ø12mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 28.4N·m Mb: 40.2N·m Mc: 65.7N·m
Overhang load length	Ma direction: 450mm max. Mb, Mc directions: 450mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□: Specified length
Protection structure	IP30
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

\* CAD drawings are available for download from our website.

2D CAD

SE: Stroke End  
ME: Mechanical End



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	L												Mass (kg)			Maximum speed (mm/s)		
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	Lead 16	Lead 8	Lead 4
without brake	382.5	432.5	482.5	532.5	582.5	632.5	682.5	732.5	782.5	832.5	882.5	932.5	982.5	1032.5	1082.5	920	795	690
	417.5	467.5	517.5	567.5	617.5	667.5	717.5	767.5	817.5	867.5	917.5	967.5	1017.5	1067.5	1117.5	460	400	345
with brake																230	200	170
B	278	328	378	428	478	528	578	628	678	728	778	828	878	928	978			
D	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3			
E	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14			
F	45	95	145	195	45	95	145	195	45	95	145	195	45	95	145			
Mass (kg)	4.1	4.4	4.8	5.1	5.5	5.9	6.2	6.6	7.0	7.3	7.7	8.1	8.4	8.8	9.1			
Maximum speed (mm/s)																		

\*If the brake is equipped, the mass increases by 0.2kg. \*The maximum speed (mm/s) varies depending on the stroke.

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes			Single-phase 100/200 VAC	→P49
SCON	1 axis				Positioner pulse train control

**CAUTION**

(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPDB series. Other specification values apply commonly to the ISDB and ISPDB.  
(Note 5) When the traveling life is 10,000km.  
(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)



# ISDB-M-100

Single-axis robot/Medium, dustproof type/Actuator width: 120mm/100W Straight shape

# ISPDB-M-100

Single-axis robot/Medium, dustproof type/Actuator width: 120mm/100W Straight shape **High precision specification**



## Model Specification Items

Series	M	Encoder type	100	Lead	Stroke	Applicable controller	Cable length	Options
ISDB: Standard specification ISPDB: High precision specification		A: Absolute specification I: Incremental specification	100: 100W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	100: 100mm ? 1100: 1100mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)**		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISDB[ISPDB]-M-①-100-30-②-③-④-⑤	Absolute Incremental	100	30	100~1100	1~1800	0.4	1.0	0.4	1.0	15	4	2	1.2	56.6
ISDB[ISPDB]-M-①-100-20-②-③-④-⑤			20		1~1200	0.4	1.0	0.4	1.0	23	8	4	2.5	84.9
ISDB[ISPDB]-M-①-100-10-②-③-④-⑤			10		1~600	0.4	0.7	0.4	0.6	45	20	10	7	169.8
ISDB[ISPDB]-M-①-100-5-②-③-④-⑤			5		1~300	0.2	0.5	0.2	0.4	85	45	20	15	339.7

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).  
\*\*If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 0.5kg. (Please also refer to P.7).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

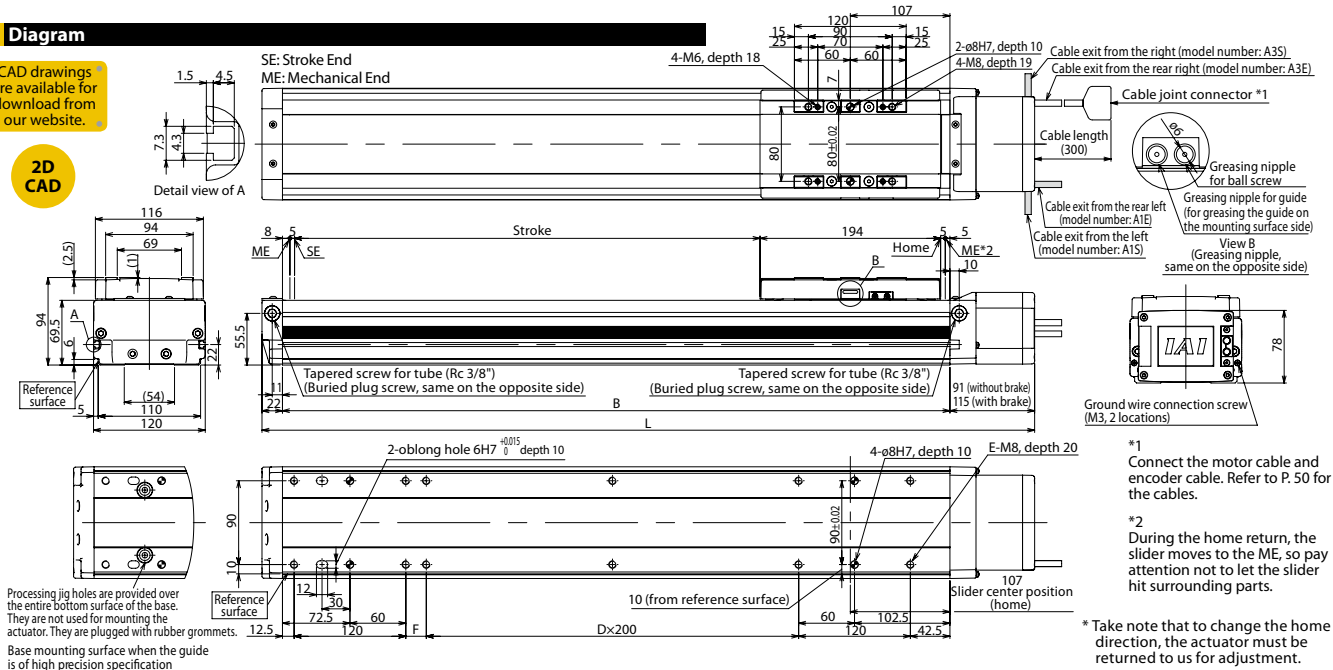
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screw ø16mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 69.6N·m Mb: 99.0N·m Mc: 161.7N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Protection structure	IP30
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

CAD drawings are available for download from our website.

2D CAD



- Connect the motor cable and encoder cable. Refer to P. 50 for the cables.
  - During the home return, the slider moves to the ME, so pay attention not to let the slider hit surrounding parts.
- \* Take note that to change the home direction, the actuator must be returned to us for adjustment.

## Dimensions, Mass and Maximum Speed by Stroke

Stroke	Without brake											With brake										
	100	150	200	250	300	350	400	500	550	600	650	700	750	800	850	900	950	1000	1050	1100		
L	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380	1430	
B	317	367	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	
D	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	
E	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	
F	22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	
Mass (kg)	7.5	8.1	8.8	9.4	10.0	10.7	11.3	11.9	12.6	13.2	13.8	14.5	15.1	15.7	16.4	17.0	17.6	18.3	18.9	19.5	20.2	
Maximum speed (mm/s)	Lead 30	1800											1630	1440	1280	1150	1035	935	850	780	715	660
	Lead 20	1200											1085	960	855	765	690	625	570	520	475	440
	Lead 10	600											545	480	430	380	345	310	285	260	240	220
	Lead 5	300											270	240	215	190	170	155	140	130	120	110

\*If the brake is equipped, the mass increases by 0.3kg. \*The maximum speed (mm/s) varies depending on the stroke.

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes				→P49
SCON	1 axis				→P49

**CAUTION**

(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPDB series. Other specification values apply commonly to the ISDB and ISPDB.

(Note 5) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 6) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

(Note 7)

# ISDB-M-200

Single-axis robot/Medium, dustproof type/Actuator width: 120mm/200W  
Straight shape

# ISPDB-M-200

Single-axis robot/Medium, dustproof type/Actuator width: 120mm/200W  
Straight shape **High precision specification**



Model Specification Items	Series	M Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISDB: Standard specification	ISPB: High precision specification	A: Absolute specification I: Incremental specification	200: 200W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	100: 100mm 1100: 1100mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□: Specified length	Refer to the options table below.	

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISDB[ISPDB]-M-①-200-30-②-③-④-⑤	Absolute Incremental	200	30	100~1100	1~1800	0.4	1.0	0.4	1.0	30	12	6	3	113.9
ISDB[ISPDB]-M-①-200-20-②-③-④-⑤			20		1~1200	0.4	1.0	0.4	1.0	45	16	10	5	170.9
ISDB[ISPDB]-M-①-200-10-②-③-④-⑤			10		1~600	0.4	0.7	0.4	0.6	90	40	20	15	341.8
ISDB[ISPDB]-M-①-200-5-②-③-④-⑤			5		1~300	0.2	0.5	0.2	0.4	110	80	40	30	683.6

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

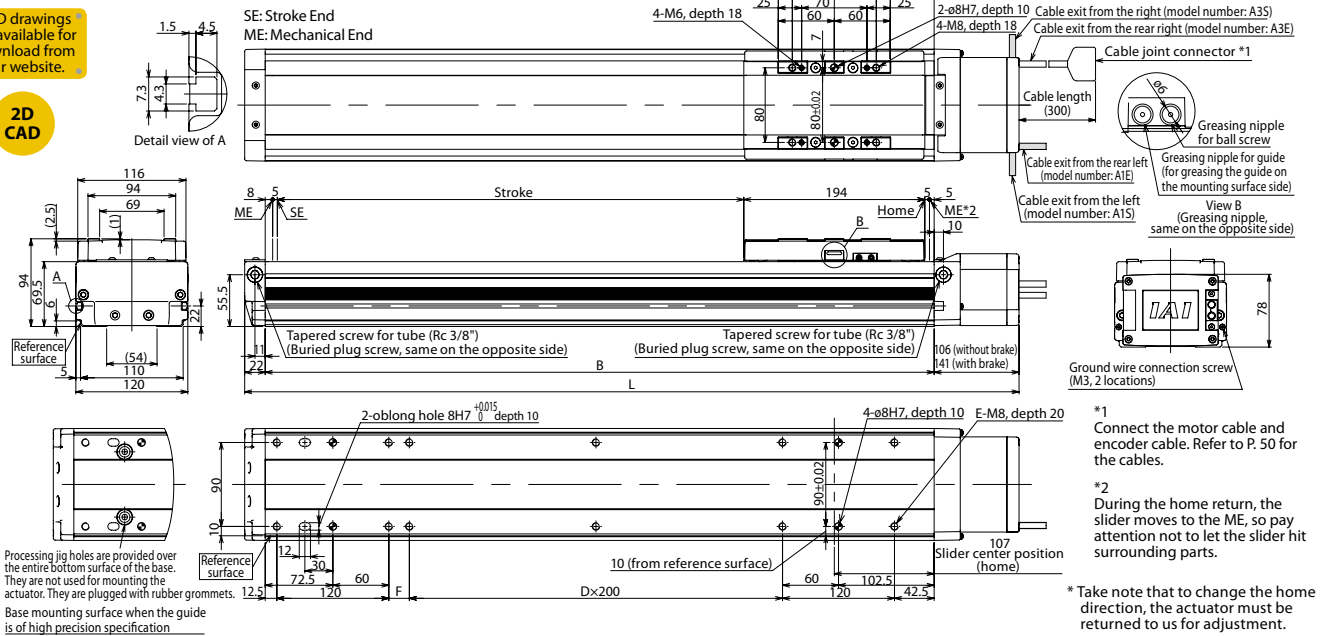
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw ø16mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 69.6N·m Mb: 99.0N·m Mc: 161.7N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□: Specified length
Protection structure	IP30
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

\* CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

\*If the brake is equipped, the mass increases by 0.4kg. \*The maximum speed (mm/s) varies depending on the stroke.

Stroke	L											D										
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
without brake	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095	1145	1195	1245	1295	1345	1395	1445	
	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380	1430	1480	
B	317	367	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	
D	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	
E	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	
F	22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	
Mass (kg)	7.9	8.5	9.2	9.8	10.4	11.1	11.7	12.3	13.0	13.6	14.2	14.9	15.5	16.1	16.8	17.4	18.0	18.7	19.3	19.9	20.6	
Maximum speed (mm/s)	1800											1630										
	1200											1085										
	600											545										
	300											270										

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P49
SSEL	2 axes			→P49	
SCON	1 axis			Positioner pulse train control	→P49

**CAUTION**

(Note 1) Refer to P.7 for the relationship of acceleration and payload. The values in [ ] apply to the ISPDB series. Other specification values apply commonly to the ISDB and ISPDB.

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

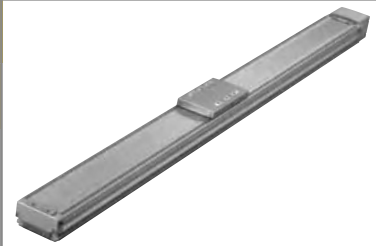
(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISDB-MX-200

Single-axis robot/Medium, dustproof, mid-support type/Actuator  
width: 120mm/200W Straight shape

# ISPDB-MX-200

Single-axis robot/Medium, dustproof, mid-support type/Actuator  
width: 120mm/200W Straight shape **High precision specification**



## Model Specification Items

Series	MX	Encoder type	200	Lead	Stroke	Applicable controller	Cable length	Options
ISDB: Standard specification ISPDB: High precision specification		A: Absolute specification I: Incremental specification	200: 200W	30: 30mm 20: 20mm	800: 800mm 1600: 1600mm (in 100mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 100mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISDB[ISPDB]-MX-①-200-30-②-③-④-⑤	Absolute Incremental	200	30	800~1600	1~1800	0.4		Designed exclusively for horizontal use		30		Designed exclusively for horizontal use		113.9
ISDB[ISPDB]-MX-①-200-20-②-③-④-⑤			20		1~1200	0.4		45				170.9		

\* In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

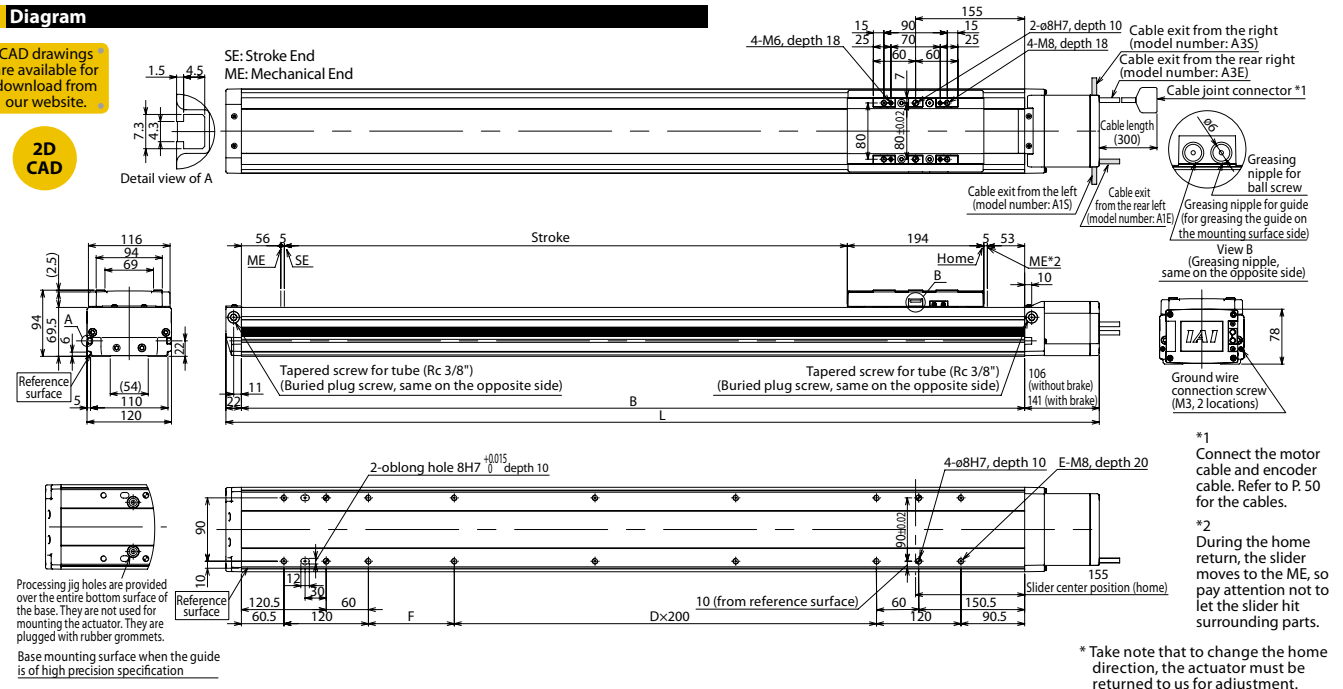
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw φ16mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 69.6N·m Mb: 99.0N·m Mc: 161.7N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Protection structure	IP30
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	*If the brake is equipped, the mass increases by 0.5kg. *The maximum speed (mm/s) varies depending on the stroke.									
	800	900	1000	1100	1200	1300	1400	1500	1600	
L	without brake	1241	1341	1441	1541	1641	1741	1841	1941	2041
	with brake	1276	1376	1476	1576	1676	1776	1876	1976	2076
B	1113	1213	1313	1413	1513	1613	1713	1813	1913	
D	3	3	4	4	5	5	6	6	7	
E	14	14	16	16	18	18	20	20	22	
F	122	222	122	222	122	222	122	222	122	
Mass (kg)	18.3	19.6	20.9	22.2	23.4	24.7	26.0	27.3	28.6	
Maximum speed (mm/s)	Lead 30	1800			1650	1500	1425	1200	1050	
	Lead 20	1200			1100	1000	950	800	700	

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes				→P49
SCON	1 axis				→P49
			Positioner pulse train control		



(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPDB series. Other specification values apply commonly to the ISDB and ISPDB.

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISDB-L-200

Single-axis robot/Large, dustproof type/Actuator width: 150mm/200W  
Straight shape

# ISPDB-L-200

Single-axis robot/Large, dustproof type/Actuator width: 150mm/200W  
Straight shape **High precision specification**



Model Specification Items	Series	L	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISDB: Standard specification ISPDB: High precision specification				A: Absolute specification I: Incremental specification	200: 200W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 1300: 1300mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)**		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISDB[ISPDB]-L-①-200-40-②-③-④-⑤	Absolute Incremental	200	40	100~1300	1~1800	0.4	1.0	0.4	1.0	15	7	2.5	2	85.5
ISDB[ISPDB]-L-①-200-20-②-③-④-⑤			20		1~1200	0.4	1.0	0.4	1.0	45	15	9	5	170.9
ISDB[ISPDB]-L-①-200-10-②-③-④-⑤			10		1~600	0.4	0.7	0.4	0.6	90	40	20	14	341.8

\*1.0G=9800mm/sec<sup>2</sup>

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).  
\*\*If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 1.0kg. (Please also refer to P.7).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

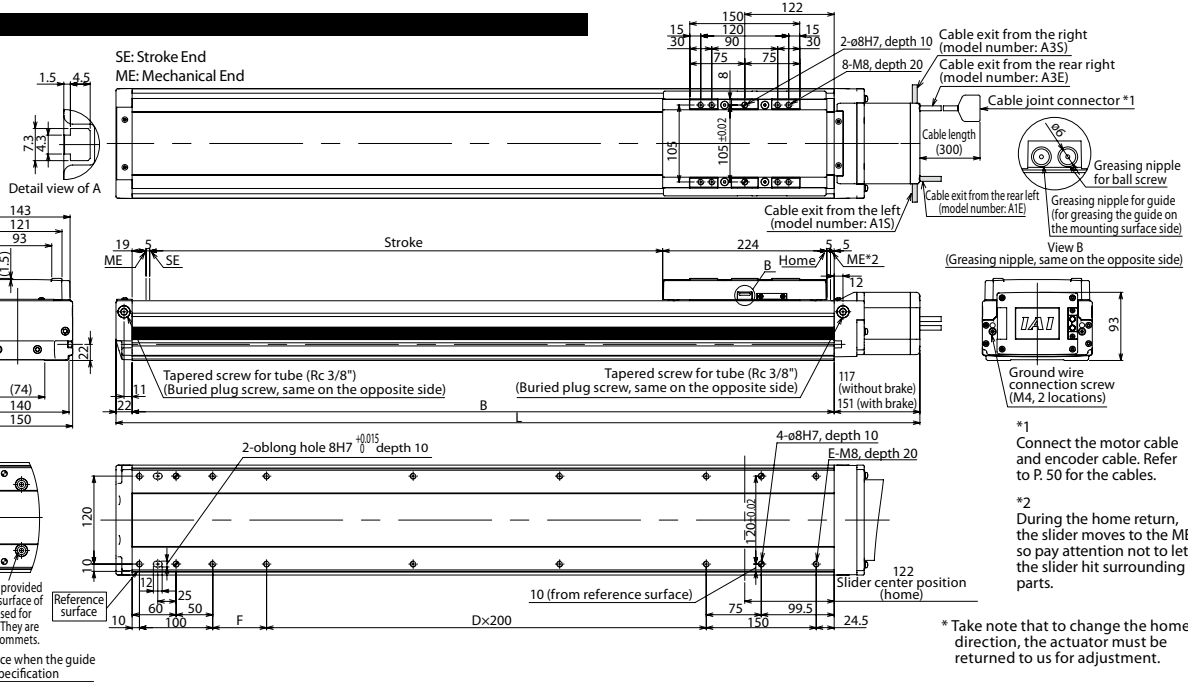
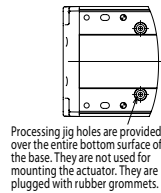
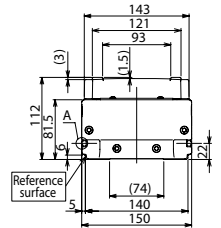
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screw ø20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 104.9N·m Mb: 149.9N·m Mc: 248.9N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Protection structure	IP30
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300			
	L	497	547	597	647	697	747	797	847	897	947	997	1047	1097	1147	1197	1247	1297	1347	1397	1447	1497	1547	1597	1647	1697		
B	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358	1408	1458	1508	1558			
D	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6			
E	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20			
F	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5			
Mass (kg)	11.8	12.7	13.6	14.4	15.3	16.2	17.0	17.9	18.8	19.6	20.5	21.4	22.3	23.1	24.0	24.9	25.7	26.6	27.5	28.3	29.2	30.1	31.0	31.8	32.7			
Maximum speed (mm/s)	Lead 40	1800											1700				1540	1410	1290	1185	1095	1015	940	875	815			
	Lead 20	1200											1165				1045	940	850	770	705	645	595	545	505	470	440	410
	Lead 10	600											585				520	470	425	385	350	320	295	275	255	235	220	205

\*If the brake is equipped, the mass increases by 0.5kg.

\*The maximum speed (mm/s) varies depending on the stroke.

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			→P49	
SSEL	2 axes			Single-phase 100/200 VAC	→P49
SCON	1 axis			Positioner pulse train control	→P49



(Note 1) Refer to P. 7 for the relationship of acceleration and payload.  
(Notes 2, 3, 4) The values in [ ] apply to the ISPDB series. Other specification values apply commonly to the ISDB and ISPDB.  
(Note 5) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
(Note 6) The maximum cable length is 30m. Specify a desired length in meters.  
(Note 7) (Example. X08 = 8m)

# ISDB-L-400

Single-axis robot/Large, dustproof type/Actuator width: 150mm/400W  
Straight shape

# ISPDB-L-400

Single-axis robot/Large, dustproof type/Actuator width: 150mm/400W  
Straight shape **High precision specification**



Model Specification Items	Series	L	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	ISDB: Standard specification ISPDB: High precision specification		A: Absolute specification I: Incremental specification	400: 400W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 1300: 1300mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.	

\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISDB[ISPDB]-L-①-400-40-②-③-④-⑤	Absolute Incremental	400	40	100~1300	1~1800	0.4	1.0	0.4	1.0	40	17	8	5	169.6
ISDB[ISPDB]-L-①-400-20-②-③-④-⑤			20		1~1200	0.4	1.0	0.4	1.0	90	30	20	10	339.1
ISDB[ISPDB]-L-①-400-10-②-③-④-⑤			10		1~600	0.4	0.7	0.4	0.6	120	60	40	30	678.3

\* In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

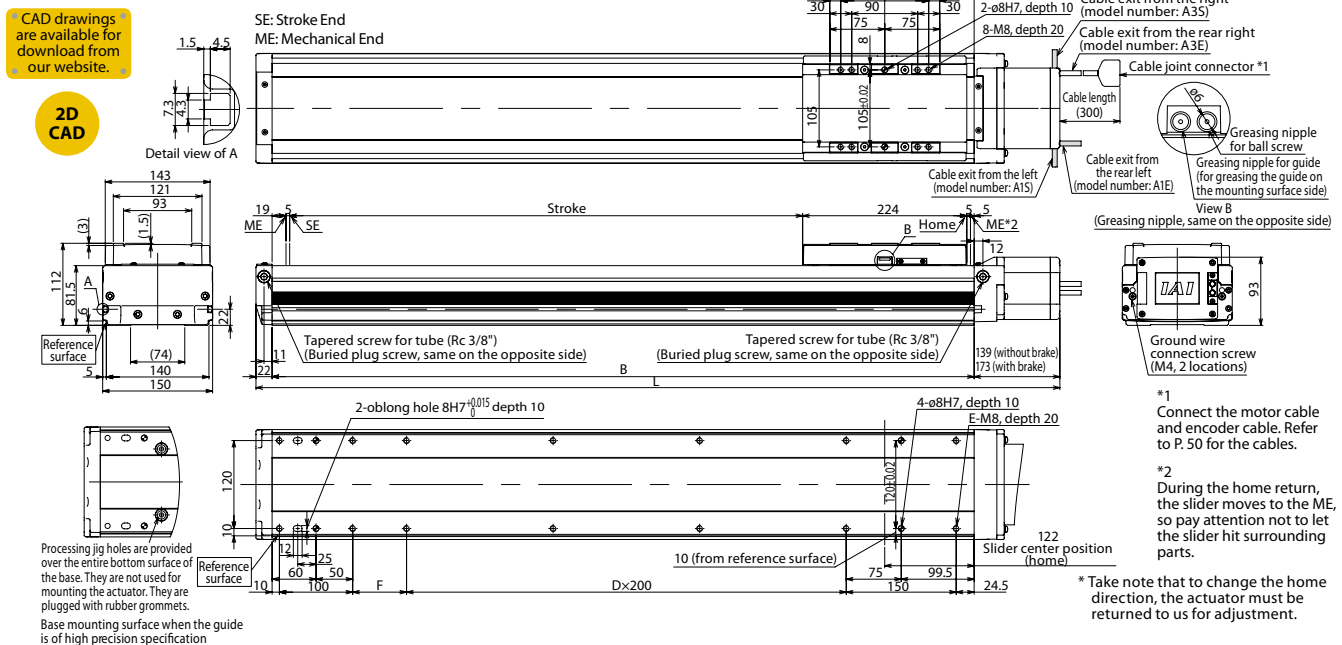
## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

## Common Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw ø20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 104.9N·m Mb: 149.9N·m Mc: 248.9N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Protection structure	IP30
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram



## Dimensions, Mass and Maximum Speed by Stroke

\* If the brake is equipped, the mass increases by 0.5kg. \* The maximum speed (mm/s) varies depending on the stroke.

Stroke	L																										
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300		
without brake	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169	1219	1269	1319	1369	1419	1469	1519	1569	1619	1669	1719		
with brake	553	603	653	703	753	803	853	903	953	1003	1053	1103	1153	1203	1253	1303	1353	1403	1453	1503	1553	1603	1653	1703	1753		
B	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358	1408	1458	1508	1558		
D	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	6	6	6		
E	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20		
F	73.5	123.5	173.5	23.5	73.5	123.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5		
Mass (kg)	12.2	13.1	14.0	14.8	15.7	16.6	17.4	18.3	19.2	20.0	20.9	21.8	22.7	23.5	24.4	25.3	26.1	27.0	27.9	28.7	29.6	30.5	31.4	32.2	33.1		
Maximum speed (mm/s)	Lead 40	1800											1700				1540	1410	1290	1185	1095	1015	940	875	815		
	Lead 20	1200											850				770	705	645	595	545	505	470	440	410		
	Lead 10	600											585				520	470	425	385	350	320	295	275	255	235	220

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes				→P49
SCON	1 axis				→P49
			Positioner pulse train control		



(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPDB series. Other specification values apply commonly to the ISDB and ISPDB.

(Note 5) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 6) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

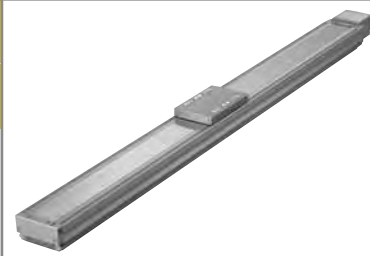
(Note 7)

# ISDB-LX-200

Single-axis robot/Large, dustproof, mid-support type/Actuator width: 150mm/200W Straight shape

# ISPDB-LX-200

Single-axis robot/Large, dustproof, mid-support type/Actuator width: 150mm/200W Straight shape **High precision specification**



Model Specification Items	Series	LX Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISDB: Standard specification ISPDB: High precision specification			A: Absolute specification I: Incremental specification	200: 200W	40: 40mm 20: 20mm	1000: 1000mm 1600: 1600mm (in 100mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□: Specified length	Refer to the options table below.

\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 100mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISDB[ISPDB]-LX-①-200-40-②-③-④-⑤	Absolute Incremental	200	40	1000~1600	1~1800	0.4		Designed exclusively for horizontal use		15		Designed exclusively for horizontal use		85.5
ISDB[ISPDB]-LX-①-200-20-②-③-④-⑤			20		1~1200	0.4		45				170.9		

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

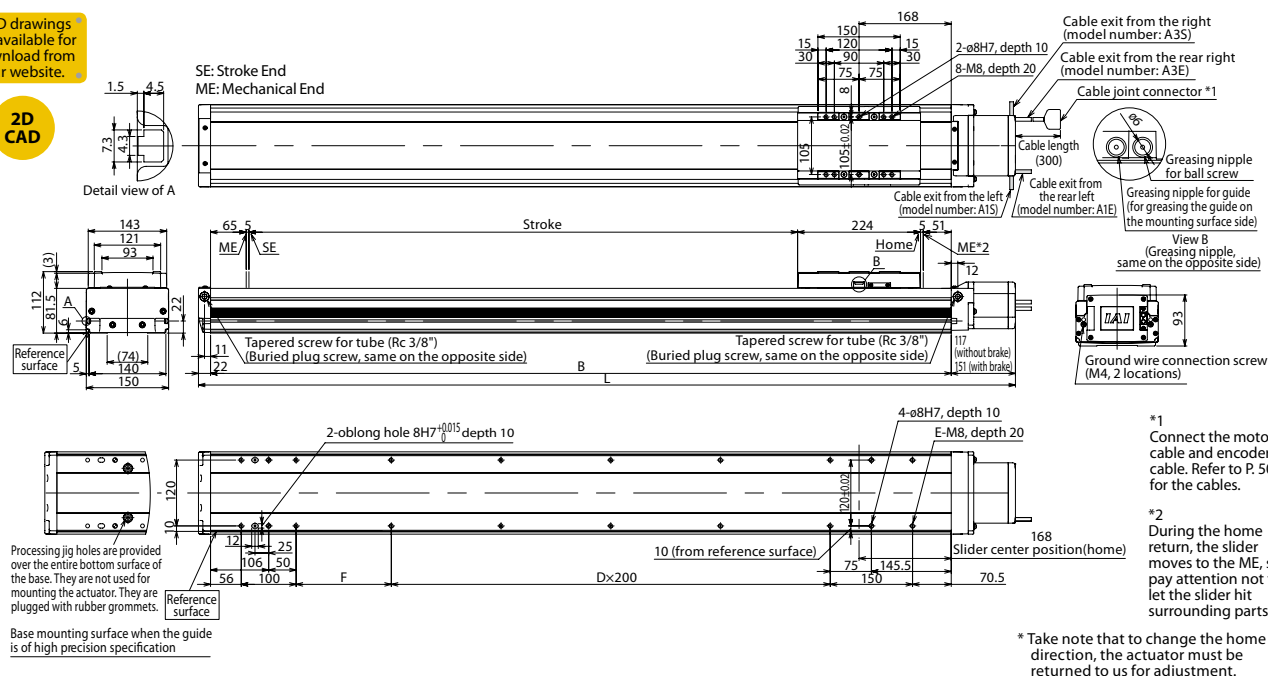
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw ø16mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 104.9N·m Mb: 149.9N·m Mc: 248.9N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□: Specified length
Protection structure	IP30
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

\*If the brake is equipped, the mass increases by 0.5kg. \*The maximum speed (mm/s) varies depending on the stroke.

Stroke	L							
	without brake	1489	1589	1689	1789	1889	1989	
B	with brake	1523	1623	1723	1823	1923	2023	
		1350	1450	1550	1650	1750	1850	
D	4	5	5	6	6	7	7	
E	16	18	18	20	20	22	22	
F	173.5	73.5	173.5	73.5	173.5	73.5	173.5	
Mass (kg)	29.7	31.4	33.2	35.0	36.7	38.5	40.2	
Maximum speed (mm/s)	Lead 30	1800					1660	
	Lead 20	1200					830	

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes			Single-phase 100/200 VAC	→P49
SCON	1 axis			Positioner pulse train control	→P49

**CAUTION**

(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPDB series. Other specification values apply commonly to the ISDB and ISPDB.

(Note 5) When the traveling life is 10,000km.

(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISDB-LX-400

Single-axis robot/Large, dustproof, mid-support type/Actuator width: 150mm/400W Straight shape

# ISPDB-LX-400

Single-axis robot/Large, dustproof, mid-support type/Actuator width: 150mm/400W Straight shape **High precision specification**



## Model Specification Items

Series	LX	Encoder type	400	Lead	Stroke	Applicable controller	Cable length	Options
ISDB: Standard specification ISPDB: High precision specification		A: Absolute specification I: Incremental specification	400: 400W	40: 40mm 20: 20mm	1000: 1000mm 1600: 1600mm (in 100mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 100mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)		
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration	
ISDB[ISPDB]-LX-①-400-40-②-③-④-⑤	Absolute	400	40	1000~1600	1~1800	0.4		Designed exclusively for horizontal use	40		Designed exclusively for horizontal use	169.6		
ISDB[ISPDB]-LX-①-400-20-②-③-④-⑤	Incremental	400	20	1000~1600	1~1200	0.4		Designed exclusively for horizontal use	90		Designed exclusively for horizontal use	339.1		

\* In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10

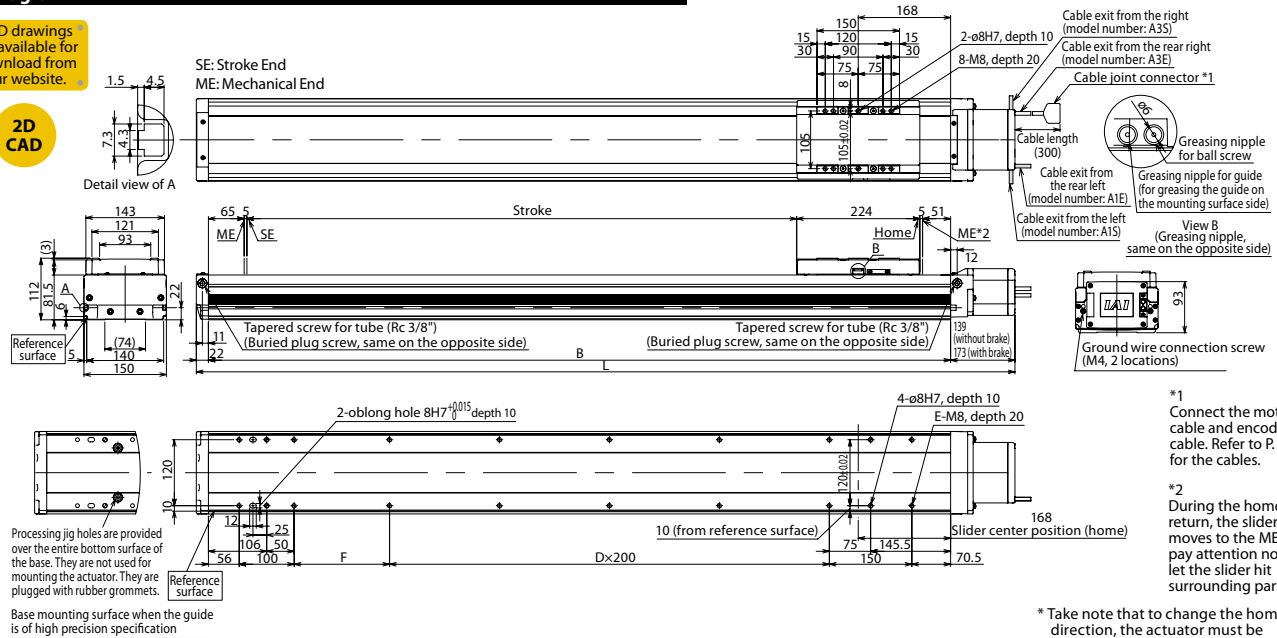
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw ø20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 104.9N·m Mb: 149.9N·m Mc: 248.9N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Protection structure	IP30
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

## Diagram

CAD drawings are available for download from our website.

2D CAD



\*1 Connect the motor cable and encoder cable. Refer to P.50 for the cables.

\*2 During the home return, the slider moves to the ME, so pay attention not to let the slider hit surrounding parts.

\* Take note that to change the home direction, the actuator must be returned to us for adjustment.

## Dimensions, Mass and Maximum Speed by Stroke

\* If the brake is equipped, the mass increases by 0.5kg. \* The maximum speed (mm/s) varies depending on the stroke.

Stroke	1000		1100		1200		1300		1400		1500		1600	
	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake
L	1511	1545	1611	1645	1711	1745	1811	1845	1911	1945	2011	2045	2111	2145
B	1350		1450		1550		1650		1750		1850		1950	
D	4		5		5		6		6		7		7	
E	16		18		18		20		20		22		22	
F	173.5		73.5		173.5		73.5		173.5		73.5		173.5	
Mass (kg)	30.1		31.8		33.6		35.4		37.1		38.9		40.6	
Maximum speed (mm/s)	Lead 30		1800						1000				1660	
	Lead 20		1200						1150				950	

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/incremental	Program	Single/three-phase 200VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200VAC	→P49
SSEL	2 axes				→P49
SCON	1 axis			Positioner pulse train control	Single-phase 200VAC



(Note 1) Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPDB series. Other specification values apply commonly to the ISDB and ISPDB.  
 (Note 5) When the traveling life is 10,000km.  
 (Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
 (Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# Cleanroom Type

## ISDBCR / ISPDBCR / SSPDACR

<b>ISDBCR ISPDBCR</b>	Standard (High Precision) Type	Small	Standard Type	Width: 90mm	ISDBCR (ISPDBCR)-S	<b>P.40</b>
		Medium	Standard Type	Width: 120mm	ISDBCR (ISPDBCR)-M-100	<b>P.41</b>
				Width: 120mm	ISDBCR (ISPDBCR)-M-200	<b>P.42</b>
			Mid-Support Type	Width: 120mm	ISDBCR (ISPDBCR)-MX-200	<b>P.43</b>
		Large	Standard Type	Width: 150mm	ISDBCR (ISPDBCR)-L-200	<b>P.44</b>
				Width: 150mm	ISDBCR (ISPDBCR)-L-400	<b>P.45</b>
			Mid-Support Type	Width: 150mm	ISDBCR (ISPDBCR)-LX-200	<b>P.46</b>
				Width: 150mm	ISDBCR (ISPDBCR)-LX-400	<b>P.47</b>
<b>SSPDACR</b>	High Precision Type	Large	High-Rigidity, Steel-Base Type	Width: 155mm	SSPDACR-L-750	<b>P.48</b>



# ISDBCR-S

Single-axis robot for cleanroom/Small/Actuator width: 90mm/60 W  
Straight shape

# ISPDBCR-S

Single-axis robot for cleanroom/Small/Actuator width: 90mm/60 W  
Straight shape **High precision specification**

Model Specification Items

Series	S	Encoder type	60	Lead	Stroke	Applicable controller	Cable length	Options
ISDBCR: Standard specification ISPDBCR: High precision specification	Type	A: Absolute specification I: Incremental specification	60: 60W	16: 16mm 8: 8mm 4: 4mm	100: 100mm ? 800: 800mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.



\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)	Suction flow rate (Nl/min)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)**			
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration		
ISDBCR[ISPDBCR]-S-[1]-60-16-[2]-[3]-[4]-[5]	Absolute Incremental	60	16	100~800	1~960	0.4	1.0	0.4	0.8	13	4.5	3	2	53.1	60
ISDBCR[ISPDBCR]-S-[1]-60-8-[2]-[3]-[4]-[5]			8		1~480	0.4	0.7	0.4	0.6	27	12	6	5	106.1	30
ISDBCR[ISPDBCR]-S-[1]-60-4-[2]-[3]-[4]-[5]			4		1~240	0.2	0.5	0.2	0.4	55	30	14	12	212.3	15

\*In the above model numbers, [1] indicates the encoder type, [2] indicates the stroke, [3] indicates the applicable controller, [4] indicates the cable length, and [5] indicates the option(s).  
\*\*If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 0.5kg. (Please also refer to P.7).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10
			Suction tube joint on opposite side	VR	→P10

## Common Specifications

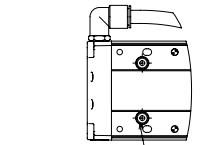
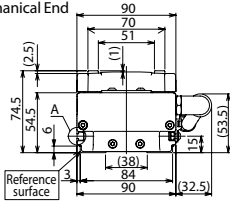
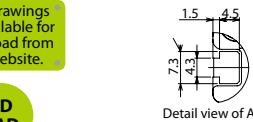
Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screw ø12mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm (0.02mm) max.
Dynamic allowable load moment (Note 5)	Ma: 28.4N·m Mb: 40.2N·m Mc: 65.7N·m
Overhang load length	Ma direction: 450mm max. Mb, Mc directions: 450mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Grease	Low dust-raising grease (for ball screw and guide)
Cleanliness degree	Class 10 (0.1µm per 1cf)
Suction tube joint	Quick connect joint, applicable tube outer diameter ø12mm

## Diagram

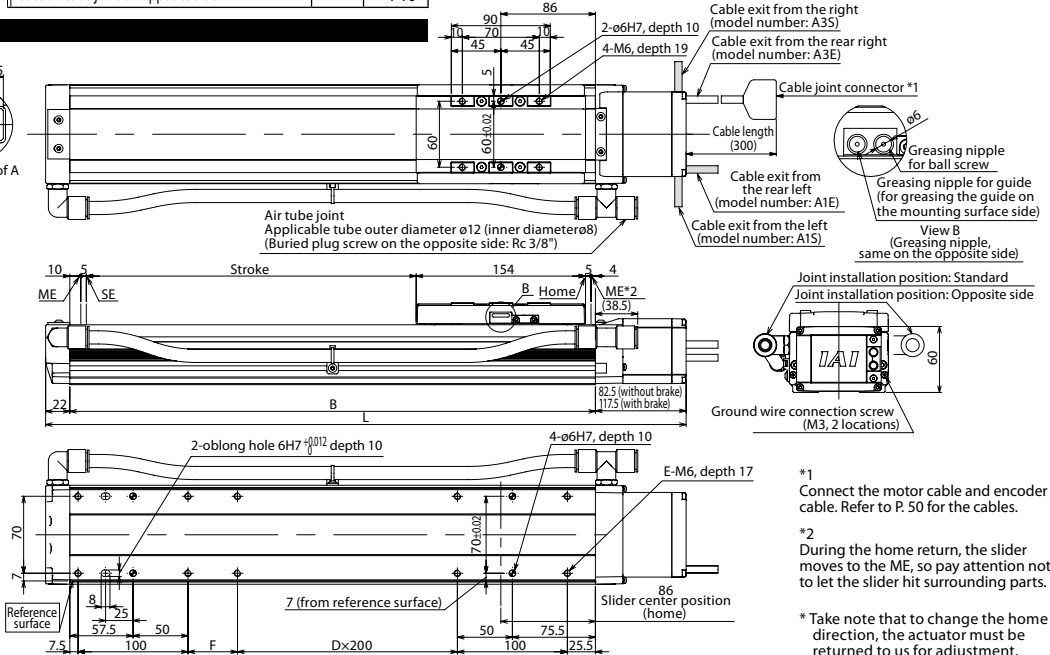
CAD drawings are available for download from our website.

### 2D CAD

SE: Stroke End  
ME: Mechanical End



Processing jig holes are provided over the entire bottom surface of the base. They are not used for mounting the actuator. They are plugged with rubber grommets.  
Base mounting surface when the guide is of high precision specification



\*1 Connect the motor cable and encoder cable. Refer to P. 50 for the cables.

\*2 During the home return, the slider moves to the ME, so pay attention not to let the slider hit surrounding parts.

\* Take note that to change the home direction, the actuator must be returned to us for adjustment.

## Dimensions, Mass and Maximum Speed by Stroke

\*If the brake is equipped, the mass increases by 0.2kg. \*The maximum speed (mm/s) varies depending on the stroke.

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
	L	382.5	432.5	482.5	532.5	582.5	632.5	682.5	732.5	782.5	832.5	882.5	932.5	982.5	1032.5
B	278	328	378	428	478	528	578	628	678	728	778	828	878	928	978
D	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3
E	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
F	45	95	145	195	45	95	145	195	45	95	145	195	45	95	145
Mass (kg)	4.2	4.5	4.9	5.2	5.6	6.0	6.3	6.7	7.0	7.4	7.8	8.1	8.5	8.9	9.2
Maximum speed (mm/s)	Lead 16				960					920	795	690	610	540	480
	Lead 8				480					460	400	345	305	270	240
	Lead 4				240					230	200	170	150	135	120

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes				→P49
SCON	1 axis				→P49



(Note 1) Refer to P. 7 for the relationship of acceleration and payload.  
(Notes 2, 3, 4) The values in [ ] apply to the ISPDBCR series. Other specification values apply commonly to the ISDBCR and ISPDBCR.  
(Note 5) When the traveling life is 10,000km.  
(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISDBCR-M-100

Single-axis robot for cleanroom/Medium/Actuator width:  
120mm/100W Straight shape

# ISPDBCR-M-100

Single-axis robot for cleanroom/Medium/Actuator width:  
120mm/100W Straight shape **High precision specification**



Model Specification Items	Series	M	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	ISDBCR: Standard specification ISPDBCR: High precision specification		A: Absolute specification I: Incremental specification	100: 100W	30: 30mm 20: 20mm 10: 20mm 5: 5mm	100: 100mm ? 1100: 1100mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)	Suction flow rate (Nl/min)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)**			
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration		
ISDBCR[ISPDBCR]-M-①-100-30-②-③-④-⑤	Absolute Incremental	100	30	100~1100	1~1800	0.4	1.0	0.4	1.0	15	4	2	1.2	56.6	180
ISDBCR[ISPDBCR]-M-①-100-20-②-③-④-⑤			20		1~1200	0.4	1.0	0.4	1.0	23	8	4	2.5	84.9	120
ISDBCR[ISPDBCR]-M-①-100-10-②-③-④-⑤			10		1~600	0.4	0.7	0.4	0.6	45	20	10	7	169.8	50
ISDBCR[ISPDBCR]-M-①-100-5-②-③-④-⑤			5		1~300	0.2	0.5	0.2	0.4	85	45	20	15	339.7	20

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).  
\*\*If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 0.5kg. (Please also refer to P.7).

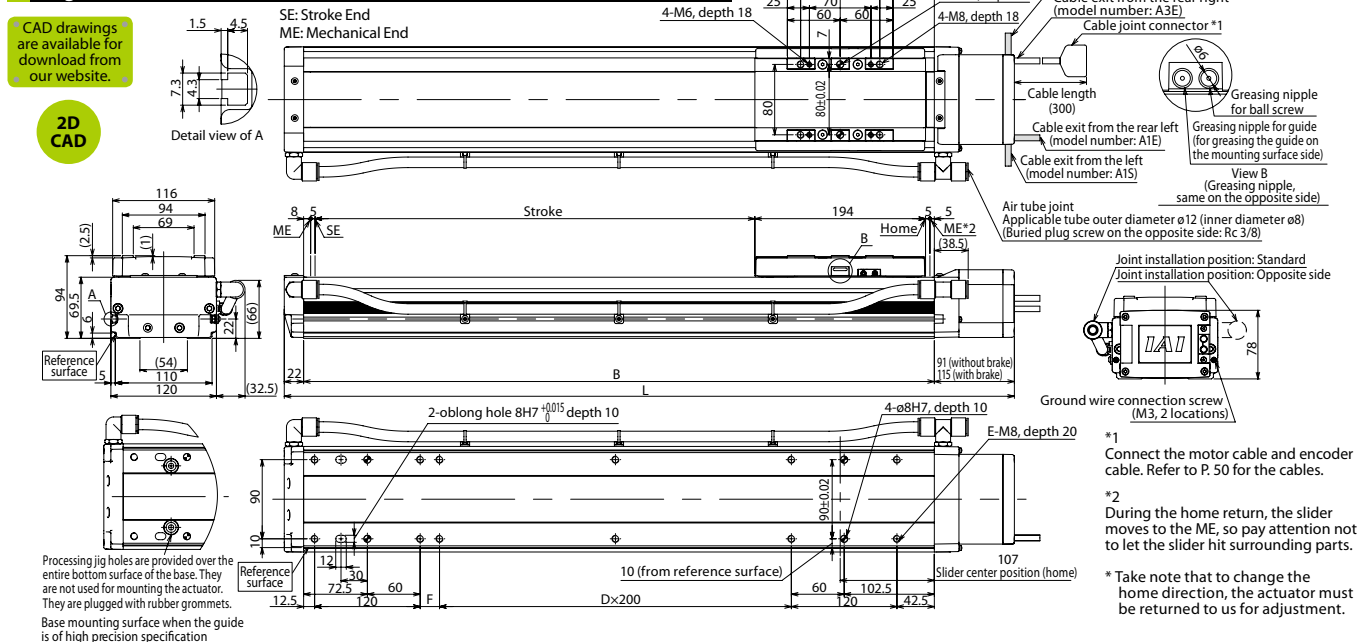
## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10
			Suction tube joint on opposite side	VR	→P10

## Common Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw ø16mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 69.6N·m Mb: 99.0N·m Mc: 161.7N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Grease	Low dust-raising grease (for ball screw and guide)
Cleanliness degree	Class 10 (0.1µm per 1cf)
Suction tube joint	Quick connect joint, applicable tube outer diameter ø12mm

## Diagram



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	L											B											D											E											F																																																																																																																																	
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100																																																																					
without brake	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380	1430	317	367	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	7.6	8.2	8.8	9.5	10.1	10.7	11.3	12.0	12.6	13.2	13.9	14.5	15.1	15.7	16.4	17.0	17.6	18.2	18.9	19.5	20.1	1800	1200	600	300	1630	1440	1280	1150	1035	935	850	780	715	660	1085	960	855	765	690	625	570	520	475	440	545	480	430	380	345	310	285	260	240	220	270	240	215	190	170	155	140	130	120	110

\*If the brake is equipped, the mass increases by 0.3kg. \*The maximum speed (mm/s) varies depending on the stroke.

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes			Single-phase 100/200 VAC	→P49
SCON	1 axis				Positioner pulse train control

(Note 1)	Refer to P.7 for the relationship of acceleration and payload. (Notes 2, 3, 4)
(Note 5)	The values in [ ] apply to the ISPDBCR series. Other specification values apply commonly to the ISDBCR and ISPDBCR.
(Note 6)	The value of dynamic straightness is when the high straightness, precision specification (option) is specified.
(Note 7)	The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISDBCR-M-200

Single-axis robot for cleanroom/Medium/Actuator width:  
120mm/200W Straight shape

# ISPDBCR-M-200

Single-axis robot for cleanroom/Medium/Actuator width:  
120mm/200W Straight shape **High precision specification**



Model Specification Items	Series	M	Encoder type	200	Lead	Stroke	Applicable controller	Cable length	Options
	ISDBCR: Standard specification ISPDBCR: High precision specification	Type	A: Absolute specification I: Incremental specification	Motor type 200: 200W	30: 30mm 20: 20mm 10: 20mm 5: 5mm	100: 100mm ? 1100: 1100mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)	Suction flow rate (Nl/min)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)			
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration		
ISDBCR[ISPDBCR]-M-①-200-30-②-③-④-⑤	Absolute/Incremental	200	30	100~1100	1~1800	0.4	1.0	0.4	1.0	30	12	6	3	113.9	180
ISDBCR[ISPDBCR]-M-①-200-20-②-③-④-⑤			20		1~1200	0.4	1.0	0.4	1.0	45	16	10	5	170.9	120
ISDBCR[ISPDBCR]-M-①-200-10-②-③-④-⑤			10		1~600	0.4	0.7	0.4	0.6	90	40	20	15	341.8	50
ISDBCR[ISPDBCR]-M-①-200-5-②-③-④-⑤			5		1~300	0.2	0.5	0.2	0.4	110	80	40	30	683.6	20

\* In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10
			Suction tube joint on opposite side	VR	→P10

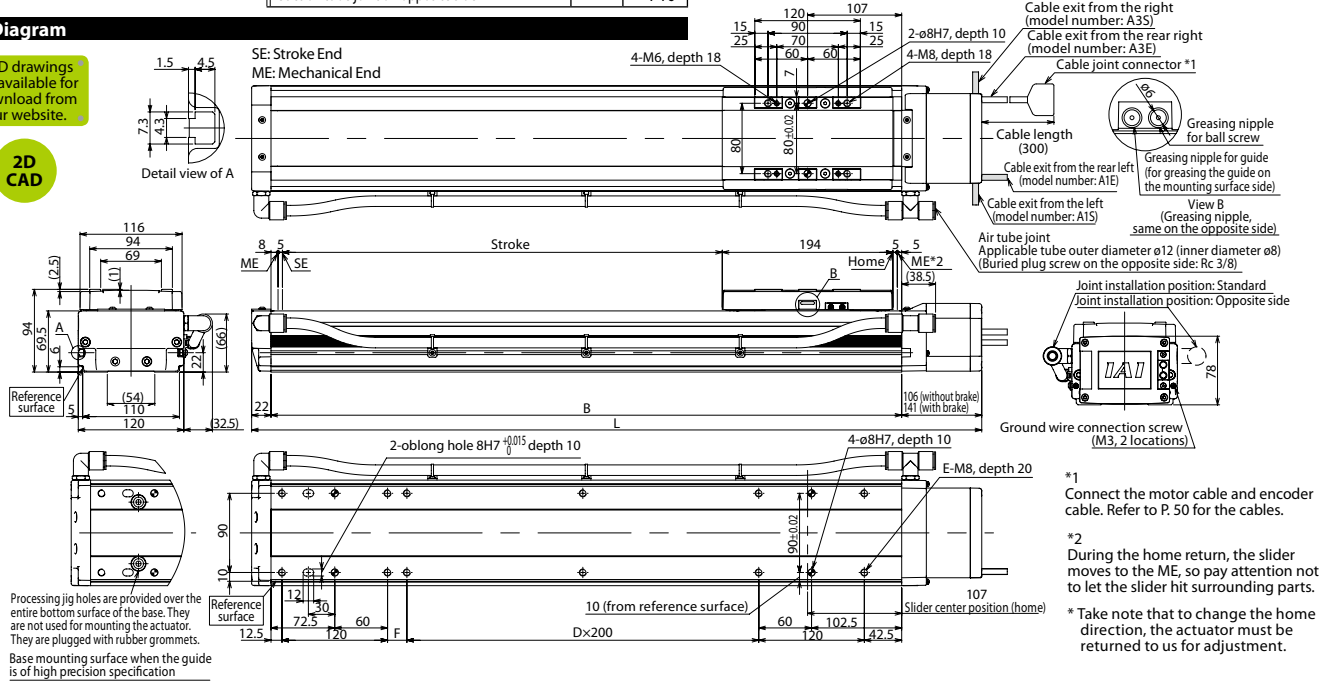
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw ø16mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 69.6N·m Mb: 99.0N·m Mc: 161.7N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Grease	Low dust-raising grease (for ball screw and guide)
Cleanliness degree	Class 10 (0.1µm per 1cf)
Suction tube joint	Quick connect joint, applicable tube outer diameter ø12mm

## Diagram

CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

\* If the brake is equipped, the mass increases by 0.4kg. \* The maximum speed (mm/s) varies depending on the stroke.

L	Stroke	Without brake											With brake										
		100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
L	without brake	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095	1145	1195	1245	1295	1345	1395	1445	
	with brake	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380	1430	1480	
B		317	367	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	
D		0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	
E		8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	
F		22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	
Mass (kg)		8.0	8.6	9.2	9.9	10.5	11.1	11.7	12.4	13.0	13.6	14.3	14.9	15.5	16.1	16.8	17.4	18.0	18.6	19.3	19.9	20.5	
	Lead 30						1800						1630	1440	1280	1150	1035	935	850	780	715	660	
	Lead 20						1200						1085	960	855	765	690	625	570	520	475	440	
	Lead 10						600						545	480	430	380	345	310	285	260	240	220	
Maximum speed (mm/s)							300						270	240	215	190	170	155	140	130	120	110	
	Lead 30						1800						1630	1440	1280	1150	1035	935	850	780	715	660	
	Lead 20						1200						1085	960	855	765	690	625	570	520	475	440	
	Lead 10						600						545	480	430	380	345	310	285	260	240	220	

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/Incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes		Positioner pulse train control	Single-phase 100/200 VAC	→P49
SCON	1 axis				→P49

**CAUTION**

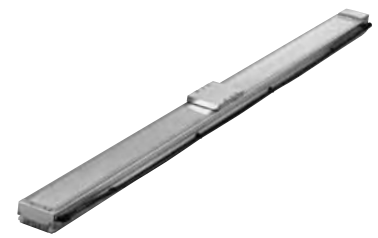
(Note 1) Refer to P. 7 for the relationship of acceleration and payload.  
(Notes 2, 3, 4) The values in [ ] apply to the ISPDBCR series. Other specification values apply commonly to the ISDBCR and ISPDBCR.  
(Note 5) When the traveling life is 10,000km.  
(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISDBCR-MX-200

Single-axis robot for cleanroom/Medium, mid-support type/Actuator width: 120mm/200 W Straight shape

# ISPDBCR-MX-200

Single-axis robot for cleanroom/Medium, mid-support type/Actuator width: 120mm/200W Straight shape **High precision specification**



Model Specification Items	Series	MX	Encoder type	200	Lead	Stroke	Applicable controller	Cable length	Options
	ISDBCR: Standard specification ISPDBCR: High precision specification	A: Absolute specification I: Incremental specification	200: 200W	30: 30mm 20: 20mm	800: 800mm 2000: 2000mm (in 100mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.	

\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 100mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)	Suction flow rate (Nℓ/min)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)			
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration		
ISDBCR[ISPDBCR]-MX-[1]-200-30-[2]-[3]-[4]-[5]	Absolute Incremental	200	30	800~2000	1~1800	0.4	Designed exclusively for horizontal use	30	Designed exclusively for horizontal use	113.9	180				
ISDBCR[ISPDBCR]-MX-[1]-200-20-[2]-[3]-[4]-[5]			20		1~1200	0.4		45		170.9	120				

\*In the above model numbers, [1] indicates the encoder type, [2] indicates the stroke, [3] indicates the applicable controller, [4] indicates the cable length, and [5] indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10
			Suction tube joint on opposite side	VR	→P10

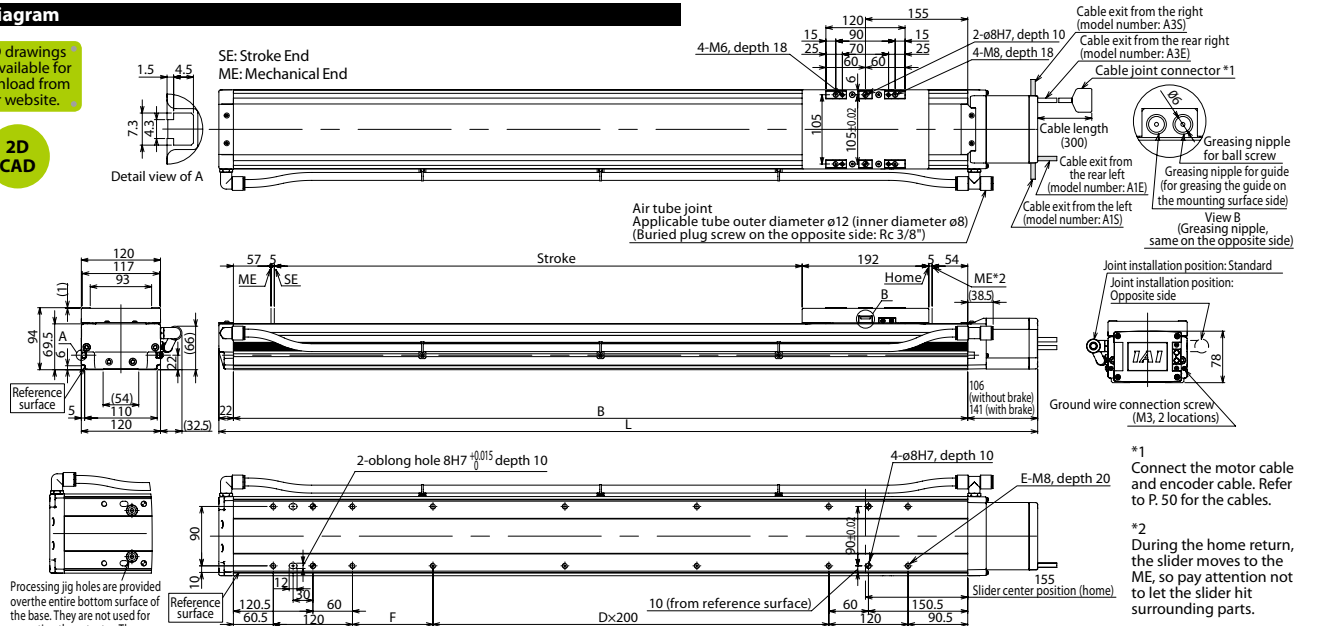
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screw ø16mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 69.6N·m Mb: 99.0N·m Mc: 161.7N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Grease	Low dust-raising grease (for ball screw and guide)
Cleanliness degree	Class 10 (0.1µm per 1cf)
Suction tube joint	Quick connect joint, applicable tube outer diameter ø12mm

## Diagram

CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	L										B			D			E			F																			
	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	3	4	5	6	7	8	9	14	16	18	20	22	22.2	22.3	23.6	24.9	26.2	27.4	28.7	30.0	31.3	32.5	33.8			
without brake	1241	1341	1441	1541	1641	1741	1841	1941	2041	2141	2241	2341	2441	3	4	5	6	7	8	9	14	16	18	20	22	22.2	22.3	23.6	24.9	26.2	27.4	28.7	30.0	31.3	32.5	33.8			
	1276	1376	1476	1576	1676	1776	1876	1976	2076	2176	2276	2376	2476	3	4	5	6	7	8	9	14	16	18	20	22	22.2	22.3	23.6	24.9	26.2	27.4	28.7	30.0	31.3	32.5	33.8			
with brake	1276	1376	1476	1576	1676	1776	1876	1976	2076	2176	2276	2376	2476	3	4	5	6	7	8	9	14	16	18	20	22	22.2	22.3	23.6	24.9	26.2	27.4	28.7	30.0	31.3	32.5	33.8			
Mass (kg)	18.5	19.8	21.0	22.3	23.6	24.9	26.2	27.4	28.7	30.0	31.3	32.5	33.8	18.5	19.8	21.0	22.3	23.6	24.9	26.2	27.4	28.7	30.0	31.3	32.5	33.8	18.5	19.8	21.0	22.3	23.6	24.9	26.2	27.4	28.7	30.0	31.3	32.5	33.8
Maximum speed (mm/s)	Lead 30		1800			1650			1500			1425			1200			1050			900			825			750			675									
	Lead 20		1200			1100			1000			950			800			700			600			550			500			450									

\*If the brake is equipped, the mass increases by 0.5kg. \*The maximum speed (mm/s) varies depending on the stroke.

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes			Single-phase 100/200 VAC	→P49
SCON	1 axis				Positioner pulse train control

(Note 1)	Refer to P. 7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPDBCR series. Other specification values apply commonly to the ISDBCR and ISPDBCR.
(Note 5)	The value of dynamic straightness is when the high straightness, precision specification (option) is specified.
(Note 6)	The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)
(Note 7)	

# ISDBCR-L-200

Single-axis robot for cleanroom/Large/Actuator width:  
150mm/200 W Straight shape

# ISPDBCR-L-200

Single-axis robot for cleanroom/Large/Actuator width:  
150mm/200W Straight shape **High precision specification**



Model Specification Items	Series	L	Encoder type	200	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	ISDBCR: Standard specification ISPDBCR: High precision specification	Type	A: Absolute specification I: Incremental specification	200: 200W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 1300: 1300mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.	

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)	Suction flow rate (Nl/min)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)**			
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration		
ISDBCR[ISPDBCR]-L-①-200-40-②-③-④-⑤	Absolute Incremental	200	40	100~1300	1~1800	0.4	1.0	0.4	1.0	15	7	2.5	2	85.5	180
ISDBCR[ISPDBCR]-L-①-200-20-②-③-④-⑤			20		1~1200	0.4	1.0	0.4	1.0	45	15	9	5	170.9	120
ISDBCR[ISPDBCR]-L-①-200-10-②-③-④-⑤			10		1~600	0.4	0.7	0.4	0.6	90	40	20	14	341.8	50

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).  
\*\*If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 1.0kg. (Please also refer to P.7).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10
			Suction tube joint on opposite side	VR	→P10

## Common Specifications

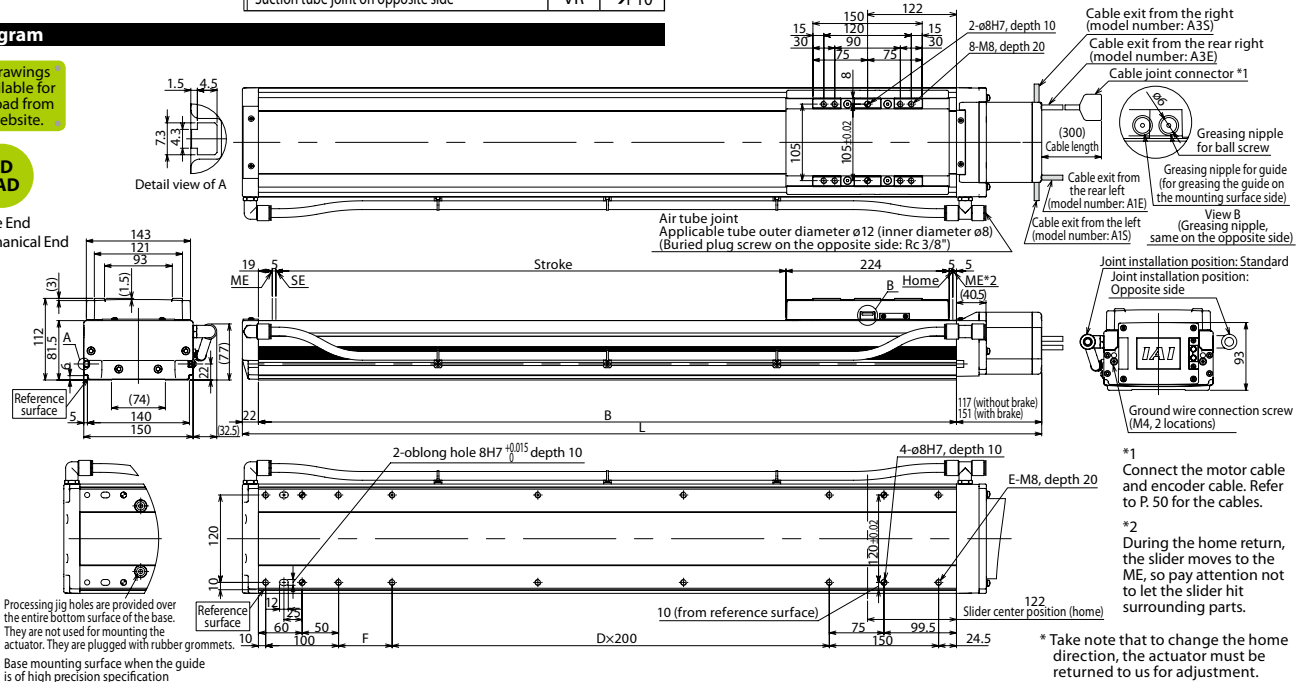
Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw ø20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 104.9N·m Mb: 149.9N·m Mc: 248.9N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Grease	Low dust-raising grease (for ball screw and guide)
Cleanliness degree	Class 10 (0.1µm per 1cf)
Suction tube joint	Quick connect joint, applicable tube outer diameter ø12mm

## Diagram

CAD drawings are available for download from our website.

## 2D CAD

SE: Stroke End  
ME: Mechanical End



## Dimensions, Mass and Maximum Speed by Stroke

\*If the brake is equipped, the mass increases by 0.5kg. \*The maximum speed (mm/s) varies depending on the stroke.

L	Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
	without brake	497	547	597	647	697	747	797	847	897	947	997	1047	1097	1147	1197	1247	1297	1347	1397	1447	1497	1547	1597	1647	1697
with brake	531	581	631	681	731	781	831	881	931	981	1031	1081	1131	1181	1231	1281	1331	1381	1431	1481	1531	1581	1631	1681	1731	
B	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358	1408	1458	1508	1558	
D	0	0	0	1	1	1	1	2	2	2	2	3	3	3	4	4	4	4	4	5	5	5	5	5	6	
E	0	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	16	18	18	18	18	20	
F	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	
Mass (kg)	11.9	12.7	13.6	14.4	15.3	16.2	17.0	17.9	18.7	19.6	20.4	21.3	22.1	23.0	23.9	24.7	25.6	26.4	27.3	28.1	29.0	29.8	30.7	31.5	32.4	
Maximum speed (mm/s)	Lead 40	1800											1700	1540	1410	1290	1185	1095	1015	940	875	815				
	Lead 20	1200											1165	1045	940	850	770	705	645	595	545	505	470	440	410	
	Lead 10	600											585	520	470	425	385	350	320	295	275	255	235	220	205	

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes				→P49
SCON	1 axis				Positioner pulse train control

**CAUTION**

(Note 1) Refer to P.7 for the relationship of acceleration and payload.  
(Notes 2, 3, 4) The values in [ ] apply to the ISPDBCR series. Other specification values apply commonly to the ISDBCR and ISPDBCR.  
(Note 5) When the traveling life is 10,000km.  
(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISDBCR-L-400

Single-axis robot for cleanroom/Large/Actuator width:  
150mm/400W Straight shape

# ISPDBCR-L-400

Single-axis robot for cleanroom/Large/Actuator width:  
150mm/400W Straight shape **High precision specification**



Model Specification Items	Series	L Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISDBCR: Standard specification ISPDBCR: High precision specification			A: Absolute specification I: Incremental specification	400: 400W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 1300: 1300mm (in 50mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)	Suction flow rate (N $\dot{L}$ /min)	
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)				
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration			
ISDBCR[ISPDBCR]-L-①-400-40-②-③-④-⑤	Absolute/Incremental	400	40	100~1300	1~1800	0.4	1.0	0.4	1.0	40	17	8	5	169.6	180	
0.4						1.0	0.4	1.0	90	30	20	10	339.1			120
0.4						0.7	0.4	0.6	120	60	40	30				

\*1.0G=9800mm/sec<sup>2</sup>

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10
			Suction tube joint on opposite side	VR	→P10

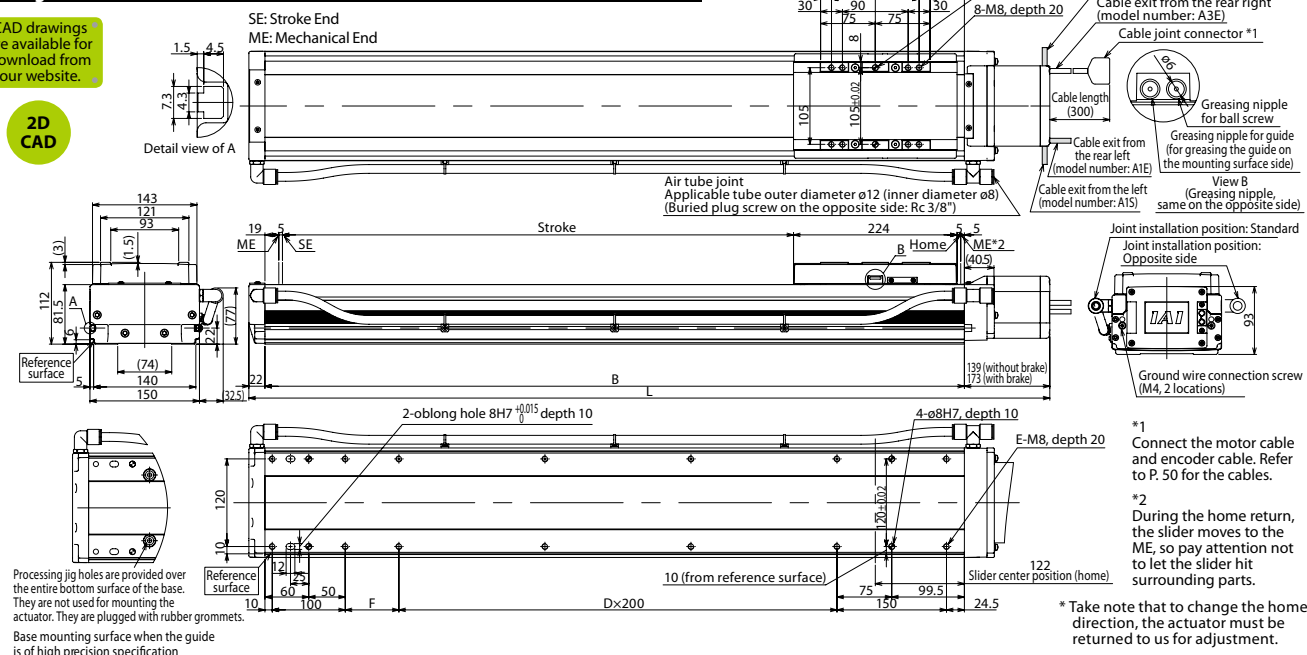
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screw $\phi$ 20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 104.9N·m Mb: 149.9N·m Mc: 248.9N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Grease	Low dust-raising grease (for ball screw and guide)
Cleanliness degree	Class 10 (0.1 $\mu$ m per 1cf)
Suction tube joint	Quick connect joint, applicable tube outer diameter $\phi$ 12mm

## Diagram

CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	L																		D																		E																		F																																																																																																																																																																																												
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300																																																																																																																																															
without brake	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169	1219	1269	1319	1369	1419	1469	1519	1569	1619	1669	1719	553	603	653	703	753	803	853	903	953	1003	1053	1103	1153	1203	1253	1303	1353	1403	1453	1503	1553	1603	1653	1703	1753	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358	1408	1458	1508	1558	0	0	0	1	1	1	1	1	2	2	2	2	3	3	3	4	4	4	4	4	4	5	5	5	6	6	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	16	18	18	18	18	20	20	73.5	123.5	173.5	223.5	273.5	323.5	373.5	423.5	473.5	523.5	573.5	623.5	673.5	723.5	773.5	823.5	873.5	923.5	973.5	1023.5	1073.5	1123.5	1173.5	1223.5	1273.5	1323.5	12.3	13.1	14.0	14.8	15.7	16.6	17.4	18.3	19.1	20.0	20.8	21.7	22.5	23.4	24.3	25.1	26.0	26.8	27.7	28.5	29.4	30.2	31.1	31.9	32.8	Lead 40	1800																		Lead 20	1165	1045	940	850	770	705	645	595	545	505	470	440	410	Lead 10	600																		585	520	470	425	385	350	320	295	275	255	235	220	205

\*If the brake is equipped, the mass increases by 0.5kg. \*The maximum speed (mm/s) varies depending on the stroke.

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/Incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P49
SSEL	2 axes			→P49	
SCON	1 axis			Positioner pulse train control	Single-phase 200 VAC

(Note 1)	Refer to P.7 for the relationship of acceleration and payload. The values in [ ] apply to the ISPDBCR series. Other specification values apply commonly to the ISDBCR and ISPDBCR.
(Note 2, 3, 4)	
(Note 5)	The value of dynamic straightness is when the high straightness, precision specification (option) is specified.
(Note 6)	
(Note 7)	The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISDBCR-LX-200

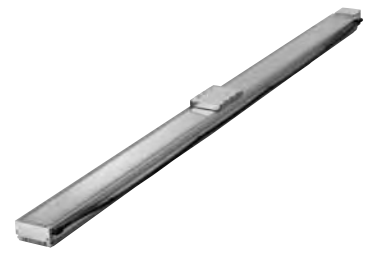
Single-axis robot for cleanroom/Large, mid-support type/Actuator width: 150mm/200W Straight shape

# ISPDBCR-LX-200

Single-axis robot for cleanroom/Large, mid-support type/Actuator width: 150mm/200W Straight shape **High precision specification**

## Model Specification Items

Series	LX	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISDBCR: Standard specification ISPDBCR: High precision specification		A: Absolute specification I: Incremental specification	200: 200W	40: 40mm 20: 20mm	1000: 1000mm 2500: 2500mm (in 100mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.



\* Refer to P. 8 for the details of items comprising the model number.

## Model Number/Specification

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 100mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)		Rated thrust (N)	Suction flow rate (Nℓ/min)		
						Horizontal (G)		Vertical (G)		Horizontal (kg)				Vertical (kg)	
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration			Rated acceleration	Maximum acceleration
ISDBCR[ISPDBCR]-LX-①-200-40-②-③-④-⑤	Absolute	200	40	1000~2500	1~1800	0.4		Designed exclusively for horizontal use		15		85.5	180		
ISDBCR[ISPDBCR]-LX-①-200-20-②-③-④-⑤	Incremental		20		1~1200	0.4				45		170.9	120		

\* In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10
			Suction tube joint on opposite side	VR	→P10

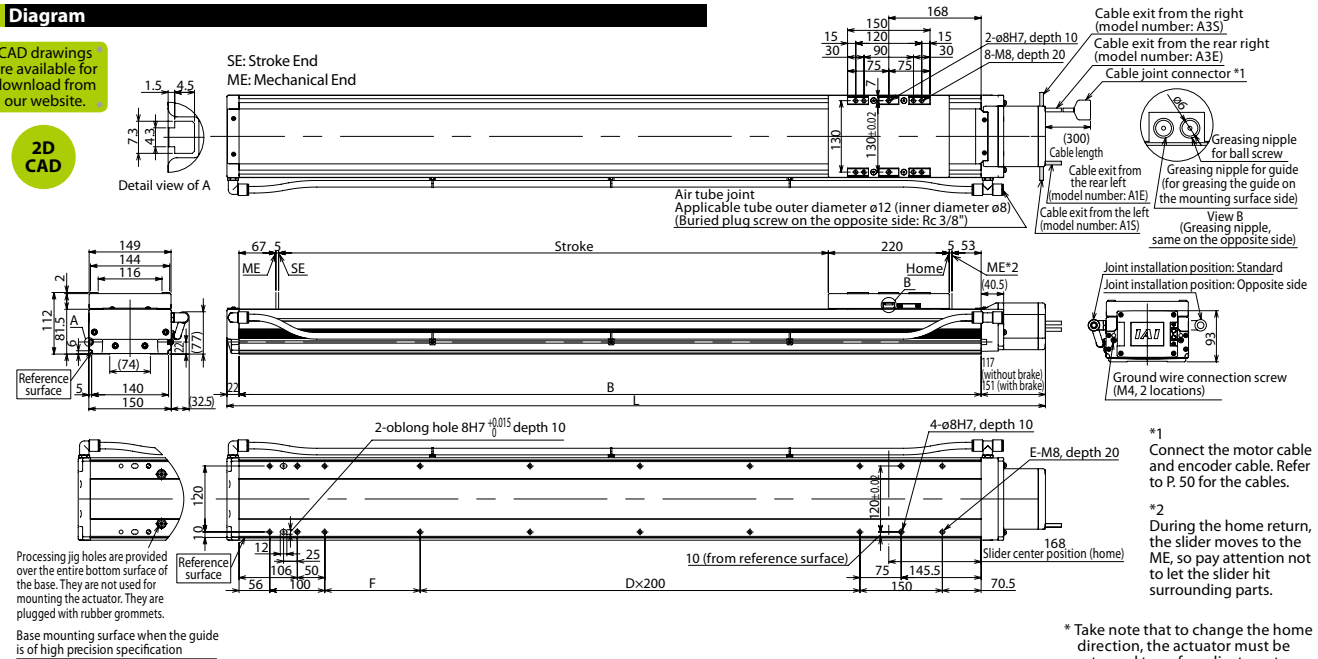
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm (±0.005mm)
Drive method (Note 3)	Ball screw ø20mm, rolled C10 (equivalent to rolled C5)
Lost Motion (Note 4)	0.05mm (0.02mm) max.
Dynamic allowable load moment (Note 5)	Ma: 104.9N·m Mb: 149.9N·m Mc: 248.9N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□□: Specified length
Grease	Low dust-raising grease (for ball screw and guide)
Cleanliness degree	Class 10 (0.1µm per 1cf)
Suction tube joint	Quick connect joint, applicable tube outer diameter ø12mm

## Diagram

CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

Stroke	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	
L	without brake	1489	1589	1689	1789	1889	1989	2089	2189	2289	2389	2489	2589	2689	2789	2889	2989
	with brake	1523	1623	1723	1823	1923	2023	2123	2223	2323	2423	2523	2623	2723	2823	2923	3023
B	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850	
D	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	
E	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	
F	173.5	73.5	173.5	73.5	173.5	73.5	173.5	73.5	173.5	73.5	173.5	73.5	173.5	73.5	173.5	73.5	
Mass (kg)	29.8	31.5	33.2	35.0	36.7	38.4	40.2	41.9	43.6	45.4	47.1	48.8	50.6	52.3	54.0	55.8	
Maximum speed (mm/s)	Lead 40	1800															
	Lead 20	1200		1150	1000	950	830	740	650	590	540	490	440	410	370	340	

\*If the brake is equipped, the mass increases by 0.5kg. \*The maximum speed (mm/s) varies depending on the stroke.

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes				→P49
SSEL	2 axes				→P49
SCON	1 axis				→P49
			Positioner pulse train control		→P49



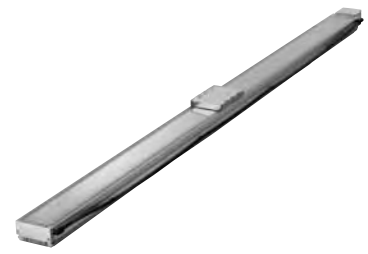
(Note 1) Refer to P. 7 for the relationship of acceleration and payload.  
(Notes 2, 3, 4) The values in [ ] apply to the ISPDBCR series. Other specification values apply commonly to the ISDBCR and ISPDBCR.  
(Note 5) When the traveling life is 10,000km.  
(Note 6) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.  
(Note 7) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)

# ISDBCR-LX-400

Single-axis robot for cleanroom/Large, mid-support type/Actuator width: 150mm/400W Straight shape

# ISPDBCR-LX-400

Single-axis robot for cleanroom/Large, mid-support type/Actuator width: 150mm/400W Straight shape **High precision specification**



Model Specification Items	Series	LX	Encoder type	400	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	ISDBCR: Standard specification ISPDBCR: High precision specification	A: Absolute specification I: Incremental specification	400: 400W	40: 40mm 20: 20mm	1000: 1000mm 2500: 2500mm (in 100mm increments)	T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q	N: None S: 3m M: 5m X□: Specified length	Refer to the options table below.		

\* Refer to P.8 for the details of items comprising the model number.

## Model Number/Specification

\*1.0G=9800mm/sec<sup>2</sup>

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 100mm increments (mm)	Speed (mm/s)	Acceleration (Note 1)				Payload (Note 1)				Rated thrust (N)	Suction flow rate (Nℓ/min)
						Horizontal (G)		Vertical (G)		Horizontal (kg)		Vertical (kg)			
						Rated	Maximum	Rated	Maximum	Rated acceleration	Maximum acceleration	Rated acceleration	Maximum acceleration		
ISDBCR[ISPDBCR]-LX-①-400-40-②-③-④-⑤	Absolute Incremental	400	40	1000~2500	1~1800	0.4	Designed exclusively for horizontal use	40	Designed exclusively for horizontal use	169.6	180				
ISDBCR[ISPDBCR]-LX-①-400-20-②-③-④-⑤			20			0.4		90		339.1		120			

\*In the above model numbers, ① indicates the encoder type, ② indicates the stroke, ③ indicates the applicable controller, ④ indicates the cable length, and ⑤ indicates the option(s).

## Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P9	Home limit switch	L	→P9
Cable exit from the rear left	A1E	→P9	Home limit switch on opposite side	LL	→P9
Cable exit from the right	A3S	→P9	Non-motor side specification	NM	→P9
Cable exit from the rear right	A3E	→P9	Guide with ball retention mechanism	RT	→P9
AQ seal (standard feature)	AQ	→P9	Master axis specification	LM	→P10
Brake	B	→P9	Master axis specification (sensor on opposite side)	LLM	→P10
Creep sensor	C	→P9	Slave axis specification	S	→P10
Creep sensor on opposite side	CL	→P9	High straightness, precision specification	ST	→P10
			Suction tube joint on opposite side	VR	→P10

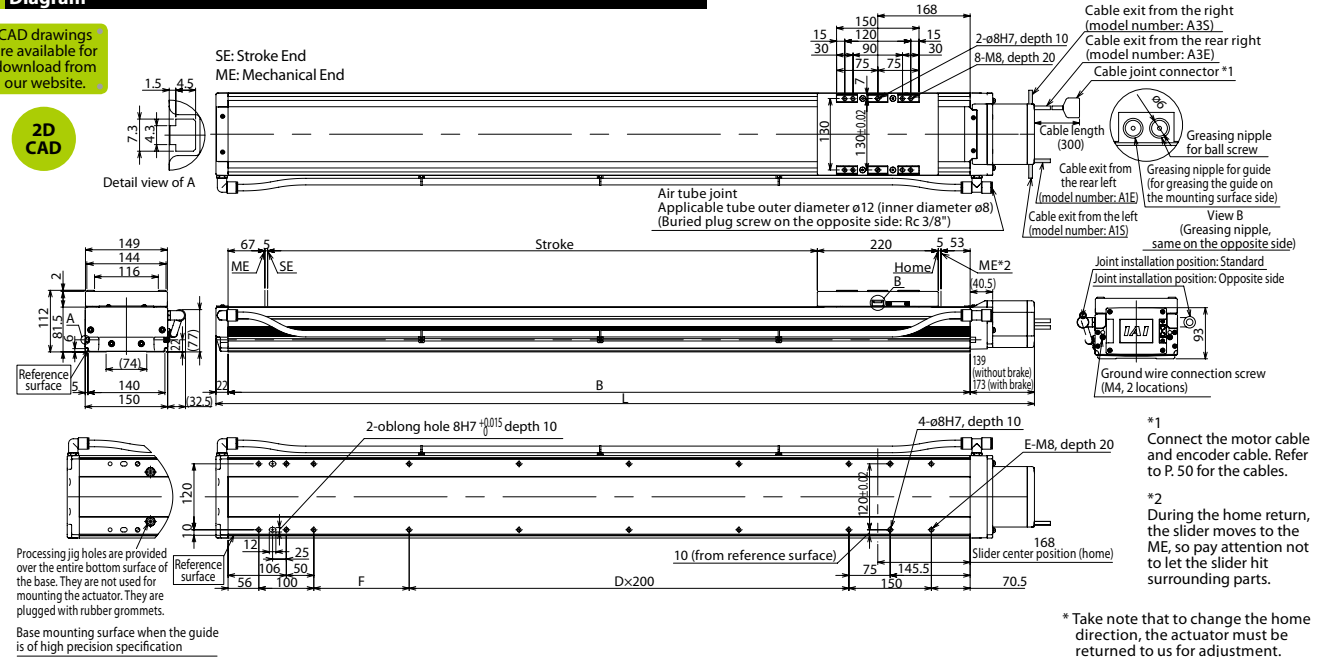
## Common Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw ø20mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 104.9N·m Mb: 149.9N·m Mc: 248.9N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max.
Dynamic straightness (Note 6)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Applicable controller	T1: XSEL-J/K T2: XSEL-P/Q, SSEL, SCON
Cable length (Note 7)	N: None, S: 3m, M: 5m, X□: Specified length
Grease	Low dust-raising grease (for ball screw and guide)
Cleanliness degree	Class 10 (0.1µm per 1cf)
Suction tube joint	Quick connect joint, applicable tube outer diameter ø12mm

## Diagram

CAD drawings are available for download from our website.

2D CAD



## Dimensions, Mass and Maximum Speed by Stroke

\*If the brake is equipped, the mass increases by 0.5kg. \*The maximum speed (mm/s) varies depending on the stroke.

Stroke	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	
L	without brake	1511	1611	1711	1811	1911	2011	2111	2211	2311	2411	2511	2611	2711	2811	2911	3011
	with brake	1545	1645	1745	1845	1945	2045	2145	2245	2345	2445	2545	2645	2745	2845	2945	3045
B	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850	
D	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	
E	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	
F	173.5	73.5	173.5	73.5	173.5	73.5	173.5	73.5	173.5	73.5	173.5	73.5	173.5	73.5	173.5	73.5	
Mass (kg)	30.2	31.9	33.6	35.4	37.1	38.8	40.6	42.3	44.0	45.8	47.5	49.2	51.0	52.7	54.4	56.2	
Maximum speed (mm/s)	Lead 40	1800															
	Lead 20	1200															
			1150	1000	950	830	740	650	590	540	490	440	410	370	340		

## Applicable Controller Specifications

Applicable Controller	Maximum number of controlled axes	Connectable encoder type	Operating method	Power-supply voltage	Reference page
X-SEL-P/Q	6 axes	Absolute/ incremental	Program	Single/three-phase 200 VAC	→P49
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P49
SSEL	2 axes			→P49	
SCON	1 axis			Positioner pulse train control	Single-phase 200 VAC

**CAUTION**

(Note 1) Refer to P.7 for the relationship of acceleration and payload. (Notes 2, 3, 4) The values in [ ] apply to the ISPDBCR series. Other specification values apply commonly to the ISDBCR and ISPDBCR.

(Note 5) The value of dynamic straightness is when the high straightness, precision specification (option) is specified.

(Note 6) The maximum cable length is 30m. Specify a desired length in meters. (Example. X08 = 8m)





(Note 7)





The ISB/ISPB/SSPA/ISDB/ISPDB/ISDBCR/ISPBCR/SSPDACR can be operated with the following controllers.

Select a controller that meets the specifications of your equipment. \*For details, refer to the ROBO Cylinder General Catalog.

	Controller series/type	SCON	SSEL	XSEL	
				J/K type	P/Q type
Base specifications	External view				
	Features	<ul style="list-style-type: none"> <li>A positioner controller supporting up to 512 positioning points</li> <li>For control modes, the pulse-train input mode is supported in addition to the positioner mode.</li> </ul>	<ul style="list-style-type: none"> <li>A program controller capable of 2-axis interpolation operation.</li> <li>Offering excellent cost performance, although scalability is lower than XSEL controllers.</li> </ul>	<ul style="list-style-type: none"> <li>A high-function controller capable of interpolation operation involving up to 4 axes.</li> <li>Can be operated on 100 VAC.</li> </ul>	<ul style="list-style-type: none"> <li>A high-function controller capable of interpolation operation involving up to 6 axes.</li> <li>Actuators of a total wattage of 2400W can be connected.</li> </ul>
	Power capacity	60W/186VA 100W/282VA 200W/469VA 400W/844VA 750W/1569VA	60W/198VA 100W/294VA 200W/481VA 400W/856VA 750W/1581VA <small>(The above assumes a 1-axis specification.)</small>	The specifications vary. Contact IAI for details.	
	Input power supply	Single-phase 100 VAC Single-phase 200 VAC	Single-phase 100 VAC Single-phase 200 VAC	Single-phase 100 VAC Single-phase 200 VAC	Single-phase 200 VAC Three-phase 200 VAC
	Operating power-supply voltage range	±10%			
	Control specifications	Total maximum output of connected axes (W)	200W (100-V power-supply specification) 750W (200-V power-supply specification)	400W (100-V power-supply specification) 800W (200-V power-supply specification)	400W (XSEL-J, single-phase, 100 V) 800W (XSEL-K, single-phase, 100 V)
Maximum number of controlled axes		1 axis	2 axes	4 axes	6 axes
Position detection method		Incremental encoder/Absolute encoder			
Operation method		Positioner operation Pulse-train control	Program operation Positioner operation (switchable)	Program operation	
Program	Program language	—	Super SEL language		
	Number of programs	—	128	64	128
	Number of program steps	—	9,999	6,000	9,999
	Number of multi-task programs	—	8	16	16
	Number of positions	512 max.	20,000	3,000	20,000
	Data input devices (optional)	Teaching pendant Model number: CON-PT/CON-T RCM-E/RCM-P  PC software Model number: RCM-101-MW (for RS232 communication) RCM-101-USB (for USB communication)	Teaching pendant Model number: SEL-T-J SEL-TD-J IA-T-X-J IA-T-XD-J  PC software Model number: IA-101-X-MW-J (for RS232 communication) IA-101-X-USB (for USB communication)	Teaching pendant Model number: IA-T-X/XD SEL-TG (for both XSEL-J/K) SEL-T/TD (for XSEL-K)  PC software Model number: IA-101-X-MW (for RS232 communication) IA-101-X-USBMW (for USB communication)	Teaching pendant Model number: SEL-T/TD/TG IA-T-X/XD  PC software Model number: IA-101-X-MW IA-101-X-USBMW (for XSEL-P) Model: IA-101-XA-MW (for XSEL-Q)
Inputs/Outputs and communication	Standard inputs/outputs	16 input points/16 output points (NPN/PNP selectable)	24 input points/8 output points (NPN/PNP selectable)	32 input points/16 output points (NPN/PNP selectable)	
	Extended inputs/outputs	Not supported		Total 80 input/output points (XSEL-J) Total 336 input/output points (XSEL-K)	Total 384 input/output points
	Field network	DeviceNet, CC-Link, ProfiBus		DeviceNet, CC-Link, ProfiBus, Ethernet	
Ambient	Ambient operating temperature/humidity	0 to 40°C 10 to 95% (non-condensing)			
	Operating ambience	There shall be no corrosive gases or excessive powder dust.			
	External dimensions	58 (W) x 200.5 (H) x 121 (D) (200W or less) 72 (W) x 200.5 (H) x 121 (D) (400W or more)	100 (W) x 202.6 (H) x 126 (D) (when the absolute battery installed)	159.4 (W) x 195 (H) x 125.3 (D) (XSEL-J, 1-axis specification) 369.4 (W) x 195 (H) x 125.3 (D) (XSEL-K, 1-axis, 2-axes specification)	265 (W) x 195 (H) x 125.3 (D) (XSEL-P, 1-axis specification) 222 (W) x 195 (H) x 125.3 (D) (XSEL-Q, 1-axis specification)
	Mass	0.8 to 1.1 kg	1.4kg	2.6 to 5.0 kg (XSEL-J) 6.0 to 7.0 kg (XSEL-K)	5.2 to 5.7 kg (XSEL-P) 4.5 to 5.0 kg (XSEL-Q)
	Accessories	I/O flat cable (40 cores)	I/O flat cable (34 cores)	I/O flat cable (50 cores)	

■ When the SCON controller is connected

**Note** The regenerative resistance unit may be required depending on the actuator used. For details, refer to the ROBO Cylinder General Catalog.

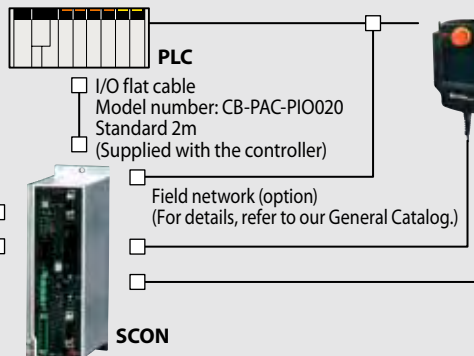


Actuator

Motor cable  
Model number: CB-X-MA□□□□  
(Supplied with the actuator)

Encoder cable  
Model number: CB-X1-PA□□□□  
(for standard specification)  
Model number: CB-X1-PLA□□□□  
(for sensor specification)  
(Supplied with the actuator)

**Main power** Single-phase 100 VAC  
Single-phase 200 VAC



\* Be sure to use a noise filter on the power supply.  
(For the recommended models, refer to the ROBO Cylinder General Catalog.)

**Teaching pendant (optional)**  
Model: CON-PT-M  
Model: CON-T  
Model: RCM-E  
Model: RCM-P



**PC software (optional)**  
RS232 connection version  
Model number: RCM-101-MW  
USB connection version  
Model number: RCM-101-USB

■ When the SSEL controller is connected

**Note** The regenerative resistance unit may be required depending on the actuator used. For details, refer to the ROBO Cylinder General Catalog.

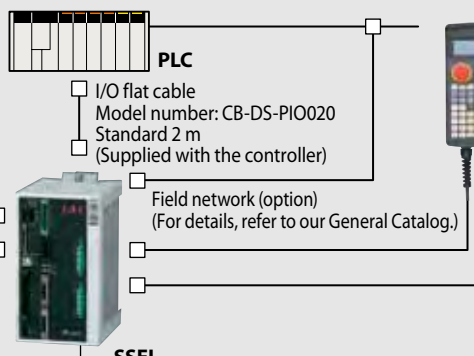


Actuator

Motor cable  
Model number: CB-X-MA□□□□  
(Supplied with the actuator)

Encoder cable  
Model number: CB-X1-PA□□□□  
(for standard specification)  
Model number: CB-X1-PLA□□□□  
(for sensor specification)  
(Supplied with the actuator)

**Main power** Single-phase 100 VAC  
Single-phase 200 VAC



\* Be sure to use a noise filter on the power supply.  
(For the recommended models, refer to the ROBO Cylinder General Catalog.)

**Teaching pendant (optional)**  
Model: SEL-T-J  
Model: SEL-TD-J  
Model: IA-T-X-J  
Model: IA-T-XD-J



**PC software (optional)**  
RS232 connection version  
Model number: IA-101-X-MW-J  
USB connection version  
Model number: IA-101-X-USB

■ When the XSEL-J/K controller is connected

**Note** The regenerative resistance unit may be required depending on the actuator used. For details, refer to the ROBO Cylinder General Catalog.



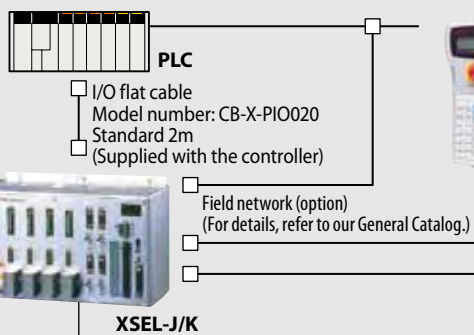
Actuator

Motor cable  
Model number: CB-X-MA□□□□  
(Supplied with the actuator)

Encoder cable  
Model number: CB-X-PA□□□□  
(Supplied with the actuator)

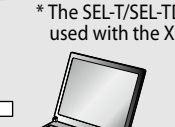
Limit switch cable  
Model number: CB-X-LC□□□□ (for sensor specification)  
(Supplied with the actuator)

**Main power** Single-phase 100 VAC  
Single-phase 200 VAC



\* Be sure to use a noise filter on the power supply.  
(For the recommended models, refer to the ROBO Cylinder General Catalog.)

**Teaching pendant (optional)**  
Model number: IA-T-X  
Model number: IA-T-XD  
Model number: SEL-T  
Model number: SEL-TD  
Model number: SEL-TG  
\* The SEL-T/SEL-TD cannot be used with the XSEL-J.



**PC software (optional)**  
RS232 connection version  
Model number: IA-101-X-MW  
USB connection version  
Model number: IA-101-X-USBMW

■ When the XSEL-P/Q controller is connected

**Note** The regenerative resistance unit may be required depending on the actuator used. For details, refer to the ROBO Cylinder General Catalog.



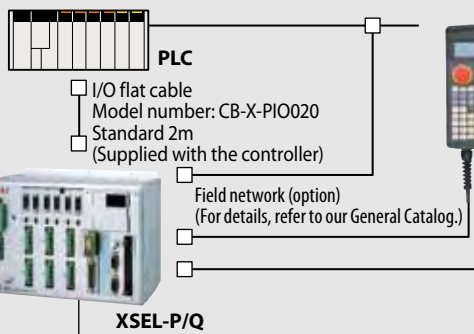
Actuator

Motor cable  
Model number: CB-X-MA□□□□  
(Supplied with the actuator)

Encoder cable  
Model number: CB-X1-PA□□□□  
(Supplied with the actuator)

Encoder cable with limit switch wiring  
Model number: CB-X1-PLA□□□□ (for sensor specification)  
(Supplied with the actuator)

**Main power** Single-phase 200 VAC  
Three-phase 200 VAC



\* Be sure to use a noise filter on the power supply.  
(For the recommended models, refer to the ROBO Cylinder General Catalog.)

**Teaching pendant (optional)**  
Model number: SEL-T  
Model number: SEL-TD  
Model number: SEL-TG  
Model number: IA-T-X  
Model number: IA-T-XD



**PC software (optional)**  
RS232 connection version  
Model number: IA-101-X-MW  
Model number: IA-101-XA-MW (for XSEL-Q)  
USB connection version  
Model number: IA-101-X-USBMW

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