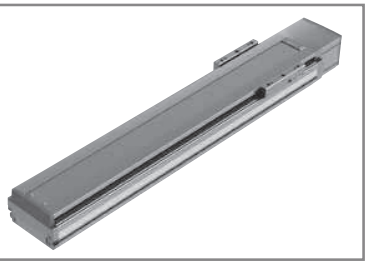
ISB-MXL-100

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	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
ISB: Standard specification ISPB: High precision specification	MXL	A: Absolute specification I: Incremental specification	100: 100W	30: 30mm 20: 20mm 10: 10mm 5 : 5mm	120: 120mm 〜 1070: 1070mm (in 50 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. 10 for the details of items comprising the model number.

Model Number/Specification

*1.0G=9800mm/sec²

Model number	Encoder type	Motor output (W)	Lead (mm)	Stroke in 50mm increments (mm)	Speed (mm/s)	Acceleration (Note 1) Horizontal (G) Rated	Acceleration (Note 1) Horizontal (G) Maximum	Acceleration (Note 1) Vertical (G) Rated	Acceleration (Note 1) Vertical (G) Maximum	Payload (Note 1) Horizontal (kg) Rated acceleration	Payload (Note 1) Horizontal (kg) Maximum acceleration	Payload (Note 1) Vertical (kg) Rated acceleration	Payload (Note 1) Vertical (kg) Maximum acceleration	Rated thrust (N)
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	A1S	→P11	Home limit switch	L	→P11
Cable exit from the rear left	A1E	→P11	Home limit switch on the opposite side	LL	→P11
Cable exit from the right	A3S	→P11	Master axis specification	LM	→P12
Cable exit from the rear right	A3E	→P11	Master axis specification (sensor on the opposite side)	LLM	→P12
AQ seal (standard feature)	AQ	→P11	Non-motor side specification	NM	→P12
Brake	B	→P11	Slave axis specification	S	→P12
Creep sensor	C	→P11	High straightness, precision specification	ST	→P13
Creep sensor on the opposite side	CL	→P11			

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: 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)

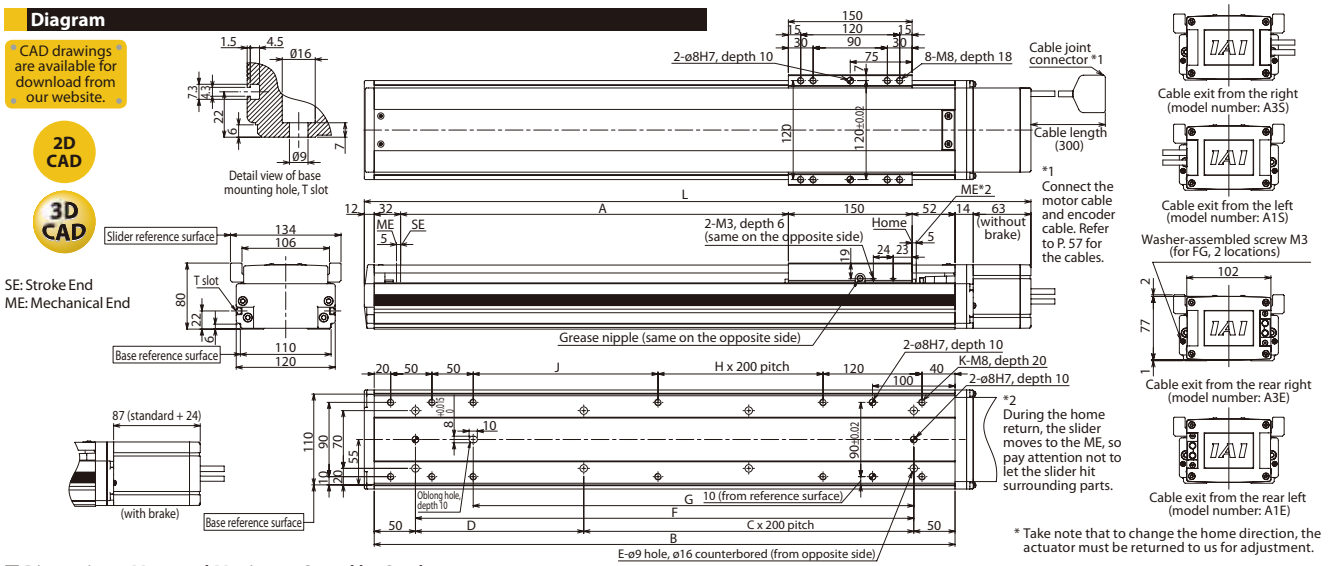
Diagram

CAD drawings are available for download from our website.

2D CAD

3D 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

*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	→P56
X-SEL-J/K	4 axes			Single-phase 100/200 VAC	→P56
SSEL	2 axes				→P56
SCON	1 axis		Positioner pulse train control		→P56

CAUTION

(Note 1) Refer to P. 9 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)