

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/400 W Straight shape **High precision specification**



Model Specification Items

Series	L	Encoder type	400	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 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)				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-①-400-40-②-③-④-⑤	Absolute Incremental	400	40	100~1300	1~1800	0.4	1.0	0.4	1.0	40	17	8	5	169.6	180
ISDBCR[ISPDBCR]-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	120
ISDBCR[ISPDBCR]-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	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).

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	Guide with ball retention mechanism	RT	→P12
Creep sensor	C	→P11	Slave axis specification	S	→P12
Creep sensor on the opposite side	CL	→P11	High straightness, precision specification	ST	→P13
			Suction tube joint on the opposite side	VR	→P12

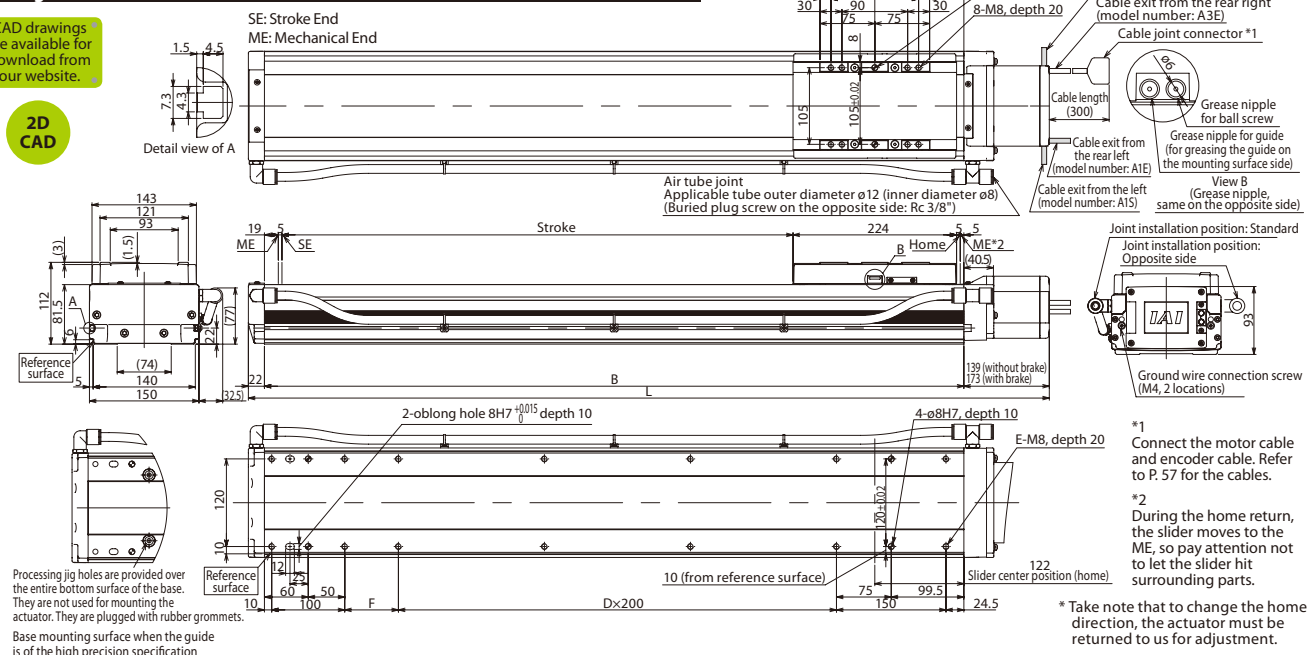
Common Specifications

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	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
L	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
		358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358	1408	1458	1508
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	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	20	20
F	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
Mass (kg)	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
Maximum speed (mm/s)	Lead 40	1800											1165	1045	940	850	770	705	645	595	545	505	470	440	410
	Lead 20	1200											785	700	630	570	520	480	445	415	385	355	325	295	265
	Lead 10	600											390	345	310	280	255	235	215	195	175	155	135	115	95

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			Single-phase 200 VAC	→P56
SCON	1 axis		Positioner pulse train control	Single-phase 200 VAC	→P56



(Note 1) Refer to P. 9 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)