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: □ — S — □ — 60 — □ — □ — □ — □ — □ — □

Series	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	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. 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 (N ℓ/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.9).

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

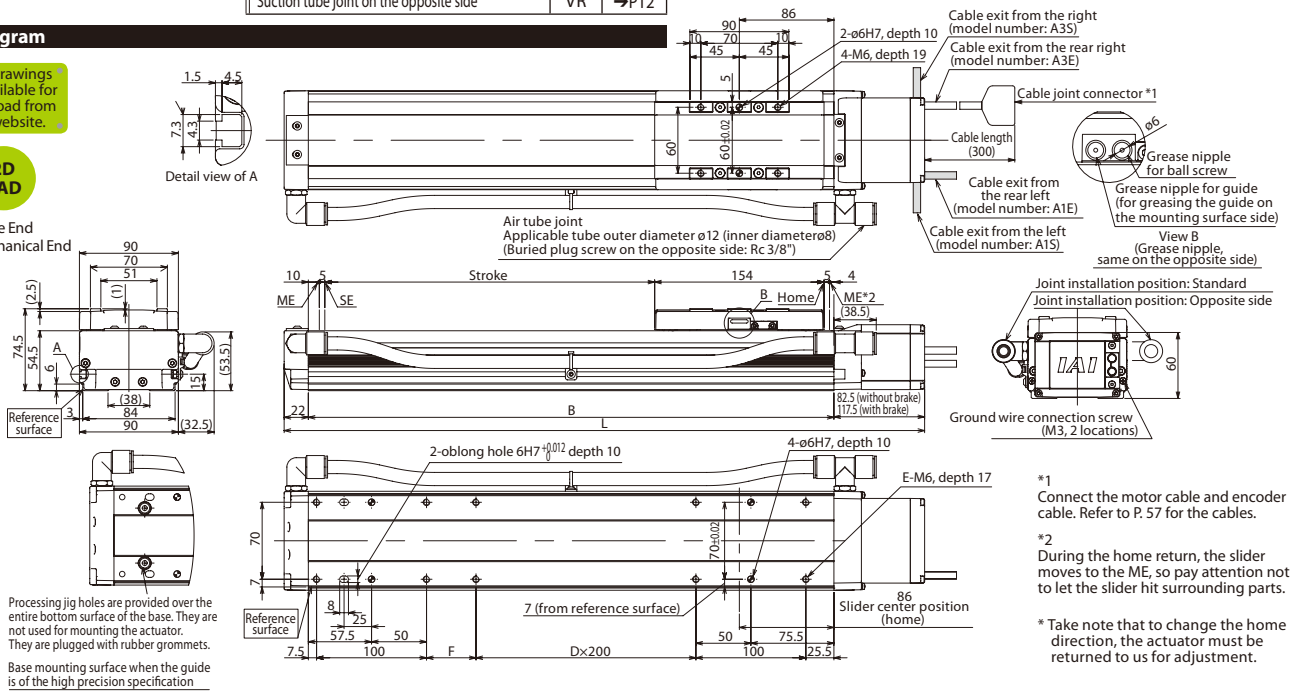
Positioning repeatability (Note 2)	±0.01mm [±0.005mm]
Drive method (Note 3)	Ball screw ø12mm, rolled C10 [equivalent to rolled C5]
Lost Motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (Note 5)	Ma: 28.4N•m Mb: 40.2N•m Mc: 65.7N•m
Overhang load length	Ma direction: 450mm max. Mb, Mc 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 the high precision specification

*1
Connect the motor cable and encoder cable. Refer to P. 57 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	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
	with brake	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
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	→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 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)