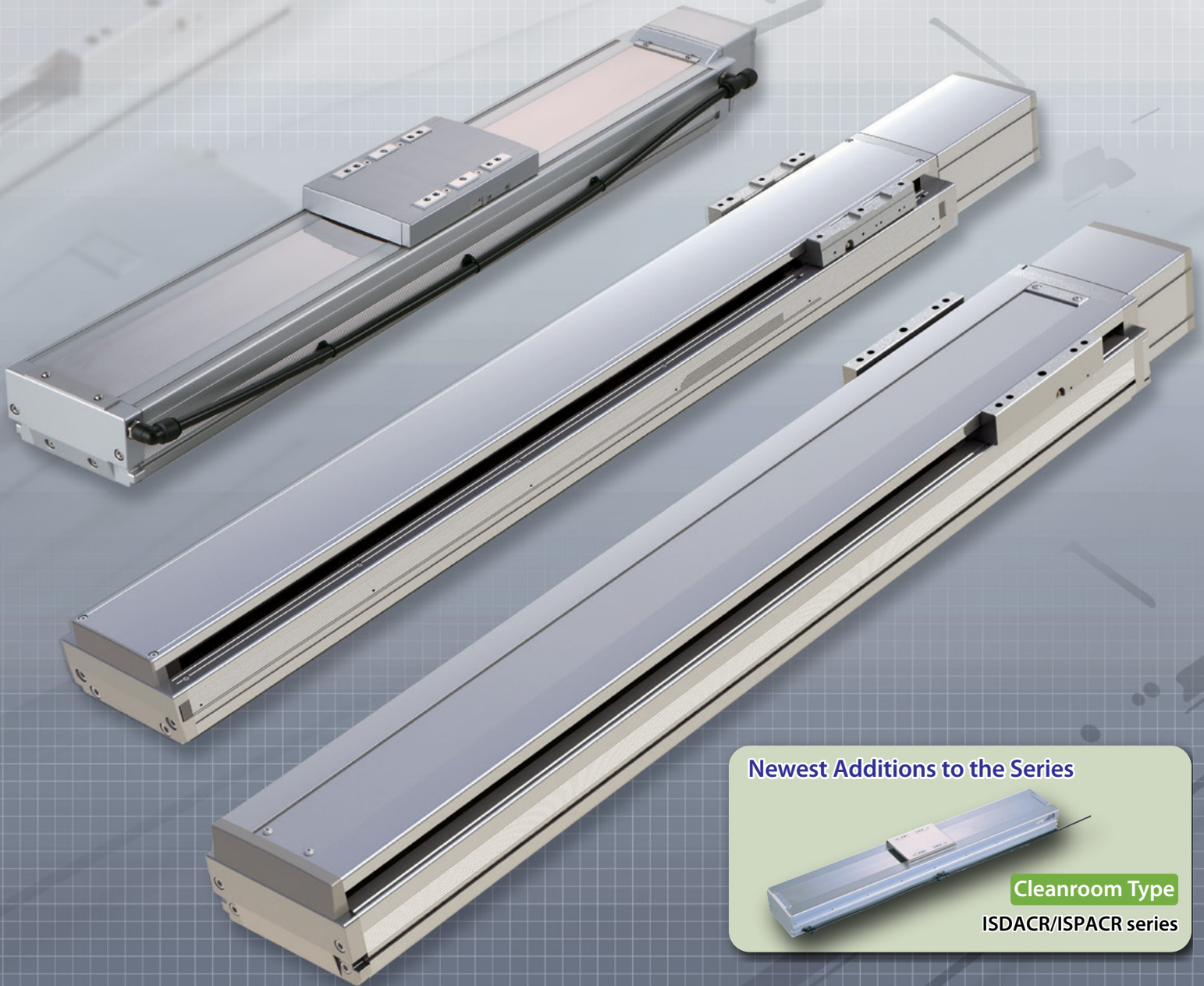


IS Cast

Single-axis Robot

ISB/SSPA Series

ISB / ISPB / SSPA / ISDB / ISPDB / ISDBCR / ISPDBCR
SSPDACR / ISDACR / ISPDACR / ISBCR / ISPDBCR



Newest Additions to the Series



Cleanroom Type

ISDACR/ISPACR series

www.intelligentactuator.com

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

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.

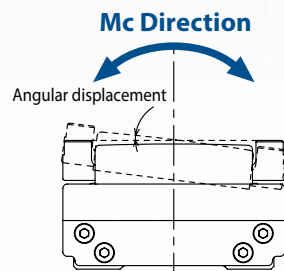
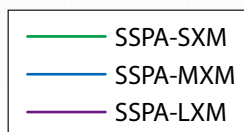
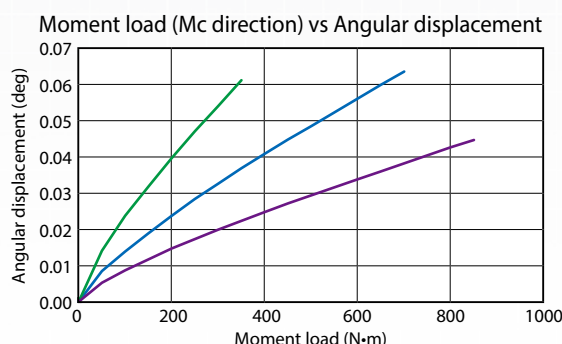
	Conventional product	ISB series
• Standard specification	± 0.02 mm	± 0.01 mm
• High-precision specification	± 0.01 mm	± 0.005 mm

- 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. 12 for details.

2. Improved rigidity

- The SSPA series is an iron base type. It has more than twice the allowable moment in the Mc direction in comparison to the old model of the same size.



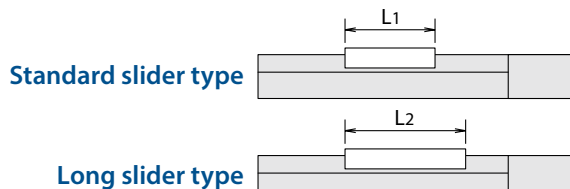
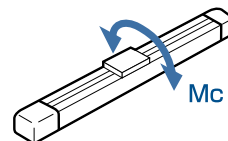
Allowable Mc is more than twice than the old model.

[Comparison between the large iron base type (SSPA-LXM) and the old model]

- 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 payload and Mc-direction rigidity	
Iron-base type SSPA-LXM	Conventional product
Compact size with a cross-section area of just 60%	Extra-large type ISA-WXM

- The long slider type has a longer slider compared to the standard model. Compared to the old model of the same size, the allowable Mc is increased by 10 to 20%. *Long slider type is only for the ISB/ISPB series.



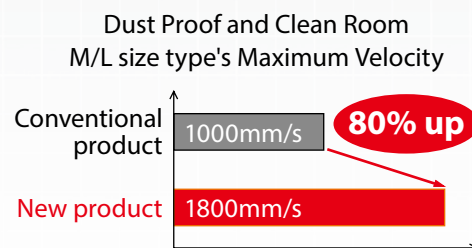
Type	Standard slider (L1)	Long slider (L2)
Small S	90mm	110mm
Medium M	120mm	150mm
Large L	150mm	180mm

3. Medium and small types have been added to the iron base series (IS Cast:SSPA/SSPDACR)



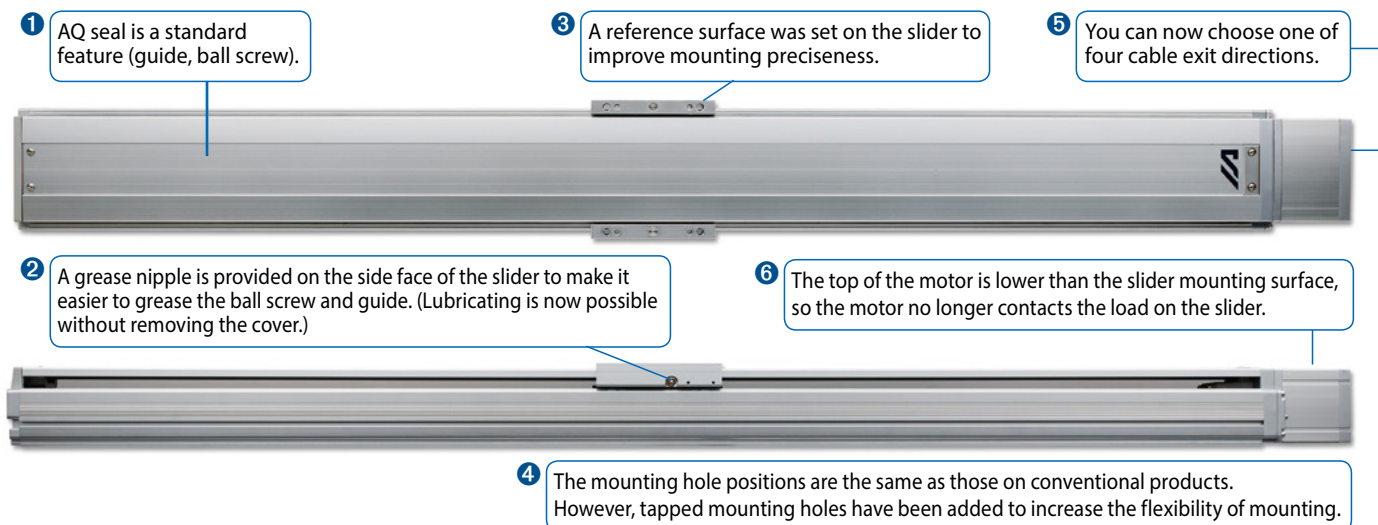
4. Performance Upgrade (note) Specifications will vary depending on the model and lead.

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



5. 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.



ISB/ISPB

High Precision Type	page
ISB/ISPB-SXM-60	18
ISB-SXM-100	19
ISB/ISPB-SXL-60	20
ISB-SXL-100	21
ISB/ISPB-MXM-100	22
ISB/ISPB-MXM-200	23
ISB-MXM-400	24
ISB/ISPB-MXL-100	25
ISB/ISPB-MXL-200	26
ISB-MXL-400	27
ISB/ISPB-MXXM-200	28
ISB-MXXM-400	29
ISB/ISPB-LXM-200	30
ISB/ISPB-LXM-400	31
ISB/ISPB-LXL-200	32
ISB/ISPB-LXL-400	33
ISB/ISPB-LXXM-200	34
ISB/ISPB-LXXM-400	35
ISB/ISPB-LXUWX-200	36
ISB/ISPB-LXUWX-400	37

SSPA

High Rigidity type	page
SSPA-SXM-200	38
SSPA-MXM-400	39
SSPA-LXM-750	40

ISDB/ISPDB

Simple, Dustproof Type	page
ISDB/ISPDB-S-60	42
ISDB-S-100	43
ISDB/ISPDB-M-100	44
ISDB/ISPDB-M-200	45
ISDB-M-400	46
ISDB/ISPDB-MX-200	47
ISDB-MX-400	48
ISDB/ISPDB-L-200	49
ISDB/ISPDB-L-400	50
ISDB/ISPDB-LX-200	51
ISDB/ISPDB-LX-400	52

Cleanroom Specification

ISDBCR/ISPDBCR

High Precision Type	page
ISDBCR/ISPDBCR-S	54
ISDBCR/ISPDBCR-M-100	55
ISDBCR/ISPDBCR-M-200	56
ISDBCR/ISPDBCR-MX-200	57
ISDBCR/ISPDBCR-L-200	58
ISDBCR/ISPDBCR-L-400	59
ISDBCR/ISPDBCR-LX-200	60
ISDBCR/ISPDBCR-LX-400	61

SSPDACR

Small High Rigidity type	page
SSPDACR-S-200	62
SSPDACR-M-400	63
SSPDACR-L-750	64

ISDACR/ISPDACR

Standard type	page
ISDACR/ISPDACR-W-600	65
ISDACR/ISPDACR-W-750	66
ISDACR/ISPDACR-WX-600	67
ISDACR/ISPDACR-WX-750	68

ISDBCR/ISPDBCR

Electric Static protection type	page
ISDBCR/ISPDBCR-S-□□□-ESD	69
ISDBCR/ISPDBCR-M-□□□-ESD	70
ISDBCR/ISPDBCR-L-□□□-ESD	71

Product Stratification List

Slider type

Series	Stroke (mm) / Maximum speed (mm/s)																							Lead (mm)	Payload (kg)		Encoder type	Controller Input Power	Model number	Page
	100~500 mm	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	↔	↕							
ISB ISPB	960 655 515 415																							16	13	3.5	WA	☑100V ☑200V	ISB(ISPB)-SXM	18
	480 330 260 210																							8	27	7				
	240 165 130 100																							4	55	14				
	1100~2160 2000 1520 1190 960 790 660																							36	10	2			ISB-SXM-100	19
	960 655 515 415																							16	13	3.5			ISB(ISPB)-SXL	20
	480 330 260 210																							8	27	7				
	240 165 130 100																							4	55	14				
	1425~2160 1740 1340 1065 865 660																							36	10	2			ISB-SXL-100	21
	1800 1290 1045 860 690																							30	15	2.5			ISB(ISPB)-MXM-100	22
	1200 860 695 570 460																							20	23	5				
	600 430 345 280 230																							10	45	10				
	300 215 170 140 115																							5	85	20				
	1800 1290 1045 860 690																							30	15	2.5			ISB(ISPB)-MXL-100	25
	1200 860 695 570 460																							20	23	5				
	600 430 345 280 230																							10	45	10				
	300 215 170 140 115																							5	85	20				
	1800 1290 1045 860 690																							30	30	6			ISB(ISPB)-MXM-200	23
	1200 860 695 570 460																							20	45	10				
	600 430 345 280 230																							10	90	20				
	300 215 170 140 115																							5	110	40				
	1800 1290 1045 860 690																							30	30	6			ISB(ISPB)-MXL-200	26
	1200 860 695 570 460																							20	45	10				
	600 430 345 280 230																							10	90	20				
	300 215 170 140 115																							5	110	40				
	1800 1650 1500 1425 1200 1050 900 825 750 675																							30	30	—			ISB(ISPB)-MXMX-200	28
	1200 1100 1000 950 800 700 600 550 500 450																							20	45	—				
	1025~2500 2030 1645 1365 1150 980 845																							48	20	6			ISB-MXM-400	24
	1325~2500 2030 1645 1365 1150 980 845																							48	20	6			ISB-MXL-400	27
	1700 1800 1900 2000 2100 2200 1925 1690 1495 1335 1195 1080 980																							48	20	—			ISB-MXMX-400	29
	2400 1840 1530 1290 1100 880																							40	15	4			ISB(ISPB)-LXM-200	30
	1200 920 765 645 550 440																							20	45	10				
	600 460 380 320 270 220																							10	90	20				
2400 1840 1530 1290 1100 880																							40	15	4	ISB(ISPB)-LXL-200	32			
1200 920 765 645 550 440																							20	45	10					
600 460 380 320 270 220																							10	90	20					
2400 1840 1530 1290 1100 880																							40	40	10	ISB(ISPB)-LXM-400	31			
1200 920 765 645 550 440																							20	90	20					
600 460 380 320 270 220																							10	120	40					
2400 1840 1530 1290 1100 880																							40	40	10	ISB(ISPB)-LXL-400	33			
1200 920 765 645 550 440																							20	90	20					
600 460 380 320 270 220																							10	120	40					
1200 1150 1000 950 830 740 650 590 540 490 440 410 370 340																							20	45	—	ISB(ISPB)-LXMX-200	34			
2400 2300 2000 1900 1660 1480 1300 1180 1080 980 880 820 740 680																							40	40	—	ISB(ISPB)-LXMX-400	35			
1200 1150 1000 950 830 740 650 590 540 490 440 410 370 340																							20	90	—	ISB(ISPB)-LXUWX-200	36			
1200 1150 1000 950 830 740 650 590 540 490 440 410 370 340																							20	45	—	ISB(ISPB)-LXUWX-400	37			
2400 2300 2000 1900 1660 1480 1300 1180 1080 980 880 820 740 680																							40	40	—					
1200 1150 1000 950 830 740 650 590 540 490 440 410 370 340																							20	90	—					

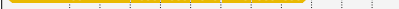
* The value of payload is when operating at rated acceleration.

WA = Battery-less absolute

⚡ = AC power

Product Stratification List

Slider type

Series		Stroke (mm) / Maximum speed (mm/s)																								Lead (mm)	Payload (kg)		Encoder type	Controller Input Power	Model number	Page	
		100~500 mm	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500											
SSPA			1800	1480	1180	960	790	670																			30	30	4			SSPA-SXM-200	38
			1200	990	780	640	530	440																			20	45	6				
			600	490	390	320	260	220																			10	90	12				
			2400	1930	1580	1320	1120	960	830																		40	45	6				
			1200	960	790	660	560	480	410																	20	90	12			SSPA-MXM-400	39	
			600	480	390	330	280	240	200																	10	120	25					
			2500	2320	1950	1660	1440	1250	1100																	50	60	12					
			1250	1160	970	830	720	620	550																	25	120	25				SSPA-LXM-750	40

* The value of payload is when operating at rated acceleration.



= Incremental



= Absolute



= AC power

Slider type

Series	Stroke (mm) / Maximum speed (mm/s)																	Lead (mm)	Payload (kg)		Encoder type	Controller Input Power	Model number	Page				
	100~500 mm	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700 ~ 2000	2100 ~ 2500	3000													
ISDB ISPDB	960	795	610	480														16	13	3				ISDB(ISPDB)-S	42			
	480	400	305	240														8	27	6								
	240	200	150	120														4	55	14								
	1075~2000	1825	1400	1105														36	10	20			ISDB-S-100			43		
	1800	1440	1150	935	780	660												30	15	2				ISDB(ISPDB)-M-100	44			
	1200	960	765	625	520	440												20	23	4								
	600	480	380	310	260	220												10	45	10								
	300	240	190	155	130	110												5	85	20								
	1800	1440	1150	935	780	660												30	30	6				ISDB(ISPDB)-M-200	45			
	1200	960	765	625	520	440												20	45	10								
	600	480	380	310	260	220												10	90	20								
	300	240	190	155	130	110												5	110	40								
	980~2200	1920	1570	1305	1105														48	20	6				ISDB-M-400	46		
																			30	30	—							
																			20	45	—							
																			48	20	—							
		1800				1540	1290	1095	940	815									40	15	2.5				ISDB(ISPDB)-L-200	49		
		1200	1165	940	770	645	545	470	410										20	45	9							
		600	585	470	385	320	275	235	205										10	90	20							
		1800				1540	1290	1095	940	815									40	40	8							
		1200	1165	940	770	645	545	470	410										20	90	20				ISDB(ISPDB)-L-400	50		
		600	585	470	385	320	275	235	205										10	120	40							
																			40	15	—						ISDB(ISPDB)-LX-200	51
																			20	45	—							
																			40	40	—				ISDB(ISPDB)-LX-400	52		
																			20	90	—							

* The value of payload is when operating at rated acceleration.

* The stroke and the maximum speed of the ZR unit are the speed of the z axis.
The inside of () of payload is for acceleration / deceleration 0.1G.



= Battery-less Absolute



= AC power

Cleanroom Specification

Series	Stroke (mm) / Maximum speed (mm/s)	Lead (mm)	Payload (kg)		Encoder type	Controller Input Power	Model number	Page
			↔	↕				
ISDBCR ISPDBCR	100-500 mm	16	13	3			IS(P)DBCR-S	54
	960 795 610 480	8	27	6			IS(P)DBCR-M-100	55
	480 400 305 240	4	55	14				
	240 200 150 120	30	15	2				
	1800 1440 1150 935 780 660	20	23	4			IS(P)DBCR-M-200	56
	1200 960 765 625 520 440	10	45	10				
	600 480 380 310 260 220	5	85	20				
	300 240 190 155 130 110	30	30	6				
	1800 1440 1150 935 780 660	20	45	10			IS(P)DBCR-MX-200	57
	1200 960 765 625 520 440	10	90	20				
	600 480 380 310 260 220	5	110	40				
	300 240 190 155 130 110	30	30	—	WA	100V 200V		
	1800 1650 1500 1425 1200 1050 900 825 750 675	20	45	—			IS(P)DBCR-L-200	58
	1200 1100 1000 950 800 700 600 550 500 450	40	15	2.5				
	1800 1540 1290 1095 940 815	20	45	9				
	1200 1165 940 770 645 545 470 410	10	90	20			IS(P)DBCR-L-400	59
	600 585 470 385 320 275 235 205	40	40	8				
	1800 1540 1290 1095 940 815	20	90	20				
	1200 1165 940 770 645 545 470 410	10	120	40			IS(P)DBCR-LX-200	60
	600 585 470 385 320 275 235 205	40	15	—				
	1800 1660 1480 1300 1180 1080 980 880 820 740 680	20	45	—				
	1200 1150 1000 950 830 740 650 590 540 490 440 410 370 340	40	40	—			IS(P)DBCR-LX-400	61
	1800 1660 1480 1300 1180 1080 980 880 820 740 680	20	90	—				
	1200 1150 1000 950 830 740 650 590 540 490 440 410 370 340							
ISDBCR -ESD ISPDBCR -ESD	100-500 mm	16	13	3			IS(P)DBCR-S-60 -ESD	69
	960 795 610 480	8	27	6			IS(P)DBCR-M-100 -ESD	70
	480 400 305 240	4	55	14				
	240 200 150 120	30	15	2				
	1800 1440 1150 935 780 660	20	23	4			IS(P)DBCR-M-200 -ESD	71
	1200 960 765 625 520 440	10	45	10				
	600 480 380 310 260 220	5	85	20				
	300 240 190 155 130 110	30	30	6				
	1800 1440 1150 935 780 660	20	45	10	WA	100V 200V	IS(P)DBCR-L-200 -ESD	71
	1200 960 765 625 520 440	10	90	20				
	600 480 380 310 260 220	5	110	40				
	300 240 190 155 130 110	40	15	2.5				
	1800 1540 1290 1095 940 815	20	45	9			IS(P)DBCR-L-400 -ESD	71
	1200 1165 940 770 645 545 470 410	10	90	20				
	600 585 470 385 320 275 235 205	40	40	8				
	1800 1540 1290 1095 940 815	20	90	20				
	1200 1165 940 770 645 545 470 410	10	120	40			SSPDACR-S-200 -ESD	62
	600 585 470 385 320 275 235 205	30	30	4				
	1800 1290 1040 860 720 610	20	45	6				
	1100 1090 880 690 570 480 400	10	90	12				
SSPDACR	600 540 430 340 280 240 200	40	45	6	I A	100V 200V	SSPDACR-M-400 -ESD	63
	1800 1410 1180 1010 880 760	20	90	12			SSPDACR-L-750 -ESD	64
	1100 1040 850 700 590 500 440 380	10	120	25				
	600 520 420 350 290 250 220 190	50	60	12				
	1800 1550 1340 1170 1040	25	120	25				
	1100 1060 900 770 670 580 520							

* The value of payload is when operating at rated acceleration.

I = Incremental

A = Absolute

WA = Battery-less Absolute

⚡ = AC power

Cleanroom Specification

Series	Stroke (mm) / Maximum speed (mm/s)	Lead (mm)	Payload (kg)		Encoder type	Controller Input Power	Model number	Page
			↔	↕				
ISDACR ISPDACR	100 mm	40	60	14			IS(P)DACR-W-600	65
	2000 1965 1605 1335 1130 970 840	20	120	29			IS(P)DACR-W-750	66
	1000 980 800 665 565 485 420	10	150	60				
	500 480 400 330 280 240 210	50	60	14				
	2000 1780 1525 1320	25	120	29	I A	100V 200V	IS(P)DACR-WX-600	67
	1250 1050 880 760 660	40	60	—				
	2000 1965 1725 1530 1365 1005 915 655	20	120	—				
	1000 980 860 765 680 500 455 325	50	60	—				
	2000 2000 1580 1440 035	25	120	—			IS(P)DACR-WX-750	68
	1250 1200 1075 790 720 515							

* The value of payload is when operating at rated acceleration.

I = Incremental

A = Absolute

⚡ = AC power

Table of Payload by Acceleration

ISB/ISPB/SSPA Series

Acceleration (G)					Payload Acceleration (kg)																																																
					Horizontal use																Vertical use																																
Series	Type	Motor (W)	Lead (mm)	Maximum speed (mm/s)	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	4.5	1.6	1.7	1.8	1.9	2.0	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6															
ISB ISPB Ball screw high precision specification	SXM SXL	60	16	960	13	13	13	10.5	8.5	7	6	5.5	4.5	4	3.5										3.5	3.5	3.5	3	2.6	2.3	2																						
			8	480	27	27	27	20	15	12																7	7	7	6	5																							
			4	240	55	50	38	30																			14	13	12																								
		100	36	2160			10.0	9.0	8.2	7.5	6.7	6.0	5.5	5.0	4.5	4.3	4.1	4.0	3.9	3.8	3.7	3.6	3.5				2	2	2	2	2	2	2	2	2	2	2	2	2	2													
	MXM MXL	100	30	1800	15	15	15	11	9	7	6	5	4	3.5	3										2.5	2.5	2.5	2.2	1.9	1.7	1.5	1.4	1.2	1.1	1																		
			20	1200	23	23	23	18	15	13	11	9	8	7	6										5	5	5	4.5	4	3.5	3	2.8	2.5																				
			10	600	45	45	45	30	23	20																10	10	10	8	7																							
			5	300	85	80	60	45																		20	17	15																									
		200	30	1800	30	30	30	24	20	17	15	13	12	10	9											6	6	6	5.5	5	4.5	4	3.5	3	2.5	2																	
			20	1200	45	45	45	35	28	23	20	17	15	13	12											10	10	10	8.5	7.5	7	6	5.5	5																			
			10	600	90	90	90	66	51	40																20	20	20	17	15																							
			5	300	110	100	90	80																		40	34	30																									
		400	48	2500			30.0	19.1	18.2	17.3	16.4	15.5	14.6	13.8	13.0	12.6	12.2	11.8	11.4	11.0	10.8	10.4	10.0				6	6	6	6	6	6	6	6	6	6	6	6	6	6													
		MXMX	200	30	1800	30	30	30																		Can not be used vertically																											
				20	1200	45	45	45																																													
				400	48	2200		20.0																																													
	LXM LXL	200	40	2400	15	15	15	12	10.5	9	8	7.5	7	6.5	6										4	4	4	3.5	3.1	2.8	2.5	2.2	2	1.8	1.6																		
			20	1200	45	45	45	35	28	23	20	17	15	13	12										10	10	10	8.5	7.5	7	6	5.5	5																				
			10	600	90	90	90	66	51	40															20	20	20	16	14																								
		400	40	2400	40	40	40	32	27	23	21	19	17	16	15										10	10	10	8.5	7.5	7	6	5.5	5	4.5	4																		
			20	1200	90	90	90	70	57	47	40	35	30	27	24										20	20	20	17	15	14	12	11	10																				
			10	600	120	120	120	92	73	60															40	40	40	34	30																								
	LXMX	200	20	1200	45	45	45																		Can not be used vertically																												
			40	2400	40	40	40																																														
			400	20	1200	90	90	90																																													
	LXUWX	200	20	1200	45	45	45																	Can not be used vertically																													
			40	2400	40	40	40																																														
			400	20	1200	90	90	90																																													
SSPA IS cast Iron Base High rigidity specification	SXM	200	30	1800	30	30	30	24	20	17	15	13	12	11	10																								4	4	4	3.2	2.7	2	1.7	1.4	1.2	1					
			20	1200	45	45	45	36	30	26	22.5	19.5	17																											6	6	6	4.8	4	3.4	3	2.7	2.4					
			10	600	90	90	90	72	60	50																														12	12	12	10	8									
	MXM	400	40	2400	45	45	45	36	30	25.5	2.5	19.5	17	15	13.5										6	6	6	4.8	4	3.4	3	2.7	2.4	2.2	2																		
			20	1200	90	90	90	72	60	51	45	39	34												12	12	12	9.6	8	6.9	6	5.3	4.8																				
			10	600	120	120	120	96	80	70															25	25	25	20	16.5																								
LXM	750	50	2500	60	60	60	48	40	34	30	27	24	22	20										12	12	12	10	8	7	6	5	5	4	4																			
		25	1250	120	120	120	96	80	69	60	53	48	44	40											25	25	25	20	17	14	13	11	10	9	8																		

* The actuator can not be operated under the conditions in shaded boxes

Acceleration (G)					Payload Acceleration (kg)																																												
					Horizontal use																		Vertical use																										
Series	Type	Motor (W)	Lead (mm)	Maximum speed (mm/s)	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	4.5	1.6	1.7	1.8	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6													
ISDB ISPDB Ball screw simple Dustproof type	S	60	16	960	13	13	13	10.5	8.5	7	6	5.5	4.5									3	3	3	2.8	2.5	2.3	2																					
			8	480	27	27	27	20	15	12													6	6	6	5.5	5																						
			4	240	55	50	38	30															14	13	12																								
		100	36	2000			10.0	9.0	8.1	7.2	6.3	5.4	4.5	4.3	4.1	4.0	3.9	3.8	3.7	3.6	3.5			2	2	2	2	2	2	2	2	2	2	2	2	2													
	M	100	30	1800	15	15	15	11	9	7	6	5	4										2	2	2	1.8	1.6	1.5	1.4	1.3	1.2																		
			20	1200	23	23	23	18	15	13	11	9	8										4	4	4	3.8	3.5	3.3	3	2.8	2.5																		
			10	600	45	45	45	30	23	20													10	10	10	8	7																						
			5	300	85	80	60	45															20	17	15																								
		200	30	1800	30	30	30	24	20	17	15	13	12										6	6	6	5.5	5	4.5	4	3.5	3																		
			20	1200	45	45	45	35	28	23	20	18	16										10	10	10	8.5	7.5	7	6	5.5	5																		
			10	600	90	90	90	66	51	40													20	20	20	17	15																						
			5	300	110	100	90	80															40	34	30																								
		400	48	2200			20.0	18.8	17.6	16.4	15.2	14.0	13.0	12.6	12.2	11.8	11.4	11.0	10.6	10.3	10.0			6	6	6	6	6	6	6	6	6	6	6	6	6													
		MX	200	30	1800	30	30	30															Can not be used vertically																										
				20	1200	45	45	45																																									
			400	48	2200			20.0																																									
	L	200	40	1800	15	15	15	12	10.5	9	8	7.5	7										2.5	2.5	2.5	2.4	2.3	2.2	2.1	2	2																		
			20	1200	45	45	45	35	28	23	20	17	15										9	9	9	8.5	7.5	7	6	5.5	5																		
			10	600	90	90	90	66	51	40													20	20	20	16	14																						
		400	40	1800	40	40	40	32	27	23	21	19	17										8	8	8	7.5	7	6.5	6	5.5	5																		
			20	1200	90	90	90	70	57	47	40	35	30										20	20	20	17	15	14	12	11	10																		
			10	600	120	120	120	92	73	60													40	40	40	35	30																						
	LX	200	40	1800	15	15	15															Can not be used vertically																											
			20	1200	45	45	45																																										
		400	40	1800	40	40	40																																										
			20	1200	90	90	90																																										
ISDACR ISPDACR Cleanroom type	W	600	40	2000	60	60	45	36	30	26	22	20	18									14	14	12	10	8	6.7	6.1	5.6	5																			
			20	1000	120	120	91	72	60	52	45	40	36										29	29	26	23	20	17.5	15																				
			10	500	150	150	112	90	75														60	60	50	40																							
		750	50	2000	60	60	45	36	30	25	22	20	18										14	14	12	10	8	6.7	6.1	5.6	5																		
			25	1250	120	120	91	72	60	52	45	40	36										29	29	26	23	20	17.5	15																				
SSPDACR	S	200	30	1600	30	30	30	24	20	17	15	13	12	11	10							4	4	4	3.2	2.7	2.3	2	1.7	1.4	1.2	1																	
			20	1100	45	45	45	36	30	26	22.5	19.5	17										6	6	6	4.8	4	3.4	3	2.7	2.4																		
			10	600	90	90	90	72	60	50													12	12	12	10	8																						
	M	400	40	1600	45	45	45	36	30	25.5	22.5	19.5	17	15	13.5							6	6	6	4.8	4	3.4	3	2.7	2.4	2.2	2																	
			20	1100	90	90	90	72	60	51	45	39	34										12	12	12	9.6	8	6.9	6	5.3	4.8																		
			10	600	120	120	120	96	80	70													25	25	25	20	16.5																						
	L	750	50	1600	60	60	60	48	40	34	30	27	24	22	20							12	12	12	10	8	7	6	5	5	4	4																	
			25	1100	120	120	120	96	80	69	60	53	48	44	40								25	25	25	20	17	14	13	11	10	9	8																

* The actuator can not be operated under the conditions in shaded boxes

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

● Standard type

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

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

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).

ISB	Aluminum base, standard specification
ISPB	Aluminum base, high precision specification
SSPA	Iron base, high precision specification

WA	Battery-less absolute type
A	Absolute type
I	Incremental type

(Note)

SXM	Small, X-axis, standard type
SXL	Small, X-axis, long slider type
MXM	Medium, X-axis, standard 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

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

4	4mm
5	5mm
8	8mm
10	10mm
16	16mm
20	20mm
25	25mm
30	30mm
36	36mm
40	40mm
48	48mm
50	50mm

* The selectable leads vary depending on the model.

100	100mm
?	?
2500	2500mm

* Varies depending on the model.

SCON	
MSCON	
SSEL	
XSEL-P/Q	
XSEL-RA/SA	

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 the opposite side
L	Home limit switch
LL	Home limit switch on the opposite side
LM	Master axis specification
LLM	Master axis specification (sensor on opposite side)
MD	Electrolytic black coating*
NM	Non-motor side specification
RT	Guide with ball retention mechanism
S	Slave axis specification
ST	High straightness, precision specification
W	Double slider specification

* Electrolytic black coating (MD) is an option only for the SSPA series.

Note: Available encoder type may vary by the series. Please see each model page.

● Simple, dustproof type

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

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

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).

ISDB	Standard specification
ISPDB	High precision specification

WA	Battery-less absolute type
-----------	----------------------------

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

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

4	4mm
5	5mm
8	8mm
10	10mm
16	16mm
20	20mm
30	30mm
36	36mm
40	40mm
48	48mm

* The selectable leads vary depending on the model.

100	100mm
?	?
1600	1600mm

* Varies depending on the model.

SCON	
MSCON	
SSEL	
XSEL-P/Q	
XSEL-RA/SA	

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
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
SR	Slider roller specification
ST	High straightness, precision specification
W	Double slider specification

● Cleanroom type

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

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

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).

ISDACR	Aluminum base, standard specification
ISPDACR	Aluminum base, high precision specification
ISDBCR	Aluminum base, standard specification
ISPDBCR	Aluminum base, high precision specification
SSPDACR	Iron base, high precision specification

WA	Battery-less absolute type
A	Absolute type
I	Incremental type

(Note)

S	Small, standard type
M	Medium, standard type
MX	Medium, mid-support type
L	Large, standard type
LX	Large, mid-support type
W	Extra large, standard type
WX	Extra large, mid-support type

60	60W
100	100W
200	200W
400	400W
600	600W
750	750W

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

* The selectable leads vary depending on the model.

100	100mm
?	?
2500	2500mm

* Varies depending on the model.

SCON	
MSCON	
SSEL	
XSEL-P/Q	
XSEL-RA/SA	

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
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
W	Double slider specification

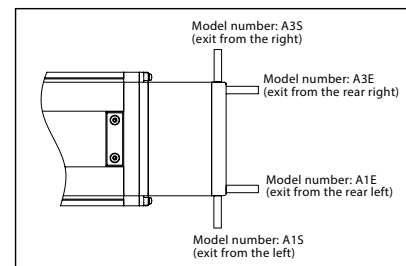
Note: Available encoder type may vary by the series. Please see each model page.

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.

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.

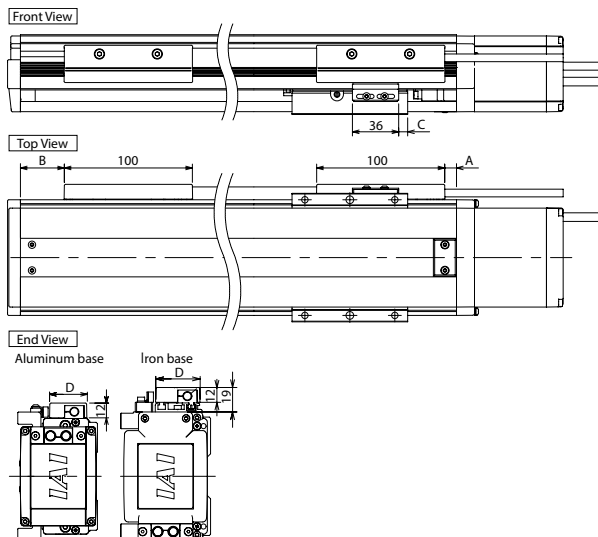
With the standard option (L), this switch is installed on the right side of the actuator as viewed from the motor. Select the opposite side option (LL) if you want to install the switch on the opposite side.

The external dimensions vary depending on whether or not the sensor and cover are installed.

* See reference below.

■ 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.

Base	Series	Type	A	B	C	D
Aluminum base	ISB ISPB	SXM	9	34	7	29
		SXL	19	44	17	29
		MXM	18	78	2	34.5
		MXL	33	93	17	34.5
		MXMX	66	126	2	34.5
		LXM	36	94	17	42.5
		LXL	41	119	22	42.5
		LXMX	88	140	17	42.5
	ISDB ISPDB	LXUWX	83	245	12	42.5
		S	10	60	37	29
		M	20	89	46	34.5
		MX	68	137	46	34.5
		L	31	119	57	42.5
		LX	77	165	57	42.5
	ISDBCR ISPDBCR	S	10	60	37	29
		M	20	89	46	34.5
		MX	68	137	45	34.5
		L	31	119	57	42.5
		LX	77	165	55	42.5
	SSPA	SXM	-8*	40	3	34.5
		MXM	-4*	74	3	34.5
		LXM	19.5 (16.5)	86 (83)	24	42.5
Iron base	SSPDACR	S	31.5	59.5	38	34.5
		M	40.5	91.5	43	34.5
		L	44.5 (41.5)	111 (108)	64	42.5

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

* The dimension A for SSPA-SXM/MXM types indicates the distance overhanging from the base cover end to the motor side.

■ 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.

■ Electrolytic Black Coating

Model number option **MD**

Option is only for the SSPA series.

The actuator base, side face, slider top and side face will have a rust preventative coating.

Suitable in environments where rust will be an issue. It also can be used to prevent dust.

■ 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 placed between the ball of the guide and the ball to achieve low noise and long service life.

Metallic sounds due to collisions between balls will disappear, so unpleasant sound will be reduced.

As wear due to friction between balls decreases, life of the guide increases.

Since the balls do not interfere with each other, the movement becomes smooth and the slider's operability improves.

*It can not be used with ISB / ISPB - SXL / MXL / LXL, ISA / ISPA - WXM / WXXM.

*When using the guide specification with the ball holding mechanism of ISB / ISPB / ISDB / ISPDB in the vertical direction, please note that the vertical payload quantity will change in some models.

For details, please refer to each type of page.

■ Slave axis specification

Model number option **S**

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

■ Suction tube joint on the 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.

■ Double Slider Specifications

Model number option **W**

It is an option to add a free slider that is not connected to the ball screw or drive belt.

By doubling the slider, the moment and overhang load length can be increased.

*With intermediate support type (MXMX / MXMX / LX WX / MX / LX) can not be used.

For details on the dynamic allowable moment and overhang load length of the double slider, please refer to page 1-337.

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.

The running parallelism and squareness is based on stroke length. The values shown in the chart below is per 1m.

For calculations based on the stroke length, please use the Aluminum Base and Iron Base Calculation Examples below.

		Aluminum base		Iron base	
		Without high straightness, precision specification	With high straightness, precision specification (*)	Without high straightness, precision specification	With high straightness, precision specification (*)
1	Dynamic parallelism [mm/m or less]	0.05 [However, if the stroke is less than or equal to 500mm, the squareness will be 0.015mm.]	0.03 [However, if the stroke is less than or equal to 500mm, the squareness will be 0.015mm.]	0.05 [However, if the stroke is less than or equal to 500mm, the squareness will be 0.025mm.]	0.03 [However, if the stroke is less than or equal to 500mm, the squareness will be 0.015mm.]
2	Dynamic straightness [mm/m or less]	0.05 [However, if the stroke is less than or equal to 500mm, the squareness will be 0.025mm.]	0.020 [However, if the stroke is less than or equal to 500mm, the squareness will be 0.01mm.]	0.05 [However, if the stroke is less than or equal to 500mm, the squareness will be 0.025mm.]	0.015 [However, if the stroke is less than or equal to 500mm, the squareness will be 0.008 mm.]

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

Aluminum Base and Iron Base Calculation Examples.

① Aluminum Base ISB/ISPB/ISDB/ISPDB/ISDBCR/ISPDBCR series

Ex) When the stroke is 1500mm

Parallelism during motion → $0.03\text{mm}/1\text{m}$ (parallelism/meter) $\times 1.5\text{m}$ (stroke) = 0.045mm

Squareness during motion → $0.02\text{mm}/1\text{m}$ (squareness/meter) $\times 1.5\text{m}$ (stroke) = 0.03mm

*Round up to the 3rd decimal place

② Iron Base SSPA/SSPDACR Series

Ex) When the stroke is 900mm

Parallelism during motion → $0.03\text{mm}/1\text{m}$ (parallelism/meter) $\times 0.9\text{m}$ (stroke) = 0.027mm

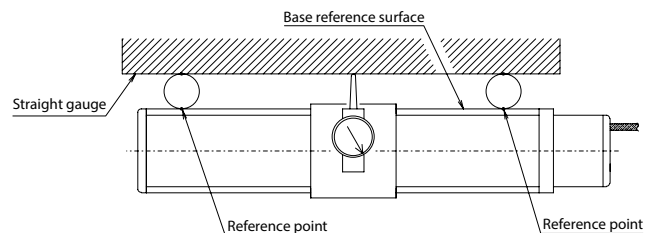
Squareness during motion → $0.015\text{mm}/1\text{m}$ (squareness/meter) $\times 0.9\text{m}$ (stroke) = 0.014mm

*Round up to the 3rd decimal place

1 Dynamic parallelism (horizontal/vertical)

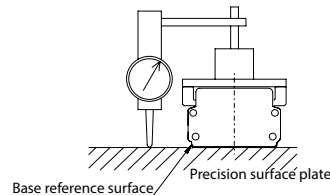
① Parallelism of the base reference surface and the slider motion (horizontal)

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. The parallelism of the base reference surface and the slider motion represents the maximum difference between the measured values.



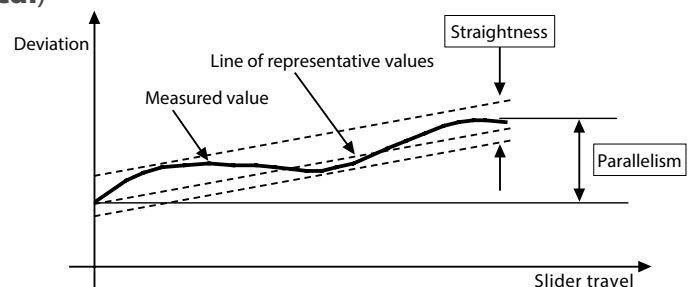
② Parallelism of the base mounting surface and the slider motion (vertical)

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. The 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. The parallelism of the base reference surface and the slider motion represents the maximum difference between the measured values.



[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:**

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

•Payload at rated acceleration: M_r •Actual transferring mass: M
 •Rated acceleration/deceleration: $\square_r$ •Actual acceleration/deceleration: $\square$

(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:

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

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

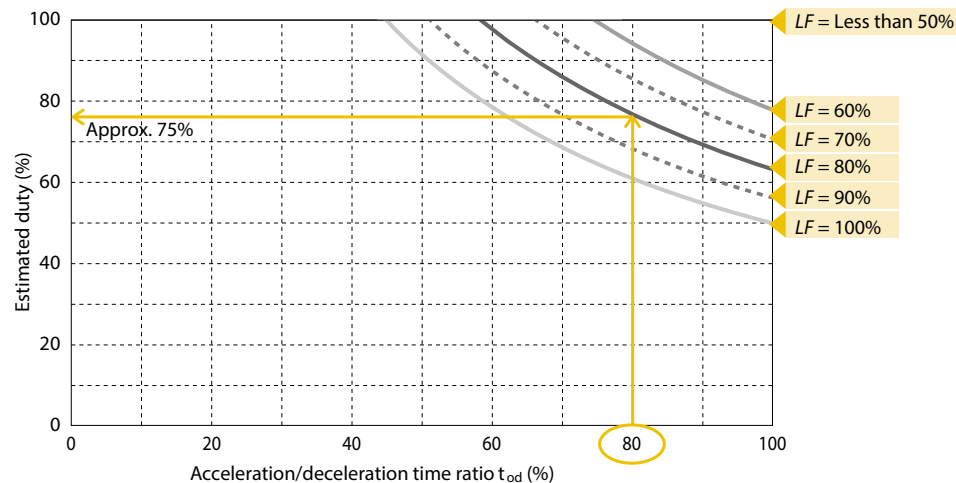
$$\text{Deceleration time} = \frac{\text{Speed (mm/s)}}{\text{Deceleration (mm/s}^2\text{)}} (\text{sec})$$

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

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

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

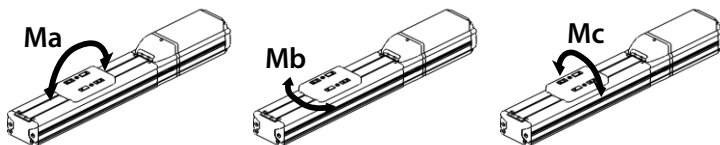
Example. When the load factor LF is 80% and the acceleration/deceleration time ratio t_{od} is 80%, an estimation for duty is approx. 75%.

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

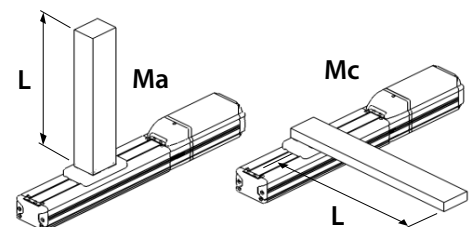
The dynamic allowable moment, calculated from the traveling life of the guide, is the maximum offset load that can be applied to the slider. The traveling life will decrease when the allowable value is exceeded, so use an auxiliary guide, etc., if it is used within the allowable value or the allowable 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.

Allowable dynamic moment direction diagram

■ The dynamic allowable moment is a value assuming the reference rated life. Please note that when using beyond the moment specification value, the life of the guide will decrease.

Moment direction**Overhang load length diagram**

■ Since vibration may occur when using beyond the overhanging allowable value of each model, be sure to use within the allowable value.



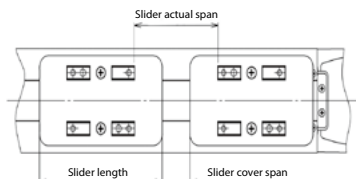
■ Directions of the Allowable Moment and Overhang Load Length When Using the Double Slider

Please check the following specification table and notes when selecting the double slider.

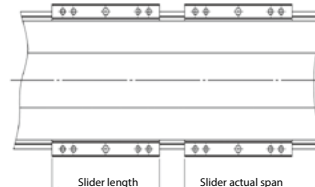
Series name	Type name	Allowable dynamic moment						Overhang load length (mm)	Clean speci- fication maxi- mum speed (mm/sec)	Clean speci- fication suction volume (Nℓ/min)	Slider mass (kg)	Slider length (mm)	Minimum stroke with double slider (mm)
		Standard rated life (km)	Slider span (mm)		Ma direction (N-m)	Mb direction (N-m)	Mc direction (N-m)						
			Actual slider span	Slider cover span									
ISB ISPB	SXM	10000	minimum 30	—	140	200	125	1050	—	—	1.5	90	100
			maximum 90	—	228	325	125	1350	—	—			
	SXL		minimum 30	—	188	269	145	1250	—	—		110	130
			maximum 90	—	286	409	145	1550	—	—			
	MXM	10000	minimum 35	—	332	475	307	1375	—	—	2.5	120	100
			maximum 120	—	561	801	307	1800	—	—			
	MXL		minimum 35	—	481	687	368	1675	—	—		150	120
			maximum 120	—	743	1060	368	2100	—	—			
	LXM	10000	minimum 35	—	481	687	473	1675	—	—	3.5	150	100
			maximum 150	—	845	1210	473	2250	—	—			
	LXL		minimum 35	—	616	880	532	1975	—	—		180	120
			maximum 150	—	1010	1450	532	2550	—	—			
IS(P)DB IS(P)DBCR IS(P)DBCR- ESD	S	10000	110	46	259	370	125	1050	960	110	1.5	154	100
	M		minimum 80	6	448	640	307	1375	1000	180	2.5	194	100
			maximum 120	46	561	801	307	1800					
	L		minimum 100	26	678	968	473	1675	1000	200	3.5	224	100
			maximum 150	76	845	1210	473	2250					
IS(P)DACR	W	10000	minimum 90	30	683	976	678	2050	1000	100	4.0	220	100
			maximum 160	100	922	1320	678	2250					

Double slider view

● With slider cover (ISDB Series)



● Without slider cover (ISB Series)



■ Notes in Using Double Slider

(1) Required stroke length

If the double slider option is specified, the actual operable stroke is the value where slider length + slider actual span (slider cover span) is subtracted from the stroke of the model. Be sure to select the stroke where the length in the table below is added to the required stroke. Also, make sure that the required stroke is higher than the "minimum stroke for double slider".

The selectable stroke is higher than the "minimum nominal stroke" and under the "maximum nominal stroke" in 50mm increments.

NO.	Actuator shape	Stroke length to be prepared
①	Models with slider cover	Greater than or equal to the length of "required stroke" + "slider cover span" + "slider length"
②	Models without slider cover	Greater than or equal to the length of "required stroke" + "slider actual span" + "slider length"

Example ① ISDB-S (With slider cover)

Required stroke: 200mm, slider cover span: 46mm, slider length: 154mm

Set to 200mm + 46mm + 154mm = 400mm or more

Example ② ISB-SXM (Without slider cover)

Required stroke: 200mm, slider actual span: 30mm, slider length: 90mm

Set to 200mm + 30mm + 90mm = 320mm or more

(2) Payload

The value where "added slider weight" is subtracted from the catalog specification value is the max. value.

(3) Max. Speed

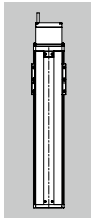
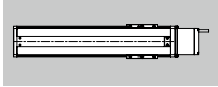
Please refer to the specification values of the nominal stroke.

(4) For the double slider specification of the Clean (CR) type, the suction amount is not included in the effect of the piping resistance. Please note that the piping resistance is caused by the pipe length and pipe diameter, and the flow rate is lost.

[Mounting]

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

○: Installable —: Not installable

Mounting orientation			Horizontal	vertical (Note 1)	Side-mounted	ceiling-mounted
						
	Series	Type				
Slider type	ISB/ISPB	SXM/SXL/MXM/MXL/LXM/LXL	○	○	○(Note 2)	○(Note 3)
		MXMX/LXMX/LXUMX	○	×	×	△(Note 3)
	SSPA	S/M/L	○	○	○(Note 2)	○(Note 3)
	ISDB	S/M/L	○	○	△(Note 4)	△(Note 4)
		MX/LX	○	×	×	×
Cleanroom type	ISDBC/ISPDACR	S/M/L	○	○	△(Note 4)	△(Note 4)
		MX/LX	○	×	×	×
	SSPDACR	S/M/L	○	×	×	×
	ISDACR/ISPDACR	W	○	○	△(Note 4)	△(Note 4)
		WX	○	×	×	×

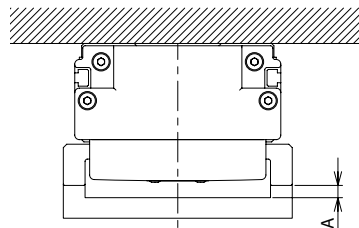
Note 1 When installing the actuator vertically, bring the motor to the top whenever possible. If the actuator is mounted with the motor at the bottom, problems won't occur during normal operation, but if the actuator is stopped for a prolonged period of time, grease may separate depending on the ambient 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 The base oil may separate from the grease and can flow out from the opening on the side of the actuator. Also, foreign debris is able to fall into the actuator through the opening on the side of it.

Note 3 When the actuator with screw cover is ceiling mounted, the screw cover can bend and it may interfere with the work part. If the stroke of the ISB exceeds 600mm, or if the stroke of the SSPA exceeds 800mm, please attach the work part by an offset distance A away from the slider.

The table below shows the distance A from the slider seating surface.

ISB ISPB	600mm or greater but less than 1000mm	5mm or greater
	1000mm or greater but less than 1300mm	10mm or greater
SSPA	800 mm or greater but less than 1500mm	5mm or greater



Note 4 It is possible to install in a horizontal posture, ceiling hanging posture, however, slack and slippage may occur in the stainless sheet. Continuing to use may cause problems such as breakage of stainless steel sheet. Perform daily checks and adjust the stainless steel sheet when slack or slippage occur.

The service life of a linear guide represents the total distance that can be traveled, without flaking, by 90% of a group of products that are operated separately under the same conditions.
The service life calculation method is as follows.

Service Life Calculation Method

The service life a linear guide can be calculated with the following formula using the allowable dynamic moment that is determined for each model.

$$L = \left(\frac{C_M}{M} \right)^3 \cdot URL$$

L: Service Life (km), C_M : Allowable Dynamic Moment (N·m),
M: Acting moment (N·m), URL: Standard rated life (km)

For applications where the service life may be decreased from vibrations and installation conditions, the service life is calculated with the following formula.

$$L = \left(\frac{C_M}{M} \cdot \frac{f_{WS}}{f_W} \cdot \frac{1}{f_a} \right)^3 \cdot URL$$

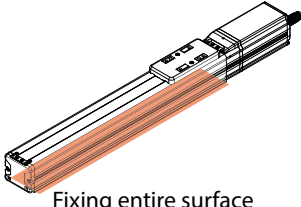
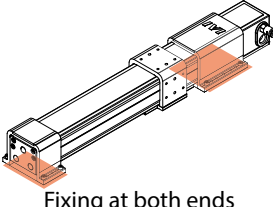
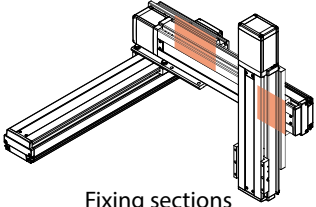
L: Service Life (km), C_M : Allowable Dynamic Moment (N·m),
M: Acting moment (N·m), f_{WS} : Standard load coefficient,
 f_W : Load coefficient, f_a : Attachment coefficient,
URL: Standard rated life

The load coefficient f_W is a coefficient for taking into account the decrease in life from operating conditions.
The standard load coefficient f_{WS} is a standard value of the load coefficient that is determined for each model.
This coefficient is generally 1.2, but in the case that it is not 1.2, it is indicated in the specification of that model.
The attachment coefficient f_a is a coefficient for taking into account the decrease in life from the attachment condition of the actuator.

Load Coefficient

Operating Condition	Load coefficient f_W	Acceleration/Deceleration Guideline
Little vibration/impact, slow operation	1.0-1.5	Less than 1.0G
Moderate vibration/impact, sudden braking/acceleration	1.5-2.0	1.0G-2.0G
Large vibration/impact with sudden acceleration/deceleration	2.0-3.0	More than 2.0G

Attachment Coefficient

Attachment Condition			
	Fixing entire surface	Fixing at both ends	Fixing sections
Attachment coefficient F_a	1.0	1.2	1.5

* As a general rule, please use every tap hole on the mounting surface.

* Even when mounting the entire surface, please use the attachment coefficients of 1.2 or 1.5 depending on the length of the bolt for fixing.

Standard Type

ISB / ISPB / SSPA





* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
ISB[ISPB]-SXM-WA-60-16-①-T2-②-③	60	16	13	3.5	53.1	100~900 (Every 50mm)
ISB[ISPB]-SXM-WA-60-8-①-T2-②-③		8	27	7	106.1	
ISB[ISPB]-SXM-WA-60-4-①-T2-②-③		4	55	14	212.3	

- Legend: ① Stroke ② Cable length ③ Options
- If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 0.5kg.



(Note 1) The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 4mm lead) When the acceleration is increased, the payload will be reduced.
Please contact IAI for more information.

(Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.

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

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT*	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 650~900)	ST	→P12
Home limit switch	L	→P10	Double slider specification	W	→P12

- * ISPB can not select RT.

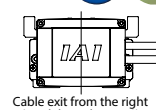
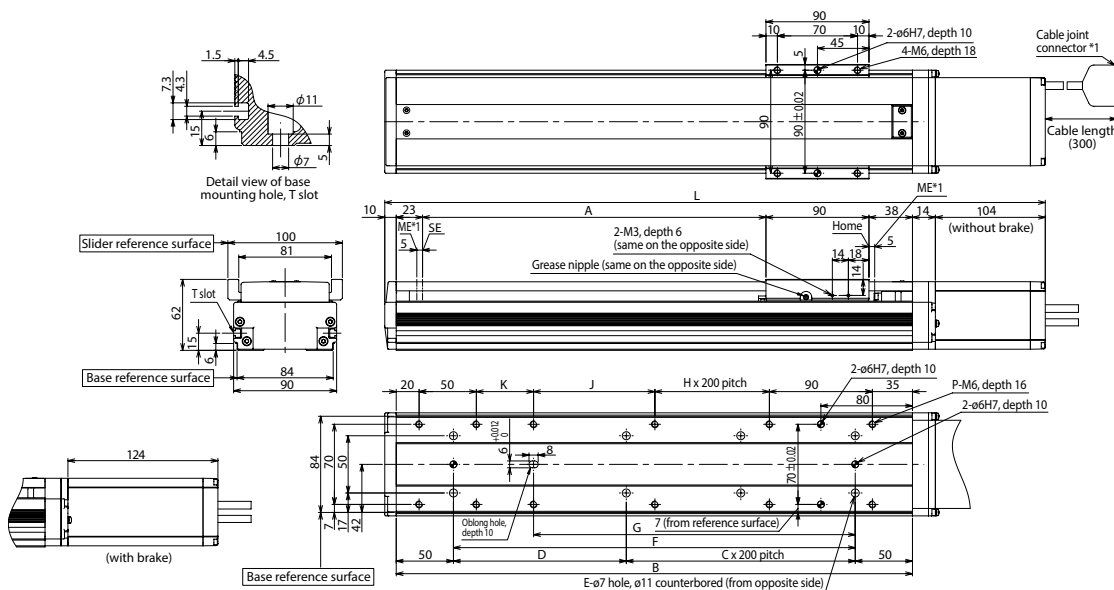
Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
Drive method (Note 3)	Ball screw φ12mm, rolled C10 [equivalent to rolled C5]
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (N)/**	Ma: 32.9N·m Mb: 47.0N·m Mc: 76.8N·m
Overhang load length(**)	Ma direction: 450mm max. Mb, Mc directions: 450mm max
Dynamic straightness (Note 5)	0.02mm/mm max.
Base	Material: Aluminum, with white aluminate treatment
Ambient operating temperature/humidity	0 to 40°C. 85%RH max. (non-condensation)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

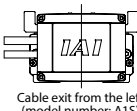
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.



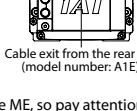
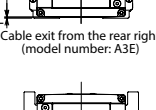
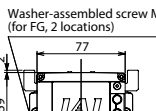
CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Cable exit from the right
(model number: A3S)



Cable exit from the left
(model number: A1S)



the ME, so pay attention now

Dimensions and Mass by Stroke

		Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	
L	without brake	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129	1179	1179	
	with brake	379	429	479	529	579	629	679	699	749	799	849	899	949	999	1049	1099	1149	1179	
A		100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	900	
B		251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1051	
C		0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	
D		151	201	251	101	151	201	251	101	151	201	251	101	151	201	251	101	151	151	
E		4	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	
F		151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	951	
G		131	131	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881	881	
H		0	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	
J		56	56	106	156	206	256	306	356	406	456	506	556	606	656	706	756	806	856	
K		0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
P		8	10	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	8.7	
Maximum speed (mm/s)	Lead 16														655		515		415	
	Lead 8														330		260		210	
	Lead 4														165		130		100	

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

* Please return the actuator to us if a home direction change is necessary after purchase.

* The allowable moment offset reference position is 30mm from the slider work mounting position.

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information
SCON-LC/LCG	1 axes	-	-	●		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●	-	-		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.				256	
SSEL-CS	2 axes	●	-	●	20000		
XSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

●The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

100
W



Model Specification Items	ISB	SXM	WA	100	36		T2		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
			WA: Battery-less absolute	100: 100W	36: 36mm	100: 100mm 1100: 1100mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-PA/SA	N: None S: 3m M: 5m	Refer to the options table below. X□□: Specified length

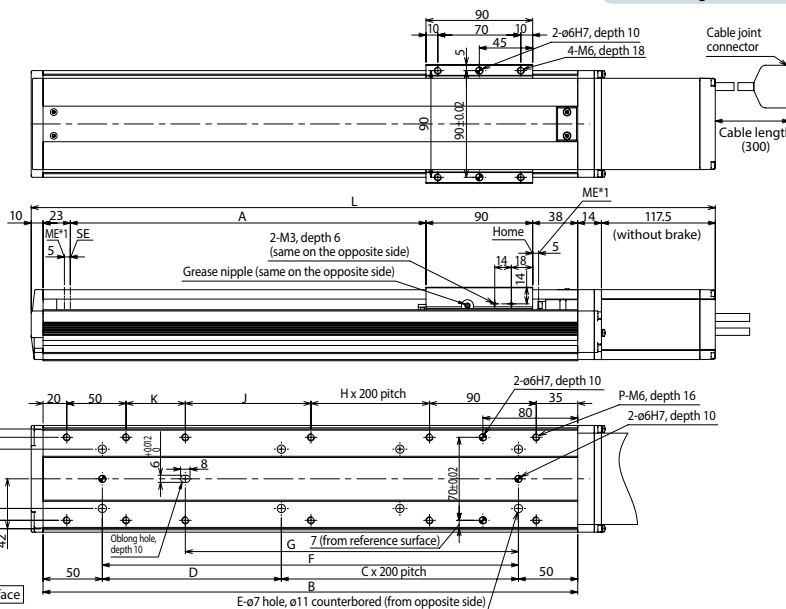
- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AO seal (AO) and one of the symbols for cable exit direction.

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
ISB-SXM-WA-100-36-①-T2-②-③	100	36	10	2	47.2	100~1100 (Every 50mm)

- Legend: ① Stroke ② Cable length ③ Options
- If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 0.5kg.

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 650~1100)	ST	→P12
Home limit switch	L	→P10	Double slider specification	W	→P11



CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Positioning repeatability	±0.01mm
Drive method	Ball screw φ12mm, rolled C10
Lost motion	0.05mm max.
Dynamic allowable load moment (N)(**)	Ma: 32.9N·m Mb: 47.0N·m Mc: 76.8N·m
Overhang load length(**)	Ma direction: 450mm max. Mb, Mc directions: 450mm max
Dynamic straightness (Note 2)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

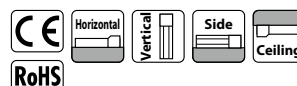


		Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L	without brake	392.5	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5	1142.5	1192.5	1242.5	1292.5	1342.5	1392.5	
	with brake	424	474	524	574	624	674	724	774	824	874	924	974	1024	1074	1124	1174	1224	1274	1324	1374	1424	
A		100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
B		251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151	1201	1251	
C		0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	
D		151	201	251	101	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	12	12	14	14	
F		151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151	
G		131	131	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881	931	981	1031	1081	
H		0	0	0	0	0	0	1	1	1	2	2	2	2	3	3	3	3	3	4	4	4	
J		56	56	106	156	206	256	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	50	50	50	50	
P		8	10	10	10	10	10	12	12	12	12	12	14	14	14	14	16	16	16	16	18	18	
Mass (kg)	without brake	3.2	3.6	4.0	4.3	4.7	5.0	5.4	5.7	6.1	6.5	6.8	7.2	7.5	7.9	8.2	8.6	8.9	9.3	9.7	10.0	10.4	
	with brake	3.5	3.9	4.3	4.6	5	5.3	5.7	6	6.4	6.8	7.1	7.5	7.8	8.2	8.5	8.9	9.2	9.6	10	10.3	10.7	
Maximum speed (mm/s)		Lead 36	1100	1425	1700	1925	2075	2125	2160	2160	2160	2160	2000	1740	1520	1340	1190	1065	960	865	790	721	660

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information
SCON-LC/LCG	1 axes	-	-	●		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●	-	-		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.				256	
SSEL-CS	2 axes	●	-	●	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	-	-	●		55,000 (depend on type)	

●The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.



* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
ISB(ISPB)-SXL-WA-60-16-①-T2-②-③	60	16	13	3.5	53.1	130~880 (Every 50mm)
ISB(ISPB)-SXL-WA-60-8-①-T2-②-③		8	27	7	106.1	
ISB(ISPB)-SXL-WA-60-4-①-T2-②-③		4	55	14	212.3	

• Legend: ① Stroke ② Cable length ③ Options



(Note 1) The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 4mm lead) When the acceleration is increased, the payload will be reduced.
Please contact IAI for more information.

(Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.

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

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 130~580)	ST	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 630~880)	ST	→P11
Creep sensor on the opposite side	CL	→P10	Double slider specification	W	→P11
Home limit switch	L	→P10			

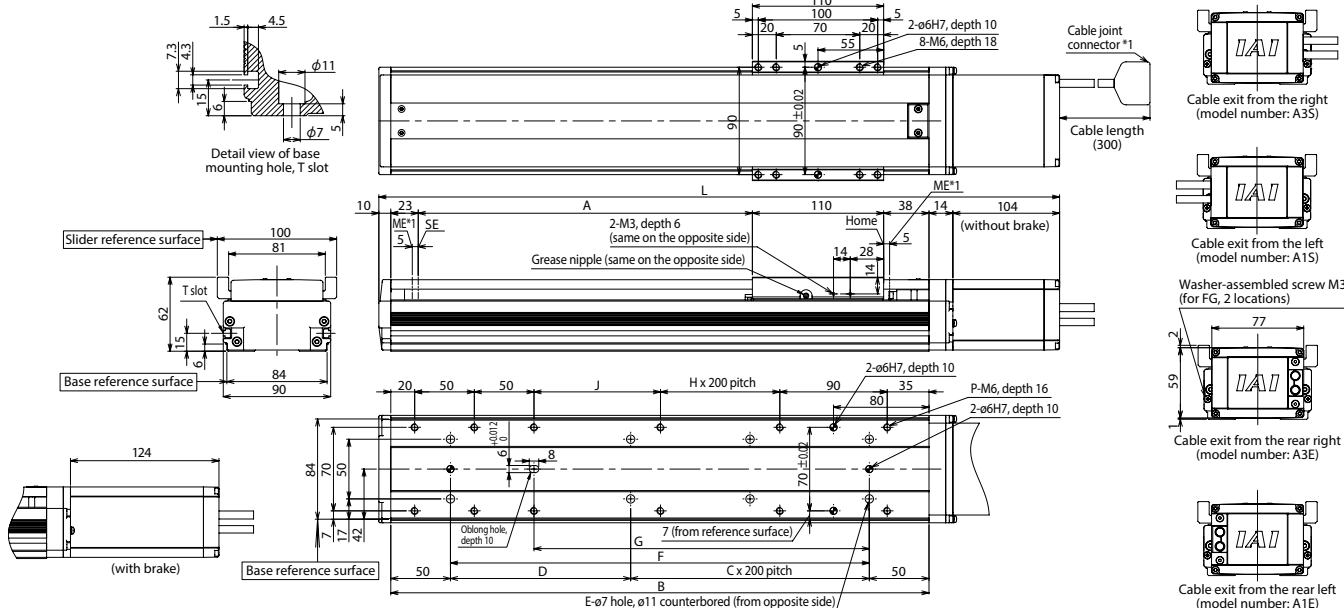
Actuator Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
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 (N)/**)	Ma: 46.3N·m Mb: 66.2N·m Mc: 89.0N·m
Overhang load length(**)	Ma direction: 550mm max. Mb, Mc directions: 550mm max
Dynamic straightness (Note 5)	0.02mm/mm max.
Base	Material: Aluminum, with white aluminate treatment
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

Diagram



Dimensions and Mass by Stroke

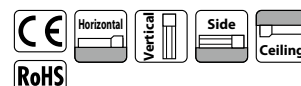
	Stroke	130	180	230	280	330	380	430	480	530	580	630	680	730	780	830	880
L	without brake	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129	1179
	with brake	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199
	A	130	180	230	280	330	380	430	480	530	580	630	680	730	780	830	880
	B	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051
	C	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4
	D	201	251	101	151	201	251	101	151	201	251	101	151	201	251	101	151
	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	2	2	2	2	3	3	3	3
	J	56	106	156	206	256	106	156	206	256	106	156	206	256	106	156	206
	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										655					415
	Lead 8	480										330					210
	Lead 4	240										165					100

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information
SCON-LC/LCG	1 axes	-	-	●		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●	-	-		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.				256	
SSEL-CS	2 axes	●	-	●	20000		
XSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

●The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISB-SXL-100



Model Specification Items	ISB	SXL	WA	100	36			T2		
Series	ISB	SXL	WA	100	36			T2		
Type										
Encoder type			WA: Battery-less absolute							
Motor type				100: 100W	36: 36mm					
Lead										
Stroke							130: 130mm 1080: 1080mm (Every 50mm)			
Applicable controller							T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA			
Cable length							N: None S: 3m M: 5m X□□: Specified length			
Options*							Refer to the options table below.			

- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg)	Rated thrust (N)	Stroke (mm)
ISB-SXL-WA-100-36-①-T2-②-③	100	36	10	47.2	130~1080 (Every 50mm)

- Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 130~580)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 630~1080)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Double slider specification	W	→P11
Home limit switch	L	→P10			

Actuator Specifications

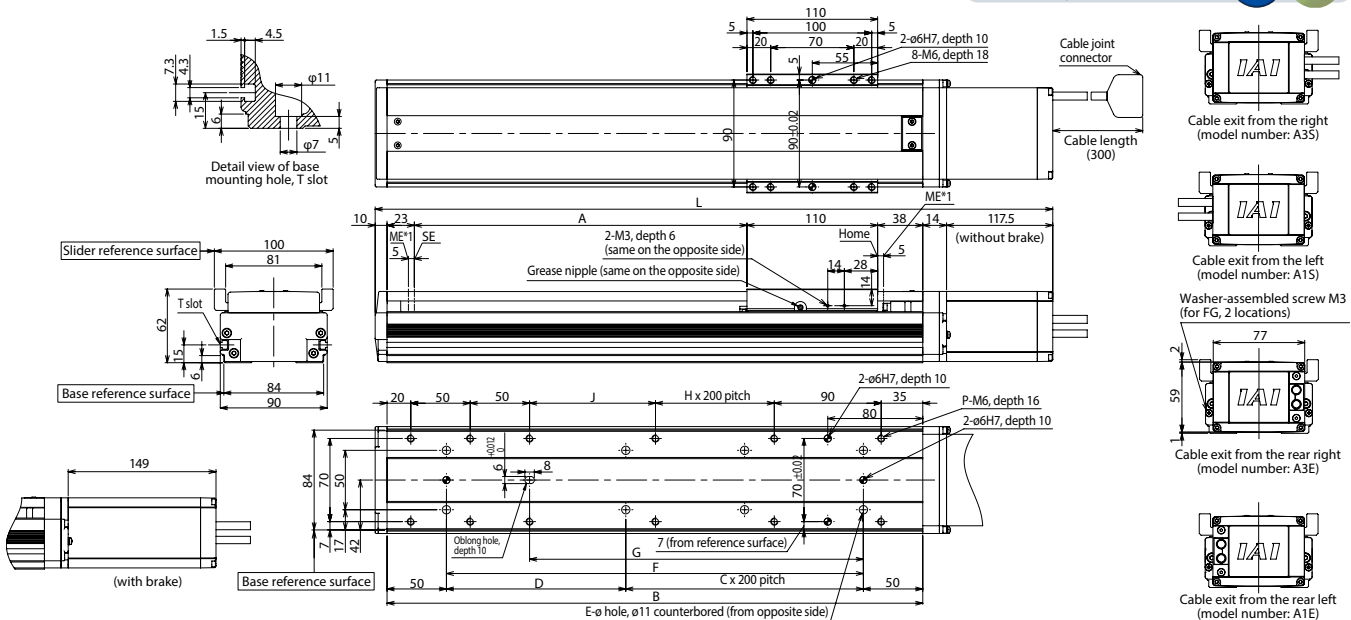
Positioning repeatability	±0.01mm
Drive method	Ball screw φ12mm, rolled C10
Lost motion	0.05mm max.
Dynamic allowable load moment (*)	Ma: 46.3N·m Mb: 66.2N·m Mc: 89.0N·m
Overhang load length(**)	Ma direction: 550mm max. Mb, Mc directions: 550mm max
Dynamic straightness (Note 2)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Diagram



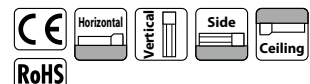
Dimensions and Mass by Stroke

Stroke	130	180	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080
L without brake	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5	1142.5	1192.5	1242.5	1292.5	1342.5	1392.5
L with brake	474	524	574	624	674	724	774	824	874	924	974	1024	1074	1124	1174	1224	1274	1324	1374	1424
A	130	180	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080
B	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151	1201	1251
C	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5
D	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151
E	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14
F	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151
G	131	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881	931	981	1031	1081
H	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4
J	56	106	156	206	256	306	356	406	456	506	556	606	656	706	756	806	856	906	956	1006
P	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18
Mass (kg)	3.7	4.1	4.4	4.8	5.1	5.5	5.8	6.2	6.6	6.9	7.3	7.6	8.0	8.3	8.7	9.0	9.4	9.8	10.1	10.5
Maximum speed (mm/s)	1425	1700	1925	2075	2125	2160	2160	2160	2160	2000	1740	1520	1340	1190	1065	960	865	790	721	660

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	•	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	•		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	•		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.		256	
SSEL-CS	2 axes	•		20000	
XSEL-P/Q/RA/SA	8 axes	•	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

• The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISB-MXM-100

ISPB-MXM-100

High Precision Specification

±10µm
Standard

±3µm
High precision

Battery-less absolute

Medium X-axis

Standard Slider type

Actuator width 120 mm

100 W

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISB: Standard specification	ISB	MXM	WA	100	30: 30mm 20: 20mm 10: 10mm 5: 5mm	100: 100mm 1100: 1100mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)	Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
ISB[ISPB]-MXM-WA-100-30-①-T2-②-③	100	30	15	2.5	56.6
ISB[ISPB]-MXM-WA-100-20-①-T2-②-③		20	23	5	84.9
ISB[ISPB]-MXM-WA-100-10-①-T2-②-③		10	45	10	169.8
ISB[ISPB]-MXM-WA-100-5-①-T2-②-③		5	85	20	339.7

- Legend: ① Stroke ② Cable length ③ Options
- If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 0.5kg.



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 5mm lead) When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT*	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 650~1100)	ST	→P12
Home limit switch	L	→P10	Double slider specification	W	→P11

* ISPB can not select RT.

Actuator Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
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 (*)/(**)	Ma: 81.0N·m Mb: 116N·m Mc: 189N·m
Overhang load length(**)	Ma direction: 600mm max. Mb, Mc directions: 600mm max
Dynamic straightness (Note 5)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

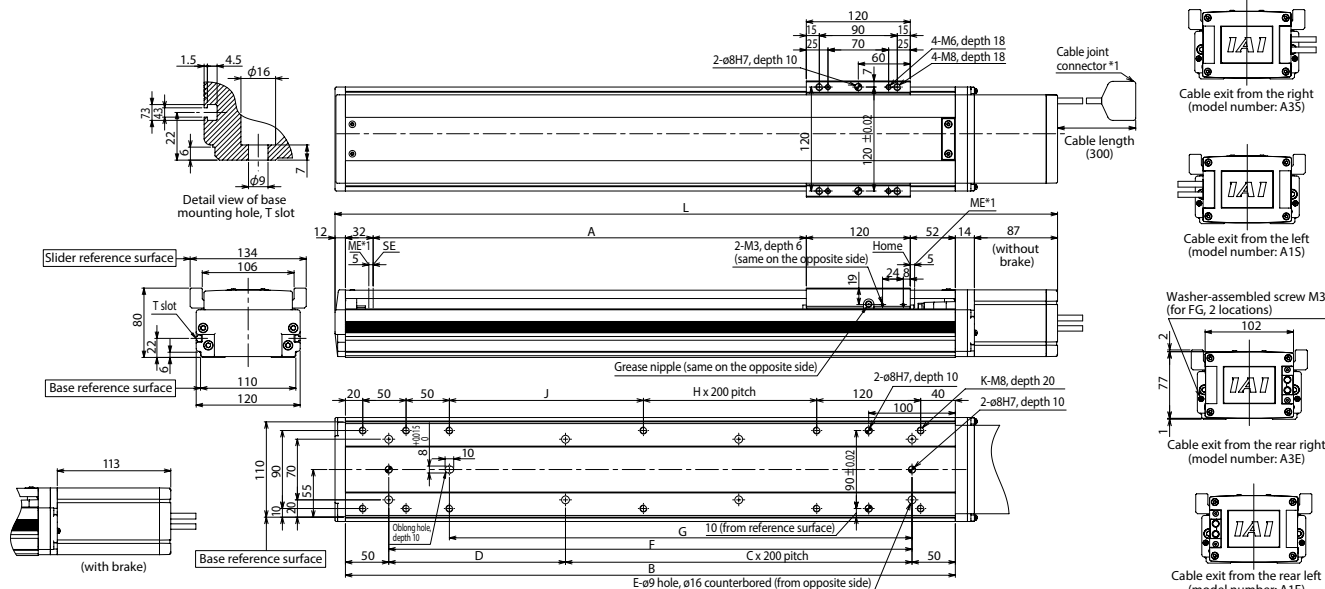
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD



Dimensions and Mass by Stroke

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L	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	1	2	2	2	2	3	3	3	3	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	1800																			
	Lead 20	1200																			
	Lead 10	600																			
	Lead 5	300																			

- *1 During the home return, the slider moves to the ME, so pay attention not to let the slider hit surrounding parts.
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 37.5mm from the slider work mounting position.

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program	
SCON-CB/CGB	1 axes	●	●	-	512 (768 for network spec.)
SCON-LC/LCG	1 axes	-	-	●	512 (768 for network spec.)
SCON-CAL/CGAL	1 axes	●	-	-	512 (768 for network spec.)
MSCON-C	6 axes	This model is network-compatible only.			256
SSEL-CS	2 axes	●	●	●	20000
XSEL-P/Q/RA/SA	8 axes	●	●	●	55,000 (depend on type)

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISB-MXM-400



Model Specification Items	ISB	MXM	WA	400	48			T2		
Series	ISB	MXM	WA	400	48			T2		
Type										
Encoder type			WA: Battery-less absolute	400: 400W	48: 48mm	100: 100mm	1300: 1300mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□: Specified length	Refer to the options table below.
Motor type										
Lead										
Stroke										
Applicable controller										
Cable length										
Options*										

- Please refer to P.9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Stroke (mm)
ISB-MXM-WA-400-48-①-T2-②-③	400	48	20 6	141.3	100~1300 (Every 50mm)

- Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

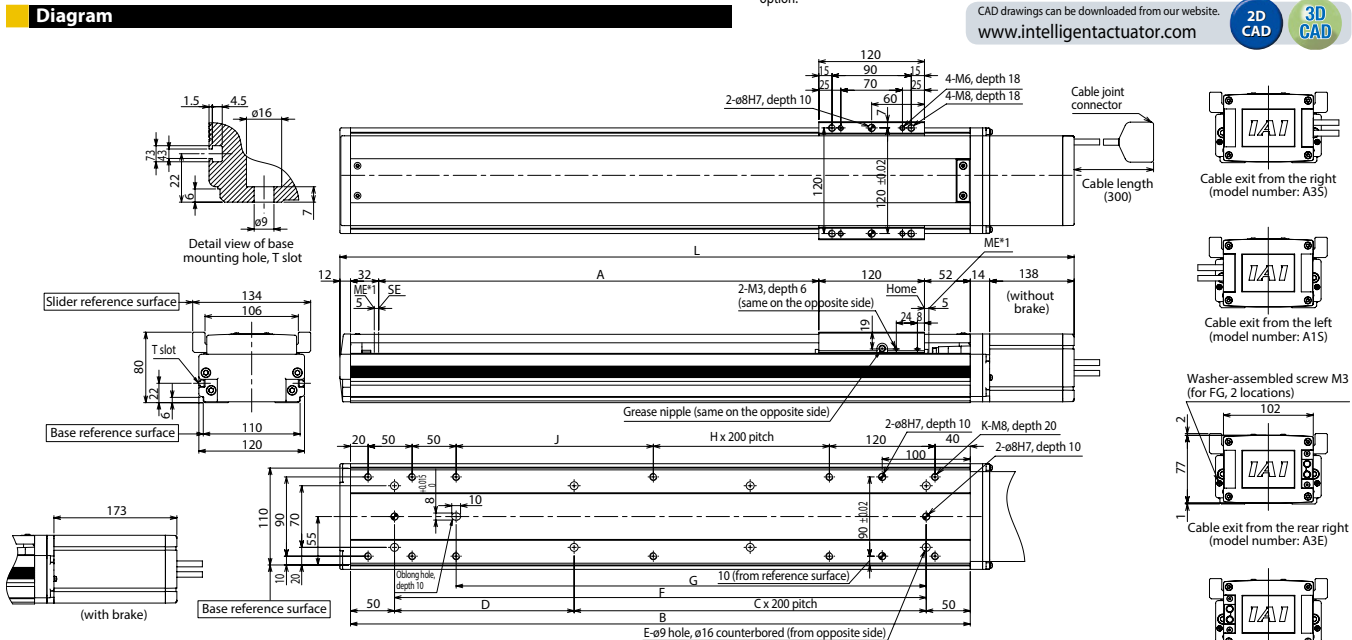
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 650~1300)	ST	→P12
Home limit switch	L	→P10	Double slider specification	W	→P11

Actuator Specifications

Positioning repeatability	±0.01mm
Drive method	Ball screw φ16mm, rolled C10
Lost motion	0.05mm max.
Dynamic allowable load moment (N·m)	Ma: 81.0N·m Mb: 116N·m Mc: 189N·m
Overhang load length (mm)	Ma direction: 600mm max. Mb, Mc directions: 600mm max
Dynamic straightness (Note 2)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

CAD drawings can be downloaded from our website:
www.intelligentactuator.com



- *1 When the slider is returning to its home position, Please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical End SE: Stroke End
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 37.5mm from the slider work mounting position.

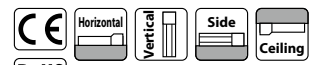
Dimensions and Mass by Stroke

		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	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368	1418	1468	1518	1568	1618	1668
		with brake	503	553	603	653	703	753	803	853	903	953	1003	1053	1103	1153	1203	1253	1303	1353	1403	1453	1503	1553	1603	1653	1703
	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		304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404	1454	1504
	C		0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	6	6	6	
	D		204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404
	E		4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	16	16	16	
	F		204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404
	G		134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	1184	1234	1284	1334
	H		0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	5	5	5	
	J		24	74	124	174	224	274	324	374	424	474	524	574	624	674	724	774	824	874	924	974	1024	1074	1124	1174	1224
	K		10	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	20	20	20
Mass (kg)		without brake	7.0	7.6	8.3	8.9	9.5	10.2	10.8	11.4	12.1	12.7	13.3	14.0	14.6	15.2	15.8	16.5	17.2	17.8	18.4	19.1	19.7	20.3	21.0	21.6	22.2
		with brake	7.6	8.2	8.9	9.5	10.1	10.8	11.4	12.1	12.7	13.3	13.9	14.6	15.2	15.8	16.5	17.1	17.7	18.4	19.1	19.6	20.3	20.9	21.6	22.2	22.8
Maximum speed (mm/s)		Lead 48	1025	1325	1575	1825	2025	2200	2350	2400	2500	2500	2500	2500	2500	2270	2030	1825	1645	1495	1365	1250	1150	1060	980	910	845

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	Positioner	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	pulse train control	Single-phase AC100/200V	512 (768 for network spec.)	
SSEL-CS	2 axes	program	Single-phase AC200V / three-phase AC200V	20,000	
XSEL-P/Q/RA/SA	8 axes			55,000 (depend on type)	

- The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISB-MXL-100

ISPB-MXL-100

±10µm
Standard

Battery-
less
absolute

Medium
X-axis

Long
Slider
type

Actuator width
120
mm

100
W

High
Precision
Specification

±3µm
High precision

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISB: Standard specification ISPB: High precision specification	MXL	WA	100	100W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	120: 120mm 1070: 1070mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.



- Please refer to P.9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)	Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
ISB[ISPB]-MXL-WA-100-30-①-T2-②-③	100	30	15	2.5	56.6
ISB[ISPB]-MXL-WA-100-20-①-T2-②-③		20	23	5	84.9
ISB[ISPB]-MXL-WA-100-10-①-T2-②-③		10	45	10	169.8
ISB[ISPB]-MXL-WA-100-5-①-T2-②-③		5	85	20	339.7

- Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 5mm lead). When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

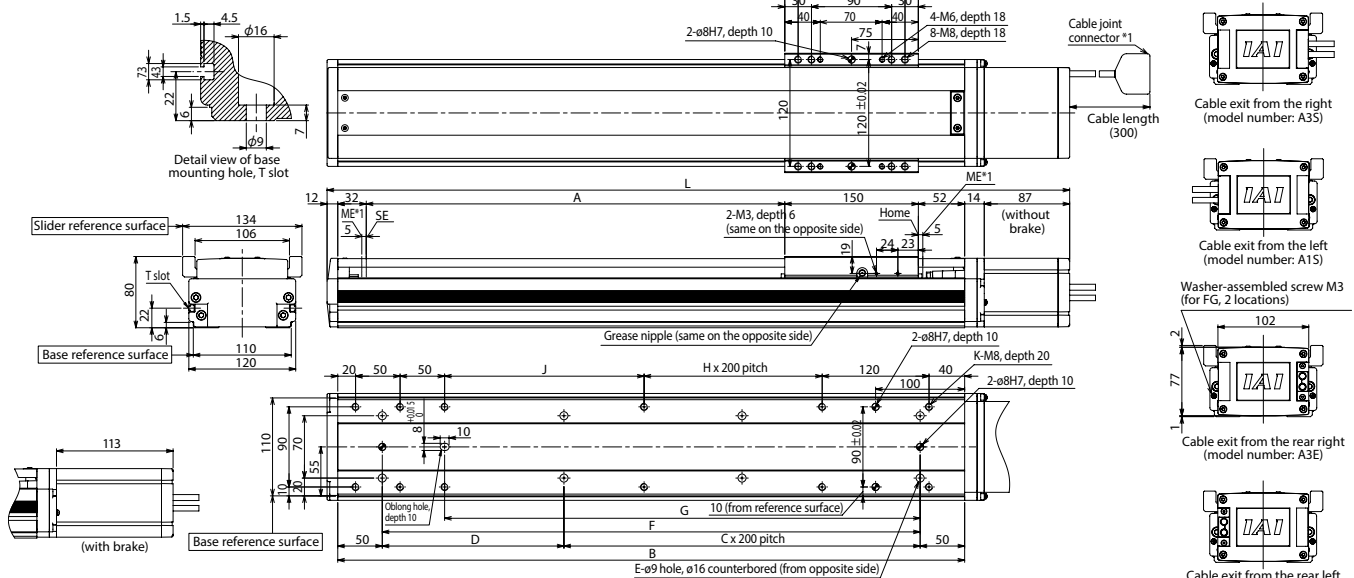
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 120~570)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 620~1070)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Double slider specification	W	→P11
Home limit switch	L	→P10			

Actuator Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
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 (*)/(**)	Ma: 123N·m Mb: 176N·m Mc: 227N·m
Overhang load length(**)	Ma direction: 750mm max. Mb, Mc directions: 750mm max
Dynamic straightness (Note 5)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

- * Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
- ** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Dimensions and Mass by Stroke

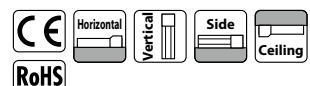
Stroke	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070
L without brake	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	1367	1417
L with brake	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193	1243	1293	1343	1393	1443
A	120	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	1	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	1	2	2	2	2	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)	6.3	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																		
	Lead 20	1200																		
	Lead 10	600																		
	Lead 5	300																		

- *1 During the home return, the slider moves to the ME, so pay attention not to let the slider hit surrounding parts.
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 37.5mm from the slider work mounting position.

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	●		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●	-	-		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.				256	
SSEL-CS	2 axes	●	-	●	20000		
XSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

- The type of compatible networks will vary depending on controller. Please contact IAI for more information.



- * Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISB-MXL-200

ISPB-MXL-200

±10µm
Standard

Battery-
less
absolute

Medium
X-axis

Long
Slider
type

Actuator width
120
mm

200
W

High
Precision
Specification

±3µm
High precision

Model
Specification
Items

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

ISB: Standard specification
ISPB: High precision specification

WA: Battery-less absolute

200: 200W

30: 30mm
20: 20mm
10: 10mm
5: 5mm

120: 120mm
1070: 1070mm
(Every 50mm)

T2: SCON
MSCON
SSEL
XSEL-P/Q
XSEL-RA/SA

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

Refer to the options table below.



- Please refer to P.9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)	Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
ISB[ISPB]-MXL-WA-200-30-①-T2-②-③	200	30	30	6	113.9
ISB[ISPB]-MXL-WA-200-20-①-T2-②-③		20	45	10	170.9
ISB[ISPB]-MXL-WA-200-10-①-T2-②-③		10	90	20	341.8
ISB[ISPB]-MXL-WA-200-5-①-T2-②-③		5	110	40	683.6

Legend: ① Stroke ② Cable length ③ Options

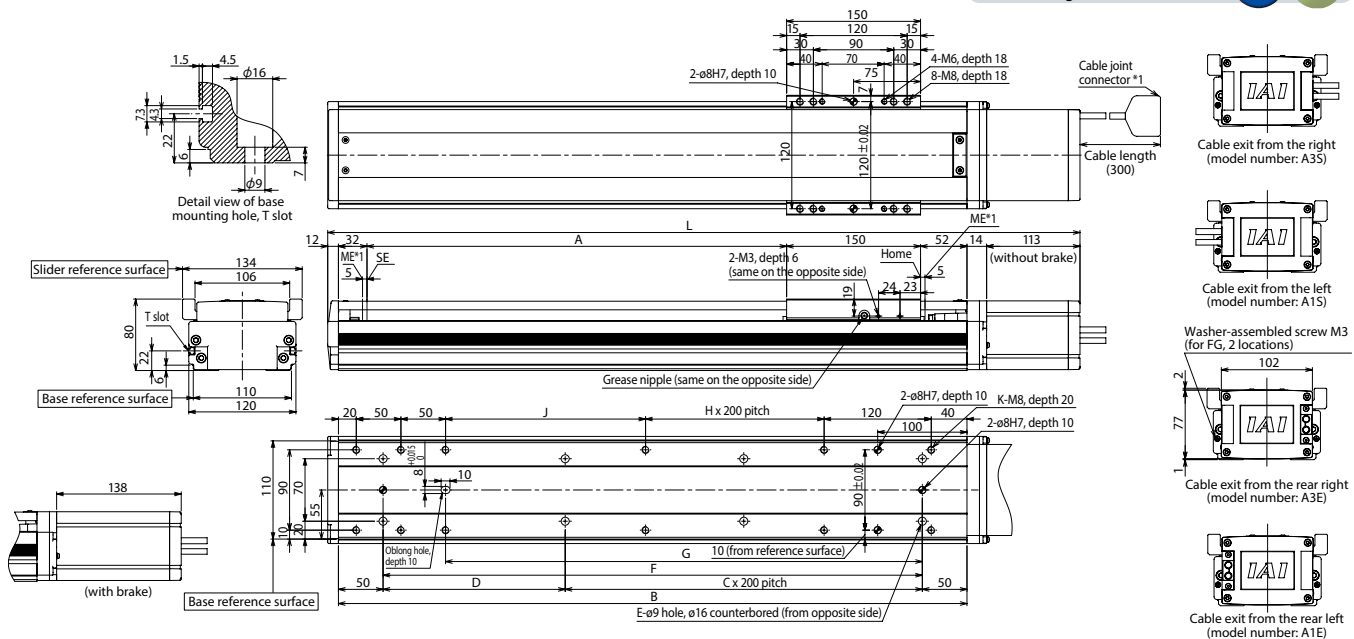


- (Note 1) The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 5mm lead). When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPD/BCR series. Other specifications apply to both the ISD/BCR and ISPD/BCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 120~570)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 620~1070)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Double slider specification	W	→P11
Home limit switch	L	→P10			

Diagram



Dimensions and Mass by Stroke

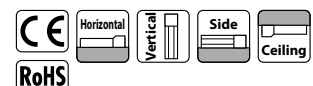
Stroke	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070
L without brake	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193	1243	1293	1343	1393	1443
L with brake	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368	1418	1468
A	120	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	1	1	1	2	2	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	1	2	2	2	2	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																		
	Lead 20		1200																	
	Lead 10			600																
	Lead 5				300															

- *1 During the home return, the slider moves to the ME, so pay attention not to let the slider hit surrounding parts.
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 37.5mm from the slider work mounting position.

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	●		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●	-	-		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.				256	
SSEL-CS	2 axes	●	-	●	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	-	-	●		55,000 (depend on type)	

• The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISB-MXL-400



Model Specification Items	ISB	MXL	WA	400	48			T2		
Series	ISB	MXL	WA	400	48			T2		
Type										
Encoder type			WA: Battery-less absolute	400: 400W	48: 48mm	120: 120mm	1270: 1270mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□ : Specified length	Refer to the options table below.
Motor type										
Lead										
Stroke										
Applicable controller										
Cable length										
Options*										

- Please refer to P.9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)	Rated thrust (N)	Stroke (mm)
ISB-MXL-WA-400-48-①-T2-②-③	400	48	Horizontal (kg) 20 Vertical (kg) 6	141.3	120~1270 (Every 50mm)

- Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

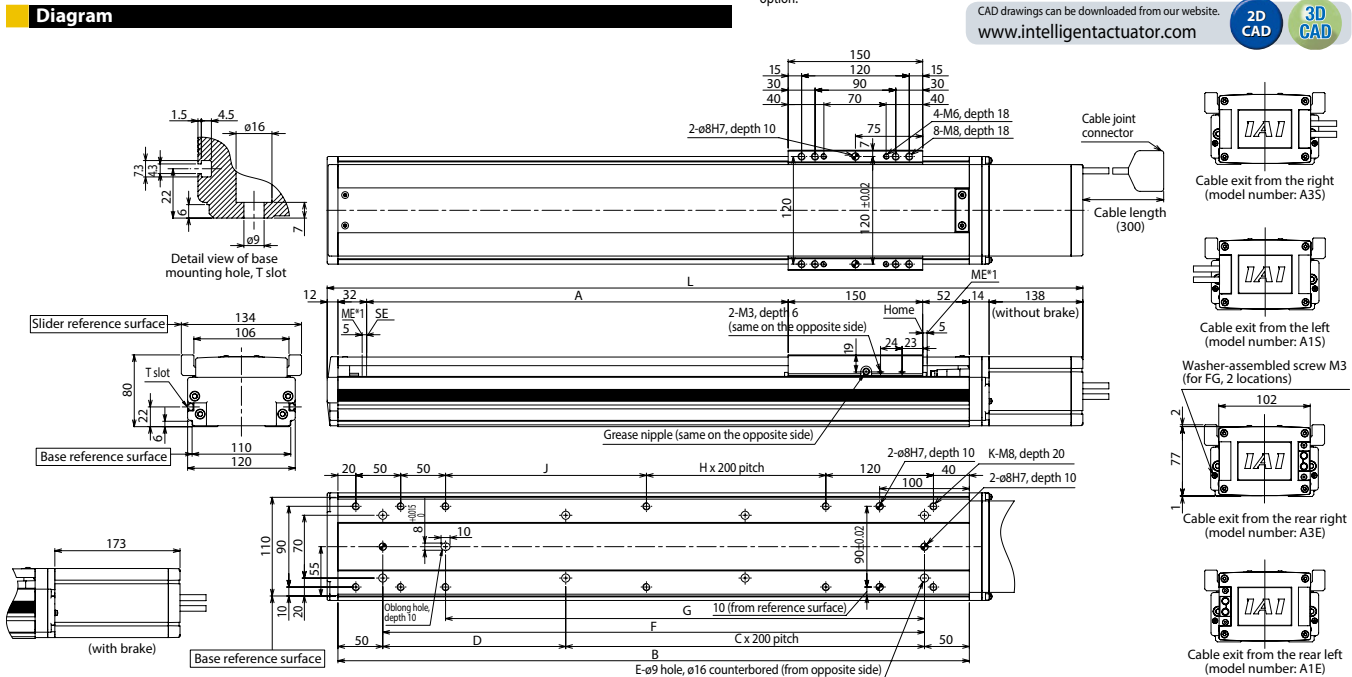
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 120~570)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 620~1270)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Double slider specification	W	→P11
Home limit switch	L	→P10			

Actuator Specifications

Positioning repeatability	±0.01mm
Drive method	Ball screw φ16mm, rolled C10
Lost motion	0.05mm max.
Dynamic allowable load moment (N) (**)	Ma: 123N·m Mb: 176N·m Mc: 227N·m
Overhang load length (**)	Ma direction: 750mm max. Mb, Mc directions: 750mm max
Dynamic straightness (Note 2)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
 ** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



- *1 When the slider is returning to its home position, Please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
 ME: Mechanical End SE: Stroke End
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 37.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

Stroke	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
L without brake	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368	1418	1468	1518	1568	1618	1668
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
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	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404	1454	1504
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	254	104	154	204	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	14	16	16	16
F	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404
G	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	1184	1234	1284	1334
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	74	124	174	224	274	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	18	20	20	20
Mass (kg) without brake	7.9	8.6	9.2	9.8	10.5	11.1	11.7	12.4	13.0	13.6	14.3	14.9	15.5	16.2	16.8	17.5	18.1	18.7	19.4	20.0	20.6	21.3	21.9	22.5
Mass (kg) with brake	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	21.2	21.9	22.5	23.1
Maximum speed (mm/s) Lead 48	1325	1575	1825	2025	2200	2350	2400	2500	2500	2500	2500	2500	2500	2270	2030	1825	1645	1495	1365	1250	1150	1060	980	845

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	Positioner	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	pulse train control	Single-phase AC100/200V	512 (768 for network spec.)	
SSEL-CS	2 axes	program	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes			55,000 (depend on type)	

*The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISB-MXXM-200

ISPB-MXXM-200

High Precision Specification

±10µm
Standard

Battery-less absolute

Medium X-axis

Mid-Support type

Actuator width 120 mm

200 W

Model Specification Items

	MXMX	WA	200			T2		
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISB: Standard specification		WA: Battery-less absolute	200: 200W	30: 30mm 20: 20mm	800: 800mm	T2: SCON MSCON	N : None S : 3m	Refer to the options table below.
ISPB: High precision specification					2000: 2000mm (Every 50mm)	SSEL XSEL-P/Q XSEL-RA/SA	M : 5m X□□ : Specified length	



- Please refer to P.9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)	Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
ISB[ISPB]-MXXM-WA-200-30-①-T2-②-③	200	30	30	—	113.9
ISB[ISPB]-MXXM-WA-200-20-①-T2-②-③		20	45	—	170.9

* Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

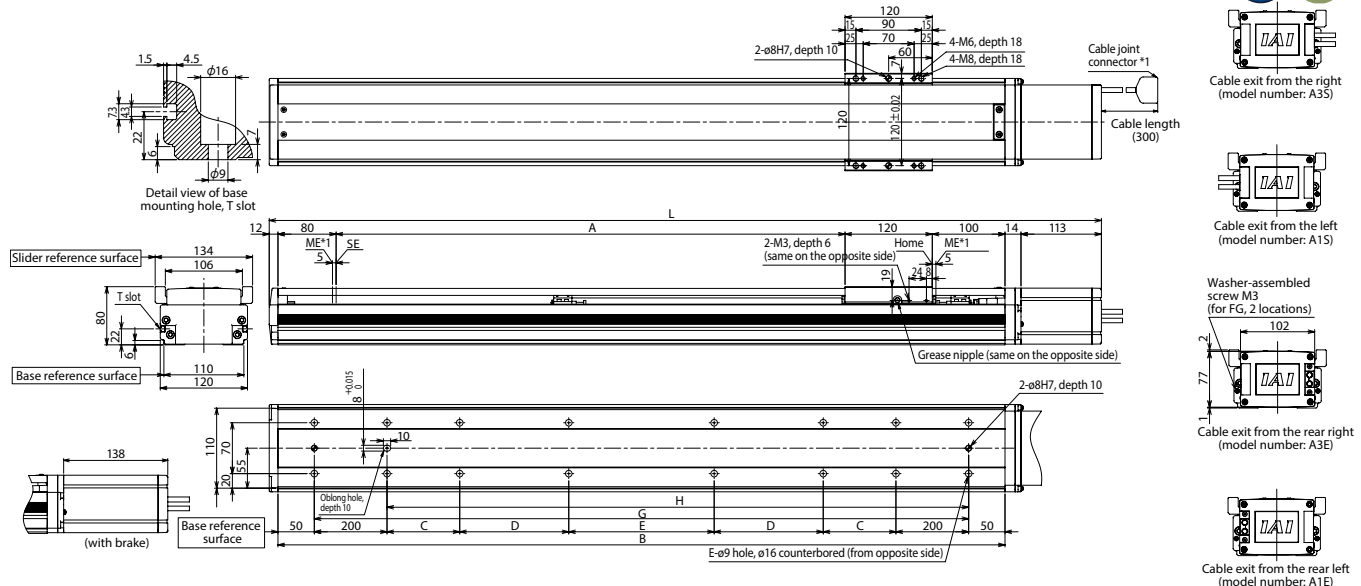
Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT*	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 800~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 1400~1900)	ST	→P12
Home limit switch	L	→P10	High straightness, precision specification (stroke 2000)	ST	→P12

* ISPB can not select RT.

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



*1 When the slide is returning to its home position, please be careful of interference from surfacing objects, as it will travel until it reaches the ME.

ME: Mechanical End SE: Stroke End

* Please return the actuator to us if a home direction change is necessary after purchase.

* The allowable moment offset reference position is 37.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

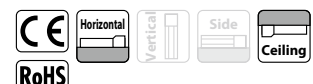
Stroke	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000
L without brake	1239	1289	1339	1389	1439	1489	1539	1589	1639	1689	1739	1789	1839	1889	1939	1989	2039	2089	2139	2189	2239	2289	2339	2389	2439
L with brake	1264	1314	1364	1414	1464	1514	1564	1614	1664	1714	1764	1814	1864	1914	1964	2014	2064	2114	2164	2214	2264	2314	2364	2414	2464
A	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000
B	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300
C	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
D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E	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
F	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	16	16	16	16	16
G	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200
H	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000
Mass (kg)	16.5	17.2	17.8	18.4	19.1	19.7	20.3	21.0	21.6	22.2	22.9	23.5	24.1	24.8	25.4	26.1	26.7	27.3	28.0	28.6	29.2	29.9	30.5	31.1	31.8
Maximum speed (mm/s)	Lead 30	1800						1650	1500	1425	1200	1050	900	750	675										
	Lead 20	1200						1100	1000	950	800	700	600	550	500	450									

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program	
SCON-CB/CGB	1 axes	●	●	-	512 (768 for network spec.)
SCON-LC/LCG	1 axes	-	-	●	512 (768 for network spec.)
SCON-CAL/CGAL	1 axes	●	-	-	512 (768 for network spec.)
MSCON-C	6 axes	This model is network-compatible only.			256
SSEL-CS	2 axes	●	-	-	20000
XSEL-P/Q/RA/SA	8 axes	-	-	●	55,000 (depend on type)

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



ISB-MXMX-400



Model Specification Items	ISB	MXMX	WA	400	48			T2		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*	
			WA: Battery-less absolute	400: 400W	48: 48mm	800: 800mm 2000: 2000mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□: Specified length	Refer to the options table below.	

- Please refer to P.9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Stroke (mm)
ISB-MXMX-WA-400-48-①-T2-②-③	400	48	20	141.3	800~2000 (Every 50mm)

- Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. Please contact IAI for more information.
- (Note 2) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 800~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 1350~1900)	ST	→P12
Home limit switch	L	→P10	High straightness, precision specification (stroke 1950~2000)	ST	→P12

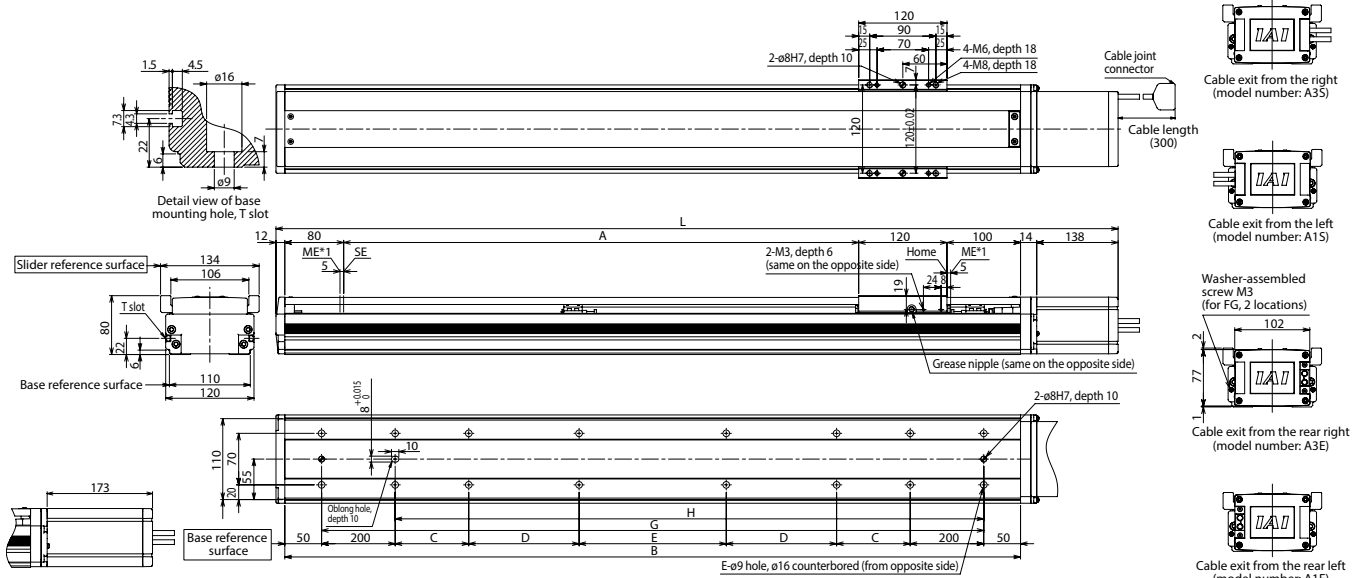
Actuator Specifications

Positioning repeatability	±0.01mm
Drive method	Ball screw φ16mm, rolled C10
Lost motion	0.05mm max.
Dynamic allowable load moment (*)	Ma: 81.0N·m Mb: 116N·m Mc: 189N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max
Dynamic straightness (Note 2)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



- *1 When the slider is returning to its home position, Please be careful of interference from surrounding objects, as it will travel until it reaches the ME. ME: Mechanical End SE: Stroke End
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 37.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

		Stroke	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000
L	without brake	1264	1314	1364	1414	1464	1514	1564	1614	1664	1714	1764	1814	1864	1914	1964	2014	2064	2114	2164	2214	2264	2314	2364	2414	2464	
	with brake	1299	1349	1399	1449	1499	1549	1599	1649	1699	1749	1799	1849	1899	1949	1999	2049	2099	2149	2199	2249	2299	2349	2399	2449	2499	
	A	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	
	B	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	
C		200	200	200	200	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	200	200	200	200	200	
D		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	400	425	450	475	500	
E		200	250	300	350	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
F		12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	16	16	16	16	16	
G		1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	
H		800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	
Mass (kg)	without brake	17.1	17.7	18.4	19.0	19.6	20.3	20.9	21.5	22.2	22.8	23.4	24.1	24.7	25.4	26.0	26.6	27.2	27.9	28.5	29.2	29.8	30.4	31.1	31.7	32.3	
	with brake	17.7	18.3	19	19.6	20.2	20.9	21.5	22.1	22.8	23.4	24	24.7	25.3	25.9	26.6	27.2	27.8	28.5	29.1	29.8	30.4	31	31.7	32.3	32.9	
Maximum speed (mm/s)	Lead 48	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2065	1925	1805	1690	1590	1495	1410	1335	1265	1195	1135	1080	1025	980	

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	●	Single-phase AC100/200V	512 (768 for network spec.)	
SSEL-CS	2 axes	●	●	●	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISB-LXM-200

ISPB-LXM-200

±10μm
Standard

Battery-
less
absolute

Large
X-axis

Standard
Slider
type

Actuator width
150
mm

200
W

High
Precision
Specification

±3μm
High precision

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISB: Standard specification ISPB: High precision specification	ISB	Standard	WA: Battery-less absolute	200: 200W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 1300: 1300mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□ : Specified length	Refer to the options table below.



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)	Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
ISB[ISPB]-LXM-WA-200-40-①-T2-②-③	200	40	15	4	85.5
ISB[ISPB]-LXM-WA-200-20-①-T2-②-③		20	45	10	170.9
ISB[ISPB]-LXM-WA-200-10-①-T2-②-③		10	90	20	341.8

- Legend: ① Stroke ② Cable length ③ Options
- If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 1.0kg.



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT*	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 650~1300)	ST	→P12
Home limit switch	L	→P10	Double slider specification	W	→P11

- * ISPB can not select RT.

Actuator Specifications

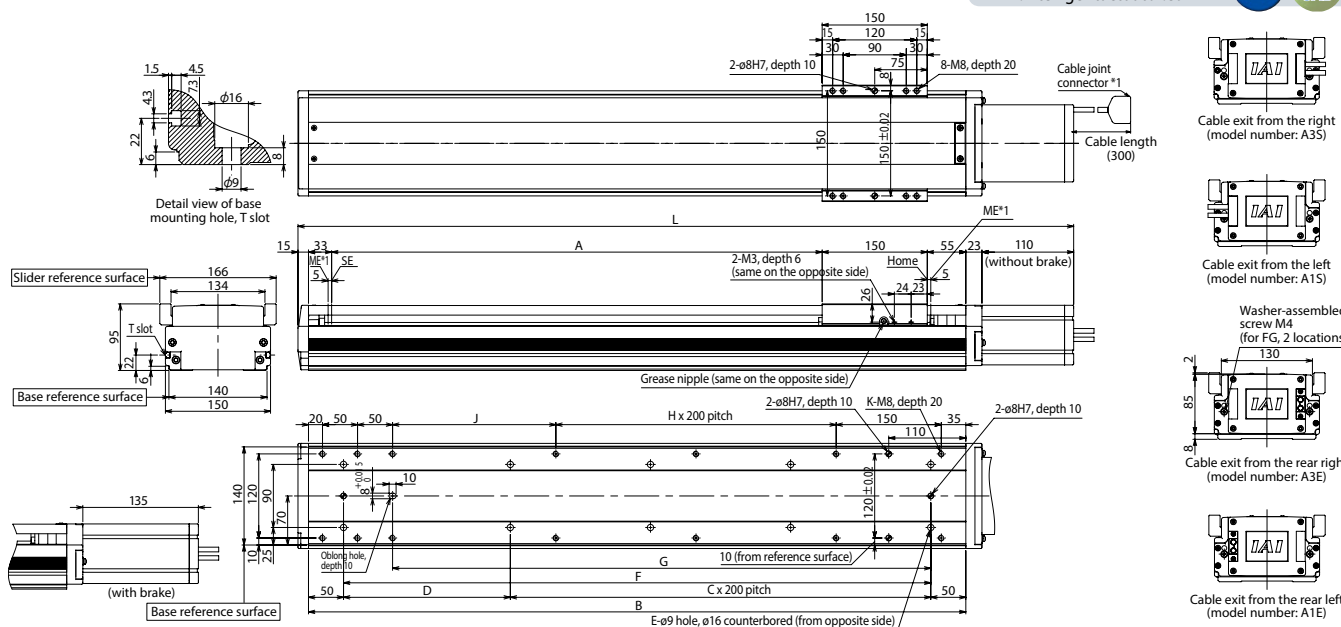
Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
Drive method (Note 3)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (*)(**)	Ma: 123N·m Mb: 176N·m Mc: 291N·m
Overhang load length(**)	Ma direction: 750mm max. Mb, Mc directions: 750mm max
Dynamic straightness (Note 5)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

- * Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
- ** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD



Dimensions and Mass by Stroke

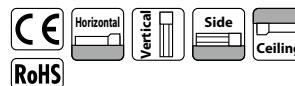
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
L without brake	486	536	586	636	686	736	786	836	886	936	986	1036	1086	1136	1186	1236	1286	1336	1386	1436	1486	1536	1586	1636	1686
L with brake	511	561	611	661	711	761	811	861	911	961	1011	1061	1111	1161	1211	1261	1311	1361	1411	1461	1511	1561	1611	1661	1711
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	10	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)	9.4	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	2400																							
	Lead 20	1200																							
	Lead 10	600																							
		1840																							
		920																							
		460																							

- *1 When the slide is returning to its home position, please be careful of interference from surfacing objects, as it will travel until it reaches the ME.
- ME: Mechanical End
SE: Stroke End
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 44.5mm from the slider work mounting position.

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program	
SCON-CB/CGB	1 axes	●	●	-	512 (768 for network spec.)
SCON-LC/LCG	1 axes	-	-	●	512 (768 for network spec.)
SCON-CAL/CGAL	1 axes	●	-	-	512 (768 for network spec.)
MSCON-C	6 axes	This model is network-compatible only.			256
SSEL-CS	2 axes	●	-	-	20000
XSEL-P/Q/RA/SA	8 axes	●	-	●	55,000 (depend on type)

- The type of compatible networks will vary depending on controller. Please contact IAI for more information.



- * Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISB-LXM-400

ISPB-LXM-400

±10µm
Standard

Battery-
less
absolute

Large
X-axis

Standard
Slider
type

Actuator width
150
mm

400
W

High
Precision
Specification

±3µm
High precision

Model
Specification
Items

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

ISB: Standard specification
ISPB: High precision specification

WA: Battery-less absolute

400: 400W

40: 40mm
20: 20mm
10: 10mm

100: 100mm
1300: 1300mm (Every 50mm)

T2: SCON
SSEL
XSEL-P/Q
XSEL-RA/SA

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

Refer to the options table below.



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Stroke (mm)
ISB[ISPB]-LXM-WA-400-40-①-T2-②-③	400	40	40 10	169.6	100~1300 (Every 50mm)
ISB[ISPB]-LXM-WA-400-20-①-T2-②-③		20	90 20	339.1	
ISB[ISPB]-LXM-WA-400-10-①-T2-②-③		10	120 40	678.3	

- Legend: ① Stroke ② Cable length ③ Options
- If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 1.0kg.

- (Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT*	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 650~1300)	ST	→P12
Home limit switch	L	→P10	Double slider specification	W	→P11

- * ISPB can not select RT.

Actuator Specifications

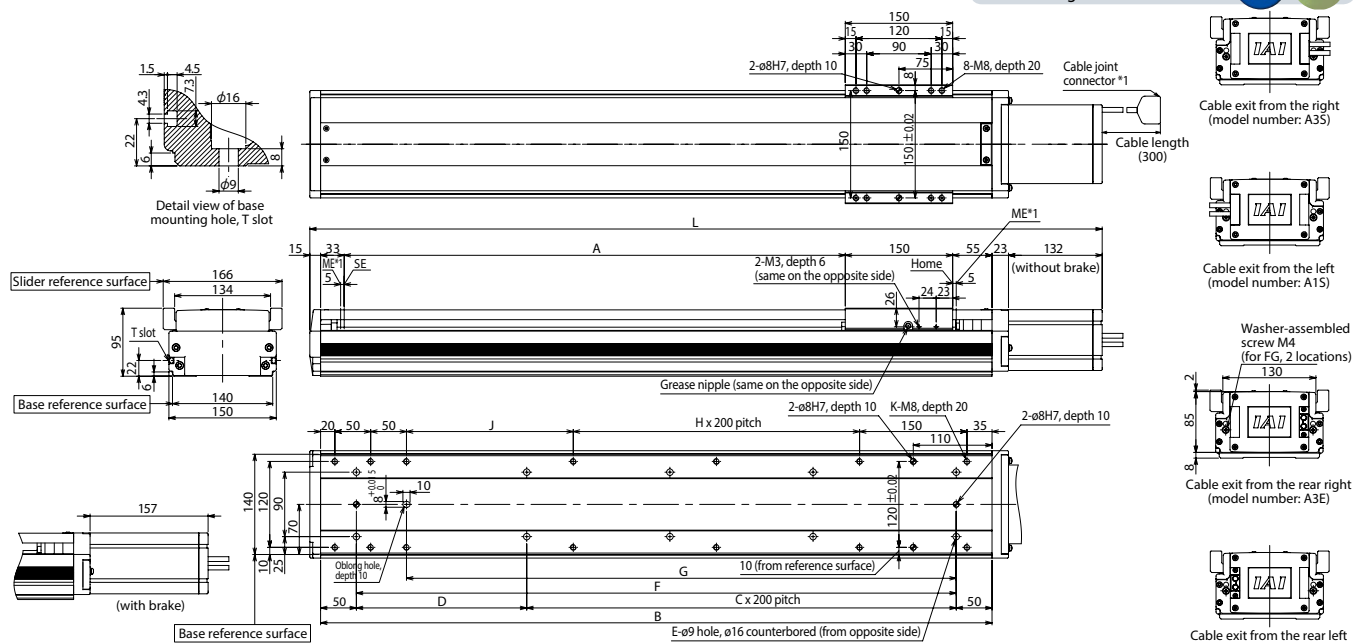
Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
Drive method (Note 3)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (*)	Ma: 123N·m Mb: 176N·m Mc: 291N·m
Overhang load length(**)	Ma direction: 750mm max. Mb, Mc directions: 750mm max
Dynamic straightness (Note 5)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Dimensions and Mass by Stroke

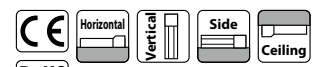
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
L																									
without brake	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358	1408	1458	1508	1558	1608	1658	1708
with brake	533	583	633	683	733	783	833	883	933	983	1033	1083	1133	1183	1233	1283	1333	1383	1433	1483	1533	1583	1633	1683	1733
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	3	3	4	4	4	4	5	5	5	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	10	12	12	12	12	14	14	14	14	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								2400								1840	1530	1290		1100		880		
	Lead 20								1200								920	765	645		550		440		
	Lead 10								600								460	380	320		270		220		

- *1 When the slide is returning to its home position, please be careful of interference from surfacing objects, as it will travel until it races the ME.
- ME: Mechanical End
SE: Stroke End
- * Please return the actuator to its home position if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 44.5mm from the slider work mounting position.

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	Positioner	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	pulse train control		512 (768 for network spec.)	
SSEL-CS	2 axes	program	Single-phase AC100/200V	20000	
XSEL-P/Q/RA/SA	8 axes		Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

- The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISB-LXL-200

ISPB-LXL-200

±10µm
Standard

Battery-
less
absolute

Large
X-axis

Long
Slider
type

Actuator width
150
mm

200
W

High
Precision
Specification

±3µm
High precision

Model Specification Items: LXL — WA — 200 — T2

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

ISB: Standard specification
ISPB: High precision specification

WA: Battery-less absolute

200: 200W

40: 40mm
20: 20mm
10: 10mm

120: 120mm
1270: 1270mm (Every 50mm)

T2: SCON
MSCON
SSEL
XSEL-P/Q
XSEL-RA/SA

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

Refer to the options table below.



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Stroke (mm)
ISB[ISPB]-LXL-WA-200-40-①-T2-②-③	200	40	15 4	85.5	120~1270 (Every 50mm)
ISB[ISPB]-LXL-WA-200-20-①-T2-②-③		20	45 10	170.9	
ISB[ISPB]-LXL-WA-200-10-①-T2-②-③		10	90 20	341.8	

Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPD/BCR series. Other specifications apply to both the ISD/BCR and ISPD/BCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

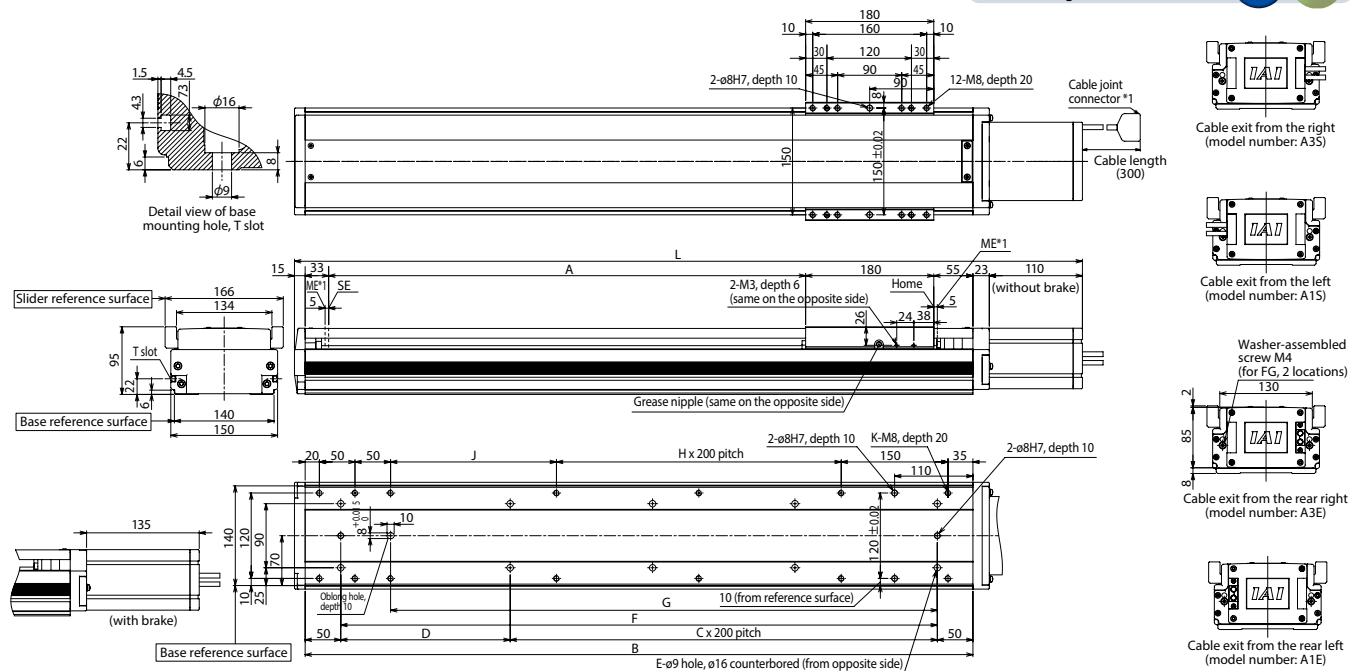
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 120~570)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 620~1270)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Double slider specification	W	→P11
Home limit switch	L	→P10			

Actuator Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
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 (*) [**]	Ma: 162N·m Mb: 231N·m Mc: 327N·m
Overhang load length(**)	Ma direction: 900mm max. Mb, Mc directions: 900mm max
Dynamic straightness (Note 5)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



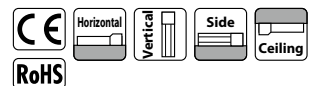
Dimensions and Mass by Stroke

Stroke	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
L without 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
L with brake	561	611	661	711	761	811	861	911	961	1011	1061	1111	1161	1211	1261	1311	1361	1411	1461	1511	1561	1611	1661	1711
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	2400										1840										1100		
	Lead 20	1200										920										550		
	Lead 10	600										460										270		

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	•	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	•		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	•		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.		256	
SSEL-CS	2 axes	•	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	•		55,000 (depend on type)	

• The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISB-LXL-400

ISPB-LXL-400

High Precision Specification

±10μm
Standard

±3μm
High precision

Battery-less absolute

Large X-axis

Long Slider type

Actuator width 150 mm

400 W

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISB: Standard specification ISPB: High precision specification	LXL	WA	400	400W	40: 40mm 20: 20mm 10: 10mm	120: 120mm 1270: 1270mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□ : Specified length	Refer to the options table below.



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Stroke (mm)
ISB[ISPB]-LXL-WA-400-40-①-T2-②-③	400	40	40	10	169.6
ISB[ISPB]-LXL-WA-400-20-①-T2-②-③		20	90	20	339.1
ISB[ISPB]-LXL-WA-400-10-①-T2-②-③		10	120	40	678.3

Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPD/BCR series. Other specifications apply to both the ISD/BCR and ISPD/BCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 120~570)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 620~1270)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Double slider specification	W	→P11
Home limit switch	L	→P10			

Actuator Specifications

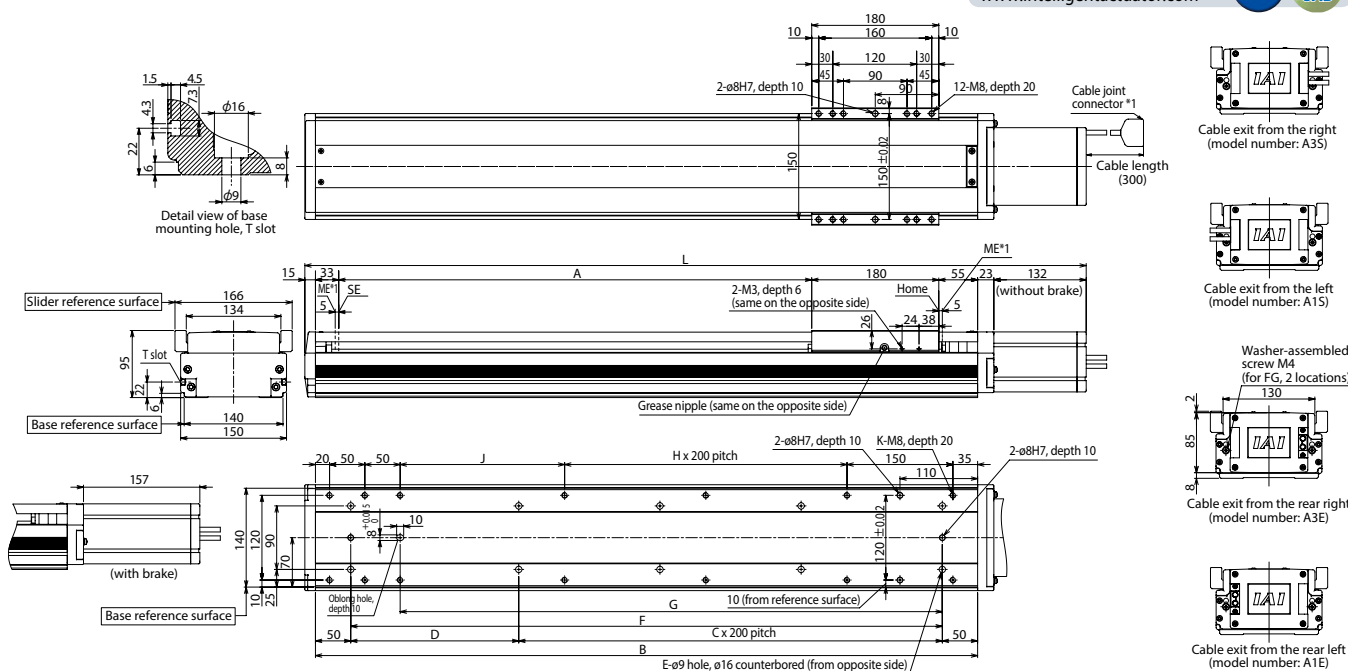
Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
Drive method (Note 3)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (**) [**]	Ma: 162N·m Mb: 231N·m Mc: 327N·m
Overhang load length(**)	Ma direction: 900mm max. Mb, Mc directions: 900mm max
Dynamic straightness (Note 5)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Diagram



Dimensions and Mass by Stroke

Stroke	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
L without 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
A with brake	583	633	683	733	783	833	883	933	983	1033	1083	1133	1183	1233	1283	1333	1383	1433	1483	1533	1583	1633	1683	1733
B	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
C	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	1488	1538
D	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	5	5	5	5	6	6	6	6
E	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438
F	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	14	14	14	14	16	16	16	16
G	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438
H	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368
I	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)	Lead 40	2400										1840										1100		
	Lead 20	1200										920										765		
	Lead 10	600										460										320		

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	●	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	Single-phase AC100/200V	512 (768 for network spec.)	
SSEL-CS	2 axes	-	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	-	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



RoHS

* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISB-LXMX-200

ISPB-LXMX-200

High Precision Specification

±10μm Standard

±3μm High precision

Battery-less absolute

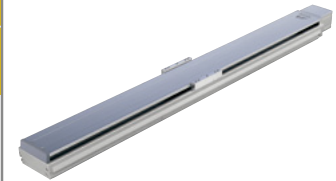
Large X-axis

Mid-Support type

Actuator width 150 mm

200 W

Model Specification Items									
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISB: Standard specification	LXMX	WA	200	20	1000: 1000mm	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□ : Specified length	Refer to the options table below.	
ISPB: High precision specification					2500: 2500mm (Every 50mm)				



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Stroke (mm)
ISB[ISPB]-LXMX-WA-200-20-①-T2-②-③	200	20	45	170.9	1000~2500 (Every 50mm)

- Legend: ① Stroke ② Cable length ③ Options



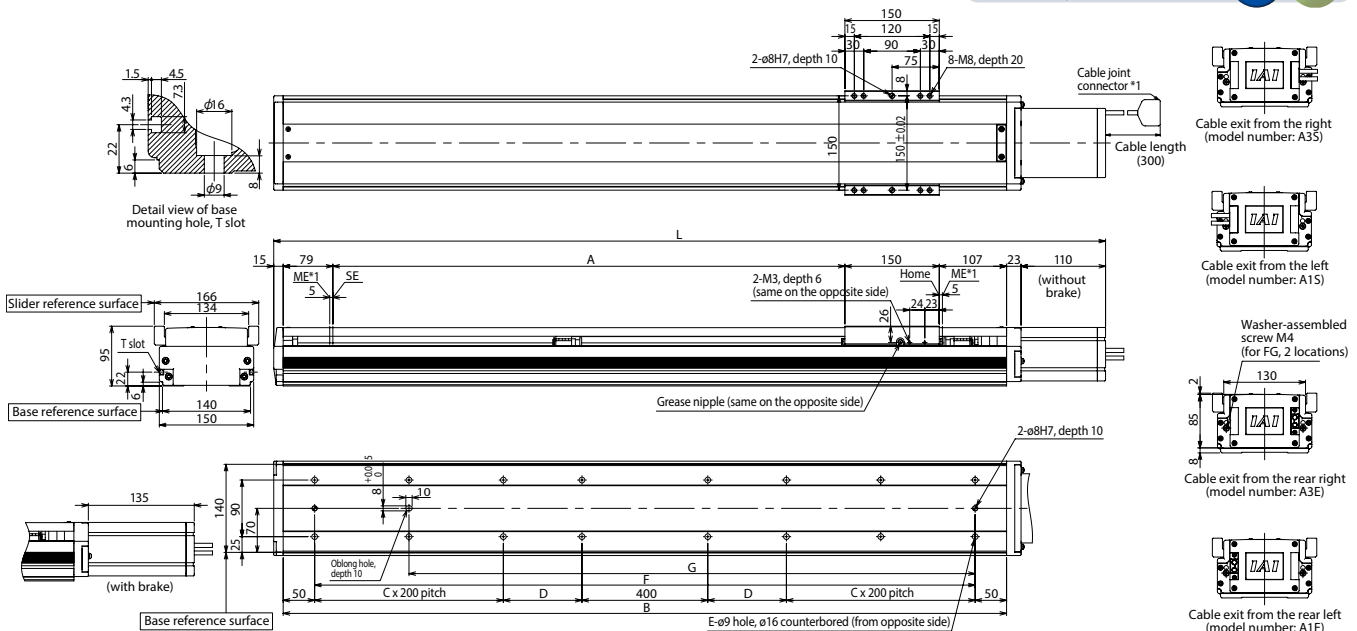
- (Note 1) The value of payload is when operating at an acceleration of 0.4G. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPBDCR series. Other specifications apply to both the ISBDCR and ISPBDCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT*	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 1000~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 1400~1900)	ST	→P12
Home limit switch	L	→P10	High straightness, precision specification (stroke 2000~2500)	ST	→P12

- * ISPB can not select RT.

Diagram



- *1 When the slide is returning to its home position, please be careful of interference from surfing objects, as it will travel until it races the ME.

ME: Mechanical End SE: Stroke End

- * Please return the actuator to us if a home direction change is necessary after purchase.

- * The allowable moment offset reference position is 44.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

L	Stroke	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500														
	without brake	1498	1548	1598	1648	1698	1748	1798	1848	1898	1948	1998	2048	2098	2148	2198	2248	2298	2348	2398	2448	2498	2548	2598	2648	2698	2748	2798	2848	2898	2948	2998														
	with brake	1523	1573	1623	1673	1723	1773	1823	1873	1923	1973	2023	2073	2123	2173	2223	2273	2323	2373	2423	2473	2523	2573	2623	2673	2723	2773	2823	2873	2923	2973	3023														
	A	1014	1064	1114	1164	1214	1264	1314	1364	1414	1464	1514	1564	1614	1664	1714	1764	1814	1864	1914	1964	2014	2064	2114	2164	2214	2264	2314	2364	2414	2464	2514														
	B	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850														
C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3															
D	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775	800	825	850	875	900	925	950	975															
E	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	16	16	16	16	16	16	16	16	16	20	20	20	20	20	20															
F	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750															
G	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550															
Mass (kg)		27.3	28.2	29.0	29.9	30.8	31.7	32.5	33.4	34.3	35.2	36.1	36.9	37.8	38.7	39.6	40.4	41.3	42.2	43.1	44.0	44.8	45.7	46.6	47.5	48.3	49.2	50.1	51.0	51.8	52.7	53.6														
Maximum speed (mm/s)	Lead 20	1200						1150			1000			950			830			740			650			590			540			490			440			410			370			340		

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	●	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.		256	
SSEL-CS	2 axes	-	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	-		55,000 (depend on type)	

- The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



35

ISB-LXUWX-200

ISPB-LXUWX-200

High Precision Specification

±10μm
Standard

±3μm
High precision

Battery-less absolute

Large X-axis

Mid-Support type

Double Slider type

Actuator width 150 mm

200 w



Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISB: Standard specification ISPB: High precision specification	ISB: Standard specification ISPB: High precision specification	WA: Battery-less absolute	200: 200W 20: 20mm	1000: 1000mm 2500: 2500mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□ : Specified length	Refer to the options table below.		

- Please refer to P.9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Stroke (mm)
ISB[ISPB]-LXUWX-WA-200-20-①-T2-②-③	200	20	45	170.1	1000~2500 (Every 50mm)

- Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT*	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 1000~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 1400~1900)	ST	→P12
Home limit switch	L	→P10	High straightness, precision specification (stroke 2000~2500)	ST	→P12

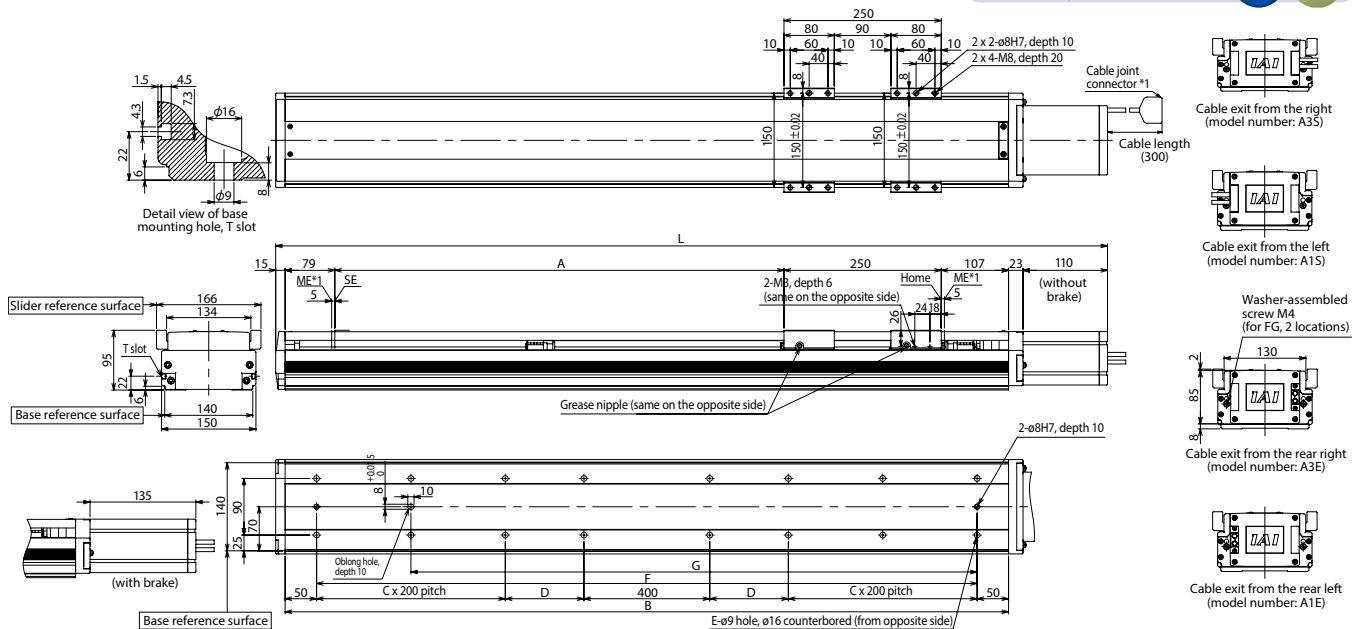
- * ISPB can not select RT.

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD



- *1 When the slide is returning to its home position, please be careful of interference from surfing objects, as it will travel until it races the ME.

ME: Mechanical End SE: Stroke End

- * Please return the actuator to us if a home direction change is necessary after purchase.

- * The allowable moment offset reference position is 44.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

Stroke		1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500																									
L	without brake	1598	1648	1698	1748	1798	1848	1898	1948	1998	2048	2098	2148	2198	2248	2298	2348	2398	2448	2498	2548	2598	2648	2698	2748	2798	2848	2898	2948	2998	3048	3098																									
	with brake	1623	1673	1723	1773	1823	1873	1923	1973	2023	2073	2123	2173	2223	2273	2323	2373	2423	2473	2523	2573	2623	2673	2723	2773	2823	2873	2923	2973	3023	3073	3123																									
A		1014	1064	1114	1164	1214	1264	1314	1364	1414	1464	1514	1564	1614	1664	1714	1764	1814	1864	1914	1964	2014	2064	2114	2164	2214	2264	2314	2364	2414	2464	2514																									
B		1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950																									
C		1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3																										
D		275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775	800	825	850	875	900	925	950	975	1000																										
E		12	12	12	12	12	12	12	12	12	12	12	12	12	12	16	16	16	16	16	16	16	16	20	20	20	20	20	20	20	20																										
F		1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850																									
G		1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650																									
Mass (kg)		30.4	31.2	32.1	33.0	33.9	34.7	35.6	36.5	37.4	38.3	39.1	40.0	40.9	41.8	42.6	43.5	44.4	45.3	46.1	47.0	47.9	48.8	49.7	50.5	51.4	52.3	53.2	54.0	54.9	55.8	56.7																									
Maximum speed (mm/s)	Lead 20	1200				1150				1000				950				830				740				650				590				540				490				440				410				370				340			

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	●	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	●		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.		256	
SSEL-CS	2 axes	●	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	●		55,000 (depend on type)	

- The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



ISB-LXUWX-400

ISPB-LXUWX-400

±10µm
Standard

Battery-
less
absolute

Large
X-axis

Mid-
Support
type

Double
Slider
type

Actuator width
150
mm

400
w

High
Precision
Specification

±3µm
High precision

Model Specification Items									
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
	ISB: Standard specification ISPB: High precision specification	WA: Battery-less absolute	400: 400W	40: 40mm 20: 20mm	1000: 1000mm 2500: 2500mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□: Specified length	Refer to the options table below.	



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Stroke (mm)
ISB[ISPB]-LXUWX-WA-400-40- 1 -T2- 2 - 3	400	40	40	169.6	1000~2500 (Every 50mm)
ISB[ISPB]-LXUWX-WA-400-20- 1 -T2- 2 - 3		20	90	339.1	

* Legend: 1 Stroke 2 Cable length 3 Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

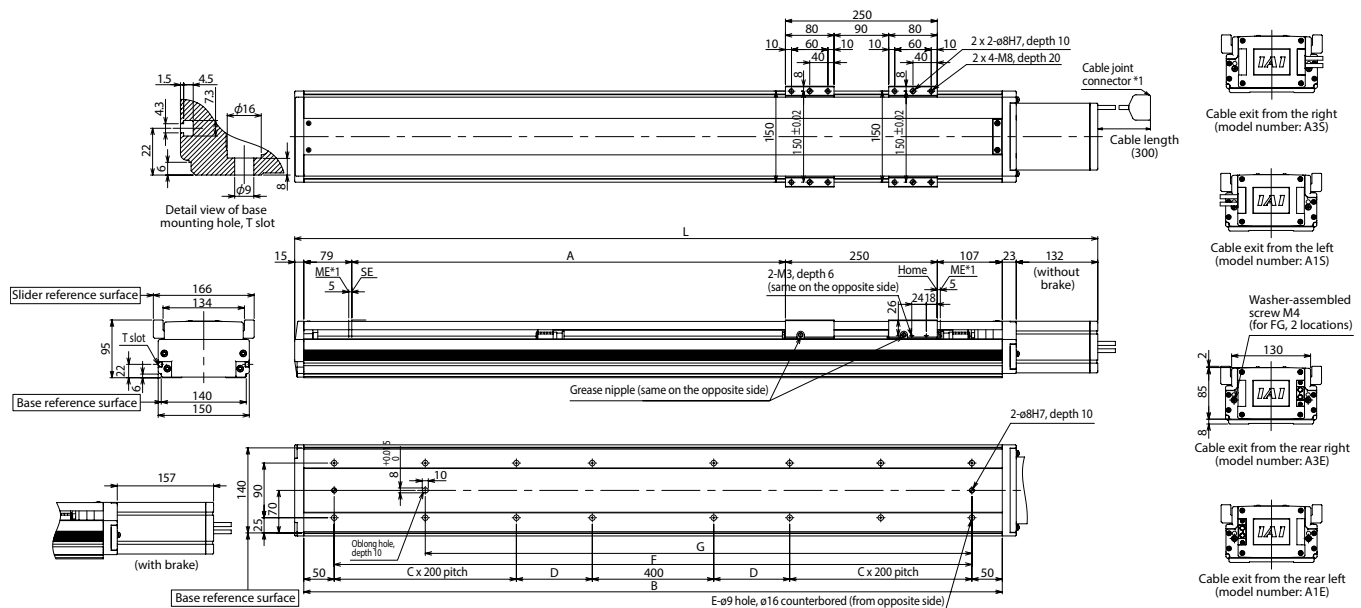
Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P10	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT*	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 1000~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 1400~1900)	ST	→P12
Home limit switch	L	→P10	High straightness, precision specification (stroke 2000~2500)	ST	→P12

* ISPB can not select RT.

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



- *1 When the slide is returning to its home position, please be careful of interference from surfing objects, as it will travel until it races the ME.
ME: Mechanical End SE: Stroke End
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 44.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

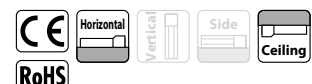
	Stroke	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500
L	without brake	1620	1670	1720	1770	1820	1870	1920	1970	2020	2070	2120	2170	2220	2270	2320	2370	2420	2470	2520	2570	2620	2670	2720	2770	2820	2870	2920	2970	3020	3070	3120
	with brake	1645	1695	1745	1795	1845	1895	1945	1995	2045	2095	2145	2195	2245	2295	2345	2395	2445	2495	2545	2595	2645	2695	2745	2795	2845	2895	2945	2995	3045	3095	3145
A		1014	1064	1114	1164	1214	1264	1314	1364	1414	1464	1514	1564	1614	1664	1714	1764	1814	1864	1914	1964	2014	2064	2114	2164	2214	2264	2314	2364	2414	2464	2514
B		1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950
C		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3
D		275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775	800	825	850	875	900	925	950	975	1000	1025
E		12	12	12	12	12	12	12	12	12	12	12	12	12	12	16	16	16	16	16	16	16	16	20	20	20	20	20	20	20	20	20
F		1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850
G		1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650
Mass (kg)		30.8	31.7	32.6	33.5	34.3	35.2	36.1	37.0	37.8	38.7	39.6	40.5	41.4	42.2	43.1	44.0	44.9	45.7	46.6	47.5	48.4	49.2	50.1	51.0	51.9	52.8	53.6	54.5	55.4	56.3	57.1
Maximum speed (rpm/s)	Lead 40																															
	Lead 20																															

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	Positioner	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	pulse train control	Single-phase AC100/200 V	512 (768 for network spec.)	
SSEL-CS	2 axes	program	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes			55,000 (depend on type)	

*The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



SSPA-SXM-200

High Precision Specification

±5μm
High precision

Small X-axis

High Rigidity

Actuator width 100 mm

200 W



Model Specification Items	SSPA	SXM		200				T2		
Series	SSPA	SXM		200				T2		
Type										
Encoder type	A: Absolute specification I: Incremental specification			200: 200W	30: 30mm 20: 20mm 10: 10mm	100: 100mm 200: 200mm 1100: 1100mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA		N : None S : 3m M : 5m X□□: Specified length	Refer to the options table below.

- Please refer to P.9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Stroke (mm)
SSPA-SXM-①-200-30-②-T2-③-④	200	30	30 4	113.9	100~1100 (Every 50mm)
SSPA-SXM-①-200-20-②-T2-③-④		20	45 6	170.9	
SSPA-SXM-①-200-10-②-T2-③-④		10	90 12	341.8	

Legend: ① Encoder type ② Stroke ③ Cable length ④ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

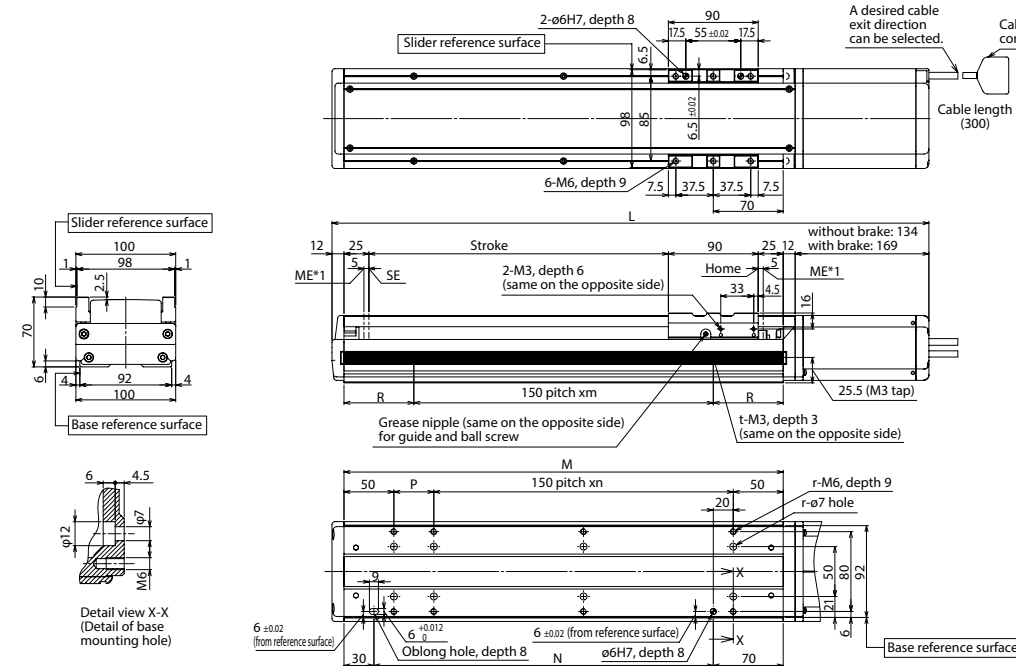
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear left	A1E	→P10	Electrolytic black coating (stroke 100~300)	MD	→P11
Cable exit from the right	A3S	→P10	Electrolytic black coating (stroke 350~600)	MD	→P11
Cable exit from the rear right	A3E	→P10	Electrolytic black coating (stroke 650~900)	MD	→P11
AQ seal (standard feature)	AQ	→P10	Electrolytic black coating (stroke 950~1100)	MD	→P11
Brake	B	→P10	Non-motor end specification	NM	→P11
Creep sensor	C	→P10	Guide with ball retention mechanism	RT	→P11
Creep sensor on the opposite side	CL	→P10	Slave axis specification	S	→P11
Home limit switch	L	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Home limit switch on the opposite side	LL	→P10	High straightness, precision specification (stroke 650~1100)	ST	→P12
Master axis specification	LM	→P11			

Actuator Specifications

Positioning repeatability	±0.005mm
Drive method	Ball screw φ16mm, equivalent to rolled C5
Lost motion	0.02mm max.
Dynamic allowable load moment (*)	Ma: 43.4N·m Mb: 43.4N·m Mc: 116N·m
Overhang load length	Ma direction: 450mm max. Mb, Mc directions: 450mm max
Dynamic straightness (Note 2)	0.015mm/m max.
Base	Material: Cast iron with coating
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

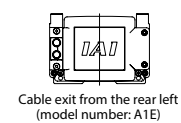
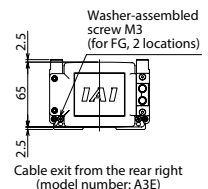
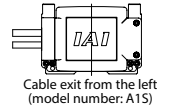
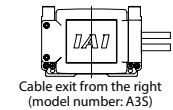
* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

Diagram



CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD



Dimensions and Mass by Stroke

L	Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
	without brake	398	448	498	548	598	648	698	748	798	848	898	948	998	1048	1098	1148	1198	1248	1298	1348	1398
	with brake	433	483	533	583	633	683	733	783	833	883	933	983	1033	1083	1133	1183	1233	1283	1333	1383	1433
	M	240	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240
	N	140	190	240	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140
	P	140	40	90	140	40	90	140	40	90	140	40	90	140	40	90	140	40	90	140	40	90
	R	45	70	20	45	70	20	45	70	20	45	70	20	45	70	20	45	70	20	45	70	20
	m	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8
	n	0	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7
	r	4	6	6	6	8	8	8	10	10	10	12	12	12	14	14	14	16	16	16	18	18
	t	2	2	3	3	3	4	4	4	5	5	5	6	6	7	7	7	8	8	8	9	9
	Mass (kg)	6.8	7.4	8.1	8.7	9.3	10.0	10.6	11.2	11.9	12.5	13.1	13.8	14.4	15.0	15.6	16.3	16.9	17.5	18.2	18.8	19.4
	Maximum speed (mm/s)	Lead 30					1800						1680	1480	1320	1180	1060	960	870	790	730	670
		Lead 20					1200						1120	990	880	780	710	640	580	530	480	440
		Lead 10					600						560	490	440	390	350	320	290	260	240	220

*1 When the slide is returning to its home position, please be careful of interference from surfing objects, as it will travel until it races the ME. ME: Mechanical End SE: Stroke End

* Please return the actuator to its home position if a home direction change is necessary after purchase.

* The allowable moment offset reference position is 45mm from the slider work mounting position.

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	●		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●	-	-		512 (768 for network spec.)	
MSCON-CS	6 axes	This model is network-compatible only.				256	
SSEL-C	2 axes	●	-	-	20000		
XSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



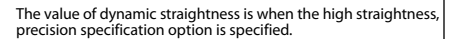
* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

400
w

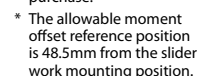
Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

• Legend: ① Encoder type ② Stroke ③ Cable length ④ Options



* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

3D CAD



●The type of compatible networks will vary depending on controller. Please contact IAI for more information.

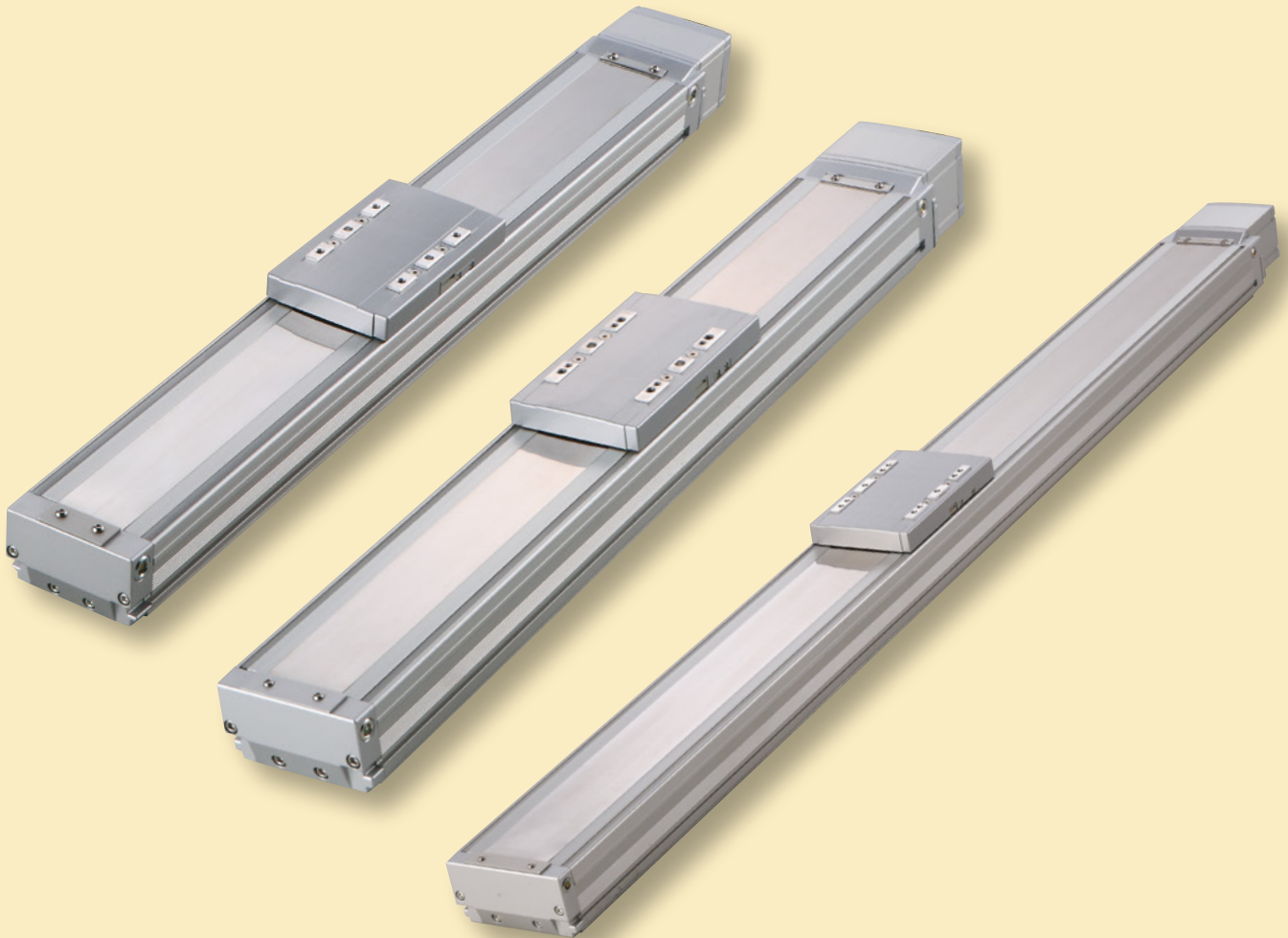


* Some

* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Simple, Dustproof Type

ISDB / ISPDB



ISDB-S-60

ISPDB-S-60

±10μm
Standard

Battery-
less
absolute

Simple
Dust
Proof

Small
type

Actuator width
90
mm

60
W

High
Precision
Specification

±3μm
High precision

Model Specification Items		S	WA	60			T2		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDB: Standard specification			WA: Battery-less absolute	60: 60W	16: 16mm 8: 8mm 4: 4mm	100: 100mm 800: 800mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□: Specified length	Refer to the options table below.
ISPDB: High precision specification									



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)	Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
ISDB[ISPDB]-S-WA-60-16-①-T2-②-③	60	16	13	3	53.1
ISDB[ISPDB]-S-WA-60-8-①-T2-②-③		8	27	6	106.1
ISDB[ISPDB]-S-WA-60-4-①-T2-②-③		4	55	14	212.3

* Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 4mm lead) When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 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.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P10	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	Slider roller specification	SR	→P10
Creep sensor	C	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 650~800)	ST	→P12
Home limit switch	L	→P10	Double slider specification	W	→P11
Home limit switch on the opposite side	LL	→P10			

* ISPDB can not select RT.

Actuator Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
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 (**) [**]	Ma: 32.9N·m Mb: 47.0N·m Mc: 76.8N·m
Overhang load length(**)	Ma direction: 450mm max. Mb, Mc directions: 450mm max
Dynamic straightness (Note 5)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Protection structure	IP30
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

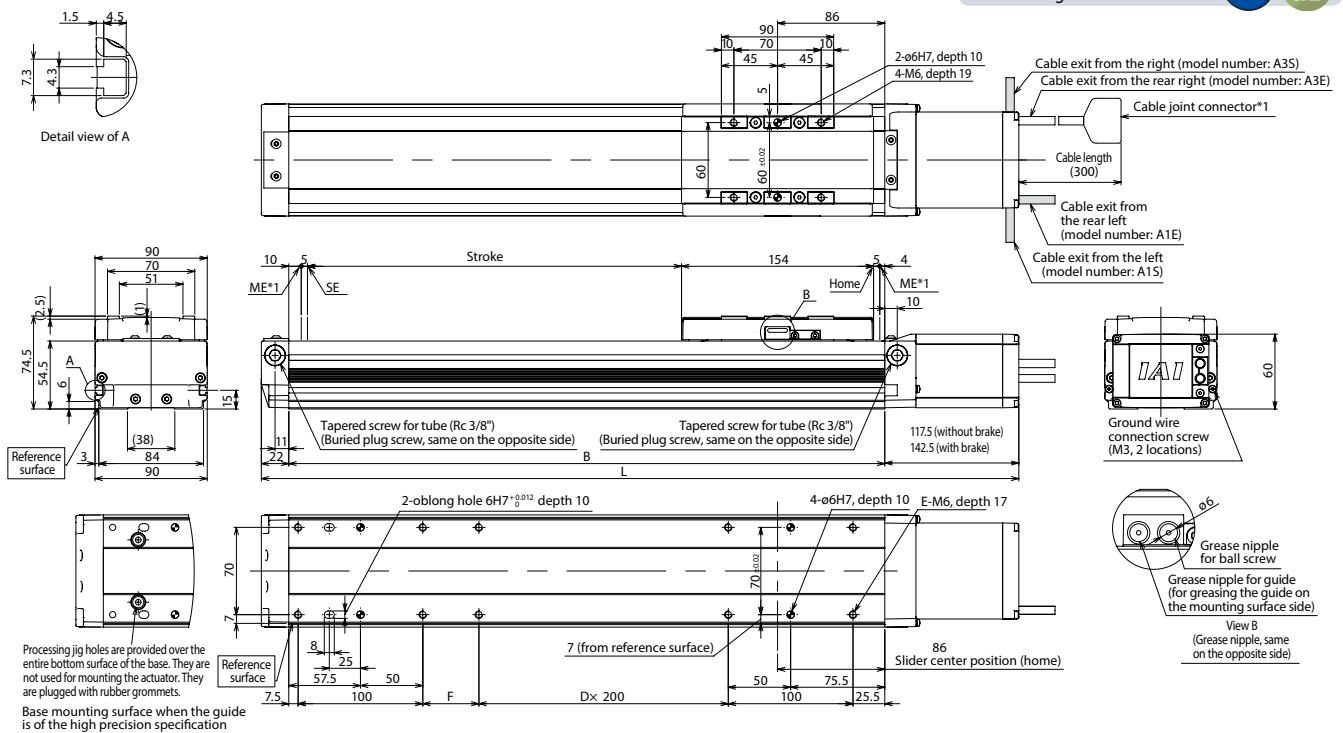
* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD



Dimensions and Mass by Stroke

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L without 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
L with brake	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5	1142.5
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)	4.1	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)	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

- *1 When the slide is returning to its home position, please be careful of interference from surfing objects, as it will travel until it races the ME.
ME: Mechanical End SE: Stroke End
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 42.5mm from the slider work mounting position.

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program	
SCON-CB/CGB	1 axes	●	●	-	512 (768 for network spec.)
SCON-LC/LCG	1 axes	-	-	●	512 (768 for network spec.)
SCON-CAL/CGAL	1 axes	●	-	-	512 (768 for network spec.)
MSCON-C	6 axes	This model is network-compatible only.			256
SSEL-CS	2 axes	●	-	-	20000
XSEL-P/Q/RA/SA	8 axes	-	-	●	55,000 (depend on type)

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

100
w



Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

- Legend: ① Stroke ② Cable length ③ Options
- If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 0.5kg.



The value of dynamic straightness is when the high straightness, precision specification option is specified.

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
 ** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

2D
CAD

* The allowable moment offset reference position is 42.5mm from the slider work mounting position.

Ceiling

* Some

* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISDB-M-100

ISPDB-M-100

High Precision Specification

±10µm Standard

±3µm High precision

Battery-less absolute

Simple Dust Proof

Medium type

Actuator width 120 mm

100 w



Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDB: Standard specification	ISDB	M	WA	100	30: 30mm 20: 20mm 10: 10mm 5: 5mm	100: 100mm 1100: 1100mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.

- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)	Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
ISDB[ISPDB]-M-WA-100-30-①-T2-②-③	100	30	15	2	56.6
ISDB[ISPDB]-M-WA-100-20-①-T2-②-③		20	23	4	84.9
ISDB[ISPDB]-M-WA-100-10-①-T2-②-③		10	45	10	169.8
ISDB[ISPDB]-M-WA-100-5-①-T2-②-③		5	85	20	339.7

* Legend: ① Stroke ② Cable length ③ Options



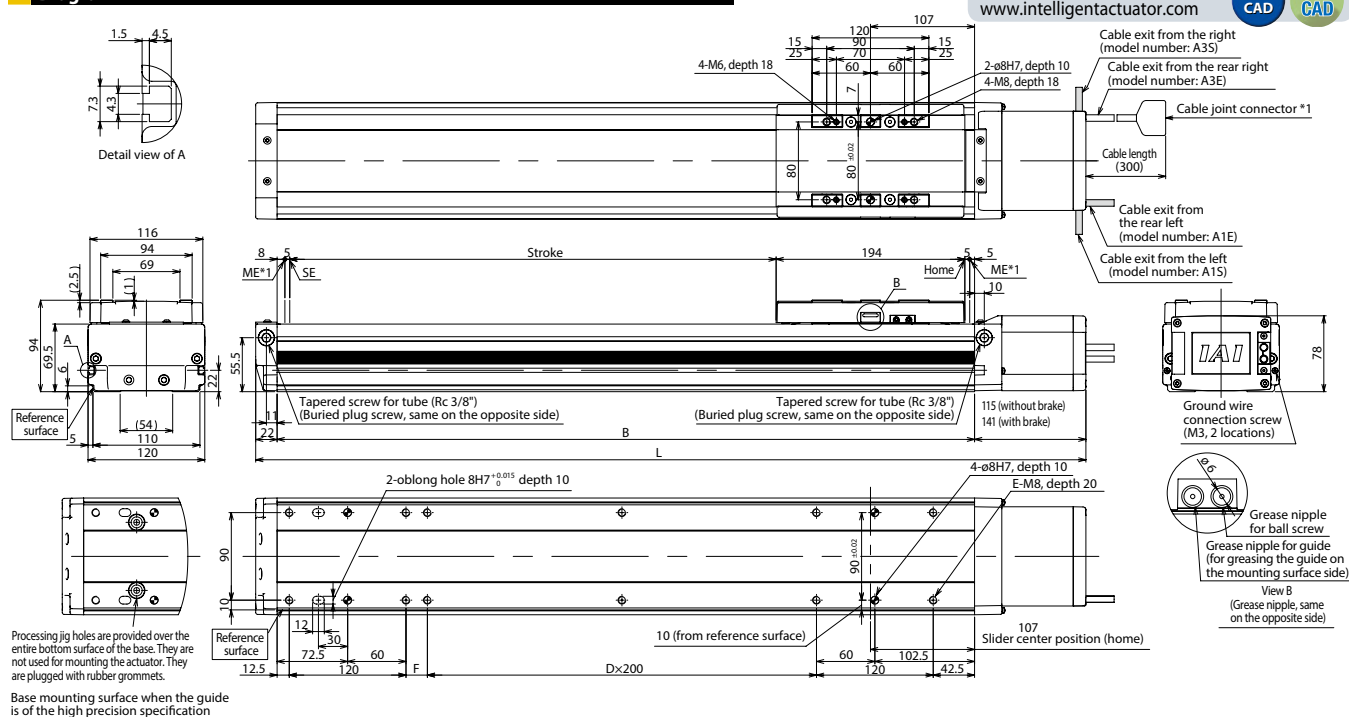
- (Note 1) The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 5mm lead) When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply to the ISPDB series. Other specification values apply commonly to the ISDB and ISPDB.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P10	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	Slider roller specification	SR	→P10
Creep sensor	C	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 650~1100)	ST	→P12
Home limit switch	L	→P10	Double slider specification	W	→P11
Home limit switch on the opposite side	LL	→P10			

* ISPDB can not select RT.

Diagram



Dimensions and Mass by Stroke

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L without brake	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404	1454
L 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)	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																					
Lead 20																					
Lead 10																					
Lead 5																					

- *1 When the slide is returning to its home position, please be careful of interference from surging objects, as it will travel until it reaches the ME. ME: Mechanical End SE: Stroke End
- * The allowable moment offset reference position is 51.5mm from the slider work mounting position.

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program	
SCON-CB/CGB	1 axes	●	●	-	512 (768 for network spec.)
SCON-LC/LCG	1 axes	-	-	●	512 (768 for network spec.)
SCON-CAL/CGAL	1 axes	●	-	-	512 (768 for network spec.)
MSCON-C	6 axes	This model is network-compatible only.			256
SSEL-CS	2 axes	●	-	-	20000
XSEL-P/Q/RA/SA	8 axes	●	-	●	55,000 (depend on type)

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
ISDB[ISDPB]-M-WA-200-30-①-T2-②-③	200	30	30	6	113.9	100~1100 (Every 50mm)
ISDB[ISDPB]-M-WA-200-20-①-T2-②-③		20	45	10	170.9	
ISDB[ISDPB]-M-WA-200-10-①-T2-②-③		10	90	20	341.8	
ISDB[ISDPB]-M-WA-200-5-①-T2-②-③		5	110	40	683.6	

- Legend: ① Stroke ② Cable length ③ Options



(Note 1)

The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 5mm lead) When the acceleration is increased, the payload will be reduced.
Please contact IAI for more information.

(Note 2, 3, 4)

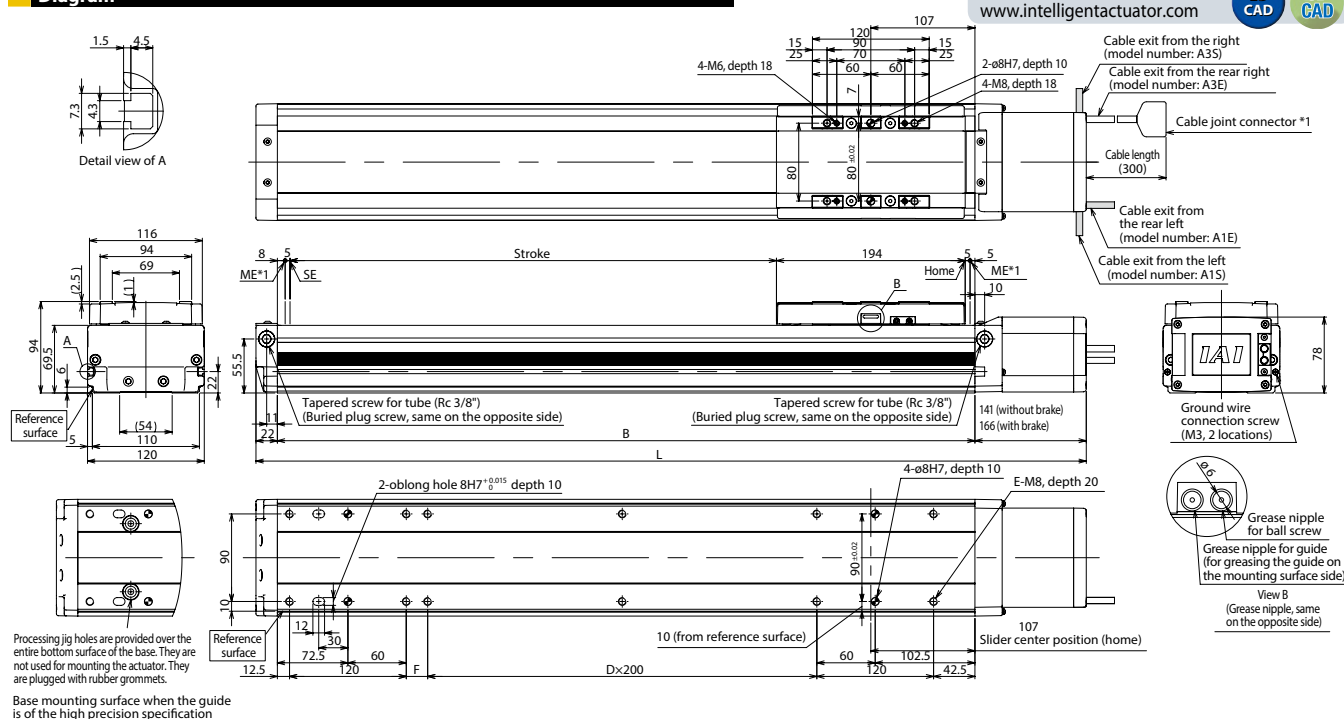
The values in [] apply to the ISPDB series. Other specification values apply commonly to the ISDB and ISPDB.

(Note 5)

The value of dynamic straightness is when the high straightness, precision specification option is specified.

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P10	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	Slider roller specification	SR	→P10
Creep sensor	C	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 650~1100)	ST	→P12
Home limit switch	L	→P10	Double slider specification	W	→P11
Home limit switch on the opposite side	LL	→P10			

* ISPB can not select RT.



	Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L	without brake	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380	1430	1480
	with brake	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355	1405	1455	1505
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	4	4	4	4	4	5
E		8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	16	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)	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

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information
SCON-LC/LCG	1 axes	-	-	●		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●	-	-		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.				256	
SSEL-CS	2 axes	●	-	●	20000		
XSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

●The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
ISDB-M-WA-400-48-①-T2-②-③	400	48	20	6	141.3	100~1100 (Every 50mm)

- Legend: ① Stroke ② Cable length ③ Options

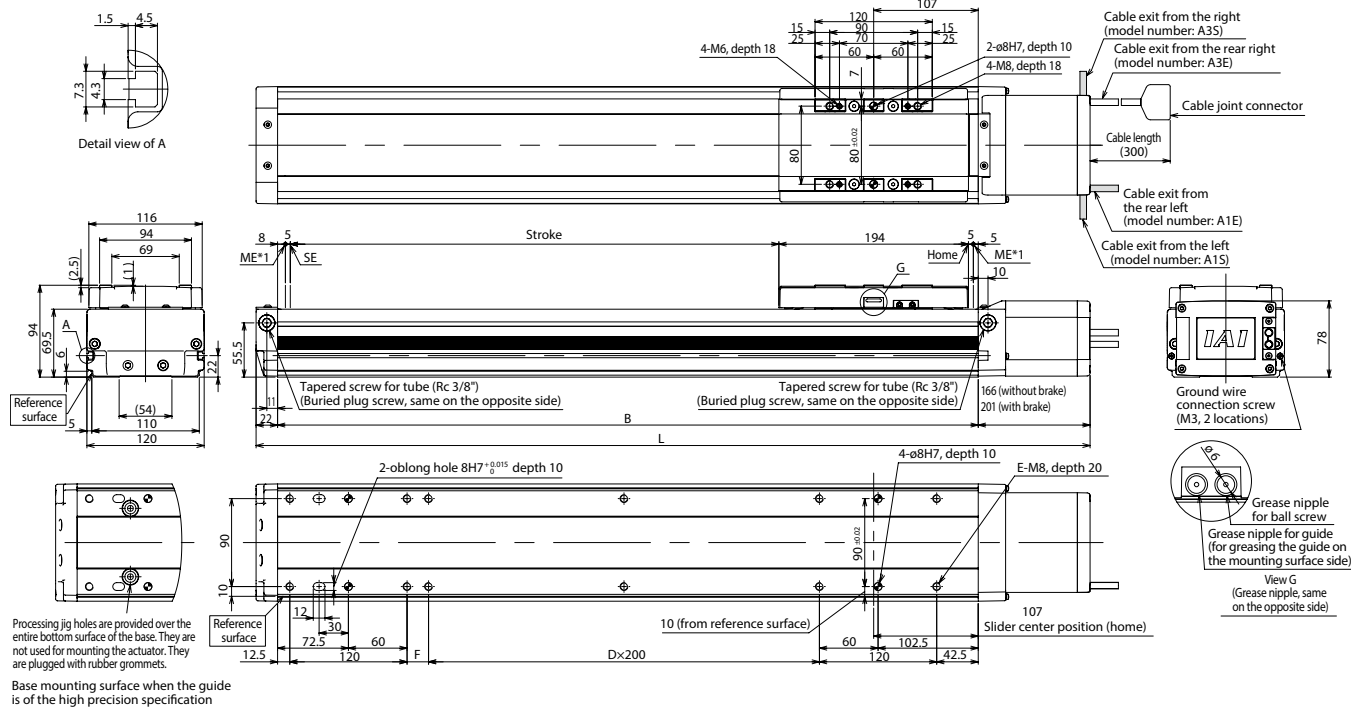
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P10	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	Slider roller specification	SR	→P11
Crep sensor	C	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Crep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 650~1100)	ST	→P12
Home limit switch	L	→P10	Double slider specification	W	→P11
Home limit switch on the opposite side	LL	→P10			

Positioning repeatability	±0.01mm
Drive method	Ball screw ø16mm, rolled C10
Lost motion	0.05mm max.
Dynamic allowable load moment (°)/(**)	Ma: 81.0N·m Mb: 116N·m Mc: 189N·m
Overhang load length(**)	Ma direction: 600mm max. Mb, Mc directions: 600mm max
Dynamic straightness (Note 2)	0.02mm/m max.
Base	Material: Aluminum, with white aluminate treatment
Protection structure	IP30
Ambient operating temperature/humidity	0 to 40°C. 85%RH max. (non-condensing)

** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

CAD drawings can be downloaded from our website.

www.intelligentactuator.com



*1 When the slider is returning to its home position, Please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical End SE: Stroke End

* Please return the actuator to us if a home direction change is necessary after purchase.

* The allowable moment offset reference position is 51.5mm from the slider work mounting position.

		Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L		without brake	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355	1405	1455	1505
		with brake	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540
	D	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	16	16	16	16	18	18
	F		22	72	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172
Mass (kg)		without brake	8.5	9.1	9.7	10.3	11.0	11.6	12.2	12.8	13.5	14.1	14.8	15.4	16.0	16.6	17.3	17.9	18.5	19.2	19.8	20.4	21.1
		with brake	9	9.7	10.3	10.9	11.6	12.2	12.8	13.5	14.1	14.7	15.3	16	16.6	17.2	17.9	18.5	19.1	19.8	20.4	21	21.6
Maximum speed (m/s)		Lead 48	980	1270	1520	1740	1930	2050	2125	2200	2200	2200	2200	2200	2200	2145	1920	1730	1570	1430	1305	1195	1105

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information
SCON-LC/LCG	1 axes	-	-	●		512 (768 for network spec.)	
SSEL-CS	2 axes	-	-	●	Single-phase AC100/200 V	20000	
XSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

●The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISDB-MX-400



Model Specification Items	ISDB	MX	WA	400	48			T2		
Series	—	Type	—	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
			WA: Battery-less absolute	400: 400W	48: 48mm	800: 800mm 1600: 1600mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□ : Specified length		Refer to the options table below.

- Please refer to P.9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)	Rated thrust (N)	Stroke (mm)
ISDB-MX-WA-400-48-①-T2-②-③	400	48	Horizontal (kg) Vertical (kg)	141.3	800~1600 (Every 50mm)

Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. Please contact IAI for more information.
- (Note 2) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

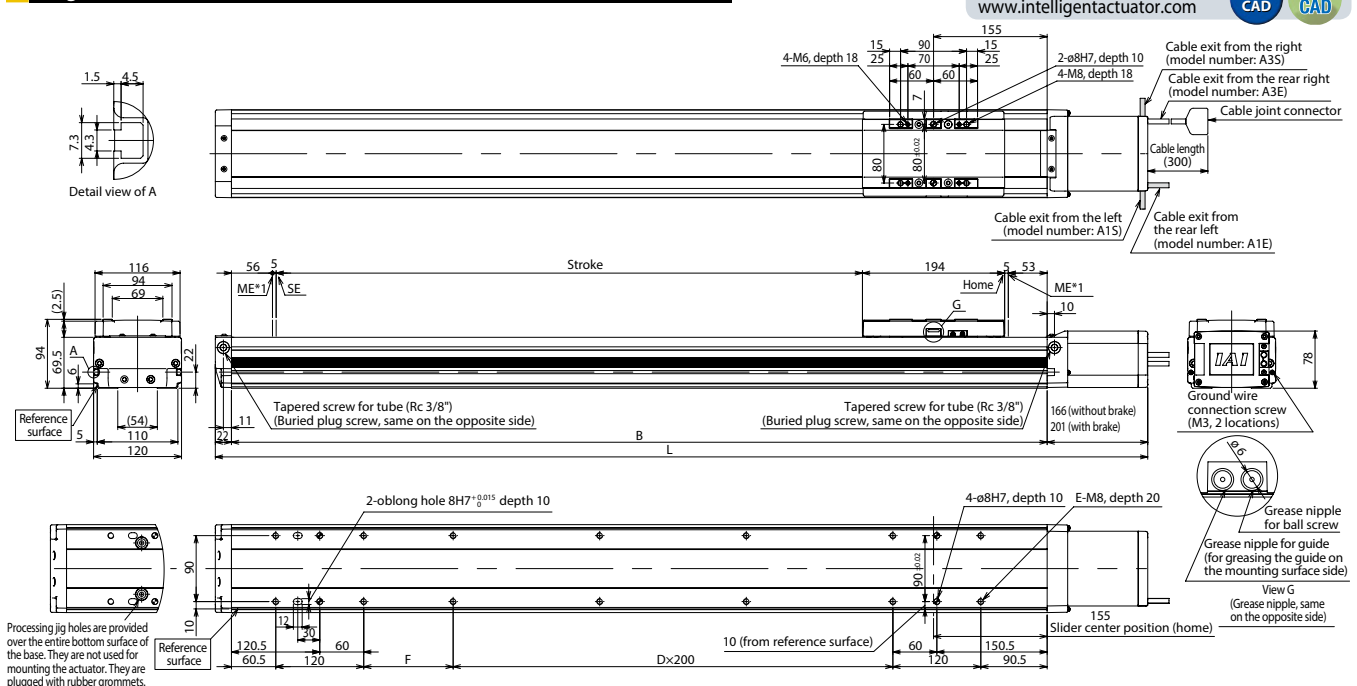
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P11	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 800~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 1350~1600)	ST	→P12
Home limit switch	L	→P10			

Actuator Specifications

Positioning repeatability	±0.01mm
Drive method	Ball screw φ16mm, rolled C10
Lost motion	0.05mm max.
Dynamic allowable load moment (*)	Ma: 81.0N·m Mb: 116N·m Mc: 189N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max
Dynamic straightness (Note 2)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Protection structure	IP30
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

Diagram



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 When the slider is returning to its home position, Please be careful of interference from surrounding objects, as it will travel until it reaches the ME. ME: Mechanical End SE: Stroke End

* Please return the actuator to us if a home direction change is necessary after purchase.

* The allowable moment offset reference position is 51.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

Stroke	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600
L																	
without brake	1301	1351	1401	1451	1501	1551	1601	1651	1701	1751	1801	1851	1901	1951	2001	2051	2101
with brake	1336	1386	1436	1486	1536	1586	1636	1686	1736	1786	1836	1886	1936	1986	2036	2086	2136
B	1113	1163	1213	1263	1313	1363	1413	1463	1513	1563	1613	1663	1713	1763	1813	1863	1913
D	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7
E	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20	20	22
F	122	172	222	272	122	172	222	272	122	172	222	272	122	172	222	272	122
Mass (kg)																	
without brake	18.9	19.5	20.2	20.8	21.4	22.1	22.7	23.4	24.0	24.6	25.3	25.9	26.6	27.2	27.8	28.5	29.1
with brake	19.5	20.1	20.7	21.4	22	22.7	23.3	23.9	24.6	25.2	25.9	26.5	27.1	27.8	28.4	29.1	29.7
Maximum speed (mm/s)																	
Lead 48	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	1990	1860	1745	1640	1540	1450

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	●		512 (768 for network spec.)	
SSEL-CS	2 axes	●	●	-	Single-phase AC100/200V	20000	
XSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



ISDB-L-200

ISPDB-L-200

±10μm
Standard

Battery-
less
absolute

Simple
Dust
Proof

Large
type

Actuator width
150
mm

200
W

High
Precision
Specification

±3μm
High precision

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDB: Standard specification ISPDB: High precision specification	ISDB: Standard specification ISPDB: High precision specification	L	WA: Battery-less absolute	200: 200W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 200: 200mm 1300: 1300mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)	Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
ISDB[ISPDB]-L-WA-200-40-①-T2-②-③	200	40	15	2.5	85.5
ISDB[ISPDB]-L-WA-200-20-①-T2-②-③		20	45	9	170.9
ISDB[ISPDB]-L-WA-200-10-①-T2-②-③		10	90	20	341.8

Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 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.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	Slider roller specification	SR	→P10
Creep sensor	C	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 650~1300)	ST	→P12
Home limit switch	L	→P10	Double slider specification	W	→P11
Home limit switch on the opposite side	LL	→P10			

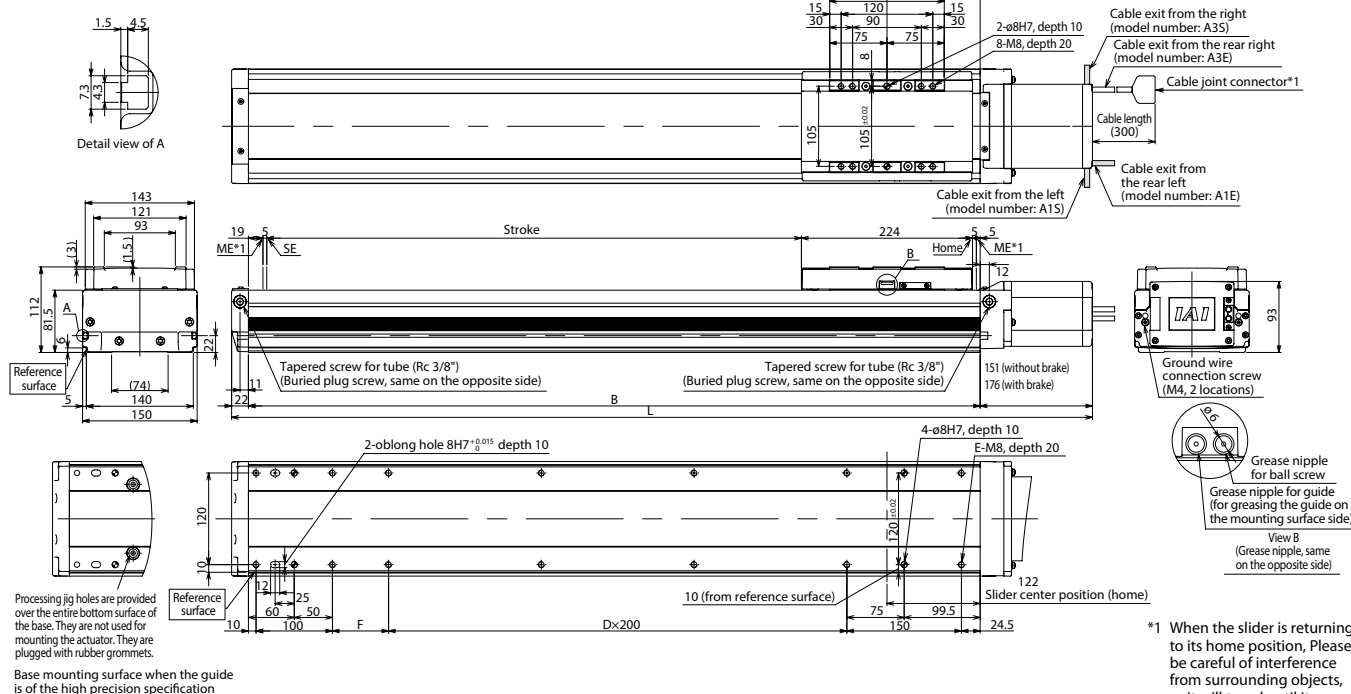
* ISPB can not select RT.

Actuator Specifications

Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
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 (**) [**]	Ma: 123N-m Mb: 176N-m Mc: 291N-m
Overhang load length(**)	Ma direction: 750mm max. Mb, Mc directions: 750mm max
Dynamic straightness (Note 5)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
Protection structure	IP30
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

Diagram



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

Dimensions and Mass 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	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
with brake	556	606	656	706	756	806	856	906	956	1006	1056	1106	1156	1206	1256	1306	1356	1406	1456	1506	1556	1606	1656	1706	1756
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	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)	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																									
Lead 20																									
Lead 10																									

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program	
SCON-CB/CGB	1 axes	●	●	-	512 (768 for network spec.)
SCON-LC/LCG	1 axes	-	-	●	512 (768 for network spec.)
SCON-CAL/CGAL	1 axes	●	-	-	512 (768 for network spec.)
MSCON-C	6 axes	This model is network-compatible only.			256
SSEL-CS	2 axes	●	-	-	20000
XSEL-P/Q/RA/SA	8 axes	-	-	●	55,000 (depend on type)

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISDB-LX-200

ISPDB-LX-200

High Precision Specification

±10µm Standard

±3µm High precision

Battery-less absolute

Simple Dust Proof

Large type

Mid-Support type

Actuator width 150 mm

200 W

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDB: Standard specification ISPDB: High precision specification	LX	WA	200	200	40: 40mm 20: 20mm	1000: 1000mm 1600: 1600mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□ : Specified length	Refer to the options table below.



- Please refer to P.9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Stroke (mm)
ISDB[ISPDB]-LX-WA-200-40-①-T2-②-③	200	40	15	85.5	1000~1600 (Every 50mm)
ISDB[ISPDB]-LX-WA-200-20-①-T2-②-③		20	45	170.9	

Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. Please contact IAI for more information.
- (Note 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.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P11	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT*	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 1000~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 1400~1600)	ST	→P12
Home limit switch	L	→P10			

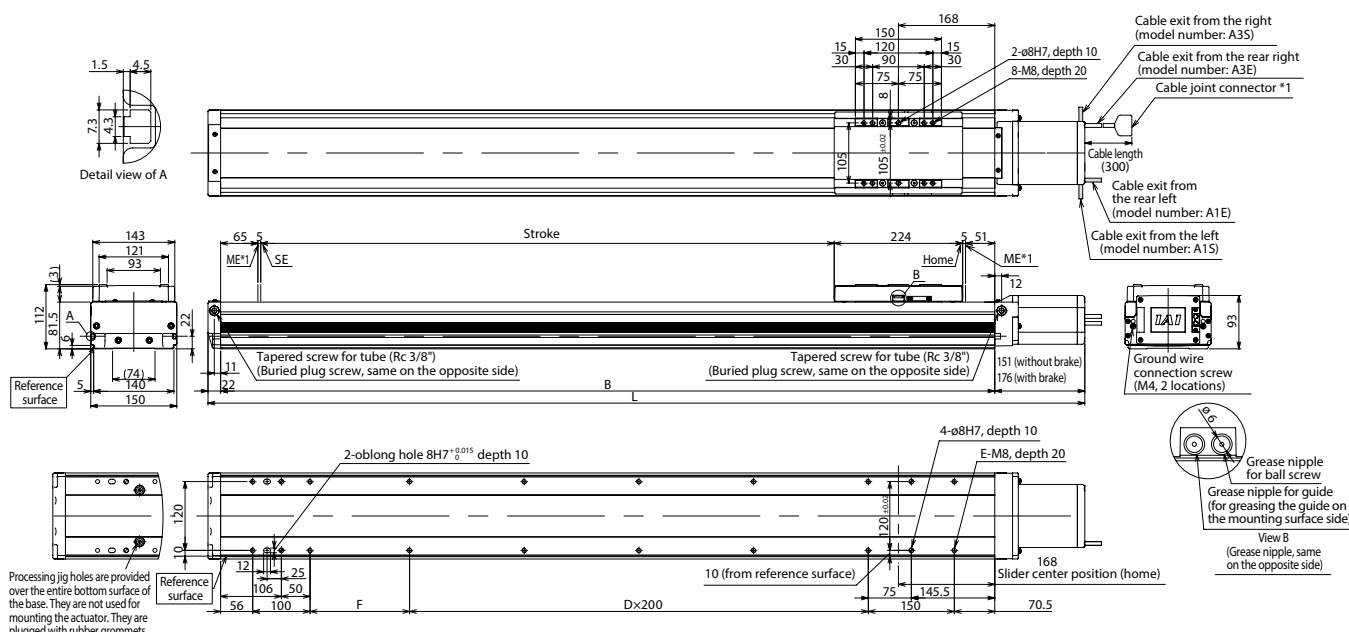
* ISPDB can not select RT.

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD



- *1 When the slider is returning to its home position, Please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 61.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

Stroke	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600
L without brake	1523	1573	1623	1673	1723	1773	1823	1873	1923	1973	2023	2073	2123
L with brake	1548	1598	1648	1698	1748	1798	1848	1898	1948	1998	2048	2098	2148
B	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
D	4	4	5	5	5	5	6	6	6	6	7	7	7
E	16	16	18	18	18	18	20	20	20	20	22	22	22
F	173.5	223.5	73.5	123.5	173.5	223.5	73.5	123.5	173.5	223.5	73.5	123.5	173.5
Mass (kg)	29.7	30.6	31.5	32.3	33.2	34.1	35.0	35.8	36.7	37.6	38.5	39.3	40.2
Maximum speed (mm/s)	Lead 40	1800											
	Lead 20	1200											

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	●	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.		256	
SSEL-CS	2 axes	●	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	●		55,000 (depend on type)	

●The type of compatible networks will vary depending on controller. Please contact IAI for more information.



ISDB-LX-400

ISPDB-LX-400

High Precision Specification

±10μm Standard

±3μm High precision

Battery-less absolute

Simple Dust Proof

Large type

Mid-Support type

Actuator width 150 mm

400 w

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDB: Standard specification ISPDB: High precision specification	LX	WA	400				T2		
	ISDB: Standard specification ISPDB: High precision specification	WA: Battery-less absolute	400: 400W	40: 40mm 20: 20mm	1000: 1000mm 1600: 1600mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□: Specified length	Refer to the options table below.	



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Stroke (mm)
ISDB[ISPDB]-LX-WA-400-40-1-1-2-2-3	400	40	40	169.6	1000~1600 (Every 50mm)
ISDB[ISPDB]-LX-WA-400-20-1-1-2-2-3		20	90	339.1	

Legend: 1 Stroke 2 Cable length 3 Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. Please contact IAI for more information.
- (Note 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.

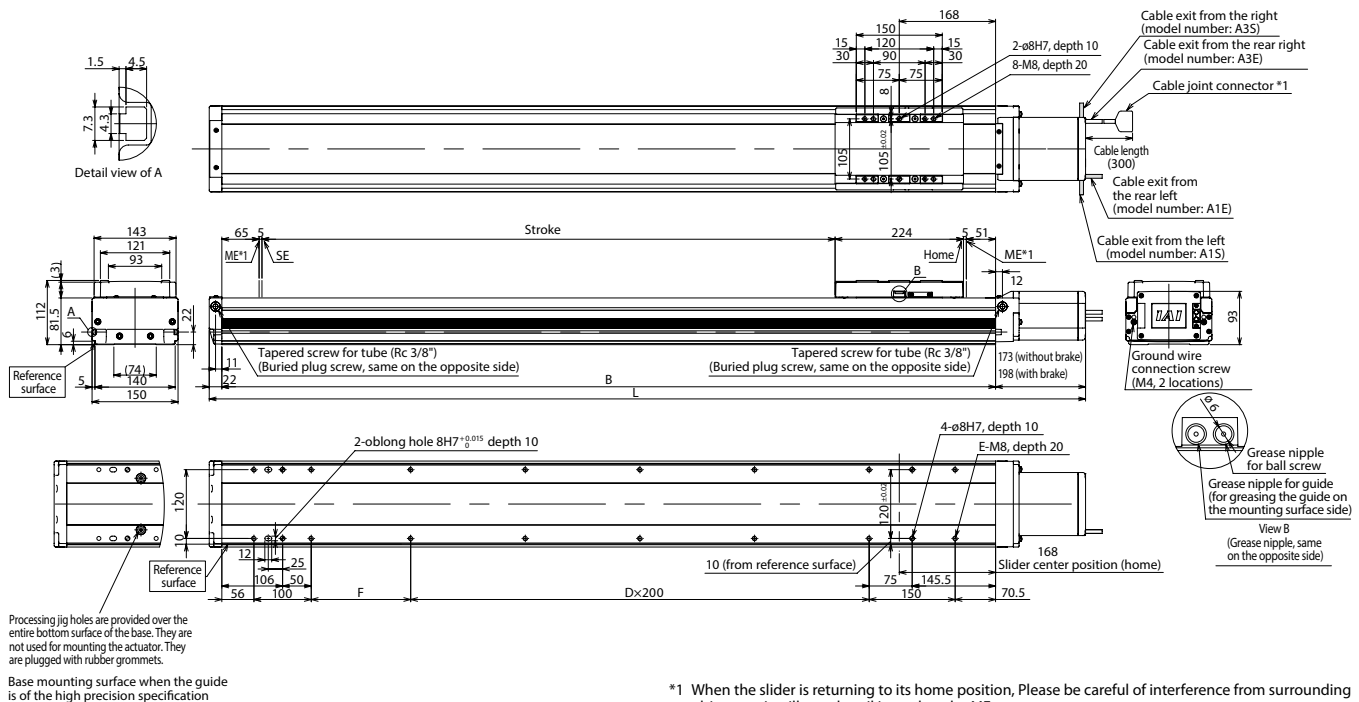
Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear right	A3E	→P11	Non-motor end specification	NM	→P11
AQ seal (standard feature)	AQ	→P10	Guide with ball retention mechanism	RT*	→P11
Brake	B	→P10	Slave axis specification	S	→P11
Creep sensor	C	→P10	High straightness, precision specification (stroke 1000~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 1400~1600)	ST	→P12
Home limit switch	L	→P10			

* ISPDB can not select RT.

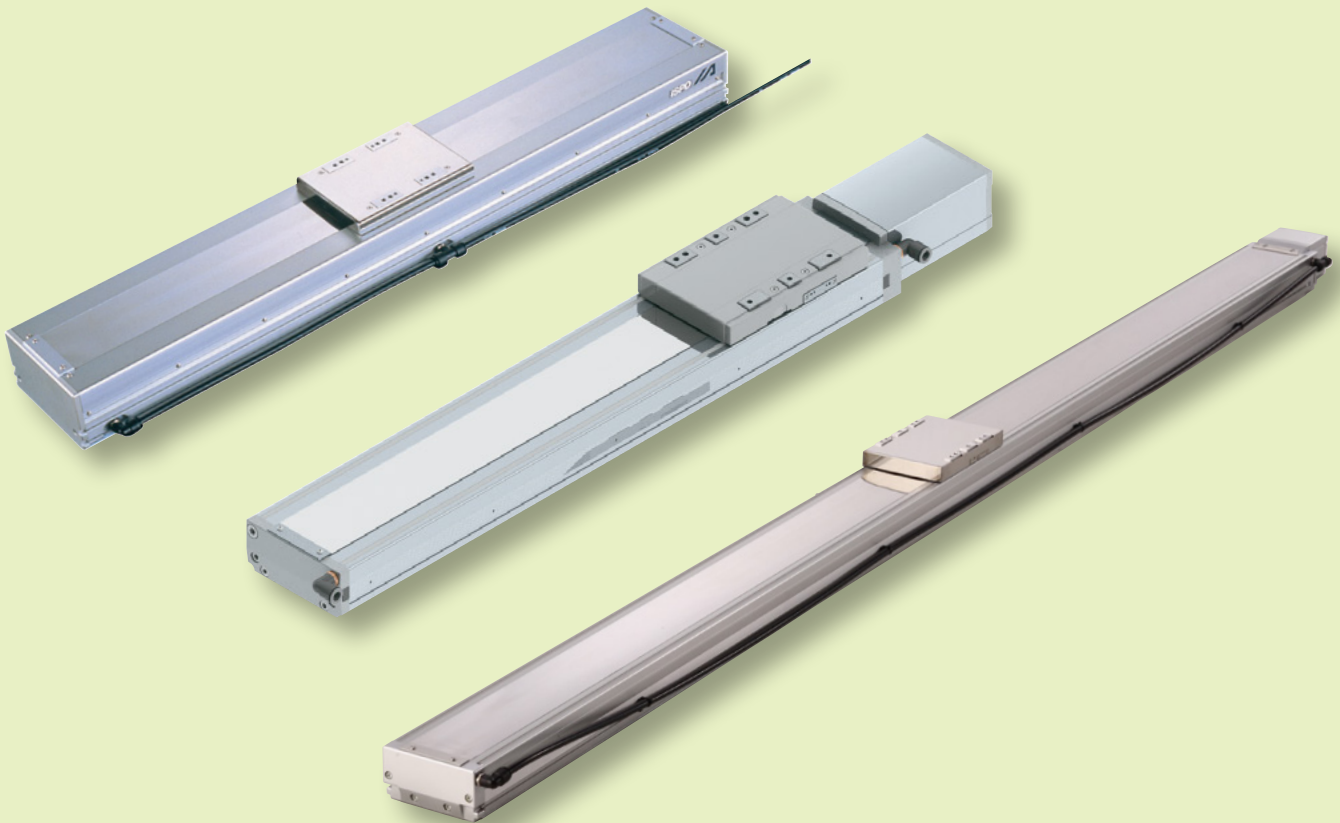
Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Cleanroom Type

**ISDBCR / ISPDBCR /
SSPDACR / ISDACR / ISPDACR**



ISDBCR-S

ISPDBCR-S

±10μm
Standard

Clean-
room
Spec

Battery-
less
absolute

Small
type

Actuator width
90
mm

60
W

High
Precision
Specification

±3μm
High precision

Model Specification Items		—	S	—	WA	—	60	—		—		—	T2	—		—	
	Series	—	Type	—	Encoder type	—	Motor type	—	Lead	—	Stroke	—	Applicable controller	—	Cable length	—	Options*
	ISDBCR: Standard specification				WA: Battery-less absolute		60: 60W		16: 16mm 8: 8mm 4: 4mm		100: 100mm 800: 800mm (Every 50mm)		T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA		N : None S : 3m M : 5m X□□ : Specified length		Refer to the options table below.



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDBCR[ISPDBCR]-S-WA-60-16-①-T2-②-③	60	16	13	3	53.1	60
ISDBCR[ISPDBCR]-S-WA-60-8-①-T2-②-③		8	27	6	106.1	30
ISDBCR[ISPDBCR]-S-WA-60-4-①-T2-②-③		4	55	14	212.3	15

- Legend: ① Stroke ② Cable length ③ Options
- If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 0.5kg.



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 4mm lead) When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 650~800)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Suction tube joint on the opposite side	VR	→P11
Home limit switch	L	→P10	Double slider specification	W	→P11
Home limit switch on the opposite side	LL	→P10			

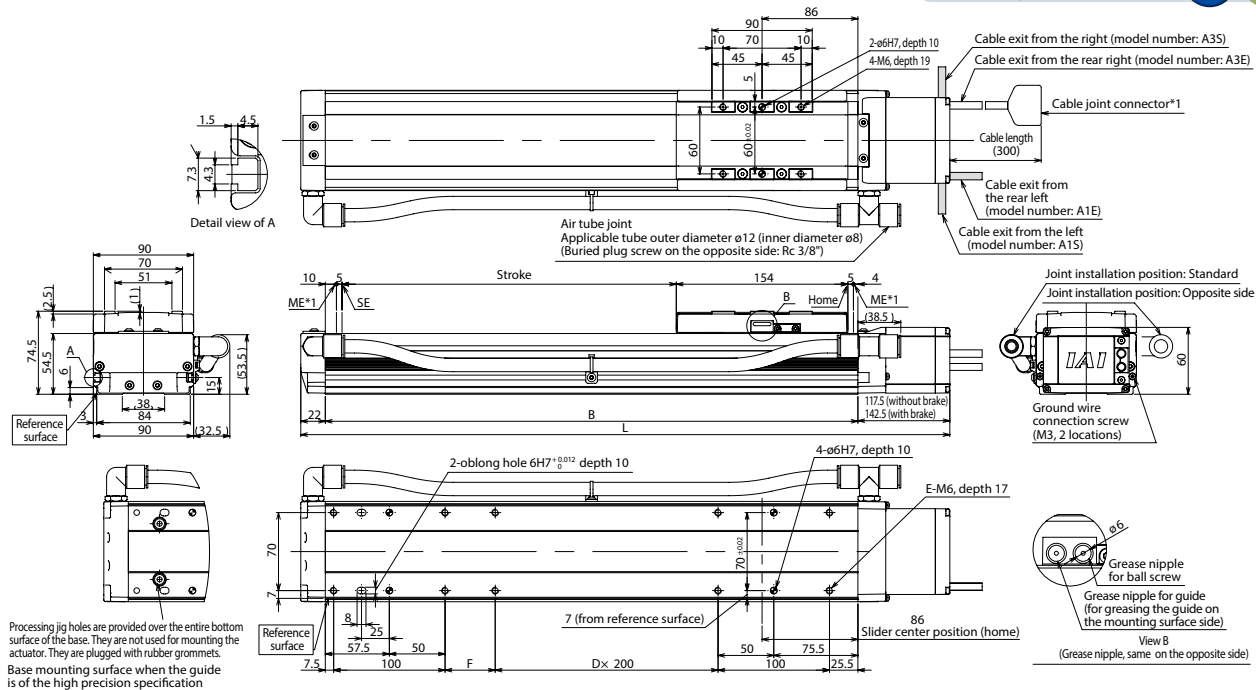
* ISPDBCR (all leads) and ISDBCR (lead 16) can not select Guide with ball retention mechanism (RT).

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D
CAD

3D
CAD



Dimensions and Mass by Stroke

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L without 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
L with brake	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5	1142.5
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

- *1 When the slide is returning to its home position, please be careful of interference from surfing objects, as it will travel until it races the ME.
ME: Mechanical End SE: Stroke End
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 42.5mm from the slider work mounting position.

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	●	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.		256	
SSEL-CS	2 axes	●	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	●		55,000 (depend on type)	

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISDBCR-M-100

ISPDBCR-M-100

High Precision Specification

±10µm Standard

±3µm High precision

Clean-room Spec

Battery-less absolute

Medium type

Actuator width 120 mm

100 W

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDBCR: Standard specification	—	—	—	—	—	—	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□ : Specified length	Refer to the options table below.
ISPDBCR: High precision specification	—	—	—	—	—	—	—	—	—



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDBCR[ISPDBCR]-M-WA-100-30-①-T2-②-③	100	30	15	2	56.6	180
ISDBCR[ISPDBCR]-M-WA-100-20-①-T2-②-③	100	20	23	4	84.9	120
ISDBCR[ISPDBCR]-M-WA-100-10-①-T2-②-③	100	10	45	10	169.8	50
ISDBCR[ISPDBCR]-M-WA-100-5-①-T2-②-③	100	5	85	20	339.7	20

- Legend: ① Stroke ② Cable length ③ Options
- If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 0.5kg.



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 5mm lead) When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P11	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 650~1100)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Suction tube joint on the opposite side	VR	→P11
Home limit switch	L	→P10	Double slider specification	W	→P11
Home limit switch on the opposite side	LL	→P10			

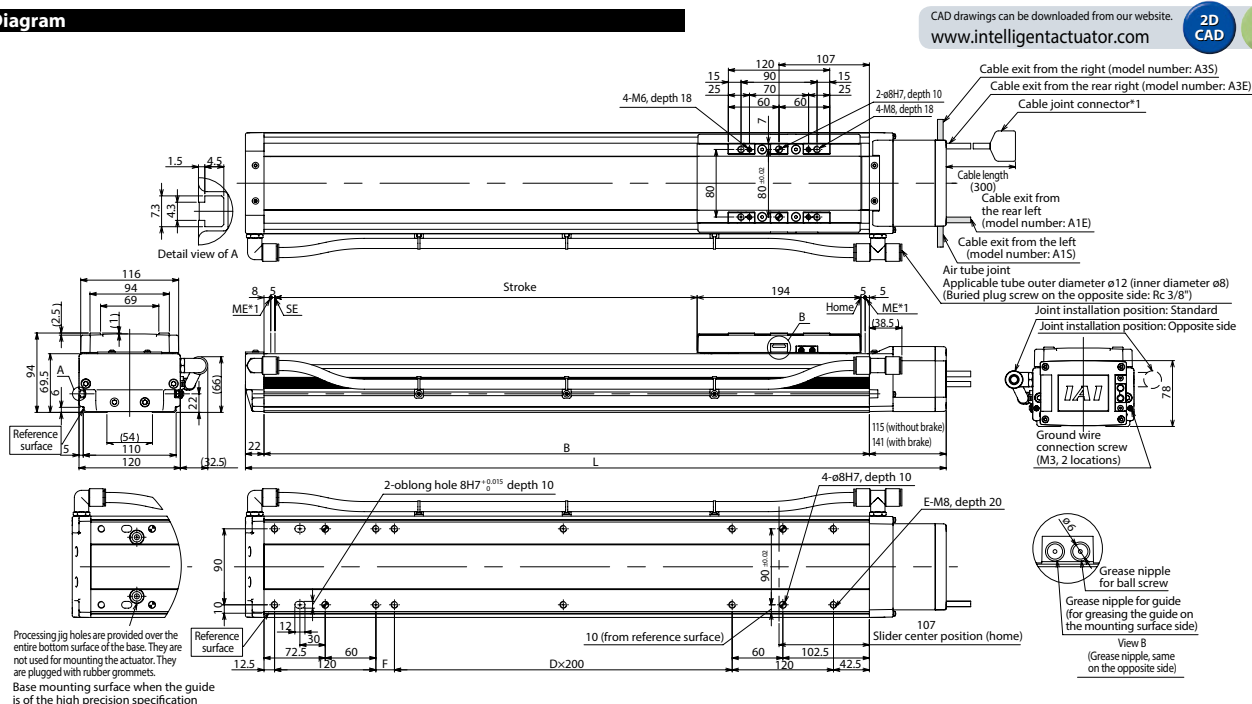
* ISPDBCR (all leads) and ISDBCR (lead16) can not select Guide with ball retention mechanism (RT).

Actuator Specifications

Drive method (Note 2)	Ball screw ø16mm, rolled C10 [equivalent to rolled C5]
Positioning repeatability (Note 3)	±0.01mm [±0.003mm]
Base	Material: Aluminum, with white alumite treatment
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (*)/(**)	Ma: 81.0N·m Mb: 116N·m Mc: 189N·m
Overhang load length(**)	Ma direction: 600mm max. Mb, Mc directions: 600mm max
Cleanroom rating	Class 10 (Fed.Std.209D), Class, equivalent to 2.5 (ISO 14644-1)
Dynamic straightness (Note 5)	0.02mm/m max.
Grease	Low dust-raising grease(for ball screw and guide)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

Diagram



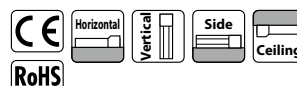
Dimensions and Mass by Stroke

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L without brake	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404	1454
L 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	16	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)	7.6	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
Maximum speed (mm/s)	Lead 30	1800																			
	Lead 20	1200																			
	Lead 10	600																			
	Lead 5	300																			

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	●	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	●		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.		256	
SSEL-CS	2 axes	●	Single-phase AC200V / three-phase AC200V	20000	55,000 (depend on type)
XSEL-P/Q/RA/SA	8 axes	●			

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

56

ISDBCR-MX-200

ISPDBCR-MX-200

±10μm
Standard

Clean-
room
Spec

Battery-
less
absolute

Medium
type

Mid-
Support
type

Actuator width
120
mm

200
W

Model Specification Items: Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options*

ISDBCR: Standard specification
ISPDBCR: High precision specification
WA: Battery-less absolute
200: 200W
30: 30mm
20: 20mm
800: 800mm
2000: 2000mm (Every 50mm)
T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA
N: None
S: 3m
M: 5m
X□□: Specified length
Refer to the options table below.



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDBCR[ISPDBCR]-MX-WA-200-30-□-T2-□-□-□	200	30	30	113.9	180	800~2000
ISDBCR[ISPDBCR]-MX-WA-200-20-□-T2-□-□-□		20	45	170.9	120	(Every 50mm)

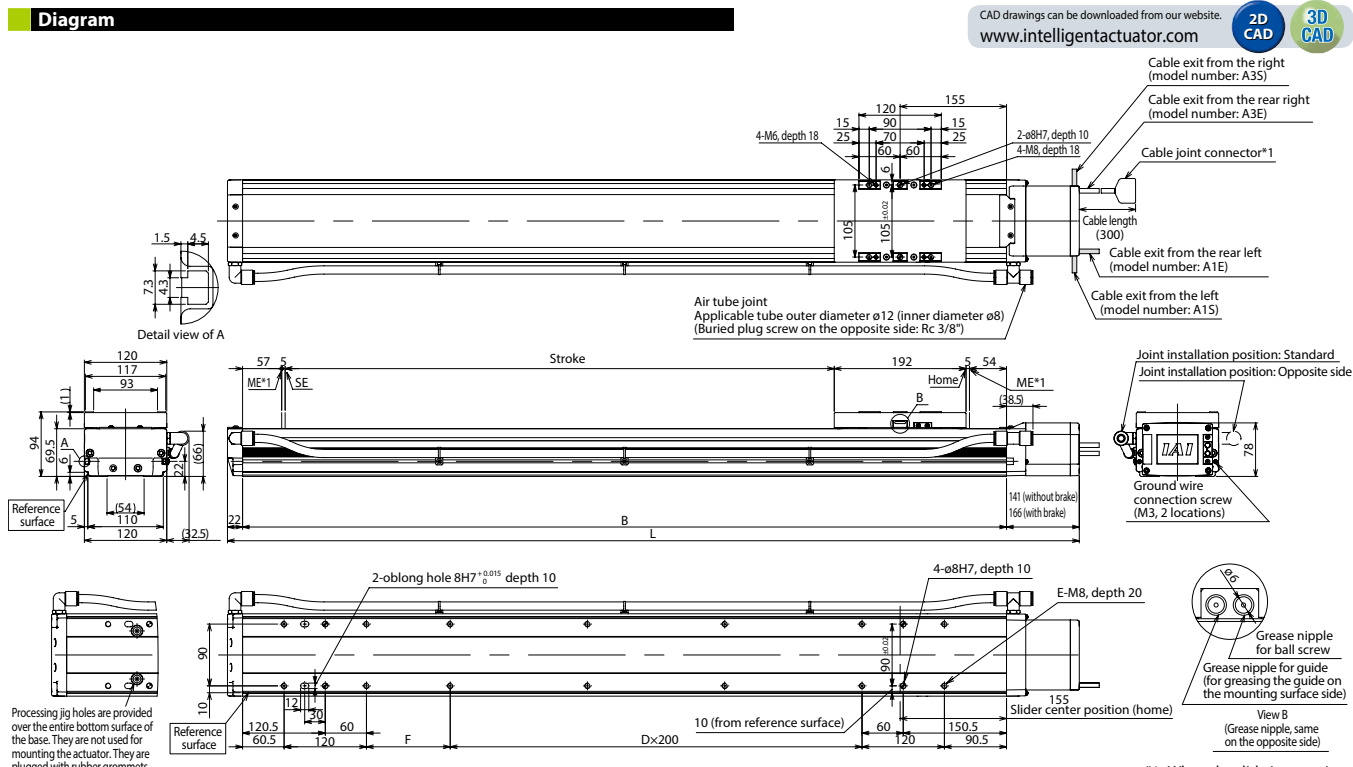
Legend: □ Stroke □ Cable length □ Options

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 800~1300)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 1400~1900)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 2000)	ST	→P12
Home limit switch	L	→P10	Suction tube joint on the opposite side	VR	→P11
Home limit switch on the opposite side	LL	→P10			

* ISPDBCR (all leads) and ISDBCR (lead16) can not select Guide with ball retention mechanism (RT).

Diagram



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

Dimensions and Mass by Stroke

Stroke	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000
L without brake	1276	1326	1376	1426	1476	1526	1576	1626	1676	1726	1776	1826	1876	1926	1976	2026	2076	2126	2176	2226	2276	2326	2376	2426	2476
L with brake	1301	1351	1401	1451	1501	1551	1601	1651	1701	1751	1801	1851	1901	1951	2001	2051	2101	2151	2201	2251	2301	2351	2401	2451	2501
B	1113	1163	1213	1263	1313	1363	1413	1463	1513	1563	1613	1663	1713	1763	1813	1863	1913	1963	2013	2063	2113	2163	2213	2263	2313
D	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7	8	8	8	8	9
E	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26
F	122	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922	972	1022	1072	1122	1172	1222	1272	1322
Mass (kg)	18.5	19.1	19.8	20.4	21.0	21.7	22.3	23.0	23.6	24.2	24.9	25.5	26.2	26.8	27.4	28.1	28.7	29.4	30.0	30.6	31.3	31.9	32.6	33.2	33.8
Maximum speed (mm/s)	Lead 30																								
	Lead 20																								

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	•	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	•		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	•		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.		256	
SSEL-CS	2 axes	•	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	•		55,000 (depend on type)	

• The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



ISDBCR-L-200

ISPDBCR-L-200

±10µm
Standard

Clean-
room
Spec

Battery-
less
absolute

Large
type

Actuator width
150
mm

200
W

High
Precision
Specification

±3µm
High precision

Model Specification Items		L	WA	200			T2		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDBCR: Standard specification			WA: Battery-less absolute	200: 200W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 1300: 1300mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□ : Specified length	Refer to the options table below.
ISPDBCR: High precision specification									



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDBCR[ISPDBCR]-L-WA-200-40-①-T2-②-③	200	40	15 2.5	85.5	180	100~1300 (Every 50mm)
ISDBCR[ISPDBCR]-L-WA-200-20-①-T2-②-③		20	45 9	170.9	120	
ISDBCR[ISPDBCR]-L-WA-200-10-①-T2-②-③		10	90 20	341.8	50	

- Legend: ① Stroke ② Cable length ③ Options
- If the guide with ball retention mechanism (RT) is used, the vertical payload decreases by 1.0kg.



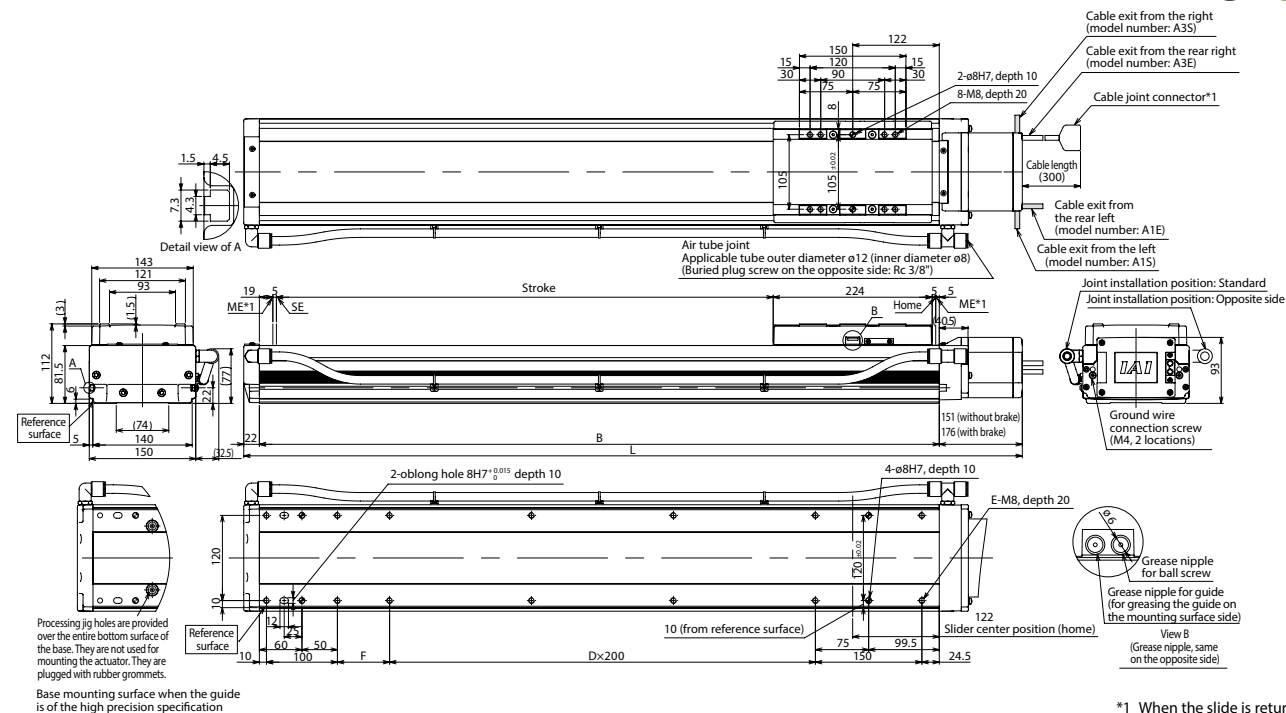
- (Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 650~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Suction tube joint on the opposite side	VR	→P11
Home limit switch	L	→P10	Double slider specification	W	→P11
Home limit switch on the opposite side	LL	→P10			

* ISPDBCR (all leads) and ISDBCR (lead16) can not select Guide with ball retention mechanism (RT).

Diagram



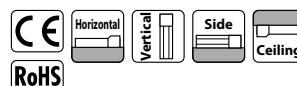
Dimensions and Mass by Stroke

		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	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
	with brake	556	606	656	706	756	806	856	906	956	1006	1056	1106	1156	1206	1256	1306	1356	1406	1456	1506	1556	1606	1656	1706	1756
	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	16	16	16	16	18	18	18	18	20	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)		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										1800	1800	1800	1700	1540	1410	1290	1185	1095	1015	940	875	815	755	
	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 Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	•	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	•		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	•		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.		256	
SSEL-CS	2 axes	•	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	•		55,000 (depend on type)	

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Model number	Motor output (W)	Lead (mm)	Payload (Note 1)		Rated thrust (N)	Suction flow rate (N2/min)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)			
ISDBCR SPSDBCR L-WA-400-40-①-T2-②-③	400	40	40	8	169.6	180	100~1300 (Every 50mm)
ISDBCR SPSDBCR L-WA-400-20-①-T2-②-③		20	90	20	339.1	120	
ISDBCR SPSDBCR L-WA-400-10-①-T2-②-③		10	120	40	678.3	50	

• Legend: ① Stroke ② Cable length ③ Options



(Note 1)

The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced.
Please contact IAI for more information.

(Note 2, 3, 4)

The values in [] apply only to the ISPD BCR series. Other specifications apply to both the ISD BCR and ISPD BCR.

(Note 5)

The value of dynamic straightness is when the high straightness, precision specification option is specified.

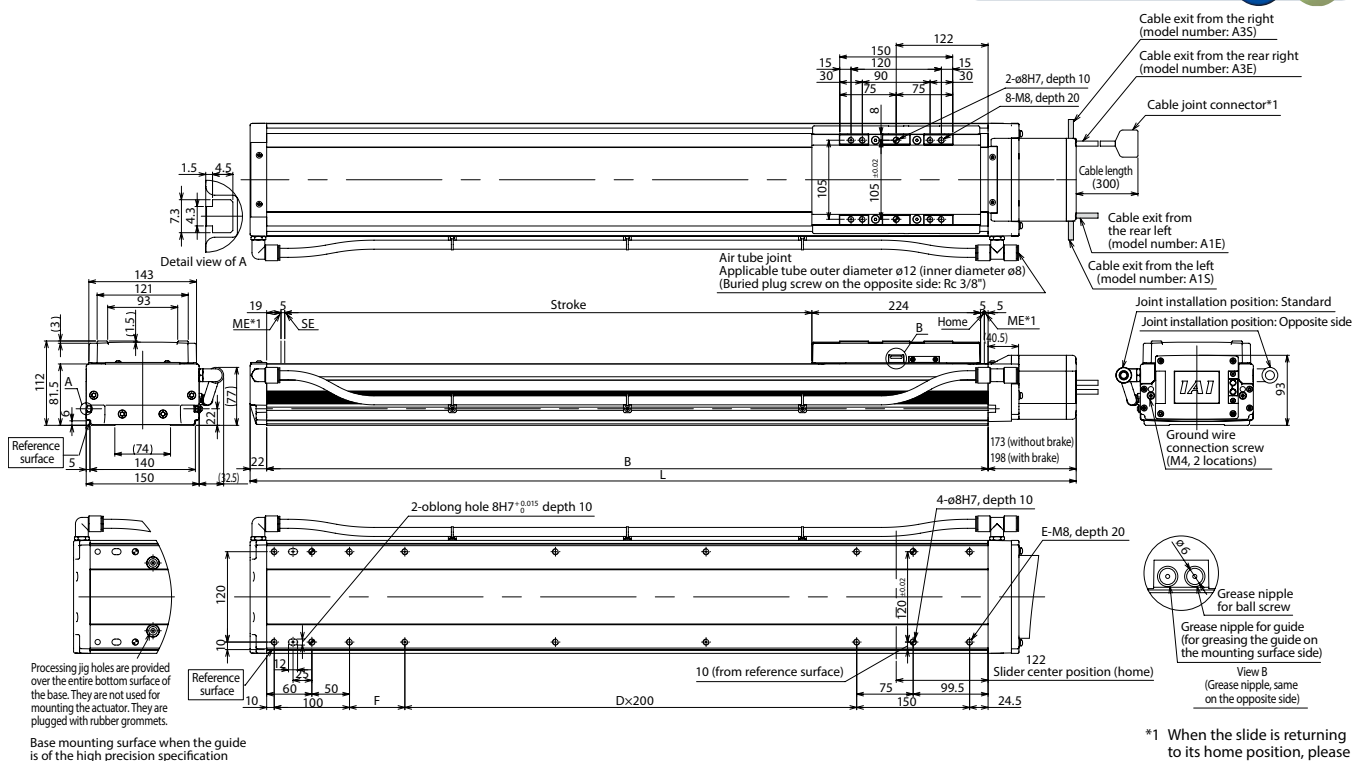
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 650~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Suction tube joint on the opposite side	VR	→P12
Home limit switch	L	→P10	Double slider specification	W	→P11
Home limit switch on the opposite side	LL	→P10			

* ISPDRCR (all leads) and ISDBCR (lead16) can not select Guide with ball retention mechanism (RT).

Drive method (Note 2)	Ball screw $\phi 20\text{mm}$, rolled C10 [equivalent to rolled C5]
Positioning repeatability (Note 3)	$\pm 0.01\text{mm}$ [$\pm 0.003\text{mm}$]
Base	Material: Aluminum, with white alumite treatment
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (**) (**)	Ma: 123N·m Mb: 176N·m Mc: 291N·m
Overhang load length(**)	Ma direction: 750mm max. Mb, Mc directions: 750mm max
Cleanroom rating	Class 10 (Fed.Std.209D), Class, equivalent to 2.5 (ISO 14644-1)
Dynamic straightness (Note 5)	0.02mm/m max.
Grease	Low dust-raising grease(for ball screw and guide)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.



		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	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	
	with brake	578	628	678	728	778	828	878	928	978	1028	1078	1128	1178	1228	1278	1328	1378	1428	1478	1528	1578	1628	1678	1728	1778	
	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	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	
	E	8	8	8	10	10	10	10	10	12	12	12	12	12	14	14	14	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)	123	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													1800	1800	1800	1700	1540	1410	1290	1185	1095	1015	940	875	815
	Lead 10	1200													1165	1045	940	850	770	705	645	595	545	505	470	440	410
	Lead 20	600													585	520	470	425	385	350	320	295	275	255	235	220	205

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information
SCON-LC/LCG	1 axes	-	-	●		512 (768 for network spec.)	
SSEL-CS	2 axes	●	-	●	Single-phase AC100/200 V	20000	
XSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

●The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISDBCR-LX-200

ISPDBCR-LX-200

High Precision Specification

±10μm
Standard

±3μm
High precision

Clean-room Spec

Battery-less absolute

Large type

Mid-Support type

Actuator width 150 mm

200 w

Model Specification Items		LX	WA	200			T2		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
	ISDBCR: Standard specification ISPDBCR: High precision specification		WA: Battery-less absolute	200: 200W	40: 40mm 20: 20mm	1000: 1000mm 2500: 2500mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□ : Specified length	Refer to the options table below.



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDBCR[ISPDBCR]-LX-WA-200-40-①-T2-②-③	200	40	15	85.5	180	1000~2500 (Every 50mm)
ISDBCR[ISPDBCR]-LX-WA-200-20-①-T2-②-③		20	45	170.9	120	

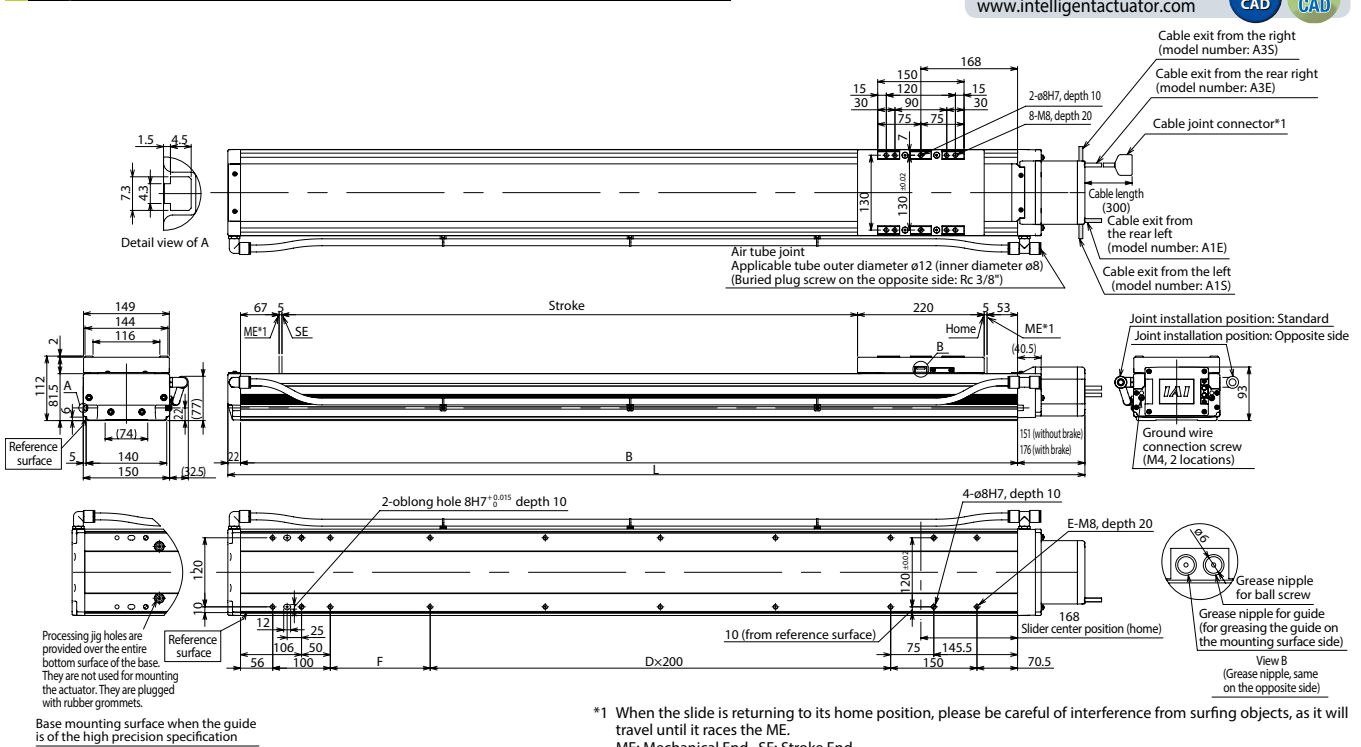
Legend: ① Stroke ② Cable length ③ Options

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 1000~1300)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 1400~1900)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 2000~2500)	ST	→P12
Home limit switch	L	→P10	Suction tube joint on the opposite side	VR	→P11
Home limit switch on the opposite side	LL	→P10			

* ISPDBCR (all leads) and ISDBCR (lead16) can not select Guide with ball retention mechanism (RT).

Diagram



*1 When the slide is returning to its home position, please be careful of interference from surfacing objects, as it will travel until it reaches the ME.

ME: Mechanical End SE: Stroke End

* Please return the actuator to us if a home direction change is necessary after purchase.

* The allowable moment offset reference position is 61.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

L	Stroke	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	
	without brake	1523	1573	1623	1673	1723	1773	1823	1873	1923	1973	2023	2073	2123	2173	2223	2273	2323	2373	2423	2473	2523	2573	2623	2673	2723	2773	2823	2873	2923	2973	3023	
	with brake	1548	1598	1648	1698	1748	1798	1848	1898	1948	1998	2048	2098	2148	2198	2248	2298	2348	2398	2448	2498	2548	2598	2648	2698	2748	2798	2848	2898	2948	2998	3048	
	B	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	
	D	4	4	5	5	5	5	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	12		
	E	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26	26	28	28	28	28	30	30	30	30	32	
	F	173.5	223.5	73.5	123.5	173.5	223.5	73.5	123.5	173.5	223.5	73.5	123.5	173.5	223.5	73.5	123.5	173.5	223.5	73.5	123.5	173.5	223.5	73.5	123.5	173.5	223.5	73.5	123.5	173.5	223.5	73.5	
	Mass (kg)	29.8	30.6	31.5	32.4	33.2	34.1	35.0	35.8	36.7	37.6	38.5	39.3	40.2	41.1	41.9	42.8	43.7	44.5	45.4	46.3	47.2	48.0	48.9	49.8	50.5	51.5	52.4	53.2	54.1	55.0	55.8	
Maximum speed (mm/s)																																	
	Lead 40	1800																1800															
	Lead 20	1200																1150															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																1800															
		1800																															

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	●	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.		256	
SSEL-CS	2 axes	●	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	-		55,000 (depend on type)	

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



ISDBCR-LX-400

ISPDBCR-LX-400

±10µm
Standard

Clean-
room
Spec

Battery-
less
absolute

Large
type

Mid-
Support
type

Actuator width
150
mm

400
w

High
Precision
Specification

±3µm
High precision

Model Specification Items		—	LX	—	WA	—	400	—		—		—	T2	—		—	
	Series	—	Type	—	Encoder type	—	Motor type	—	Lead	—	Stroke	—	Applicable controller	—	Cable length	—	Options*
	ISDBCR: Standard specification				WA: Battery-less absolute		400: 400W		40: 40mm 20: 20mm		1000: 1000mm 2500: 2500mm (Every 50mm)		T2: SCON SSEL XSEL-P/Q XSEL-RA/SA		N : None S : 3m M : 5m X□□ : Specified length		Refer to the options table below.
	ISPDBCR: High precision specification																



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDBCR[ISPDBCR]-LX-WA-400-40-①-T2-②-③	400	40	40	169.6	180	1000~2500 (Every 50mm)
ISDBCR[ISPDBCR]-LX-WA-400-20-①-T2-②-③		20	90	339.1	120	

Legend: ① Stroke ② Cable length ③ Options



(Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.

(Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.

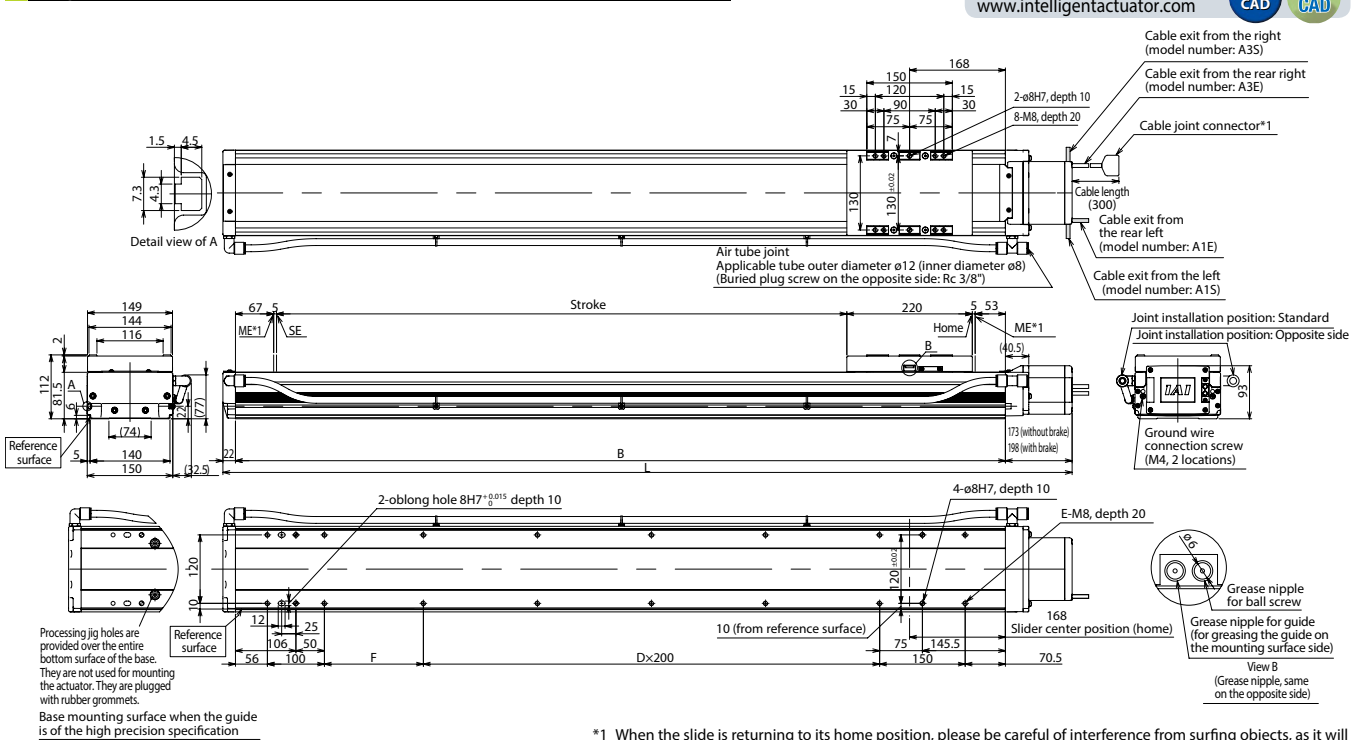
(Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 1000~1300)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 1400~1900)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 2000~2500)	ST	→P12
Home limit switch	L	→P10	Suction tube joint on the opposite side	VR	→P11
Home limit switch on the opposite side	LL	→P10			

* ISPDBCR (all leads) and ISDBCR (lead16) can not select Guide with ball retention mechanism (RT).

Diagram



*1 When the slide is returning to its home position, please be careful of interference from surfacing objects, as it will travel until it reaches the ME.

ME: Mechanical End SE: Stroke End

* Please return the actuator to us if a home direction change is necessary after purchase.

* The allowable moment offset reference position is 61.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

L	Stroke	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500																																																																																																			
	without brake	1545	1595	1645	1695	1745	1795	1845	1895	1945	1995	2045	2095	2145	2195	2245	2295	2345	2395	2445	2495	2545	2595	2645	2695	2745	2795	2845	2895	2945	2995	3045																																																																																																			
	with brake	1570	1620	1670	1720	1770	1820	1870	1920	1970	2020	2070	2120	2170	2220	2270	2320	2370	2420	2470	2520	2570	2620	2670	2720	2770	2820	2870	2920	2970	3020	3070																																																																																																			
	B	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850																																																																																																			
	D	4	4	5	5	5	5	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	11	12																																																																																																			
E	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26	26	26	28	28	28	28	30	30	30	30	32																																																																																																			
F	1735	2235	735	1235	1735	2235	735	1235	1735	2235	735	1235	1735	2235	735	1235	1735	2235	735	1235	1735	2235	735	1235	1735	2235	735	1235	1735	2235	735	1235																																																																																																			
Mass (kg)	30.2	31.0	31.9	32.8	33.6	34.5	35.4	36.3	37.1	38.0	38.9	39.7	40.6	41.5	42.3	43.2	44.1	45.0	45.8	46.7	47.6	48.4	49.3	50.2	51.0	51.9	52.8	53.6	54.5	55.4	56.3																																																																																																				
Maximum speed (mm/s)	Lead 40	1800	1800										1800										1800										1800																																																																																																		
	Lead 20	1200	1150										1000										950										830										740										650										590										540										490										440										410										370										340								

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	Positioner	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	pulse train control	Single-phase AC100/200 V	512 (768 for network spec.)	
SSEL-CS	2 axes	program	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes			55,000 (depend on type)	

• The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



SSPDACR-S-200

High Precision Specification

±5μm High precision

Clean-room Spec

Small High Rigidity

Actuator width 100 mm

200 W



Model Specification Items	SSPDACR—S	—	—	200	—	—	—	T2	—	—
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*	
	A: Absolute specification I: Incremental specification	200: 200W	30: 30mm 20: 20mm 10: 10mm	100: 100mm 1100: 1100mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.			

- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
SSPDACR-S-①-200-30-②-T2-③-④	200	30	30	4	113.9	150
SSPDACR-S-①-200-20-②-T2-③-④		20	45	6	170.9	100
SSPDACR-S-①-200-10-②-T2-③-④		10	90	12	341.8	50

Legend: ① Encoder type ② Stroke ③ Cable length ④ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 650~1100)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Suction tube joint on the opposite side	VR	→P11
Home limit switch	L	→P10			
Home limit switch on the opposite side	LL	→P10			

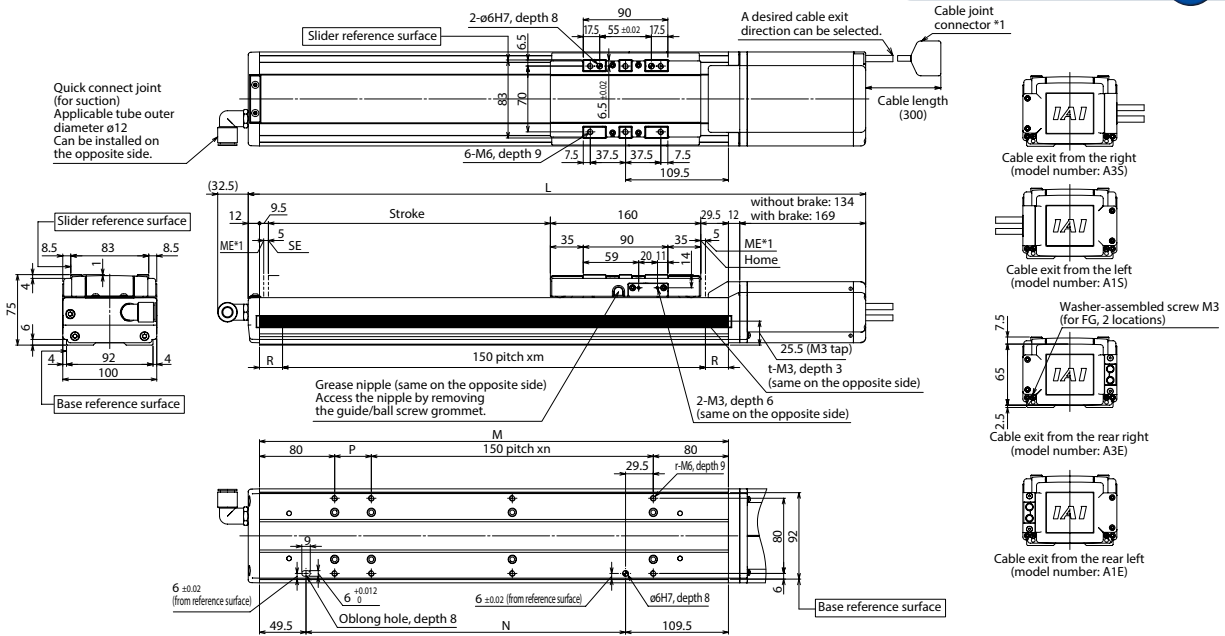
* If it is Lead 20 or 30, can not select Guide with ball retention mechanism (RT).

Actuator Specifications

Drive method	Ball screw φ16mm, equivalent to rolled C5
Positioning repeatability	±0.005mm
Base	Material: Cast iron with coating
Lost motion	0.02mm max.
Dynamic allowable load moment (*)	Ma: 43.4N·m Mb: 43.4N·m Mc: 116N·m
Overhang load length	Ma direction: 450mm max. Mb, Mc directions: 450mm max.
Cleanroom rating	Class 10 (Fed.Std.209D), Class, equivalent to 2.5 (ISO 14644-1)
Dynamic straightness (Note 2)	0.015mm/m max.
Grease	Low dust-raising grease(for ball screw and guide)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

Diagram



Dimensions and Mass by Stroke

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L without brake	457	507	557	607	657	707	757	807	857	907	957	1007	1057	1107	1157	1207	1257	1307	1357	1407	1457
L with brake	492	542	592	642	692	742	792	842	892	942	992	1042	1092	1142	1192	1242	1292	1342	1392	1442	1492
M	299	349	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199	1249	1299
N	140	190	240	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140
P	139	39	89	139	39	89	139	39	89	139	39	89	139	39	89	139	39	89	139	39	89
R	74.5	24.5	49.5	74.5	24.5	49.5	74.5	24.5	49.5	74.5	24.5	49.5	74.5	24.5	49.5	74.5	24.5	49.5	74.5	24.5	49.5
m	1	2	2	2	3	3	3	3	4	4	4	5	5	5	6	6	7	7	7	8	8
n	0	1	1	1	2	2	2	2	3	3	3	4	4	4	5	5	6	6	6	7	7
r	4	6	6	6	8	8	8	8	10	10	10	12	12	12	14	14	14	16	16	16	18
t	2	3	3	3	4	4	4	4	5	5	5	6	6	6	7	7	7	8	8	8	9
Mass (kg)	7.5	8.1	8.7	9.3	10.0	10.6	11.2	11.8	12.4	13.0	13.7	14.3	14.9	15.5	16.1	16.7	17.3	18.0	18.6	19.2	19.8
Maximum speed (mm/s)	Lead 30	1600										1600	1450	1290	1160	1040	940	860	780	720	660
	Lead 20	1100										1090	970	860	770	690	630	570	520	480	440
	Lead 10	600										540	480	430	380	340	310	280	260	240	220

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	●	Single-phase AC100/200 V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	●		512 (768 for network spec.)	
SCON-CAL/CGAL	1 axes	●		512 (768 for network spec.)	
MSCON-C	6 axes	This model is network-compatible only.		256	
SSEL-CS	2 axes	●	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	●		55,000 (depend on type)	

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical mounting depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

SSPDACR-M-400

High Precision Specification

±5μm High precision

Clean-room Spec

Medium High Rigidity

Actuator width 130 mm

400 W



Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
	SSPDACR—	M	—	—	400	—	—	—	—
			A: Absolute specification I: Incremental specification	400: 400W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 200: 200mm 300: 300mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□: Specified length	Refer to the options table below.

- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
SSPDACR-M: ①-400-40-②-T2-③-④	400	40	45	6	169.6	160
SSPDACR-M: ①-400-20-②-T2-③-④		20	90	12	339.1	110
SSPDACR-M: ①-400-10-②-T2-③-④		10	120	25	678.3	60

Legend: ① Encoder type ② Stroke ③ Cable length ④ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P11	Guide with ball retention mechanism	RT	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 650~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Suction tube joint on the opposite side	VR	→P11
Home limit switch	L	→P10			
Home limit switch on the opposite side	LL	→P10			

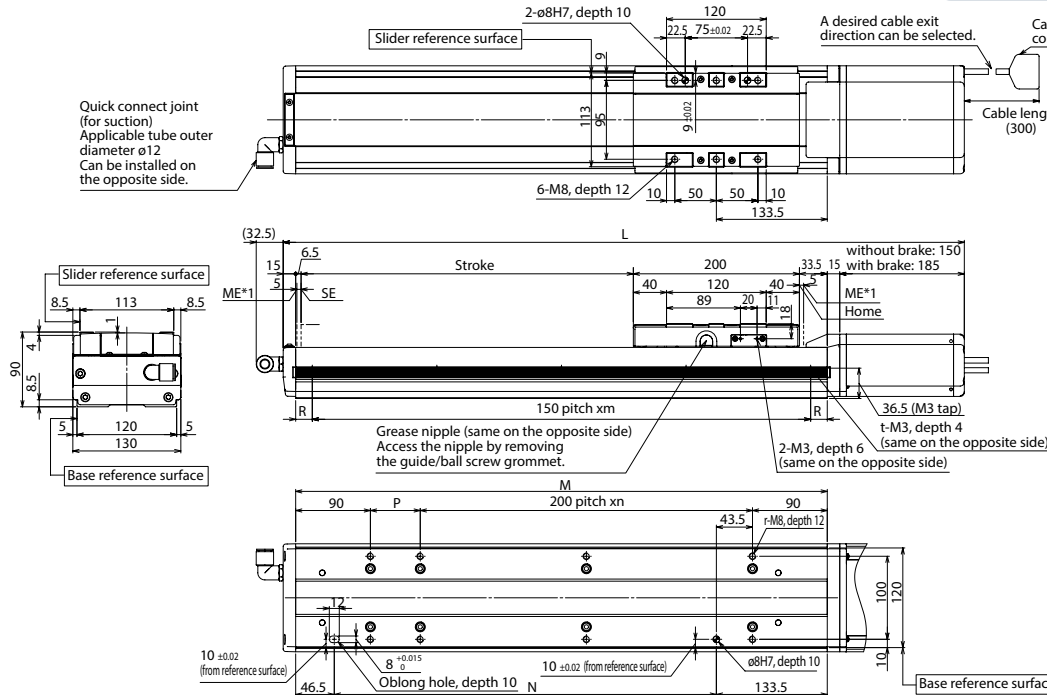
* If it is Lead 40, can not select Guide with ball retention mechanism (RT).

Actuator Specifications

Drive method	Ball screw φ20mm, equivalent to rolled C5
Positioning repeatability	±0.005mm
Base	Material: Cast iron with coating
Lost motion	0.02mm max.
Dynamic allowable load moment (*)	Ma: 107N·m Mb: 107N·m Mc: 276N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max.
Cleanroom rating	Class 10 (Fed.Std.209D), Class, equivalent to 2.5 (ISO 14644-1)
Dynamic straightness (Note 2)	0.015mm/m max.
Grease	Low dust-raising grease(for ball screw and guide)

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

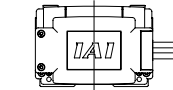
Diagram



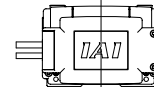
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

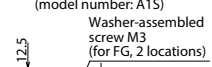
3D CAD



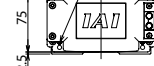
Cable exit from the right (model number: A3S)



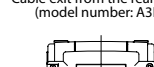
Cable exit from the left (model number: A1S)



Washer-assembled screw M3 (for FG, 2 locations)



Cable exit from the rear right (model number: A3E)



Cable exit from the rear left (model number: A1E)

Dimensions and Mass 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	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
L with brake	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355	1405	1455	1505	1555	1605	1655	1705	1755
M	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540
N	160	210	260	310	360	410	460	510	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360
P	160	210	260	310	360	410	460	510	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360
R	20	45	70	20	45	70	20	45	70	20	45	70	20	45	70	20	45	70	20	45	70	20	45	70	20
m	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8	8	8	9	9	9	10
n	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
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
t	3	3	3	4	4	4	4	5	5	5	6	6	6	7	7	8	8	8	9	9	9	10	10	10	11
Mass (kg)	13.9	15.0	16.0	17.1	18.1	19.2	20.2	21.3	22.3	23.4	24.4	25.5	26.5	27.6	28.7	29.7	30.8	31.8	32.9	33.9	35.0	36.0	37.1	38.1	39.2
Maximum speed (mm/s)	Lead 40	1600										1600	1600	1600	1600	1540	1410	1290	1180	1100	1010	940	880	820	760
	Lead 20	1100										1100	1040	940	850	770	700	640	590	550	500	470	440	410	380
	Lead 10	600										580	520	470	420	380	350	320	290	270	250	230	220	200	190

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	●	Single-phase AC100/200V	512 (768 for network spec.)	
SSEL-CS	2 axes	●	-	●	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical mounting depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

SSPDACR-L-750

High Precision Specification

±5μm High precision

Clean-room Spec

Large High Rigidity

Actuator width 155 mm

750 w



Model Specification Items	SSPDACR—	L	—	—	750	—	—	—	T2	—	—	—
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*			
	A: Absolute specification I: Incremental specification	750: 750W	50: 50mm 25: 25mm	100: 100mm 1500: 1500mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□: Specified length	Refer to the options table below.					

- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
SSPDACR-L-①-750-50-②-T2-③-④	750	50	60	12	255	180
SSPDACR-L-①-750-25-②-T2-③-④		25	120	25	510	120

Legend: ① Encoder type ② Stroke ③ Cable length ④ Options



(Note 1)

The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.

(Note 2)

The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 650~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 1350~1500)	ST	→P12
Home limit switch	L	→P10	Suction tube joint on the opposite side	VR	→P11
Home limit switch on the opposite side	LL	→P10			

* If it is Lead 50, can not select Guide with ball retention mechanism (RT).

Actuator Specifications

Drive method	Ball screw φ25mm, equivalent to rolled C5
Positioning repeatability	±0.005mm
Base	Material: Cast iron with coating
Lost motion	0.02mm max.
Dynamic allowable load moment (*)	Ma: 162N·m Mb: 162N·m Mc: 391N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max
Cleanroom rating	Class 10 (Fed.Std.209D), Class, equivalent to 2.5 (ISO 14644-1)
Dynamic straightness (Note 2)	0.015mm/m max.
Grease	Low dust-raising grease(for ball screw and guide)

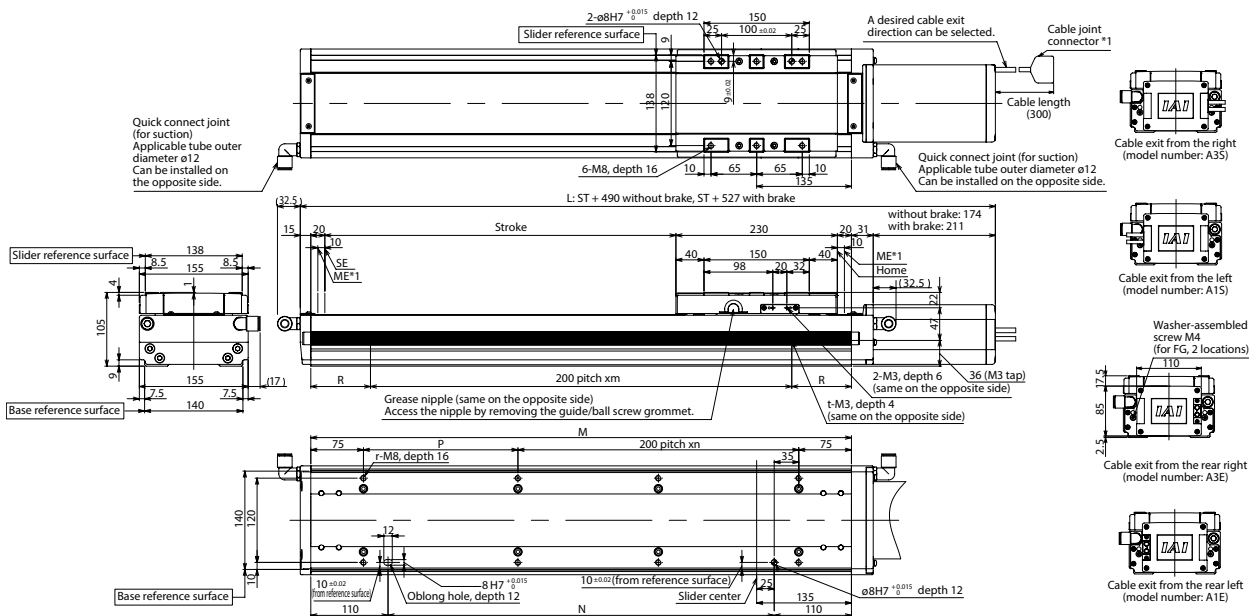
* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD



*1 When the slide is returning to its home position, please be careful of interference from surfing objects, as it will travel until it races the ME.
ME: Mechanical End SE: Stroke End

* Please return the actuator to us if a home direction change is necessary after purchase.

* The allowable moment offset reference position is 65.5mm from the slider work mounting position.

Dimensions and Mass 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	1350	1400	1450	1500
L																													
without brake	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	1990
with brake	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	2027
M	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	1770
N	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	1550
P	220	70	120	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
R	85	10	35	60	85	10	35	60	85	10	35	60	85	10	35	60	85	10	35	60	85	10	35	60	85	10	35	60	85
m	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7	8	8	8	8
n	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7
r	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	18
t	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9
Mass (kg)	24.0	26.0	28.0	29.0	31.0	32.0	34.0	36.0	37.0	39.0	40.0	42.0	44.0	45.0	47.0	48.0	50.0	52.0	53.0	55.0	56.0	58.0	60.0	61.0	63.0	65.0	66.0	68.0	70.0
Maximum speed (mm/s)																													
Lead 50										1600										1600									
Lead 25										1100										1060									
																				900									
																				770									
																				670									
																				580									
																				520									

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program	
SCON-CB/CGB	1 axes axes	●	●	-	512 (768 for network spec.)
SCON-LC/LCG	1 axes axes	-	-	●	512 (768 for network spec.)
SSEL-CS	2 axes axes	●	●	-	20,000
XSEL-P/Q/RA/SA	8 axes axes	-	-	●	55,000 (depend on type)
			Single-phase AC200V		
			Single-phase AC200V / three-phase AC200V		

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical mounting depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISDACR-W-600

ISPDACR-W-600

±20μm
Standard

Clean-
room
Spec

Extra
large
type

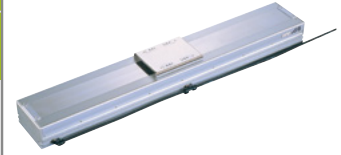
Actuator width
198
mm

600
W

High
Precision
Specification

±10μm
High precision

Model Specification Items		—	W	—		—	600	—		—		—	T2	—		—	
	Series	—	Type	—	Encoder type	—	Motor type	—	Lead	—	Stroke	—	Applicable controller	—	Cable length	—	Options*
	ISDACR: Standard specification		A: Absolute specification		600: 600W		40: 40mm 20: 20mm 10: 10mm		100: 100mm 200: 200mm 300: 300mm (Every 50mm)		T2: SCON SSEL XSEL-P/Q XSEL-RA/SA		N : None S : 3m M : 5m X□□: Specified length		Refer to the options table below.		
ISPDACR: High precision specification		I: Incremental specification															



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDACR[ISPDACR]-W-①-600-40-②-T2-③-L-④	600	40	60	14	255	120
ISDACR[ISPDACR]-W-①-600-20-②-T2-③-L-④		20	120	29	510	60
ISDACR[ISPDACR]-W-①-600-10-②-T2-③-L-④		10	150	60	1020	40

Legend: ① Encoder type ② Stroke ③ Cable length ④ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.3G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2) As the stroke increases, the maximum speed decreases due to the critical rotational speed of the ball screw (See the table below for the maximum speed by stroke.)
- (Note 3, 4, 5) The values in [] apply to the ISPDACR series.

Option

Name	Model number	Reference page
AQ seal	AQ	→P10
Brake	B	→P10
Creep sensor	C	→P10
Home limit switch (standard feature)	L	→P10
Master axis specification	LM	→P11
Non-motor end specification	NM	→P11
Slave axis specification	S	→P11
Suction tube joint on the opposite side	VR	→P11
Double slider specification	W	→P10

Actuator Specifications

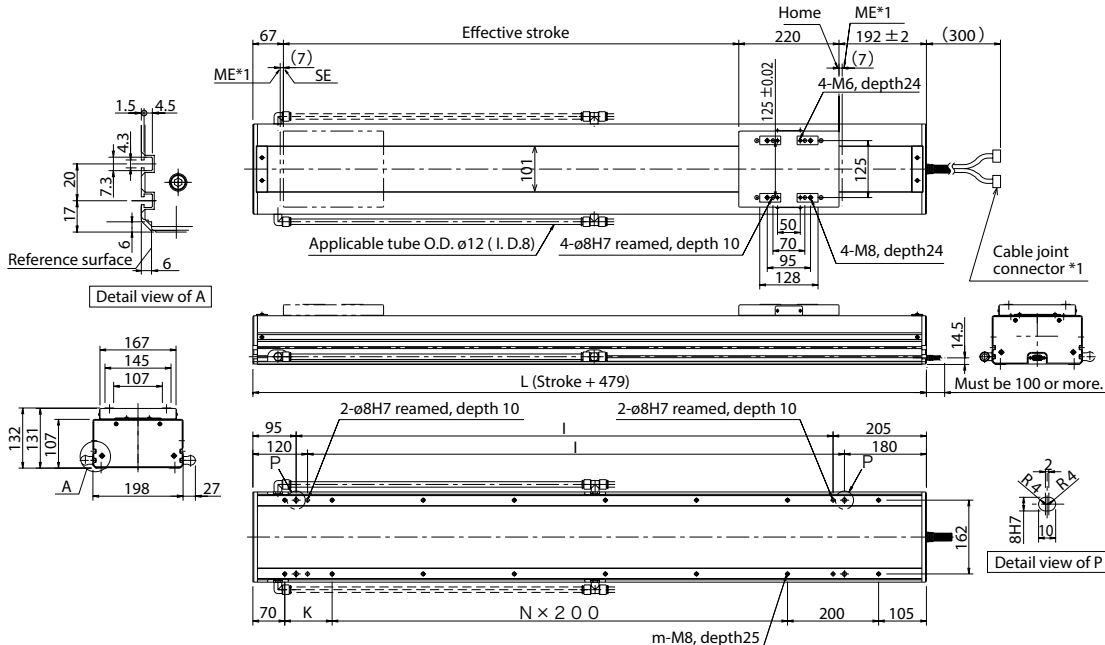
Drive method (Note 3)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Positioning repeatability (Note 4)	±0.02mm [±0.01mm]
Base	Material: Aluminum, with white alumite treatment
Lost motion (Note 5)	0.05mm max. [0.02mm max.]
Dynamic allowable load moment (*)	Ma: 162N·m Mb: 231N·m Mc: 455N·m
Overhang load length(**)	Ma direction: 800mm max. Mb, Mc directions: 800mm max.
Cleanroom rating	Class 10 (Fed.Std.209D), Class, equivalent to 2.5 (ISO 14644-1)
Grease	Low dust-raising grease(for ball screw and guide)
Suction tube joint	Quick connect joint, applicable tube outer diameter φ12

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D
CAD

3D
CAD



- *1 When the slide is returning to its home position, please be careful of interference from surfacing objects, as it will travel until it reaches the ME.
ME: Mechanical End
SE: Stroke End
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 83.5mm from the slider work mounting position.

Dimensions and Mass 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	579	629	679	729	779	829	879	929	979	1029	1079	1129	1179	1229	1279	1329	1379	1429	1479	1529	1579	1629	1679	1729	1779
I	279	329	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129	1179	1229	1279	1329	1379	1429	1479
K	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404
N	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
m	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)	19.4	20.9	22.0	23.0	24.0	25.0	26.0	27.0	28.1	29.1	30.1	31.1	32.1	33.2	34.2	35.2	36.2	37.2	38.2	39.3	40.3	41.3	42.3	43.3	44.3
Maximum speed (mm/s) (Note 2)																									
Lead 40																									
Lead 20																									
Lead 10																									

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner Pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CG	1 axes axes	●	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes axes	●		512 (768 for network spec.)	
SSEL-CS	2 axes axes	●		20,000	
XSEL-P/Q/RA/SA	8 axes axes	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

- The type of compatible networks will vary depending on controller. Please contact IAI for more information.
- The WX type has a home limit switch as standard, please select the limit switch specification for the controller.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISDACR-W-750

ISPDACR-W-750

±20µm
Standard

Clean-
room
Spec

Extra
large
type

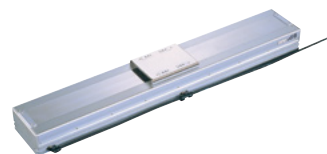
Actuator width
198
mm

750
W

High
Precision
Specification

±10µm
High precision

Model Specification Items		W		750			T2		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
	ISDACR: Standard specification ISPDACR: High precision specification	A: Absolute specification I: Incremental specification	750: 750W 50: 50mm 25: 25mm	100: 100mm 1300: 1300mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA	N: None S: 3m M: 5m X□□: Specified length	Refer to the options table below.		



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDACR[ISPDACR]-W-1-750-50-2-T2-3-L-4	750	50	60	14	255	120
ISDACR[ISPDACR]-W-1-750-25-2-T2-3-L-4		25	120	29	510	60

Legend: ① Encoder type ② Stroke ③ Cable length ④ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.3G. When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2) As the stroke increases, the maximum speed decreases due to the critical rotational speed of the ball screw (See the table below for the maximum speed by stroke.)
- (Note 3, 4, 5) The values in [] apply to the ISPDACR series.

Option

Name	Model number	Reference page
AQ seal	AQ	→P10
Brake	B	→P10
Creep sensor	C	→P10
Home limit switch (standard feature)	L	→P10
Master axis specification	LM	→P11
Non-motor end specification	NM	→P11
Slave axis specification	S	→P11
Suction tube joint on the opposite side	VR	→P11
Double slider specification	W	→P10

Actuator Specifications

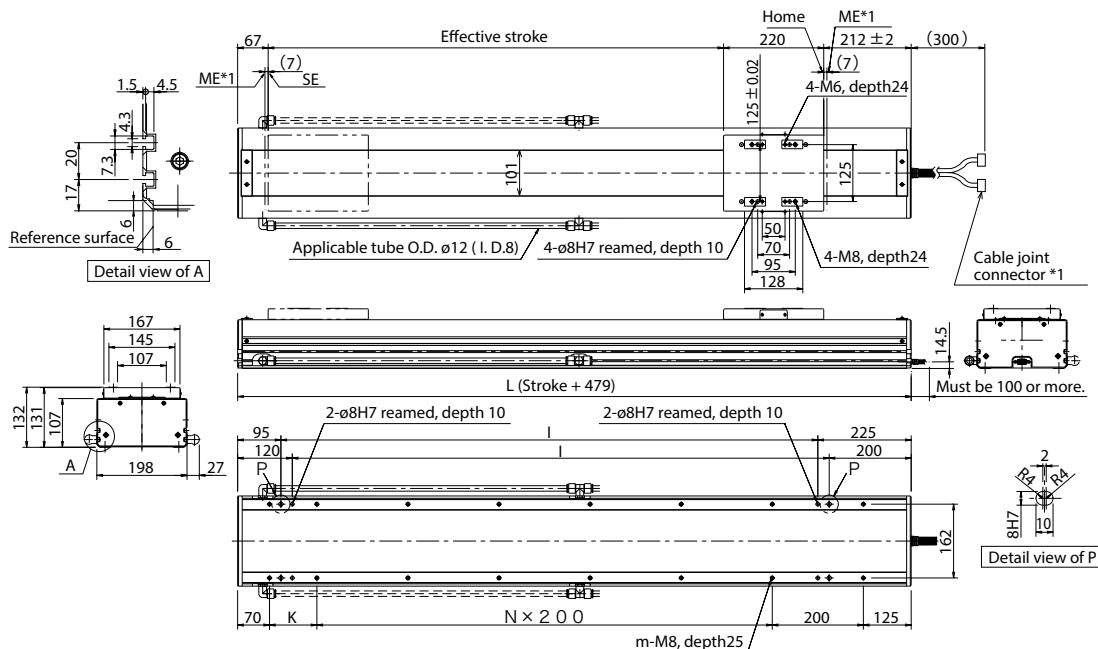
Drive method (Note 3)	Ball screw φ25mm, rolled C10 [equivalent to rolled C5]
Positioning repeatability (Note 4)	±0.02mm [±0.01mm]
Base	Material: Aluminum, with white alumite treatment
Lost motion (Note 5)	0.05mm max. [0.02mm max.]
Dynamic allowable load moment (N·m)	Ma: 162N·m Mb: 231N·m Mc: 455N·m
Overhang load length (mm)	Ma direction: 800mm max. Mb, Mc directions: 800mm max
Cleanroom rating	Class 10 (Fed.Std.209D), Class, equivalent to 2.5 (ISO 14644-1)
Grease	Low dust-raising grease (for ball screw and guide)
Suction tube joint	Quick connect joint, applicable tube outer diameter φ12

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D
CAD

3D
CAD



*1 When the slide is returning to its home position, please be careful of interference from surfacing objects, as it will travel until it reaches the ME.
ME: Mechanical End
SE: Stroke End

* Please return the actuator to its home position if a home direction change is necessary after purchase.

* The allowable moment offset reference position is 83.5mm from the slider work mounting position.

Dimensions and Mass 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	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199	1249	1299	1349	1399	1449	1499	1549	1599	1649	1699	1749	1799	
I	279	329	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129	1179	1229	1279	1329	1379	1429	1479	
K	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404	
N	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	
m	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)	23.4	24.4	25.5	26.5	27.5	28.5	29.5	30.5	31.5	32.6	33.6	34.6	35.6	36.6	37.6	38.6	39.7	40.7	41.7	42.7	43.7	44.7	45.8	46.8	47.8	
Maximum speed (mm/s) (Note 2)	Lead 50	2000																	2000		1780		1525		1320	
	Lead 25	1250																	1050		890		760		660	

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Positioner	Pulse train control	program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CG	1 axes axes	●	●	-	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes axes	-	-	●		512 (768 for network spec.)	
SSEL-CS	2 axes axes	●	-	●		20,000	
XSEL-P/Q/RA/SA	8 axes axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

- The type of compatible networks will vary depending on controller. Please contact IAI for more information.
- The WX type has a home limit switch as standard, please select the limit switch specification for the controller.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISDACR-WX-600

ISPDACR-WX-600



Clean-
room
Spec

Extra
large
type

Mid-
Support
type

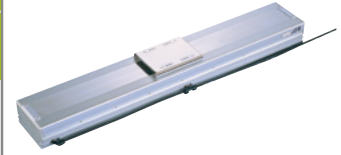
Actuator width
198
mm

600
W

High
Precision
Specification



Model Specification Items		WX		600			T2		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
	ISDACR: Standard specification ISPDACR: High precision specification	A: Absolute specification I: Incremental specification	600: 600W 40: 40mm 20: 20mm	900: 900mm 2500: 2500mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□ : Specified length	Refer to the options table below.		



- Please refer to P.9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDACR[ISPDACR]-WX-①-600-40-②-T2-③-L-④	600	40	60	255	120	900~2500 (Every 50mm)
ISDACR[ISPDACR]-WX-①-600-20-②-T2-③-L-④	600	20	120	510	60	900~2500 (Every 50mm)

- Legend: ① Encoder type ② Stroke ③ Cable length ④ Options



- (Note 1) As the stroke increases, the maximum speed decreases due to the critical rotational speed of the ball screw (See the table below for the maximum speed by stroke.)
- (Note 2) The maximum acceleration is 0.3 G.
- (Note 3, 4, 5) The values in [] apply to the ISPDACR series.

Option

Name	Model number	Reference page
AQ seal	AQ	→P10
Brake	B	→P10
Creep sensor	C	→P10
Home limit switch (standard feature)	L	→P10
Master axis specification	LM	→P11
Non-motor end specification	NM	→P11
Slave axis specification	S	→P11
Suction tube joint on the opposite side	VR	→P11

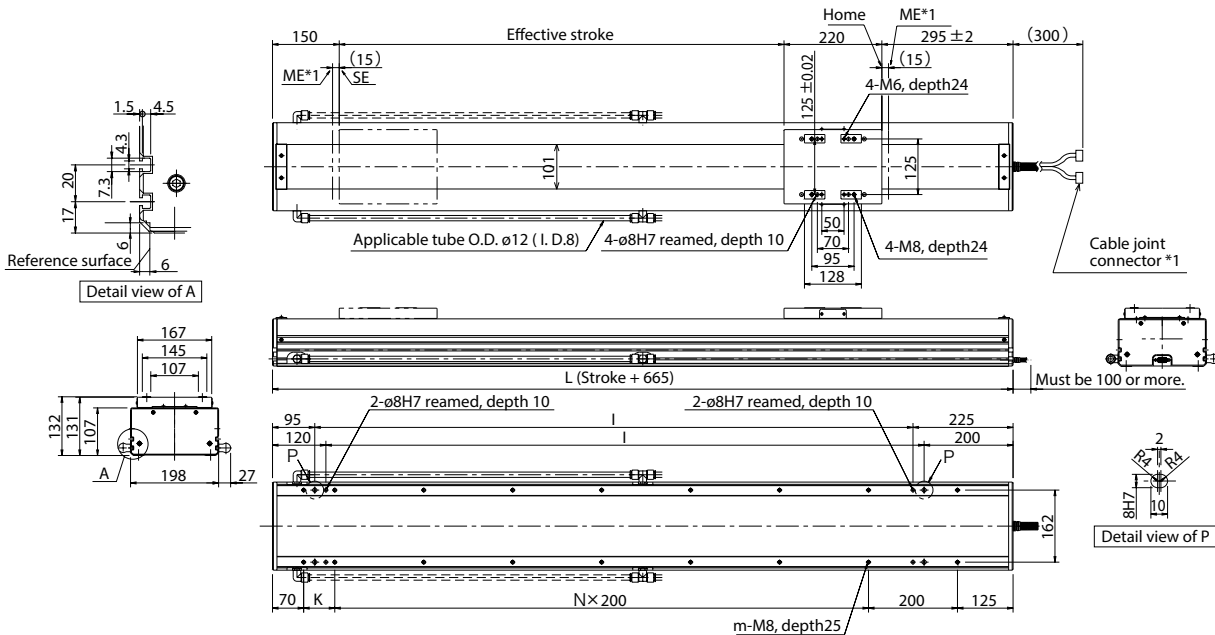
Actuator Specifications

Drive method (Note 3)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Positioning repeatability (Note 4)	±0.02mm [±0.01mm]
Base	Material: Aluminum, with white alumite treatment
Lost motion (Note 5)	0.05mm max. [0.02mm max.]
Dynamic allowable load moment (*)	Ma: 162N·m Mb: 231N·m Mc: 455N·m
Overhang load length	Ma direction: 800mm max. Mb, Mc directions: 800mm max
Cleanroom rating	Class 10 (Fed.Std.209D), Class, equivalent to 2.5 (ISO 14644-1)
Grease	Low dust-raising grease(for ball screw and guide)
Suction tube joint	Quick connect joint, applicable tube outer diameter φ12

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



*1 When the slide is returning to its home position, please be careful of interference from surfing objects, as it will travel until it reaches the ME.
ME: Mechanical End SE: Stroke End

* Please return the actuator to us if a home direction change is necessary after purchase.

* The allowable moment offset reference position is 83.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

Stroke	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500																																																																							
L	1565	1615	1665	1715	1765	1815	1865	1915	1965	2015	2065	2115	2165	2215	2265	2315	2365	2415	2465	2515	2565	2615	2665	2715	2765	2815	2865	2915	2965	3015	3065	3115	3165																																																																							
I	1245	1295	1345	1395	1445	1495	1545	1595	1645	1695	1745	1795	1845	1895	1945	1995	2045	2095	2145	2195	2245	2295	2345	2395	2445	2495	2545	2595	2645	2695	2745	2795	2845																																																																							
K	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170																																																																							
N	5	5	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	10	11	11	11	11	12	12	12	13	13	13																																																																							
m	16	16	18	18	18	18	20	20	20	20	22	22	22	24	24	24	24	26	26	26	26	26	28	28	28	28	30	30	30	30	32	32	32																																																																							
Mass (kg)	39.5	40.5	41.5	42.6	43.6	44.6	45.6	46.6	47.6	48.7	49.7	50.7	51.7	52.7	53.8	54.8	55.8	56.8	57.8	58.8	59.9	60.9	61.9	62.9	63.9	65.0	66.0	67.0	68.0	69.0	70.0	71.1	72.1																																																																							
Maximum speed (mm/s)	Lead 40	2000								1965								1225								1110								1005								915								840								770								710								655																														
	Lead 20	1000								980								860								750								680								620								555								500								455								420								385								355								325						

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes axes	Positioner	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes axes	Pulse train control		512 (768 for network spec.)	
SSEL-CS	2 axes axes	program		20,000	
XSEL-P/Q/RA/SA	8 axes axes		Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	



- The type of compatible networks will vary depending on controller. Please contact IAI for more information.
- The WX type has a home limit switch as standard, please select the limit switch specification for the controller.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISDACR-WX-750

ISPDACR-WX-750

±20μm
Standard

Clean-
room
Spec

Extra
large
type

Mid-
Support
type

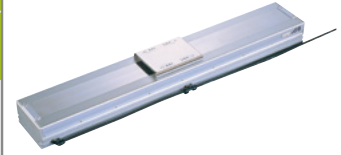
Actuator width
198
mm

750
W

High
Precision
Specification

±10μm
High precision

Model Specification Items		WX		750			T2		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
	ISDACR: Standard specification ISPDACR: High precision specification	A: Absolute specification I: Incremental specification	750: 750W 50: 50mm 25: 25mm	900: 900mm 2500: 2500mm (Every 50mm)	T2: SCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□: Specified length	Refer to the options table below.		



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (N2/min)	Stroke (mm)
ISDACR[ISPDACR]-WX-①-750-50-②-T2-③-L-④	750	50	60	255	120	900~2500 (Every 50mm)
ISDACR[ISPDACR]-WX-①-750-25-②-T2-③-L-④	750	25	120	510	60	900~2500 (Every 50mm)

- Legend: ① Encoder type ② Stroke ③ Cable length ④ Options



- (Note 1) As the stroke increases, the maximum speed decreases due to the critical rotational speed of the ball screw (See the table below for the maximum speed by stroke.)
- (Note 2) The maximum acceleration is 0.3 G.
- (Note 3, 4, 5) The values in [] apply to the ISPDACR series.

Option

Name	Model number	Reference page
AQ seal	AQ	→P10
Brake	B	→P10
Creep sensor	C	→P10
Home limit switch (standard feature)	L	→P10
Master axis specification	LM	→P11
Non-motor end specification	NM	→P11
Slave axis specification	S	→P11
Suction tube joint on the opposite side	VR	→P11

Actuator Specifications

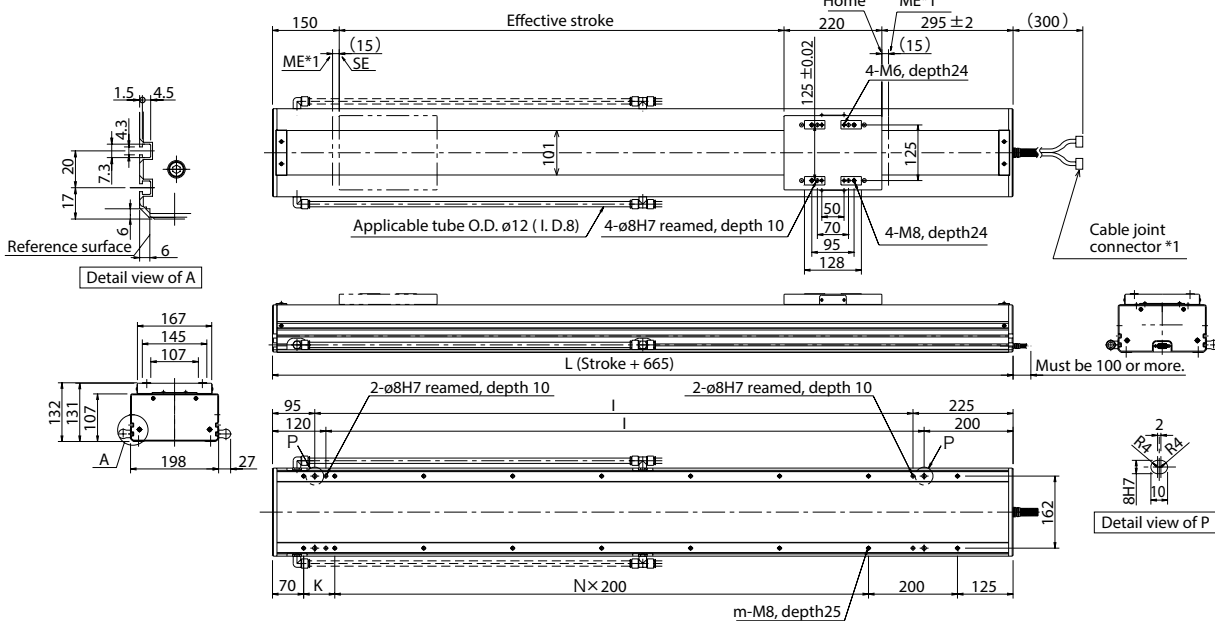
Drive method (Note 3)	Ball screw φ25mm, rolled C10 [equivalent to rolled C5]
Positioning repeatability (Note 4)	±0.02mm [±0.01mm]
Base	Material: Aluminum, with white alumite treatment
Lost motion (Note 5)	0.05mm max. [0.02mm max.]
Dynamic allowable load moment (*)	Ma: 162N·m Mb: 231N·m Mc: 455N·m
Overhang load length	Ma direction: 800mm max. Mb, Mc directions: 800mm max
Cleanroom rating	Class 10 (Fed.Std.209D), Class, equivalent to 2.5 (ISO 14644-1)
Grease	Low dust-raising grease(for ball screw and guide)
Suction tube joint	Quick connect joint, applicable tube outer diameter φ12

* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD



- *1 When the slide is returning to its home position, please be careful of interference from surfing objects, as it will travel until it reaches the ME.
ME: Mechanical End SE: Stroke End

* Please return the actuator to us if a home direction change is necessary after purchase.

* The allowable moment offset reference position is 83.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

Stroke	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	
L	1565	1615	1665	1715	1765	1815	1865	1915	1965	2015	2065	2115	2165	2215	2265	2315	2365	2415	2465	2515	2565	2615	2665	2715	2765	2815	2865	2915	2965	3015	3065	3115	3165	
I	1245	1295	1345	1395	1445	1495	1545	1595	1645	1695	1745	1795	1845	1895	1945	1995	2045	2095	2145	2195	2245	2295	2345	2395	2445	2495	2545	2595	2645	2695	2745	2795	2845	
K	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	
N	5	5	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	11	12	12	12	12	13	13	13	
m	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26	26	28	28	28	28	30	30	30	30	32	32	32	
Mass (kg)	44.5	45.5	46.6	47.6	48.6	49.6	50.6	51.6	52.6	53.7	54.7	55.7	56.7	57.7	58.7	59.7	60.8	61.8	62.8	63.8	64.8	65.8	66.9	67.9	68.9	69.9	70.9	71.9	72.9	74.0	75.0	76.0	77.0	
Maximum speed (mm/s)	Lead 50	2000														2000		1930		1740		1580		1440		1320		1210		1115		1035		
	Lead 25	1250														1200		1075		965		870		790		720		660		605		555		515

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes axes	Positioner	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes axes	Pulse train control		512 (768 for network spec.)	
SSEL-CS	2 axes axes	program		20,000	
XSEL-P/Q/RA/SA	8 axes axes			55,000 (depend on type)	

- The type of compatible networks will vary depending on controller. Please contact IAI for more information.
- The WX type has a home limit switch as standard, please select the limit switch specification for the controller.



Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com

ISDBCR-S- -ESD

ISPDBCR-S- -ESD

High Precision Specification

±10μm Standard

±3μm High precision

Clean-room Spec

Battery-less absolute

Small type

Static electricity protection specification

Actuator width 90 mm

60 W

Model Specification Items		S	WA	60			T2		ESD*	
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length		Options**
	ISDBCR: Standard specification		WA: Battery-less absolute	60: 60W	16: 16mm 8: 8mm 4: 4mm	100: 100mm 800: 800mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□: Specified length		
ISPDBCR: High precision specification										



- Please refer to P.9 for more information about the model specification items.
- Controller is not included.

- Please contact IAI for more information.
- Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDBCR[ISDBCR]-S-WA-60-16-①-T2-②-ESD-③	60	16	13	3	53.1	60
ISDBCR[ISDBCR]-S-WA-60-8-①-T2-②-ESD-③		8	27	6	106.1	30
ISDBCR[ISDBCR]-S-WA-60-4-①-T2-②-ESD-③		4	55	14	212.3	15

Legend: ① Stroke ② Cable length ③ Options



- (Note 1) The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 4mm lead) When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.
- (Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 650~800)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Suction tube joint on the opposite side	VR	→P11
Home limit switch	L	→P10	Double slider specification	W	→P11
Home limit switch on the opposite side	LL	→P10			

* ISPDBCR and ISDBCR (lead 16) can not select Guide with ball retention mechanism (RT).

Actuator Specifications

Drive method (Note 2)	Ball screw φ12mm, rolled C10 [equivalent to rolled C5]
Positioning repeatability (Note 3)	±0.01mm [±0.003mm]
Base other structural member	Material: Aluminum Electroless nickel plating treatment
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (*) (**)	Ma: 32.9N·m Mb: 47.0N·m Mc: 76.8N·m
Overhang load length (**)	Ma direction: 450mm max. Mb, Mc directions: 450mm max.
Cleanroom rating	Class 10 (Fed.Std.209D), Class, equivalent to 2.5 (ISO 14644-1)
Dynamic straightness (Note 5)	0.02mm/m max.
Grease	Low dust-raising grease (for ball screw and guide)

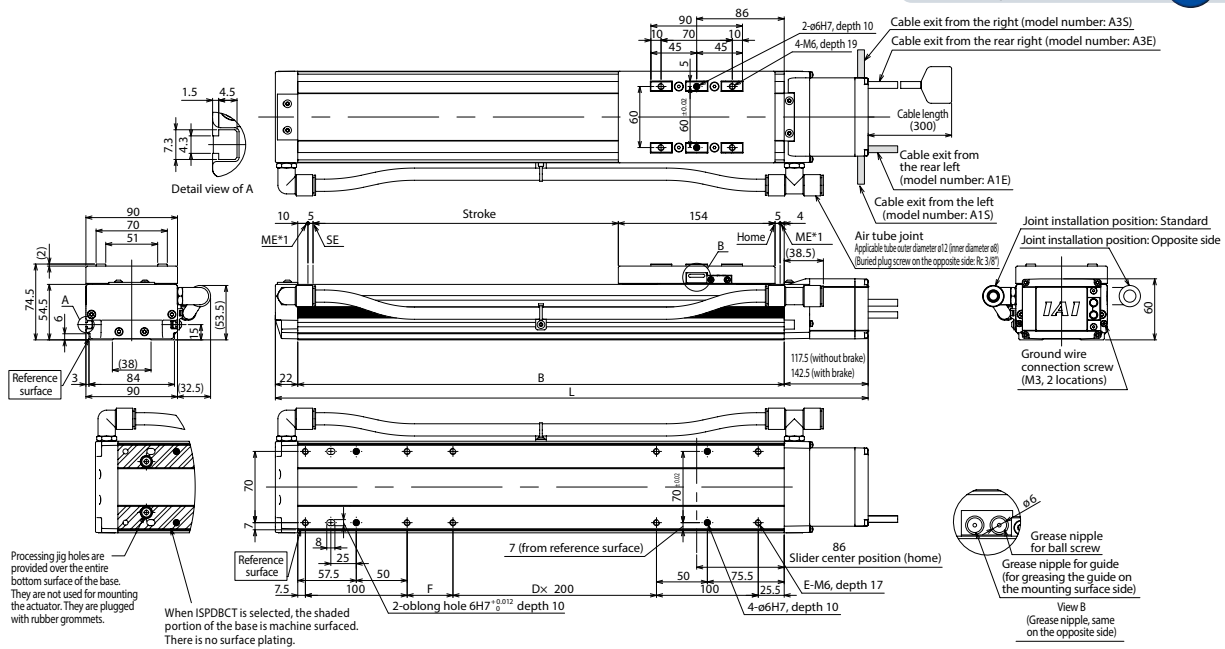
* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

Diagram

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD



Base mounting surface when the guide is of the high precision specification

Dimensions and Mass by Stroke

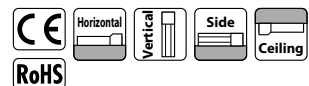
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L without brake	417.5	467.5	517.5	567.5	617.5	667.5	717.5	767.5	817.5	867.5	917.5	967.5	1017.5	1067.5	1117.5
L with brake	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5	1142.5
B	278	328	378	428	478	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

- *1 When the slide is returning to its home position, please be careful of interference from surfing objects, as it will travel until it races the ME.
ME: Mechanical End SE: Stroke End
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable moment offset reference position is 42.5mm from the slider work mounting position.

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method Positioner pulse train control program	Power-supply voltage	Maximum number of positioning points	Reference page
SCON-CB/CGB	1 axes	●	Single-phase AC100/200 V	512	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-		512	
SCON-CAL/CGAL	1 axes	●		512	
MSCON-C	6 axes	This model is network-compatible only.		256	
SSEL-CS	2 axes	●	Single-phase AC200V / three-phase AC200V	20000	
XSEL-P/Q/RA/SA	8 axes	●		55,000 (depend on type)	

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



- ** Please be sure to include the AO seal (AO) and one of the symbols for cable exit direction.

 CAUTION	(Note 1)	The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 5mm lead) When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
	(Note 2, 3, 4)	The values in [] apply only to the ISPD6CR series. Other specifications apply to both the ISD6CR and ISPD6CR.
	(Note 5)	The value of dynamic straightness is when the high straightness, precision specification option is specified.

- Legend: ① Stroke ② Cable length ③ Options

Actuator Specifications	
Drive method (Note 2)	Ball screw $\phi 16\text{mm}$, rolled C10 [equivalent to rolled C5]
Positioning repeatability (Note 3)	$\pm 0.01\text{mm}$ [$\pm 0.003\text{mm}$]
Base other structural member	Material: Aluminum Electroless nickel plating treatment
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (°)(**)	Ma: 81.0N·m Mb: 116N·m Mc: 189N·m
Overhang load length(**)	Ma direction: 600mm max Mb, Mc directions: 600mm max
Cleanroom rating	Class 10 (Fed.Std.209D, Class, equivalent to 2.5 (ISO 14644-1)
Dynamic straightness (Note 5)	0.02mm/m max.
Grease	Low dust-raising grease(for ball screw and guide)

** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

* ISPDBCR and ISDBCR (lead 30) can not select Guide with ball retention mechanism (BT).

CAD drawings can be downloaded from our website.

www.intelligentactuator.com

2D
CAD

3D
CAL

Technical drawing of the ISPD-BCT machine tool, showing three views: a side view, a front view, and a detail view of the base.

Side View Dimensions and Labels:

- Stroke: 194
- Home: 5
- ME*1: 8
- SE: 5
- ME*1: 38.5
- ME*1: 115 (100W), 141 (width 100W BCL), 141 (200W), 146 (width 200W BCL)
- 15 (100W), 25 (width 100W BCL), 25 (200W), 25 (width 200W BCL)
- 4-M6, depth 18
- 2-øH7, depth 10
- 2-øH7, depth 18
- 4-M8, depth 18
- Cable exit from the right (model number: A35)
- Cable exit from the rear right (model number: A3E)
- Cable exit from the rear left (model number: A1E)
- Cable exit from the left (model number: A1S)
- Air tube joint: Applicable tube outer diameter ø12 (inner diameter ø8), Burled plug screw on the opposite side (ø 3/8")
- Joint installation position: Standard
- Joint installation position: Opposite side
- Ground wire connection screw (M3, 2 locations)
- Grease nipple for ball screw
- Grease nipple for guide for greasing the guide on the mounting surface side
- View B: (Grease nipple, same on the opposite side)

Front View Dimensions and Labels:

- Reference surface: 12.5
- 12
- 30
- 72.5
- 120
- 60
- F
- 2-oblong hole 8H7/ø18S depth 10
- Dx200
- 10 (from reference surface)
- 90
- 60
- 120
- 102.5
- 42.5
- 4-øH7, depth 10
- Slider center position (home)
- 107
- E-M8, depth 20

Detail View of A:

- 1.5
- 4.5
- 4.3

When ISPD-BCT is selected, the shaded portion of the base is machine surfaced. There is no surface plating.

Stroke			100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
L	100W	without brake	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404	1454	
L	100W	with brake	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380	1430	1480	
L	200W	without brake	500	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380	1430	1480	
L	200W	with brake	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355	1405	1455	1505	
B	B		317	367	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	
D	D		0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	
E	E		8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	
F	F		22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	
Mass (kg)	without brake	100W	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	
	with brake	200W	8	8.6	9.2	9.9	10.5	11.1	11.7	12.4	13	13.6	14.3	14.9	15.5	16.1	16.8	17.4	18	18.6	19.3	19.9	20.5	
Maximum speed (mm/s)	Lead 30									1800					1630	1440	1280	1150	1035	935	850	780	715	660
	Lead 10									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

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC100/200 V	512	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	●		512	
SCON-CAL/CGAL	1 axes	●	-	-		512	
MSCON-C	6 axes	This model is network-compatible only.				256	
SSEL-CS	2 axes	●	-	●	20000		
SSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

●The type of compatible networks will vary depending on controller. Please contact IAI for more information.

Buy: www.ValinOnline.com | Phone 844-385-3099 | Email: CustomerService@valin.com



Horizontal

Vertical



Side

Ceiling

RoHS



9

* Some

the limitation

ns may a

ply to Ve

tical/

side/ceiling mountings depending on the model. Please contact IAI for more information.

ISDBCR-L- -ESD

ISPDBCR-L- -ESD

±10μm  Standard		Clean-room Spec	Battery-less absolute	Large type	Static electricity protection specification	Actuator width	200W	400W
High Precision Specification	±3μm  High precision							
			T2		ESD*			
Motor type	Lead	Stroke	Applicable controller	Cable length	Options**			
200: 200W 400: 400W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 20: 20mm 1300: 1300mm (Every 50mm)	T2: SCON MSCON SSEL XSEL-P/Q XSEL-RA/SA	N : None S : 3m M : 5m X□□: Specified length				



- Please refer to P. 9 for more information about the model specification items.
- Controller is not included.

* Please contact IAI for more information.

** Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Payload (Note 1) Horizontal (kg) Vertical (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDBCR[ISPDPCR]-L-WA-200-40-①-T2-②-ESD-③	200	40	15 2.5	85.5	180	100~1300 (Every 50mm)
ISDBCR[ISPDPCR]-L-WA-200-20-①-T2-②-ESD-③	200	20	45 9	170.9	120	
ISDBCR[ISPDPCR]-L-WA-200-10-①-T2-②-ESD-③	200	10	90 20	341.8	50	
ISDBCR[ISPDPCR]-L-WA-400-40-①-T2-②-ESD-③	400	40	40 8	169.6	180	100~1300 (Every 50mm)
ISDBCR[ISPDPCR]-L-WA-400-20-①-T2-②-ESD-③	400	20	90 20	339.1	120	
ISDBCR[ISPDPCR]-L-WA-400-10-①-T2-②-ESD-③	400	10	120 40	678.3	50	

Legend: ① Stroke ② Cable length ③ Options

(Note 1)	The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced.
(Note 2, 3, 4)	The values in [] apply only to the ISPDPCR series. Other specifications apply to both the ISDBCR and ISPDPCR.
(Note 5)	The value of dynamic straightness is when the high straightness, precision specification option is specified.

Option

Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P11	Non-motor end specification	NM	→P11
Cable exit from the rear right	A3E	→P10	Guide with ball retention mechanism	RT*	→P11
AQ seal (standard feature)	AQ	→P10	Slave axis specification	S	→P11
Brake	B	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Creep sensor	C	→P10	High straightness, precision specification (stroke 650~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Suction tube joint on the opposite side	VR	→P11
Home limit switch	L	→P10	Double slider specification	W	→P11
Home limit switch on the opposite side	LL	→P10			

* ISPDPCR and ISDBCR (lead 40) can not select Guide with ball retention mechanism (RT).

Actuator Specifications

Drive method (Note 2)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Positioning repeatability (Note 3)	±0.01mm [±0.003mm]
Base other structural member	Material: Aluminum Electroless nickel plating treatment
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (*)(**)	Ma: 123N·m Mb: 176N·m Mc: 291N·m
Overhang load length(**)	Ma direction: 750mm max. Mb, Mc directions: 750mm max
Cleanroom rating	Class 10 (Fed.Std.209D), Class, equivalent to 2.5 (ISO 14644-1)
Dynamic straightness (Note 5)	0.02mm/m max.
Grease	Low dust-raising grease (for ball screw and guide)

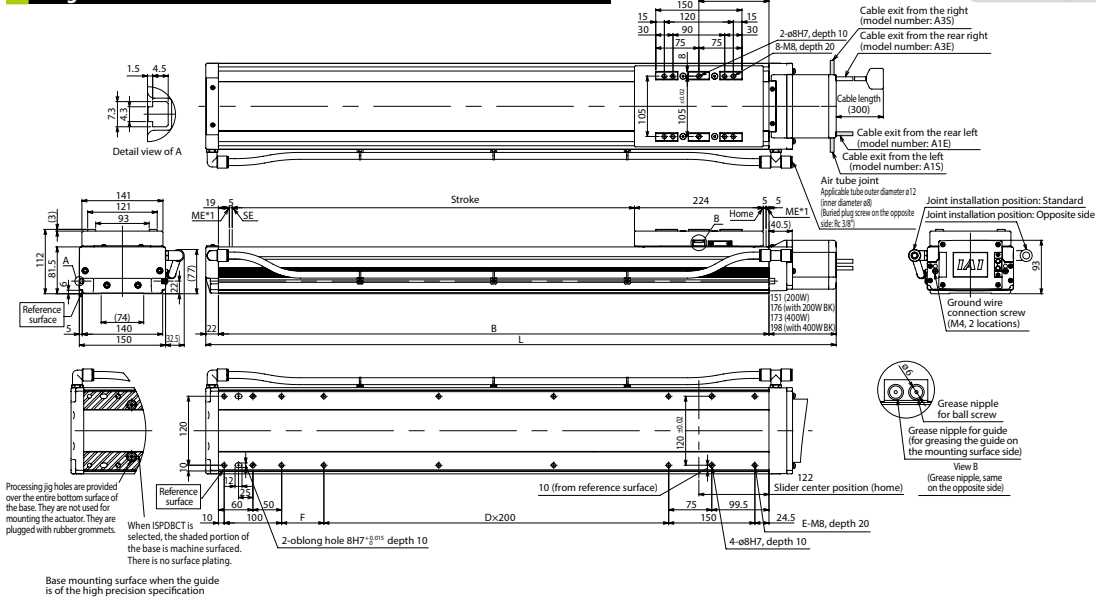
* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Diagram



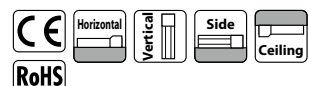
Dimensions and Mass by Stroke

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 200W without 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
L 200W with brake	556	606	656	706	756	806	856	906	956	1006	1056	1106	1156	1206	1256	1306	1356	1406	1456	1506	1556	1606	1656	1706	1756
L 400W without 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
L 400W with brake	578	628	678	728	778	828	878	928	978	1028	1078	1128	1178	1228	1278	1328	1378	1428	1478	1528	1578	1628	1678	1728	1778
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	5	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	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) without brake	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
Mass (kg) with brake	12.3	13.1	14	14.8	15.7	16.6	17.4	18.3	19.1	20	20.8	21.7	22.5	23.4	24.3	25.1	26	26.8	27.7	28.5	29.4	30.2	31.1	31.9	32.8
Maximum speed (mm/s)																									
Lead 40																									
Lead 20																									
Lead 10																									

Applicable Controllers

Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC100/200 V	512	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	●		512	
SCON-CAL/CGAL	1 axes	●	-	-		512	
MSCON-C	6 axes	This model is network-compatible only.				256	
SSEL-CS	2 axes	●	-	●	20000		
XSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

● The type of compatible networks will vary depending on controller. Please contact IAI for more information.
● SCON-CAL/CGAL and MCON can select when the motor is 200W.



* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

Clean room specifications Cleanliness Standard

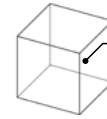
Clean is an indicator of cleanliness in a clean room and is indicated by "quantity of dust over the size of the reference in a certain volume".

The original standard is the federal standard 209 of the United States Federal Standard in 1963.

Regarding this standard, Federal Standard 209E revised in 1992 is the latest, however, it was abolished in 2001 due to the establishment of ISO 4644-1 (1999).

However, the name "Class 1000" by the United States federal Standard Fed.Std.209D and the common name of "0.1 µm class 100" are used in a similar form on site.

No.	Standard name	Name of the class	Target particle diameter	Reference volume	Remarks
1	Fed.Std.209D	Class1,10,100...100,000	0.5µm	1ft ³	Established in 1963. Abolition in 2001
2	ISO146-4461	Class1-9	0.1µm	1m ³	Established in 1999.



Specify how many dusts of the target particle diameter exist in the specified size (1 m³, 1 ft³)

IAI standard is applied to Fed.Std. 209 D, however, the target particle size is 0.1 µm.

<Cleanliness standard>

The cleanliness standards are summarized in the table below.

1. Fed.Std.209D

Target particle diameter	0.5µm or more				
Class criteria	Number of particles per 1 ft³				
Class	Measured particle diameter [Pieces/ft³ (pieces/m³)]				
	0.1µm	0.2µm	0.3µm	0.5µm	5µm
Class1	35	7.5	3	1 (35)	
Class10	350	75	30	10 (353)	
Class100		750	300	100 (3530)	
Class1000				1,000 (35,300)	7
Class10000				10,000 (353,000)	70
Class100000				100,000 (3,530,000)	700

1. ISO 14644-1

Target particle diameter	0.1µm					
Class criteria	Power of particle count of 1 m³					
Class	Upper limit concentration [pieces / m³]					
	0.1µm	0.2µm	0.3µm	0.5µm	1µm	5µm
Class1	10	2				
(Class1.5)	32					
Class2	100	24	10	4		
(Class2.5)	316					
Class3	1,000	237	102	35	8	
(Class3.5)	3,160					
Class4	10,000	2,370	1,020	352	83	
(Class4.5)	31,600					
Class5	100,000	23,700	10,200	3,520	832	29
Class6	1,000,000	237,000	102,000	35,200	8,320	293
Class7				352,000	83,200	2,930
Class8				3,520,000	832,000	29,300
Class9				35,200,000	8,320,000	293,000

※ Shaded part is the target particle diameter

Table Corresponding the standard

Standard name	IAI standard	Fed.Std.209D	ISO 14644-1
Cleanliness class correspondence			Class1
			(Class1.5)
			Class2
			(Class2.5)
	Class10		Class3
		Class1	(Class3.5)
	Class100		Class4
		Class10	(Class4.5)
		Class100	Class5
		Class1000	Class6
		Class10000	Class7
		Class100000	Class8

← Red letters indicate cleanliness at IAI
Only small class 100 class (ISO class 3.5)
Other Class 10 (ISO Class 2.5)

※ Classes are specified by the following formula.

$$C_n = 10^N \times \left(\frac{0.1}{D} \right)^{208}$$

Cn: Upper limit concentration (particle / m³) above the particle diameter

N: Cleanliness class

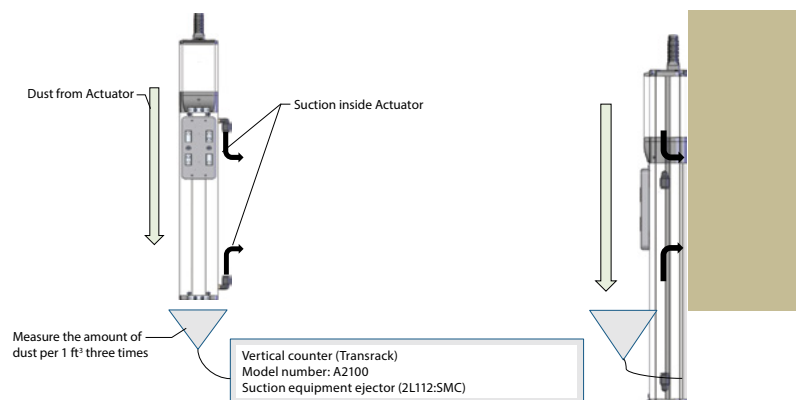
⇒ Cleanliness class in the intermediate area is specified in increments of 0.1 from 1.1 to 8.9

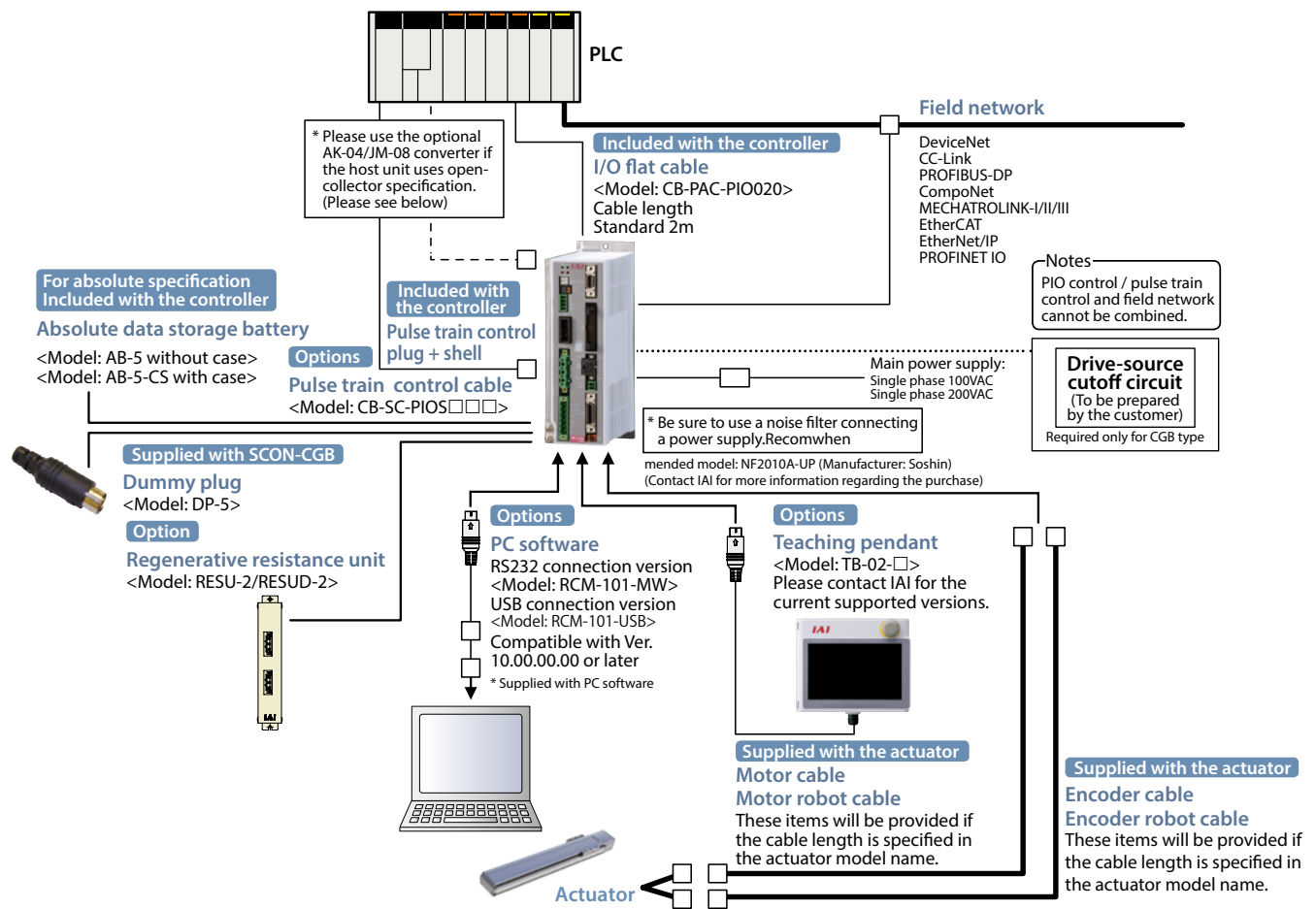
D: particle diameter [µm]

<Cleaness Measurement Method in IAI>

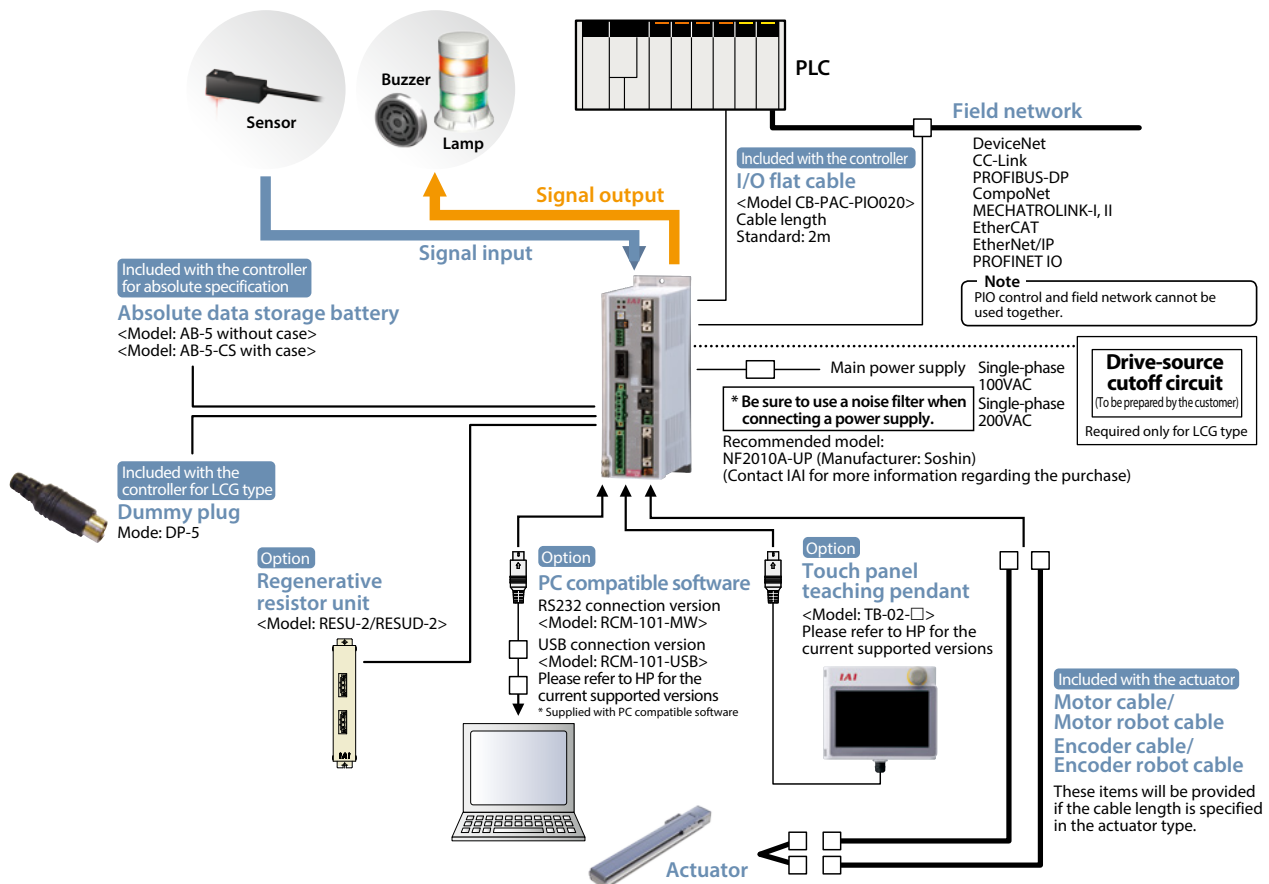
Measurement conditions for IAI are shown in the figure below.

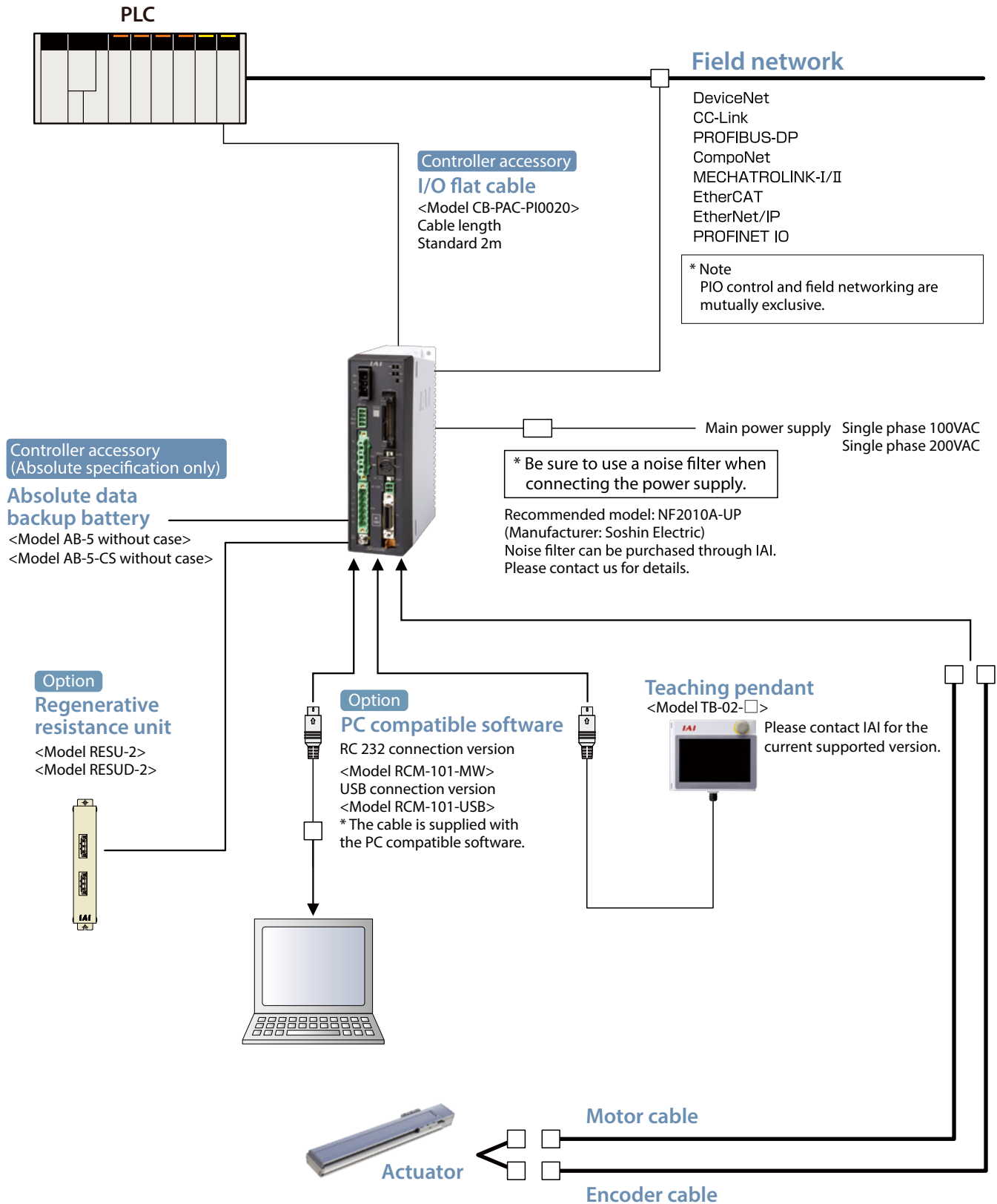
Measure with vertical installation, measure the amount of dust per 1 ft 3 three times, and set the maximum value as the cleanliness.

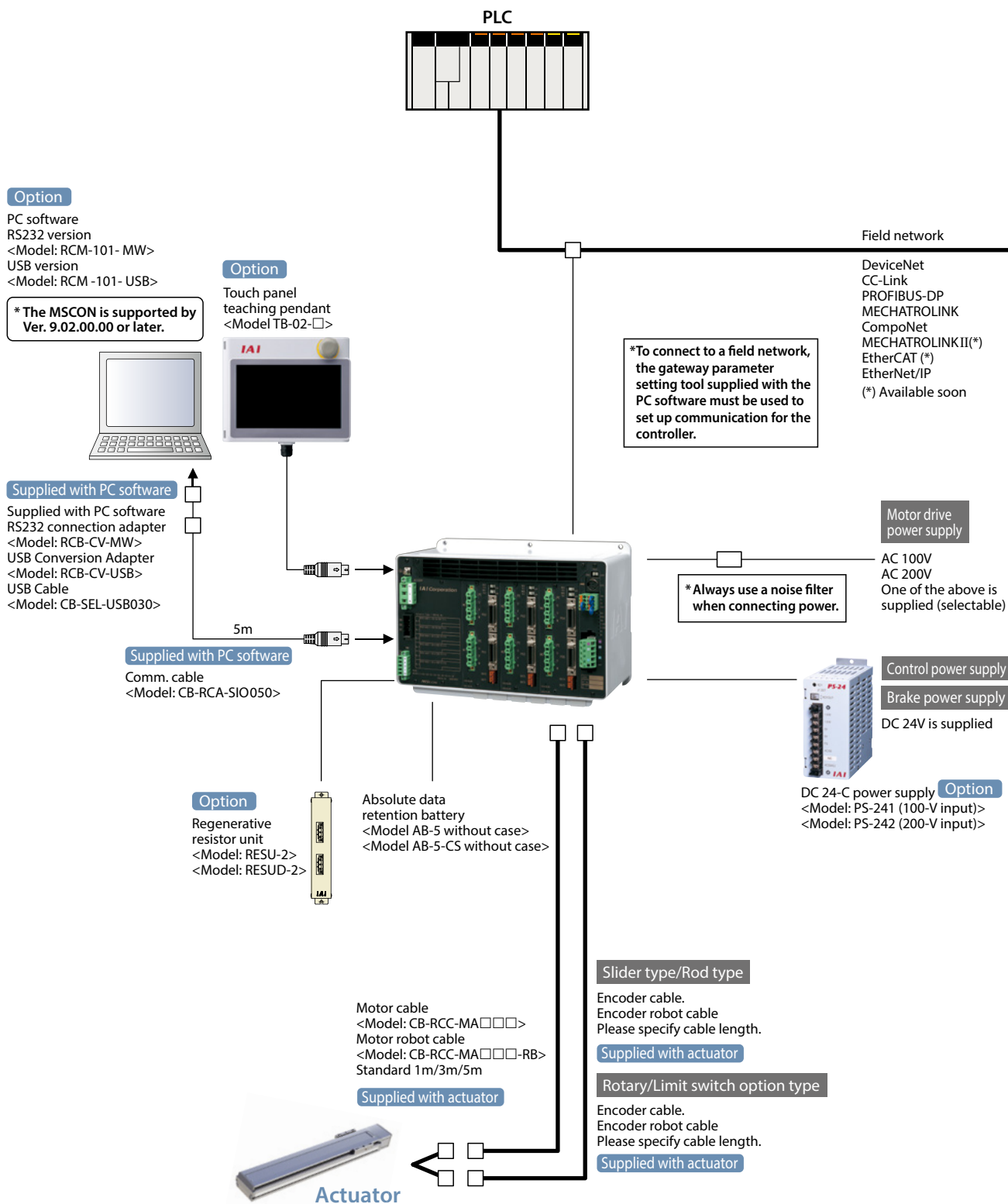


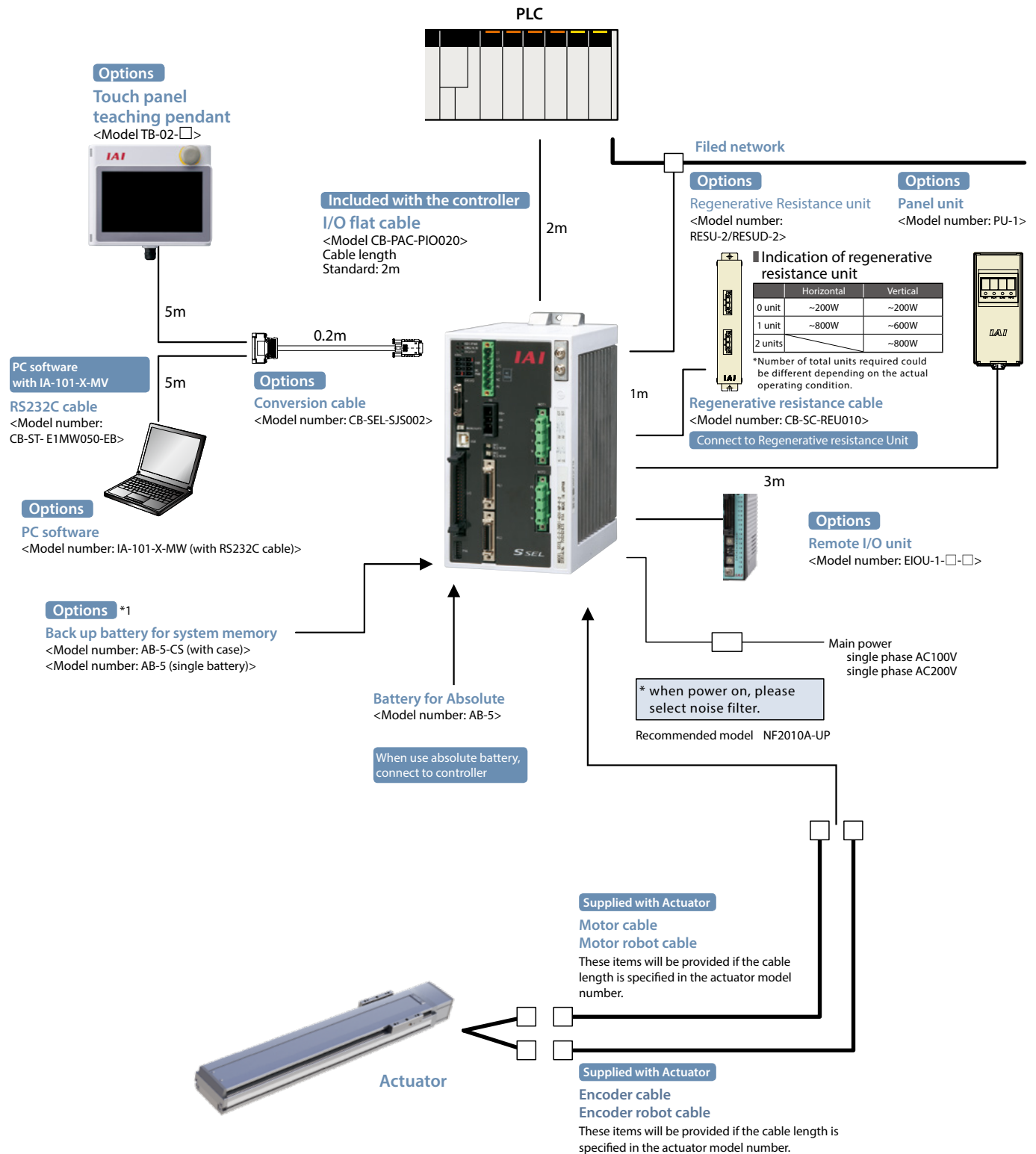


SCON-LC/LCG









Option

PC software

* (P)=PC side, (C)=controller side

● RS232-C RS232

<Model IA-101-X-MW>

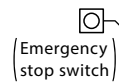
● USB-C RS232

<Model IA-101-X-USBMW>

● USB-C USB/Ethernet

<Model Number IA-101-N>

* Ver. 13.00.00.00 or later



Supplied with PC software
Communication cable
<Model Number CB-ST-E1MW050-EB>

Supplied with Actuator

Motor cable

Motor robot cable

Encoder cable

Encoder robot cable

These items will be provided if the cable length is specified in the actuator model number.

Connectable actuators

<Single-axis Robot, Cartesian Robot, Linear Servo, RCS2/RCS3 Series>

Option
Teaching pendant
<Model Number TB-02-□>



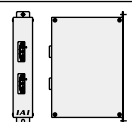
Supplied with controller
Dummy plug
<Model Number DP-2>



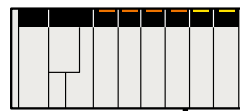
Supplied with controller
PIO cable
<Model Number CB-X-PIOH020>
Standard: 2m
(Supplied with the PIO-equipped controller)

Connect to regenerative resistance unit
Regenerative resistance unit cable 1m

Regenerative resistance unit
Please contact IAI for more details.



PLC



Field network

DeviceNet
CC-Link
PROFIBUS-DP
EtherCAT
EtherNet/IP

EtherNet/IP specification corresponds EtherNet.

Expanded motion control
(Cable is to be prepared by the customer)

PCON/ACON/
SCON-CB, MCON
(MECHATROLINK III
specification)

* Please contact IAI for more details.

Motor power
Three-phase/single-phase
200V/230VAC

Control power supply
Single-phase
200V/230VAC

Power supply for brake release
24VDC

I/O power supply
24VDC

XSEL-RA/SA

Option

PC software

● RS232 connection

<Model IA-101-X-MW> (For RA)

<Model IA-101-X-USBMW> (For RA)

<Model IA-101-XA-MW> (For SA)

● USB/Ethernet connection

<Model Number IA-101-N>

* Ver. 13.00.00.00 or later

Supplied with PC software

Communication cable

<Model Number CB-ST-E1MW050-EB> (For RA)

<Model Number CB-ST-A1MW050-EB> (For SA)

Supplied with actuator

Motor cable

Motor robot cable

Encoder cable

Encoder robot cable

These items will be provided if the cable length is specified in the actuator model number.

USB/Ethernet cable (Cable is to be prepared by the customer)

Supplied with regenerative resistance unit

Regenerative resistance unit cable 1m

Option

Regenerative resistance unit

Please refer to page 12 for the required number of regenerative resistance units.

Supplied with controller

Dummy plug

<Model Number DP-2>

Supplied with controller

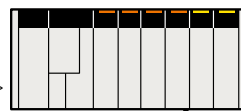
PIO cable

<Model Number CB-X-PIO/PIOH020>

Standard: 2m

(Supplied with the PIO-equipped controller)

PLC



Field network

DeviceNet
CC-Link
PROFIBUS-DP
EtherCAT
EtherNet/IP

Supplied with controller

PIO cable

<Model Number CB-X-PIO/PIOH020>

Standard: 2m

(Supplied with the PIO-equipped controller)

Supplied with actuator

Motor cable

Motor robot cable

Encoder cable

Encoder robot cable

These items will be provided if the cable length is specified in the actuator model number.

USB/Ethernet cable (Cable is to be prepared by the customer)

Supplied with regenerative resistance unit

Regenerative resistance unit cable 1m

Option

Regenerative resistance unit

Please refer to page 12 for the required number of regenerative resistance units.

Supplied with controller

Dummy plug

<Model Number DP-2>

Supplied with controller

PIO cable

<Model Number CB-X-PIO/PIOH020>

Standard: 2m

(Supplied with the PIO-equipped controller)

Supplied with actuator

Motor cable

Motor robot cable

Encoder cable

Encoder robot cable

These items will be provided if the cable length is specified in the actuator model number.

USB/Ethernet cable (Cable is to be prepared by the customer)

Supplied with regenerative resistance unit

Regenerative resistance unit cable 1m

Option

Regenerative resistance unit

Please refer to page 12 for the required number of regenerative resistance units.

Supplied with controller

Dummy plug

<Model Number DP-2>

Supplied with controller

PIO cable

<Model Number CB-X-PIO/PIOH020>

Standard: 2m

(Supplied with the PIO-equipped controller)

Supplied with actuator

Motor cable

Motor robot cable

Encoder cable

Encoder robot cable

These items will be provided if the cable length is specified in the actuator model number.

USB/Ethernet cable (Cable is to be prepared by the customer)

Supplied with regenerative resistance unit

Regenerative resistance unit cable 1m

Option

Regenerative resistance unit

Please refer to page 12 for the required number of regenerative resistance units.

Supplied with controller

Dummy plug

<Model Number DP-2>

Supplied with controller

PIO cable

<Model Number CB-X-PIO/PIOH020>

Standard: 2m

(Supplied with the PIO-equipped controller)

Supplied with actuator

Motor cable

Motor robot cable

Encoder cable

Encoder robot cable

These items will be provided if the cable length is specified in the actuator model number.

USB/Ethernet cable (Cable is to be prepared by the customer)

Supplied with regenerative resistance unit

Regenerative resistance unit cable 1m

Option

Regenerative resistance unit

Please refer to page 12 for the required number of regenerative resistance units.

Supplied with controller

Dummy plug

<Model Number DP-2>

Supplied with controller

PIO cable

<Model Number CB-X-PIO/PIOH020>

Standard: 2m

(Supplied with the PIO-equipped controller)

Supplied with actuator

Motor cable

Motor robot cable

Encoder cable

Encoder robot cable

These items will be provided if the cable length is specified in the actuator model number.

USB/Ethernet cable (Cable is to be prepared by the customer)

Supplied with regenerative resistance unit

Regenerative resistance unit cable 1m

Option

Regenerative resistance unit

Please refer to page 12 for the required number of regenerative resistance units.

Supplied with controller

Dummy plug

<Model Number DP-2>

Supplied with controller

PIO cable

<Model Number CB-X-PIO/PIOH020>

Standard: 2m

(Supplied with the PIO-equipped controller)

Supplied with actuator

Motor cable

Motor robot cable

Encoder cable

Encoder robot cable

These items will be provided if the cable length is specified in the actuator model number.

USB/Ethernet cable (Cable is to be prepared by the customer)

Supplied with regenerative resistance unit

Regenerative resistance unit cable 1m

Option

Regenerative resistance unit

Please refer to page 12 for the required number of regenerative resistance units.

Supplied with controller

Dummy plug

<Model Number DP-2>

Supplied with controller

PIO cable

<Model Number CB-X-PIO/PIOH020>

Standard: 2m

(Supplied with the PIO-equipped controller)

Supplied with actuator

Motor cable

Motor robot cable

Encoder cable

Encoder robot cable

These items will be provided if the cable length is specified in the actuator model number.

USB/Ethernet cable (Cable is to be prepared by the customer)

Supplied with regenerative resistance unit

Regenerative resistance unit cable 1m

Option

Regenerative resistance unit

Please refer to page 12 for the required number of regenerative resistance units.

Supplied with controller

Dummy plug

<Model Number DP-2>

Supplied with controller

PIO cable

<Model Number CB-X-PIO/PIOH020>

Standard: 2m

(Supplied with the PIO-equipped controller)

Supplied with actuator

Motor cable

Motor robot cable

Encoder cable

Encoder robot cable

These items will be provided if the cable length is specified in the actuator model number.

USB/Ethernet cable (Cable is to be prepared by the customer)

Supplied with regenerative resistance unit

Regenerative resistance unit cable 1m

Option

Regenerative resistance unit

Please refer to page 12 for the required number of regenerative resistance units.

Supplied with controller

Dummy plug

<Model Number DP-2>

Supplied with controller

PIO cable

<Model Number CB-X-PIO/PIOH020>

Standard: 2m

(Supplied with the PIO-equipped controller)

Supplied with actuator

Motor cable

Motor robot cable

Encoder cable

Encoder robot cable

These items will be provided if the cable length is specified in the actuator model number.

USB/Ethernet cable (Cable is to be prepared by the customer)

Supplied with regenerative resistance unit

Regenerative resistance unit cable 1m

Option

Regenerative resistance unit

Please refer to page 12 for the required number of regenerative resistance units.

Supplied with controller

Dummy plug

<Model Number DP-2>

Supplied with controller

PIO cable

<Model Number CB-X-PIO/PIOH020>

Standard: 2m

(Supplied with the PIO-equipped controller)

Supplied with actuator

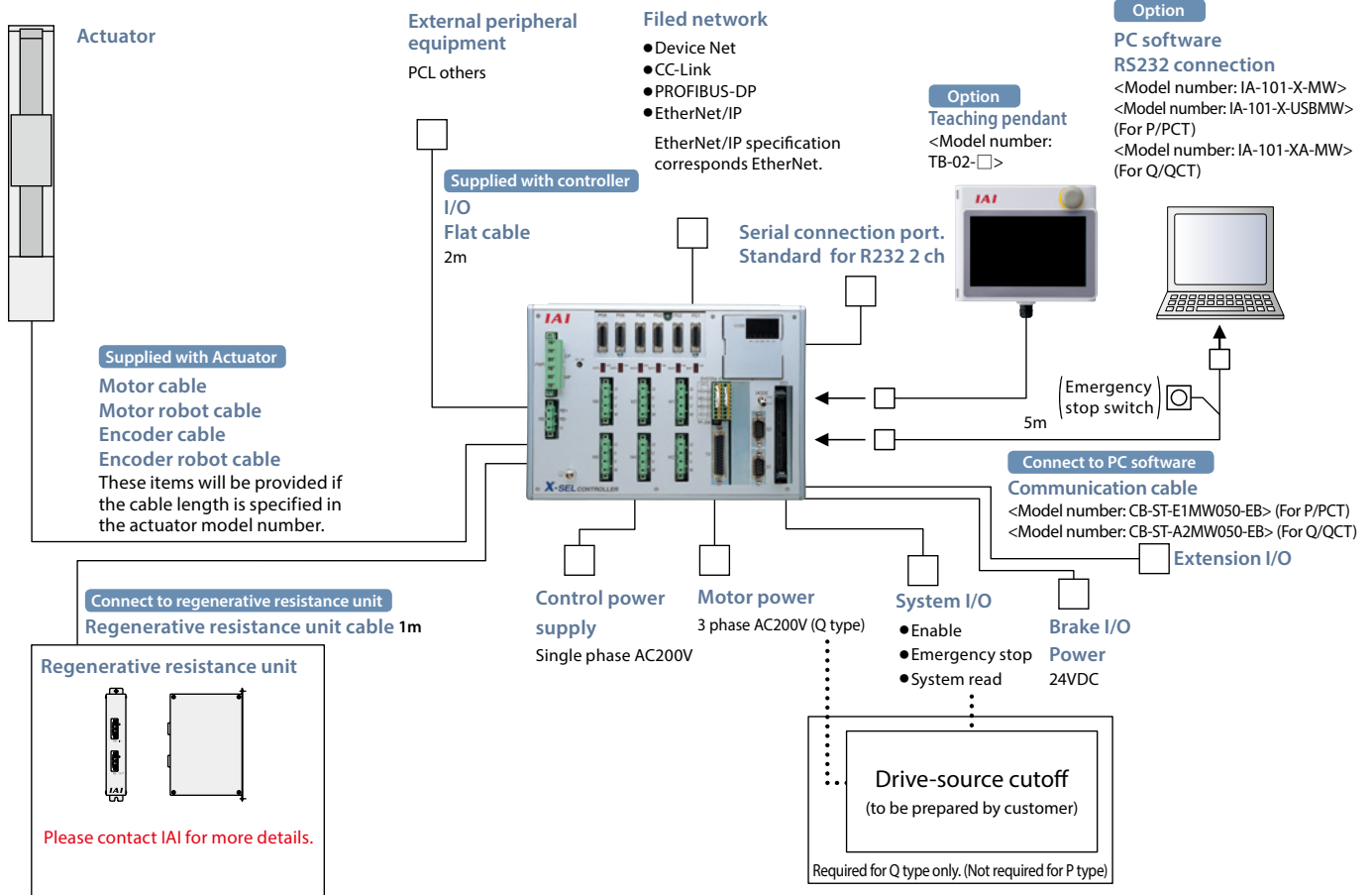
Motor cable

Motor robot cable

Encoder cable

Encoder robot cable

These items will be provided if the cable length is specified in the actuator model number.



Network selection

EtherNet/IP CompoNet DeviceNet CC-Link PROFIBUS PROFINET MECHATROLINK EtherCAT SSCNET III/H

* The type of compatible networks may vary depending on the controller. Please contact IAI for more detail.

IAI America, Inc.

Headquarters: 2690 W. 237th Street, Torrance, CA 90505 (800) 736-1712

Chicago Office: 110 E. State Pkwy, Schaumburg, IL 60173 (800) 944-0333

Atlanta Office: 1220 Kennestone Circle, Suite 108, Marietta, GA 30066 (888) 354-9470

www.intelligentactuator.com

The information contained in this product brochure
may change without prior notice due to product improvements.
Please contact IAI for latest information.

IAI Industrieroboter GmbH

Ober der Röth 4, D-65824 Schwalbach am Taunus, Germany

IAI (Shanghai) Co., Ltd.

Shanghai Jiahua Business Center A8-303, 808,
Hongqiao Rd., Shanghai 200030, China

IAI Robot (Thailand) Co., Ltd.

825 Phairojkiya Tower 12th Floor, Bangna-Trad RD.,
Bangna, Bangna, Bangkok 10260, Thailand